

SECTION **AV**

AUDIO, VISUAL & NAVIGATION SYSTEM

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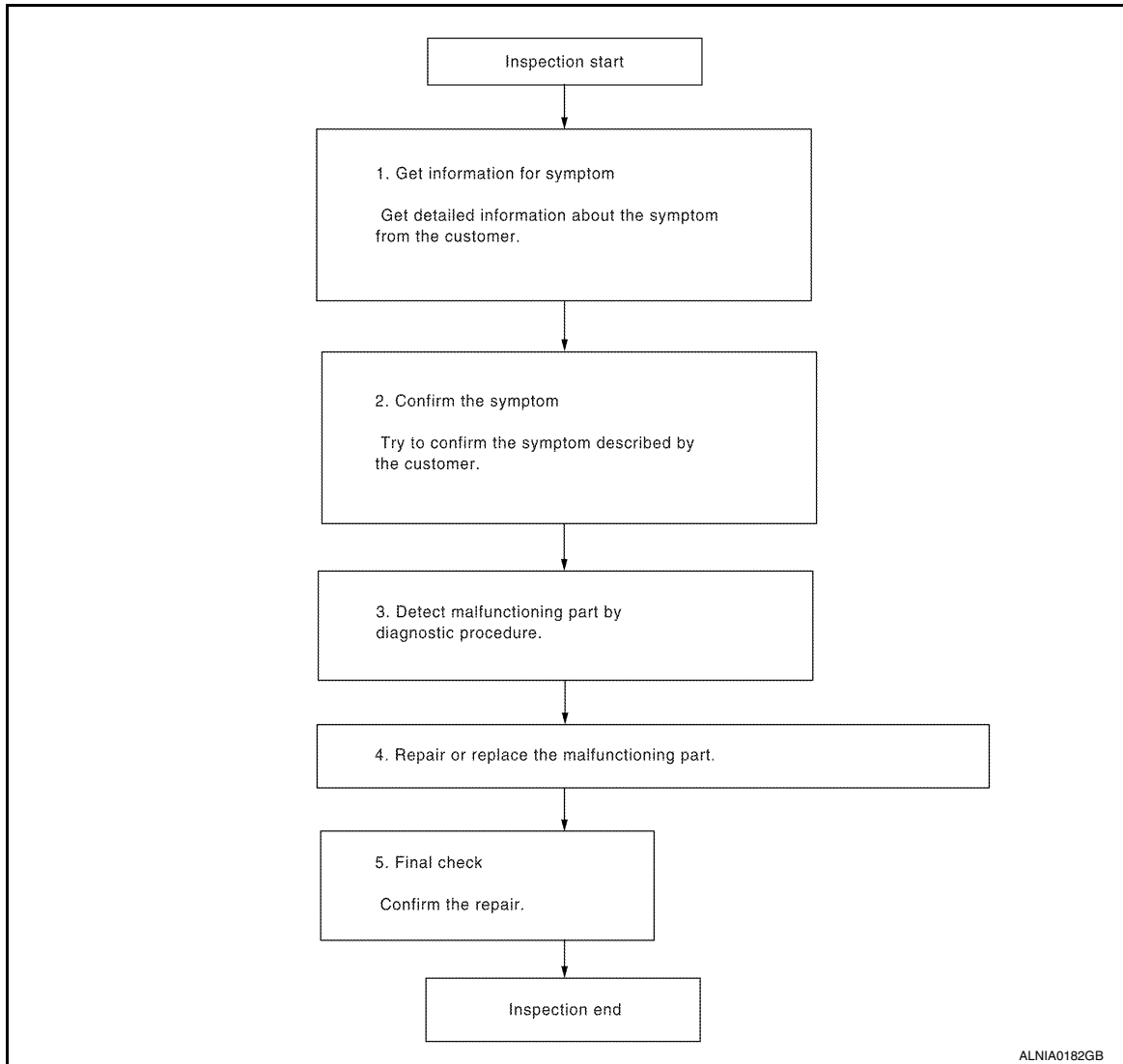
**BASIC INSPECTION**

**DIAGNOSIS AND REPAIR WORKFLOW**

Work Flow

INFOID:000000009471157

OVERALL SEQUENCE



DETAILED FLOW

**1.GET INFORMATION FOR SYMPTOM**

Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

>> GO TO 2.

**2.CONFIRM THE SYMPTOM**

Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 3.

**3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE**

Inspect according to Diagnostic Procedure of the system.

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## DIAGNOSIS AND REPAIR WORKFLOW

[MONOCHROME DISPLAY - W/O BOSE]

< BASIC INSPECTION >

---

Is malfunctioning part detected?

YES >> GO TO 4.

NO >> GO TO 2.

### 4.REPAIR OR REPLACE THE MALFUNCTIONING PART

---

1. Repair or replace the malfunctioning part.
2. Reconnect parts or connectors disconnected during Diagnostic Procedure.

>> GO TO 5.

### 5.FINAL CHECK

---

Refer to confirmed symptom in step 2, and make sure that the symptom is not detected.

Has the symptom been repaired?

YES >> Inspection End.

NO >> GO TO 2.

# AUDIO SYSTEM

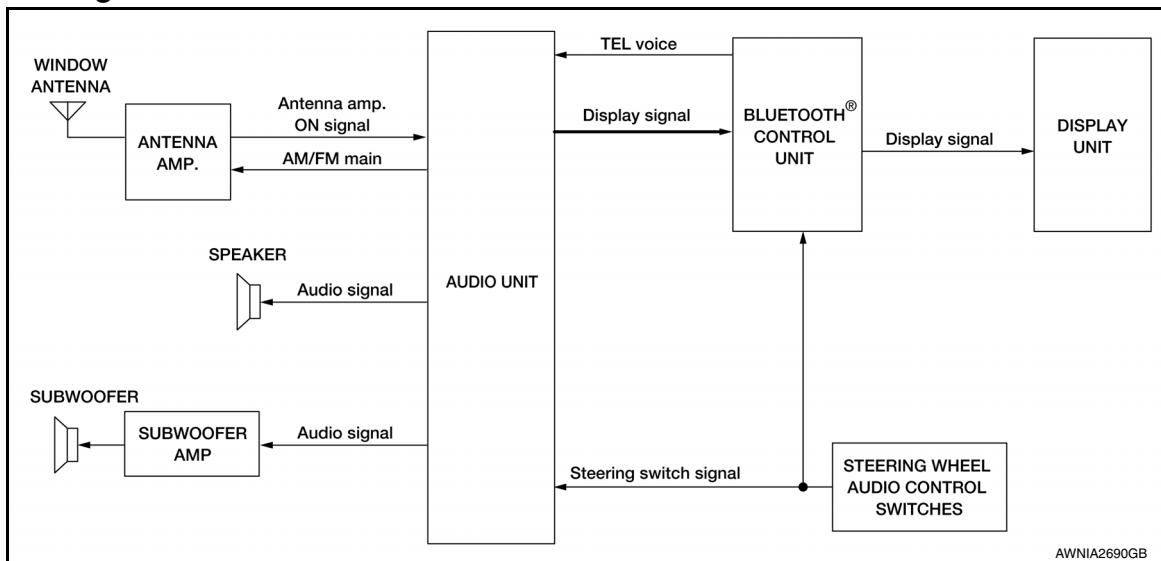
< SYSTEM DESCRIPTION >

[MONOCHROME DISPLAY - W/O BOSE]

## SYSTEM DESCRIPTION

### AUDIO SYSTEM

#### System Diagram



#### System Description

INFOID:000000009471159

#### AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Display unit
- Bluetooth® control unit
- Window antenna
- Steering wheel audio control switches
- Front door speakers
- Tweeters
- Rear door speakers
- Subwoofer amp.
- Subwoofers

When the audio system is on, radio signals are received by the window antenna. The audio unit then sends audio signals to the front door speakers, tweeters, rear door speakers, subwoofer amp. and subwoofers. Refer to Owner's Manual for audio system operating instructions.

AV

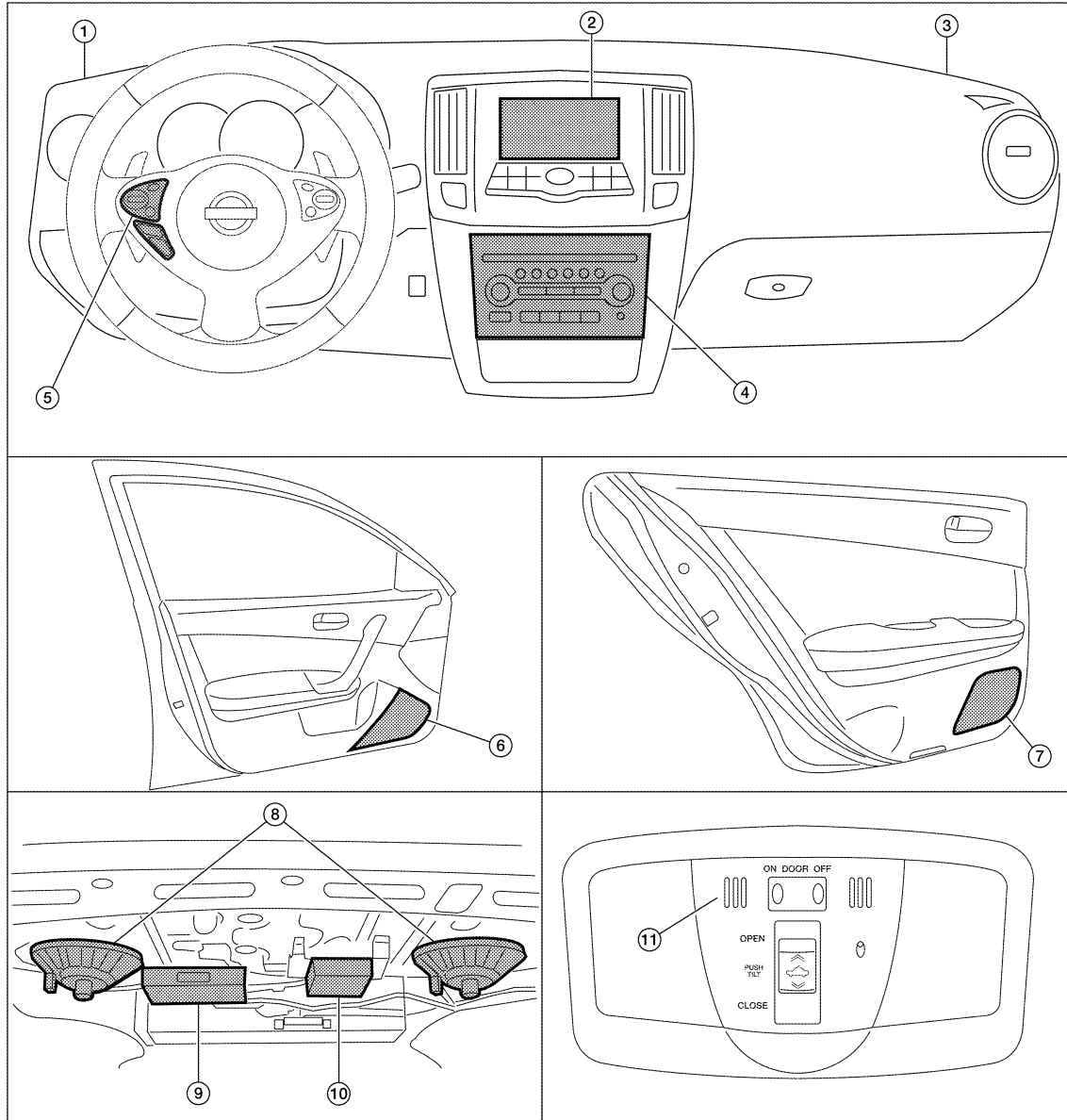
# AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[MONOCHROME DISPLAY - W/O BOSE]

## Component Parts Location

INFOID:000000009471160



ALNIA1160ZZ

- |  |   |   |
|--|---|---|
| 1. Tweeter LH M143                         | 2. Display unit M109  | 3. Tweeter RH M144                          |
| 4. Audio unit M133, M147                   | 5. Steering wheel audio control switches                              | 6. Front door speaker<br>LH D3<br>RH D103   |
| 7. Rear door speaker<br>LH D209<br>RH D309 | 8. Subwoofers (view of underside of parcel shelf)<br>LH B16<br>RH B17 | 9. Bluetooth® control unit B125, B126, B130 |
| 10. Subwoofer amp. B21                     | 11. Microphone R7   |   |



# AUDIO SYSTEM

[MONOCHROME DISPLAY - W/O BOSE]

< SYSTEM DESCRIPTION >

## Component Description

INFOID:000000009471161

| Part name                             | Description  |
|---------------------------------------|--|
| Audio unit                            | Controls audio and AUX IN system functions.  |
| Steering wheel audio control switches | <ul style="list-style-type: none"><li>• Each audio operation can be operated.</li><li>• Steering switch signal (operation signal) is output to audio unit and Bluetooth® control unit.</li></ul> |
| Front door speakers                   | <ul style="list-style-type: none"><li>• Outputs audio signal from audio unit.</li><li>• Outputs high, mid and low range sounds.</li></ul>  |
| Tweeters                              | <ul style="list-style-type: none"><li>• Outputs audio signal from audio unit.</li><li>• Outputs high range sounds.</li></ul>   |
| Rear door speakers                    | <ul style="list-style-type: none"><li>• Outputs audio signal from audio unit.</li><li>• Outputs high, mid and low range sounds.</li></ul>  |
| Bluetooth® control unit               | <ul style="list-style-type: none"><li>• Receives signals from the audio unit.</li><li>• Outputs display signals.</li></ul>   |
| Display unit                          | <ul style="list-style-type: none"><li>• Receives and displays signals from the Bluetooth® control unit.</li><li>• Displays audio system information.</li></ul>                                   |
| Subwoofer amp.                        | <ul style="list-style-type: none"><li>• Receives and amplifies sound signal from audio unit.</li><li>• Outputs amplified sound signal to the subwoofers.</li></ul>                               |
| Subwoofers                            | <ul style="list-style-type: none"><li>• Outputs audio signal from subwoofer amp.</li><li>• Outputs low range sounds.</li></ul>   |

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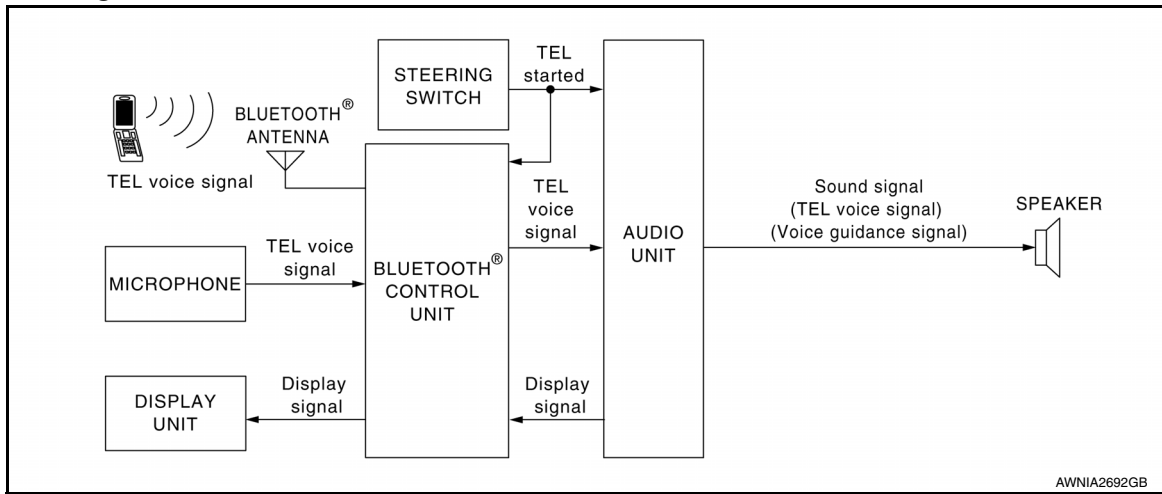
# HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[MONOCHROME DISPLAY - W/O BOSE]

## HANDS-FREE PHONE SYSTEM

### System Diagram



### System Description

INFOID:000000009471163

Refer to the owner's manual for Bluetooth® telephone system operating instructions.

#### NOTE:

Cellular telephones must have their wireless connection set up (paired) before using the Bluetooth® telephone system.

Bluetooth® telephone system allows users who have a Bluetooth® cellular telephone to make a wireless connection between their cellular telephone and the Bluetooth® control unit. Hands-free cellular telephone calls can be sent and received. Some Bluetooth® cellular telephones may not be recognized by the Bluetooth® control unit. When a cellular telephone or the Bluetooth® control unit is replaced, the telephone must be paired with the Bluetooth® control unit. Different cellular telephones may have different pairing procedures. Refer to the cellular telephone operating manual.

#### BLUETOOTH® CONTROL UNIT

When the ignition switch is turned to ACC or ON, the Bluetooth® control unit will power up. During power up, the Bluetooth® control unit is initialized and performs various self checks. Initialization may take up to 20 seconds. If a phone is present in the vehicle and paired with the Bluetooth® control unit, Nissan Voice Recognition will then become active. Bluetooth® telephone functions can be turned off using the Nissan Voice Recognition system.

#### STEERING WHEEL AUDIO CONTROL SWITCHES

When buttons on the steering wheel audio control switch are pushed, the resistance in steering wheel audio control switch circuit changes depending on which button is pushed. The Bluetooth® control unit uses this signal to perform various functions while navigating through the voice recognition system.

The following functions can be performed using the steering wheel audio control switch:

- Initiate self-diagnosis of the Bluetooth® telephone system
- Start a voice recognition session
- Answer and end telephone calls
- Adjust the volume of calls

#### MICROPHONE

The microphone is located in the roof console assembly. The microphone sends a signal to the Bluetooth® control unit. The microphone can be actively tested during self-diagnosis.

#### AUDIO UNIT

The audio unit receives signals from the Bluetooth® control unit and sends audio signals to the speakers.

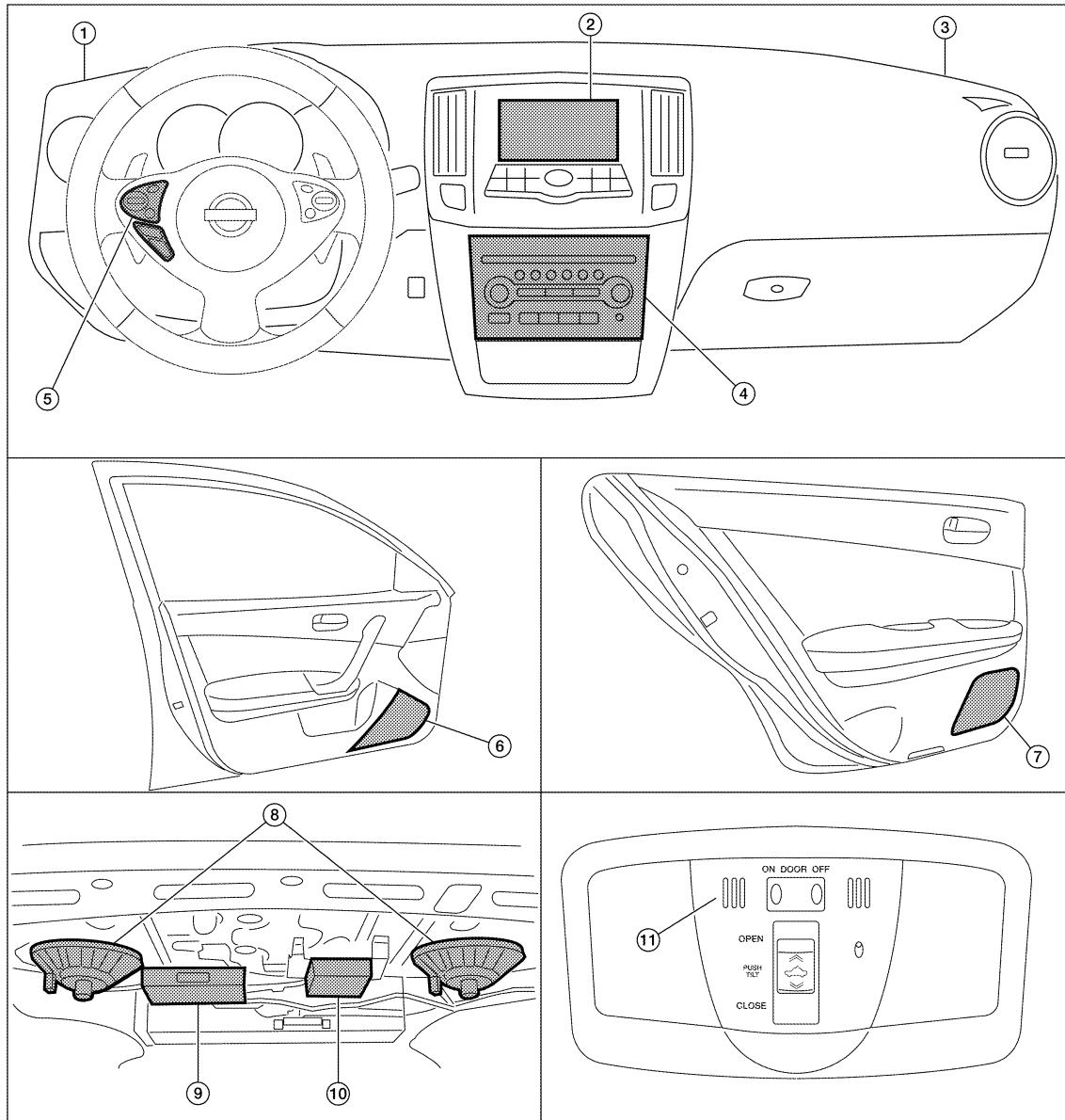
# HANDS-FREE PHONE SYSTEM

[MONOCHROME DISPLAY - W/O BOSE]

< SYSTEM DESCRIPTION >

## Component Parts Location

INFOID:000000009471164



ALNIA1160ZZ

- |  |   |   |
|--|---|---|
| 1. Tweeter LH M143                         | 2. Display unit M109  | 3. Tweeter RH M144                          |
| 4. Audio unit M133, M147                   | 5. Steering wheel audio control switches                              | 6. Front door speaker<br>LH D3<br>RH D103   |
| 7. Rear door speaker<br>LH D209<br>RH D309 | 8. Subwoofers (view of underside of parcel shelf)<br>LH B16<br>RH B17 | 9. Bluetooth® control unit B125, B126, B130 |
| 10. Subwoofer amp. B21                     | 11. Microphone R7   |   |

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# HANDS-FREE PHONE SYSTEM

[MONOCHROME DISPLAY - W/O BOSE]

< SYSTEM DESCRIPTION >

## Component Description

INFOID:000000009471165

| Part name                             | Description   |
|---------------------------------------|---|
| Audio unit                            | <ul style="list-style-type: none"><li>• Receives telephone voice signal from Bluetooth® control unit.</li><li>• Sends telephone voice signals to the speakers.</li></ul>                          |
| Front door speaker                    | Receives telephone voice signals from the audio unit.   |
| Tweeter                               |   |
| Steering wheel audio control switches | <ul style="list-style-type: none"><li>• Start a voice recognition session.</li><li>• Answer and end telephone calls.</li><li>• Adjust the volume level.</li></ul>                                 |
| Microphone                            | Sends voice signals to Bluetooth® control unit.   |
| Bluetooth® control unit               | <ul style="list-style-type: none"><li>• Controls hands-free phone functions.</li><li>• Receives display signals from audio unit.</li><li>• Outputs display signals to the display unit.</li></ul> |
| Display unit                          | <ul style="list-style-type: none"><li>• Receives display signals from Bluetooth® control unit.</li><li>• Displays audio system information.</li></ul>   |
| Bluetooth® antenna                    | Sends telephone voice signal to Bluetooth® control unit.  |

# DIAGNOSIS SYSTEM (AUDIO UNIT)

[MONOCHROME DISPLAY - W/O BOSE]

< SYSTEM DESCRIPTION >

## DIAGNOSIS SYSTEM (AUDIO UNIT)

### Diagnosis Description

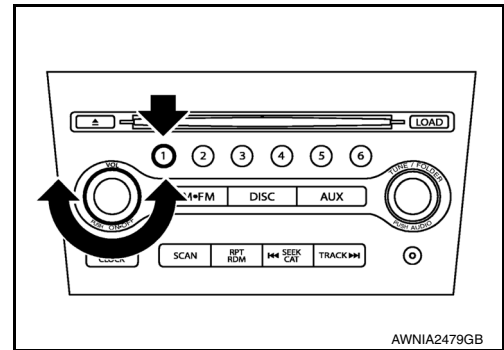
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Self-diagnosis mode can perform the following items.

- Versions display
- Channel check diagnosis
- Key check diagnosis
- AV communication diagnosis

### VERSIONS DISPLAY FUNCTION

1. Turn ignition switch ON.
2. Turn the audio unit off.
3. While pressing "1" button, turn volume control dial clockwise or counterclockwise for 30 clicks or more.



4. Diagnosis default screen of audio display unit is displayed.

**NOTE:**

Diagnosis default screen = All icons and segments of the audio display unit are turned on.

5. Pressing the AUDIO switch briefly displays the version display mode. Pressing the AUDIO switch briefly switches to each version display. Pressing and holding the AUDIO switch when displaying each software version returns to the diagnosis default screen.

#### Version display item

|                  | Mode            | Description   |
|------------------|-----------------|---|
| Versions display | Software V##### | Audio unit software version is displayed.   |
|                  | Hardware V##### | Audio unit hardware version is displayed.   |
|                  | CD Mech V#####  | Audio unit CD mechanism version is displayed.   |
|                  | EEPROM V#####   | Audio unit EEPROM version is displayed.   |
|                  | Disp SW V#####  | Display unit software version is displayed.   |
|                  | Disp HW V#####  | Display unit hardware version is displayed.   |
|                  | SDARS V#####    | Audio unit SDARS version is displayed.<br><b>NOTE:</b><br>"VFFFFFF" is displayed when SDARS is not available. |

6. Self-diagnosis mode is canceled when the ignition switch is turned OFF.

### CHANNEL CHECK DIAGNOSIS FUNCTION

1. Turn ignition switch ON.
2. Turn the audio unit off.

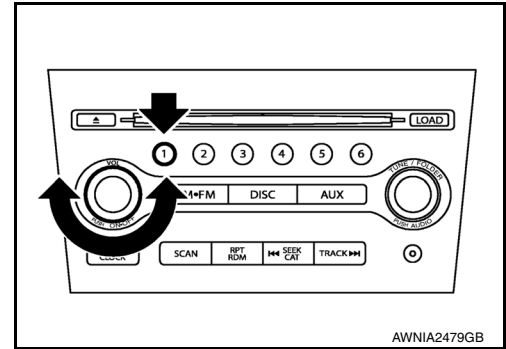
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# DIAGNOSIS SYSTEM (AUDIO UNIT)

[MONOCHROME DISPLAY - W/O BOSE]

## < SYSTEM DESCRIPTION >

- While pressing the “1” button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more.



- The diagnosis default screen of audio display unit is displayed.

**NOTE:**

Diagnosis default screen = All icons and segments of the audio display unit are turned on.

- Turning the TUNE/FOLDER dial clockwise displays the channel check mode. Pressing and holding the AUDIO switch during each channel check or waiting approximately 1 second after finishing all channel checks returns to the diagnosis default screen.

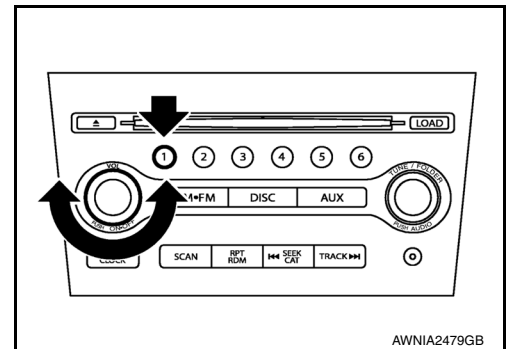
### Channel check item

|               | Mode                      | Description  |
|---------------|---------------------------|--|
| Channel check | Channel Check Front Left  | Connection of a speaker can be confirmed by test tone. |
|               | Channel Check Front Right |  |
|               | Channel Check Rear Right  |  |
|               | Channel Check Rear Left   |  |

- Self-diagnosis mode is canceled when the ignition switch is turned OFF.

## KEY CHECK DIAGNOSIS FUNCTION

- Turn ignition switch ON.
- Turn the audio unit off.
- While pressing the “1” button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more.



- The diagnosis default screen of audio display unit is displayed.

**NOTE:**

Diagnosis default screen = All icons and segments of the audio display unit are turned on.

- Turning the TUNE/FOLDER dial counterclockwise displays the key check mode, and the pressed switch name is shown. Pressing and holding the AUDIO switch during the key check mode returns to the diagnosis default screen.

# DIAGNOSIS SYSTEM (AUDIO UNIT)

[MONOCHROME DISPLAY - W/O BOSE]

< SYSTEM DESCRIPTION >

Key check item (audio unit)

| Mode      | Display item     | Switch name              |
|-----------|------------------|--------------------------|
| Key check | 1                | Preset button "1" switch |
|           | 2                | Preset button "2" switch |
|           | 3                | Preset button "3" switch |
|           | 4                | Preset button "4" switch |
|           | 5                | Preset button "5" switch |
|           | 6                | Preset button "6" switch |
|           | POWER            | ON-OFF switch            |
|           | VOLUME up        | VOL up switch            |
|           | VOLUME down      | VOL down switch          |
|           | AM-FM            | AM-FM switch             |
|           | DISC             | DISC switch              |
|           | AUX              | AUX switch               |
|           | AUDIO            | AUDIO switch             |
|           | TUNE/FOLDER up   | TUNE/FOLDER up switch    |
|           | TUNE/FOLDER down | TUNE/FOLDER up switch    |
|           | DISP CLOCK       | DISP CLOCK switch        |
|           | SCAN             | SCAN switch              |
|           | RPT/RDM          | RPT RDM switch           |
|           | SEEK/TRACK up    | SEEK CAT switch          |
|           | SEEK/TRACK down  | TRACK switch             |
| LOAD      | LOAD switch      |                          |
| EJECT     | EJECT switch     |                          |

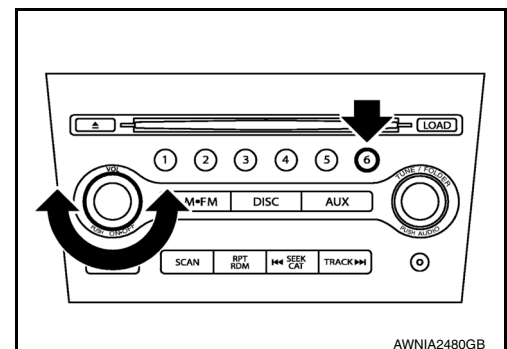
Key check item (steering switch)

| Mode      | Display item | Switch name      |
|-----------|--------------|------------------|
| Key check | STR SOURCE   | SOURCE switch    |
|           | STR VOL UP   | VOL up switch    |
|           | STR VOL DOWN | VOL down switch  |
|           | STR UP       | MENU up switch   |
|           | STR DOWN     | MENU down switch |
|           | STR TEL END  | switch           |
|           | STR TEL SEND | switch           |

6. Self-diagnosis mode is canceled when the ignition switch is turned OFF.

## AV COMMUNICATION DIAGNOSIS FUNCTION

1. Turn ignition switch ON.
2. Turn the audio unit off.
3. While pressing the "6" button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more.



## DIAGNOSIS SYSTEM (AUDIO UNIT)

[MONOCHROME DISPLAY - W/O BOSE]

< SYSTEM DESCRIPTION >

- Returns to diagnosis default screen and displays "AV DIAGNOSIS".
- Pressing the AUDIO switch briefly displays the AV communication diagnosis mode. Pressing the AUDIO switch briefly again switches to each AV communication display.

AV communication diagnosis item

| Display item          |         |            | Description  |
|-----------------------|---------|------------|--|
| AV communication item | Current | Past       |  |
| TRANSMIT              | OK / UN | OK / 0 -39 | The communication condition and error counter from the audio unit to the audio display unit are displayed. |
| DISP                  | OK / UN | OK / 0 -39 | The communication condition and error counter from the audio display unit to the audio unit.               |
| DISP MPDT             | OK / UN | OK / 0 -39 |  |
| BTHF MPDT             | OK / UN | OK / 0 -39 | The communication condition and error counter from the audio unit to the Bluetooth® control unit.          |
| NO HISTORY BTHF       | —       | —          | This is displayed on models without Bluetooth®.  |
| AV TROUBLE DEL        | —       | —          | The error record can be deleted.   |

- Pressing the SEEK up switch displays the confirmation screen of "delete error record". Press the SEEK down switch if returning from RECORD DEL YES? to RECORD DEL NO? The item is automatically determined approximately 6 seconds after it is displayed. Then the display returns to AV TROUBLE DEL display item.

| Display item    | Description                   |
|-----------------|-------------------------------|
| RECORD DEL-NO?  | Does not delete error record. |
| RECORD DEL-YES? | Deletes error record.         |

- Self-diagnosis mode is canceled when the ignition switch is turned OFF.



# DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

< SYSTEM DESCRIPTION >

[MONOCHROME DISPLAY - W/O BOSE]

## DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

### Diagnosis Description

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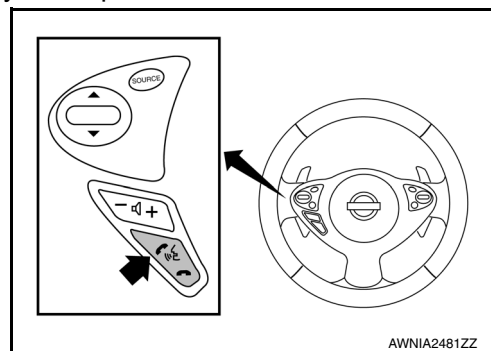
The Bluetooth® control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

### BLUETOOTH® CONTROL UNIT INITIALIZATION CHECKS

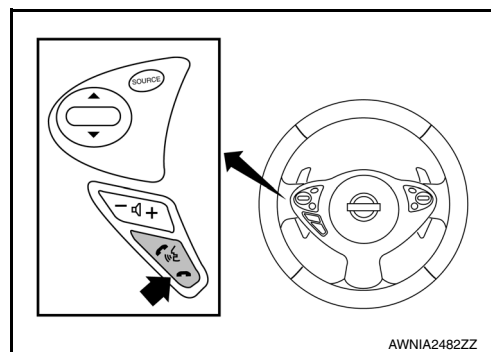
- Internal control unit failure
- Bluetooth® antenna connection open or shorted
- Steering wheel audio control switches [☞ (PHONE/SEND), ☜ (PHONE/END)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth® inquiry check

### OPERATION PROCEDURE

1. Turn ignition switch to ACC or ON.
2. Wait for the Bluetooth® system to complete initialization. This may take up to 10 seconds.
3. Press and hold the steering wheel audio control switch ☞ (PHONE/SEND) button for at least 5 seconds. The Bluetooth® system will begin to play a verbal prompt.



4. While the prompt is playing, press and hold the steering wheel audio control switch ☜ (PHONE/END) button until you hear the "Diagnostics mode" prompt. The Bluetooth® system will sound a 5-second beep.
5. While the beep is sounding, press and hold the steering wheel audio control switch ☜ (PHONE/END) button again until you hear prompts.
6. The Bluetooth® system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician. Refer to [AV-25, "Work Flow"](#).
7. After the failure records are reported, an interactive microphone test will be performed. Follow the voice prompt. If the microphone test fails, refer to [AV-25, "Work Flow"](#).
8. Self-diagnosis mode is complete when the voice prompt says "All diagnostic functions completed".



### Work Flow

INFOID:000000009471168

| Failure Message              | Action   |
|------------------------------|--|
| "Internal failure"           | Replace Bluetooth® control unit. Refer to <a href="#">AV-88, "Removal and Installation"</a> .  |
| "Bluetooth® antenna open"    | <ol style="list-style-type: none"> <li>1. Inspect harness connection.</li> <li>2. Replace Bluetooth® antenna. Refer to <a href="#">AV-87, "Removal and Installation"</a>.</li> </ol> |
| "Bluetooth® antenna shorted" |  |

# DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

< SYSTEM DESCRIPTION >

[MONOCHROME DISPLAY - W/O BOSE]

| Failure Message                                | Action  |
|--|---|
| "Phone/Send for Hands Free System is stuck"    | Check steering wheel audio control switches. Refer to <a href="#">AV-81. "Removal and Installation"</a> .   |
| "Phone/End for the Hands Free System is stuck" |   |
| "Microphone test" (failed interactive test)    | <ol style="list-style-type: none"><li>1. Inspect harness between Bluetooth® control unit and microphone.</li><li>2. Replace microphone. Refer to <a href="#">AV-86. "Removal and Installation"</a>.</li></ol> |

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/O BOSE]

## DTC/CIRCUIT DIAGNOSIS

### POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

#### AUDIO UNIT : Diagnosis Procedure

INFOID:000000009471169

Regarding Wiring Diagram information, refer to [AV-54, "Wiring Diagram - Without BOSE Audio system"](#).

#### 1.CHECK FUSES

Check that the following fuses are not blown.

| Unit       | Terminals | Signal name               | Fuse No. |
|------------|-----------|---------------------------|----------|
| Audio unit | 19        | Battery power             | 24       |
|            | 7         | Ignition switch ACC or ON | 17       |

Are the fuses OK?

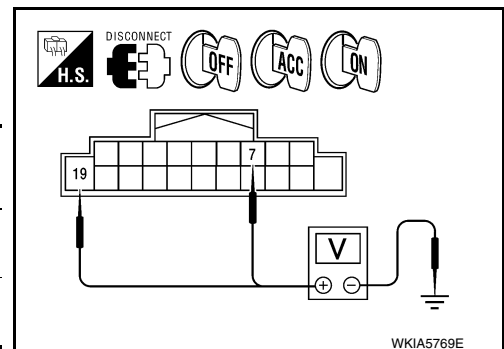
YES >> GO TO 2.

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

#### 2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect audio unit connector M133.
2. Check voltage between the audio unit connector M133 and ground.

| (+)       |          | (-)    | OFF             | ACC             | ON              |
|-----------|----------|--------|-----------------|-----------------|-----------------|
| Connector | Terminal |        |                 |                 |                 |
| M133      | 19       | Ground | Battery voltage | Battery voltage | Battery voltage |
|           | 7        | Ground | 0V              | Battery voltage | Battery voltage |



Are the voltage results as specified?

YES >> GO TO 3.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

#### 3.GROUND CIRCUIT CHECK

Inspect audio unit case ground.

Does case ground pass inspection?

YES >> Inspection End.

NO >> Repair audio unit case ground.

### SUBWOOFER AMP

#### SUBWOOFER AMP : Diagnosis Procedure

INFOID:000000009471170

Regarding Wiring Diagram information, refer to [AV-54, "Wiring Diagram - Without BOSE Audio system"](#).

#### 1.CHECK FUSE

Check for blown fuses.

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AV

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/O BOSE]

| Unit           | Terminals | Signal name          | Fuse No. |
|----------------|-----------|----------------------|----------|
| Subwoofer amp. | 9         | Ign switch ACC or ON | 17       |

Are the fuses OK?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

## 2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect subwoofer amp connector.
3. Check voltage between subwoofer amp harness connector and ground.

| (+) Connector |  | Terminal | (-)    | Voltage (approx.) |
|---------------|--|----------|--------|-------------------|
| B21           |  | 9        | Ground | Battery voltage   |

Is battery voltage present?

YES >> GO TO 3.

NO >> Check harness between subwoofer amp and fuse.

## 3.CHECK GROUND CIRCUIT

Check continuity between subwoofer amp harness connector and ground.

| (+) Connector |  | Terminal | (-)    | Continuity |
|---------------|--|----------|--------|------------|
| B21           |  | 7        | Ground | Yes        |

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

## DISPLAY UNIT

### DISPLAY UNIT : Diagnosis Procedure

INFOID:000000009471171

Regarding Wiring Diagram information, refer to [AV-54. "Wiring Diagram - Without BOSE Audio system"](#).

## 1.CHECK FUSES

Check that the following fuses are not blown.

| Unit         | Terminals | Signal name               | Fuse No. |
|--------------|-----------|---------------------------|----------|
| Display unit | 9         | Battery power             | 24       |
|              | 8         | Ignition switch ACC or ON | 17       |

Are the fuses OK?

YES >> GO TO 2.

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

## 2.POWER SUPPLY CIRCUIT CHECK

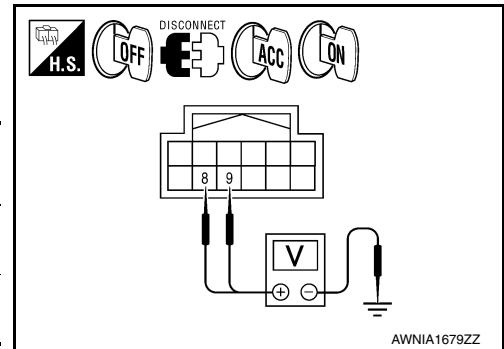
# POWER SUPPLY AND GROUND CIRCUIT

[MONOCHROME DISPLAY - W/O BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect display unit connector.
3. Check voltage between the display unit and ground.

| (+) Connector |   | (-) Terminal | OFF             | ACC             | ON              |
|---------------|---|--------------|-----------------|-----------------|-----------------|
| M109          | 9 | Ground       | Battery voltage | Battery voltage | Battery voltage |
|               | 8 | Ground       | 0V              | Battery voltage | Battery voltage |



AWNIA1679ZZ

Are the voltage results as specified?

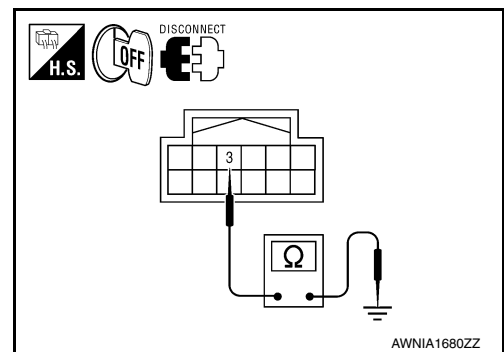
YES >> GO TO 3.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

### 3. GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Check continuity between display unit harness connector and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| M109      | 3        | Ground | Yes        |



AWNIA1680ZZ

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair harness or connector.

## BLUETOOTH® CONTROL UNIT

### BLUETOOTH® CONTROL UNIT : Diagnosis Procedure

INFOID:000000009471172

Regarding Wiring Diagram information, refer to [AV-54, "Wiring Diagram - Without BOSE Audio system"](#).

### 1. CHECK FUSE

Check that the following fuses of the Bluetooth® control unit are not blown.

| Power source                | Fuse No. |
|-----------------------------|----------|
| Battery                     | 24       |
| Ignition switch ACC or ON   | 17       |
| Ignition switch ON or START | 3        |

Are the fuses OK?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

### 2. CHECK POWER SUPPLY CIRCUIT

# POWER SUPPLY AND GROUND CIRCUIT

[MONOCHROME DISPLAY - W/O BOSE]

< DTC/CIRCUIT DIAGNOSIS >

Check voltage between Bluetooth® control unit harness connector and ground.

| (+)       |          | (-)    | Ignition switch position | Value (Approx.) |
|-----------|----------|--------|--------------------------|-----------------|
| Connector | Terminal |        |                          |                 |
| B126      | 1        | Ground | OFF                      | Battery voltage |
|           | 2        |        | ACC                      |                 |
|           | 3        |        | ON                       |                 |

Are the voltage results as specified?

- YES >> GO TO 3.
- NO >> Check harness between Bluetooth® control unit and fuse.

## 3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector B126.
3. Check continuity between Bluetooth® control unit harness connector and ground.

| (+)       |          | (-)    | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B126      | 4        | Ground | Yes        |
|           | 23       |        |            |

Does continuity exist?

- YES >> Inspection End.
- NO >> Repair harness or connector.

## MICROPHONE

### MICROPHONE : Diagnosis Procedure

INFOID:000000009471173

Regarding Wiring Diagram information, refer to [AV-54, "Wiring Diagram - Without BOSE Audio system"](#).

## 1.CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

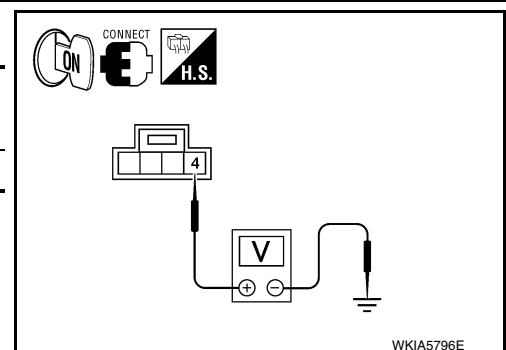
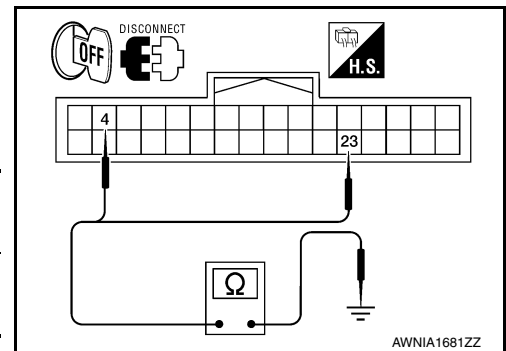
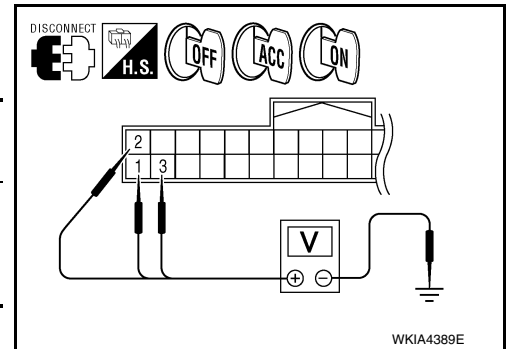
Check voltage between microphone harness connector and ground.

| (+)       |          | (-)    | Ignition switch position | Value (Approx.) |
|-----------|----------|--------|--------------------------|-----------------|
| Connector | Terminal |        |                          |                 |
| R7        | 4        | Ground | ON                       | 5V              |

Is proper voltage present?

- YES >> GO TO 3.
- NO >> GO TO 2.

## 2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)



# POWER SUPPLY AND GROUND CIRCUIT

[MONOCHROME DISPLAY - W/O BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit and microphone connectors.
3. Check continuity between microphone harness connector R7 (A) terminal 4 and Bluetooth® control unit harness connector B126 (B) terminal 29.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| R7        | 4        | B126      | 29       | Yes        |

4. Check continuity between microphone harness connector R7 (A) terminal 4 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| R7        | 4        | Ground | No         |

### Are continuity results as specified?

- YES >> Replace the Bluetooth® control unit. Refer to [AV-88. "Removal and Installation"](#).  
 NO >> Repair harness or connector.

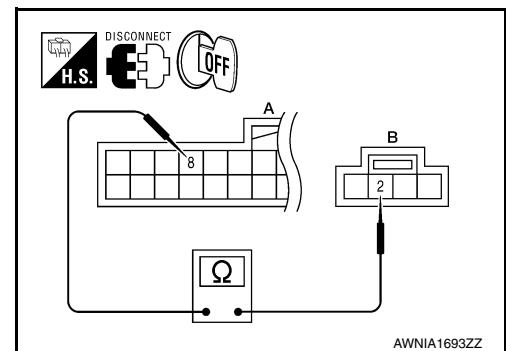
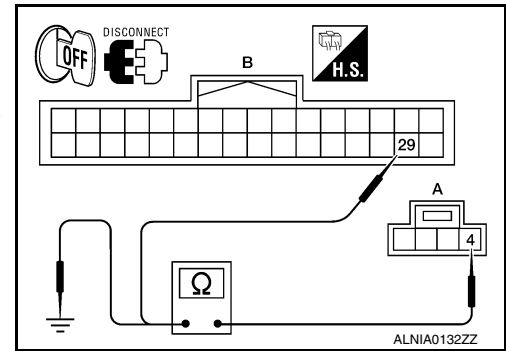
## 3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit and microphone connectors.
3. Check continuity between Bluetooth® control unit harness connector B126 (A) terminal 8 and microphone harness connector R7 (B) terminal 2.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B126      | 8        | R7        | 2        | Yes        |

### Is continuity present?

- YES >> Inspection End.  
 NO >> Repair harness or connector.



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# FRONT DOOR SPEAKER

[MONOCHROME DISPLAY - W/O BOSE]

< DTC/CIRCUIT DIAGNOSIS >

## FRONT DOOR SPEAKER

### Description

INFOID:000000009471174

The audio unit sends audio signals to the front door speakers using the front door speaker circuits.

### Diagnosis Procedure

INFOID:000000009471175

Regarding Wiring Diagram information, refer to [AV-54, "Wiring Diagram - Without BOSE Audio system"](#).

## 1. CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

## 2. HARNESS CHECK

1. Disconnect audio unit connector M133 (A) and suspect speaker connector (B).
2. Check continuity between audio unit harness connector M133 (A) terminal and suspect speaker harness connector (B) terminal.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M133      | 2        | D3        | 1        | Yes        |
|           | 3        |           | 2        |            |
|           | 11       | D103      | 1        |            |
|           | 12       |           | 2        |            |

3. Check continuity between audio unit harness connector M133 (A) terminal and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M133      | 2        | Ground | No         |
|           | 3        |        |            |
|           | 11       |        |            |
|           | 12       |        |            |

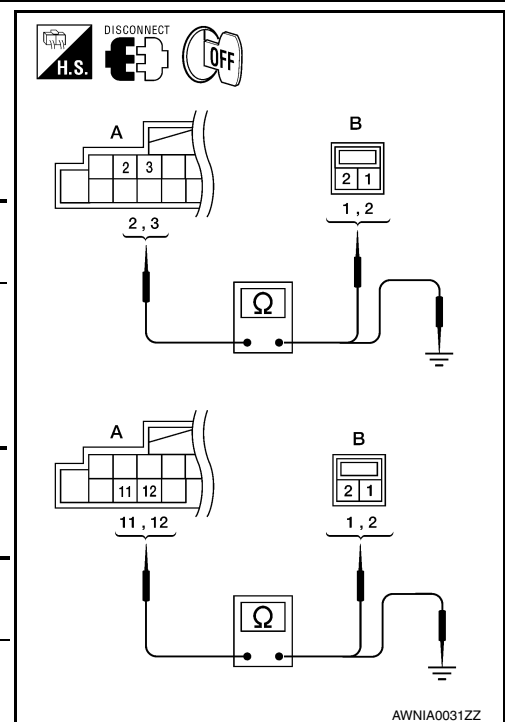
Are continuity results as specified?

YES >> GO TO 3.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 3. FRONT DOOR SPEAKER SIGNAL CHECK

1. Connect audio unit connector and front speaker connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.





# FRONT DOOR SPEAKER

[MONOCHROME DISPLAY - W/O BOSE]

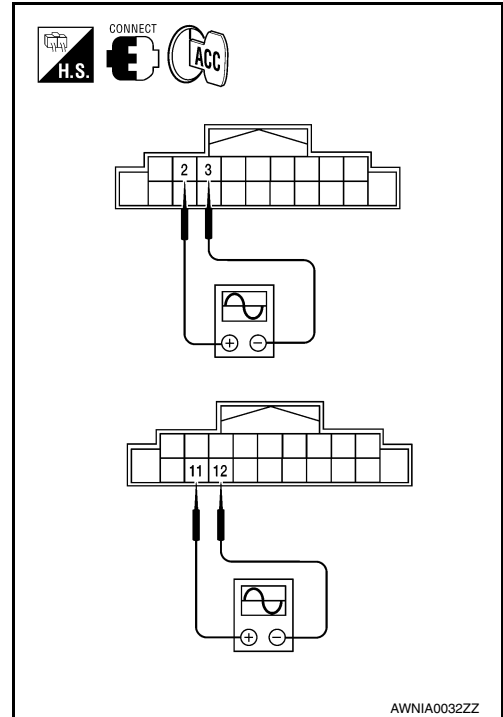
## < DTC/CIRCUIT DIAGNOSIS >

4. Check the signal between audio unit harness connector terminals with CONSULT or oscilloscope.

| (+) Connector |          | (-) Terminal |          | Condition | Reference signal |
|---------------|----------|--------------|----------|-----------|------------------|
| Terminal      | Terminal | Terminal     | Terminal |           |                  |
| M133          | 2        | 11           | 3        | 12        |                  |

Is the inspection result normal?

- YES >> Replace speaker. Refer to [AV-77. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-73. "Removal and Installation"](#).



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TWEETER

Description

INFOID:000000009471176

The audio unit sends audio signals to the tweeters using the front door speaker circuits.

Diagnosis Procedure

INFOID:000000009471177

Regarding Wiring Diagram information, refer to [AV-54, "Wiring Diagram - Without BOSE Audio system"](#).

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

- YES >> GO TO 2
- NO >> Repair the terminal and connector.

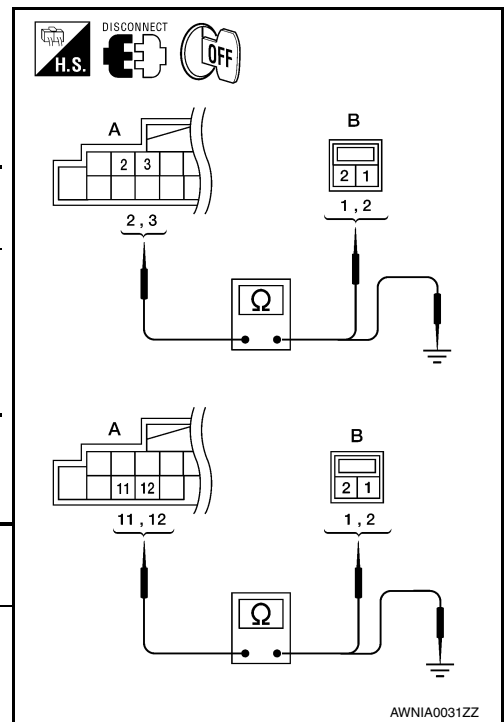
2.HARNES CHECK

1. Disconnect audio unit connector M133 (A) and suspect tweeter connector (B).
2. Check continuity between audio unit harness connector M133 (A) and suspect tweeter harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M133      | 2        | M143      | 1        | Yes        |
|           | 3        |           | 2        |            |
|           | 11       | M144      | 1        |            |
|           | 12       |           | 2        |            |

3. Check continuity between audio unit harness connector M133 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M133      | 2        | Ground | No         |
|           | 3        |        |            |
|           | 11       |        |            |
|           | 12       |        |            |



Are the continuity results as specified?

- YES >> GO TO 3.
- NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

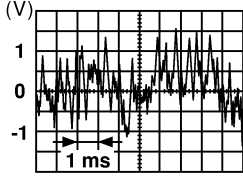
3.TWEETER SIGNAL CHECK

# TWEETER

[MONOCHROME DISPLAY - W/O BOSE]

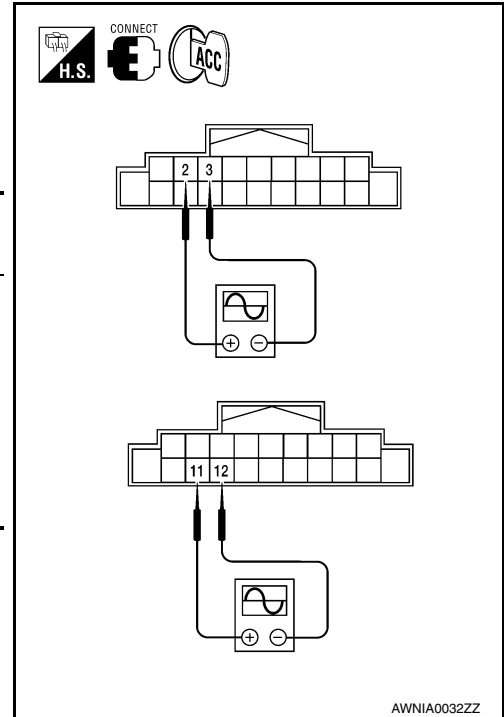
## < DTC/CIRCUIT DIAGNOSIS >

1. Connect audio unit connector and tweeter connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between audio unit harness connector terminals with CONSULT or oscilloscope.

| (+)       |          | (-)      |                      | Condition  | Reference signal |
|-----------|----------|----------|----------------------|--|------------------|
| Connector | Terminal | Terminal | Terminal             |  |                  |
| M133      | 2        | 3        | Receive audio signal | <br>SKIA0177E |                  |
|           | 11       | 12       |                      |  |                  |

Is the audio signal voltage as specified?

- YES >> Replace tweeter. Refer to [AV-76. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-73. "Removal and Installation"](#).



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# REAR DOOR SPEAKER

[MONOCHROME DISPLAY - W/O BOSE]

< DTC/CIRCUIT DIAGNOSIS >

## REAR DOOR SPEAKER

### Description

INFOID:000000009471178

The audio unit sends audio signals to the rear door speakers using the rear door speaker circuits.

### Diagnosis Procedure

INFOID:000000009471179

Regarding Wiring Diagram information, refer to [AV-54, "Wiring Diagram - Without BOSE Audio system"](#).

## 1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

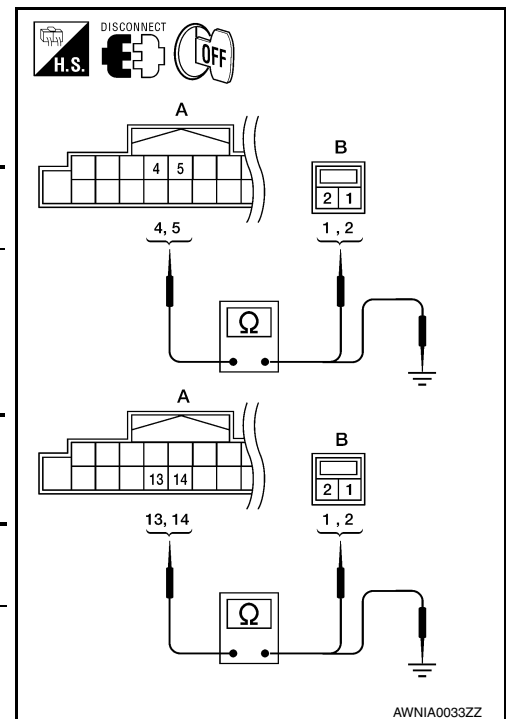
## 2.HARNES CHECK

1. Disconnect audio unit connector M133 (A) and suspect speaker connector.
2. Check continuity between audio unit harness connector M133 (A) and suspect speaker harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M133      | 4        | D209      | 1        | Yes        |
|           | 5        |           | 2        |            |
|           | 13       | D309      | 1        |            |
|           | 14       |           | 2        |            |

3. Check continuity between audio unit harness connector M133 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M133      | 4        | Ground | No         |
|           | 5        |        |            |
|           | 13       |        |            |
|           | 14       |        |            |



Are the continuity results as specified?

YES >> GO TO 3.

- NO >> • Check connector housings for disconnected or loose terminals.  
 • Repair harness or connector.

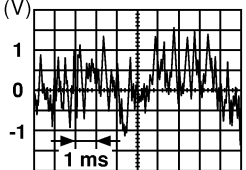
## 3.REAR DOOR SPEAKER SIGNAL CHECK

# REAR DOOR SPEAKER

[MONOCHROME DISPLAY - W/O BOSE]

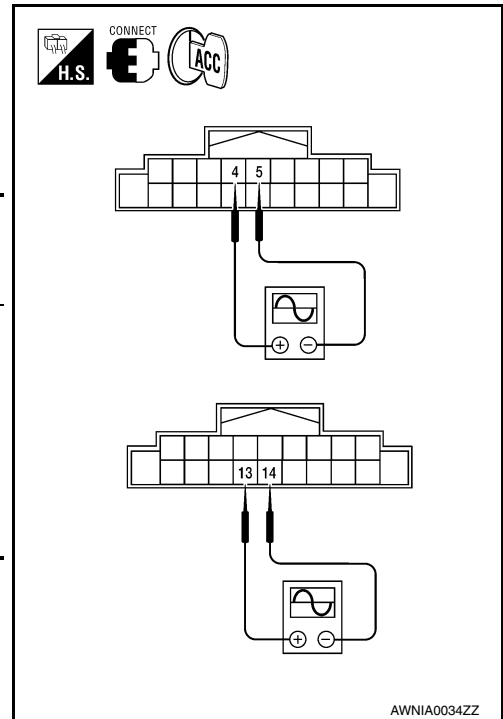
## < DTC/CIRCUIT DIAGNOSIS >

1. Connect audio unit connector and rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between audio unit harness connector terminals with CONSULT or oscilloscope.

| (+)       |          | (-)      |                      | Condition   | Reference signal |
|-----------|----------|----------|----------------------|---|------------------|
| Connector | Terminal | Terminal | Terminal             |   |                  |
| M133      | 4        | 5        | Receive audio signal |  |                  |
|           | 13       | 14       |                      |   |                  |

Is the audio signal voltage as specified?

- YES >> Replace rear door speaker. Refer to [AV-78, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-73, "Removal and Installation"](#).



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# SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/O BOSE]

## SUBWOOFER

### Description

INFOID:000000009471180

The audio unit sends audio signals to the subwoofer amp. The subwoofer amp. amplifies the audio signals before sending them to the subwoofers using the audio signal circuits.

### Diagnosis Procedure

INFOID:000000009471181

Regarding Wiring Diagram information, refer to [AV-54, "Wiring Diagram - Without BOSE Audio system"](#).

## 1. CONNECTOR CHECK

Check the audio unit, subwoofer amp. and subwoofer connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

- YES >> GO TO 2  
 NO >> Repair the terminal and connector.

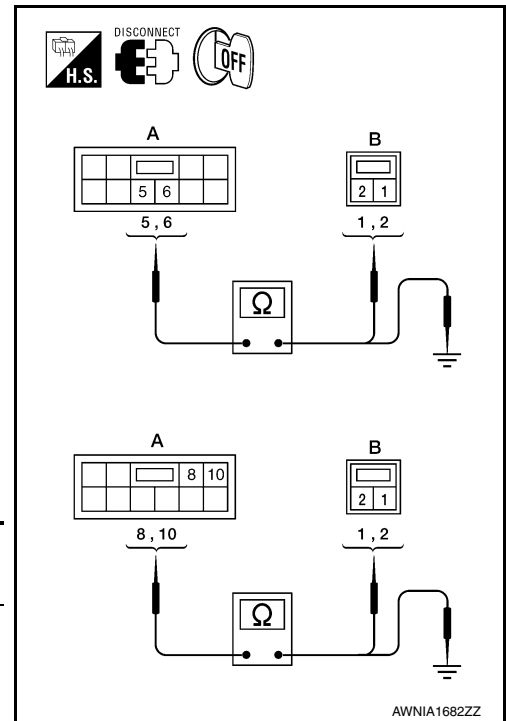
## 2. HARNESS CHECK

1. Disconnect subwoofer amp. connector B21 and suspect subwoofer connector.
2. Check continuity between subwoofer amp. harness connector B21 (A) and suspect subwoofer harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B21       | 6        | B16       | 1        | Yes        |
|           | 5        |           | 2        |            |
|           | 10       | B17       | 1        |            |
|           | 8        |           | 2        |            |

3. Check continuity between subwoofer harness connector B21 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B21       | 6        | Ground | No         |
|           | 5        |        |            |
|           | 10       |        |            |
|           | 8        |        |            |



Are the continuity test results as specified?

- YES >> GO TO 3.  
 NO >> • Check connector housings for disconnected or loose terminals.  
 • Repair harness or connector.

## 3. REAR SUBWOOFER SIGNAL CHECK

# SUBWOOFER

[MONOCHROME DISPLAY - W/O BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

1. Connect subwoofer amp. connector B21 and suspect subwoofer connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between subwoofer amp. harness connector B21 terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal |
|-----------|-----------|-----|----------------------|------------------|
|           | (+)       | (-) |                      |                  |
| B21       | 6         | 5   | Receive audio signal |                  |
|           | 10        | 8   |                      |                  |

SKIA0177E

Is the audio signal voltage as specified?

YES >> Replace suspect subwoofer. Refer to [AV-79. "Removal and Installation"](#).

NO >> GO TO 4.

## 4. HARNESS CHECK

1. Disconnect audio unit connector M133 and subwoofer speaker amp. connector B21.
2. Check continuity between audio unit harness connector M133 (A) and subwoofer amp. harness connector B21 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M133      | 4        | B21       | 2        | Yes        |
|           | 5        |           | 1        |            |
|           | 13       |           | 4        |            |
|           | 14       |           | 3        |            |

3. Check continuity between audio unit harness connector M133 (A) terminal and ground.

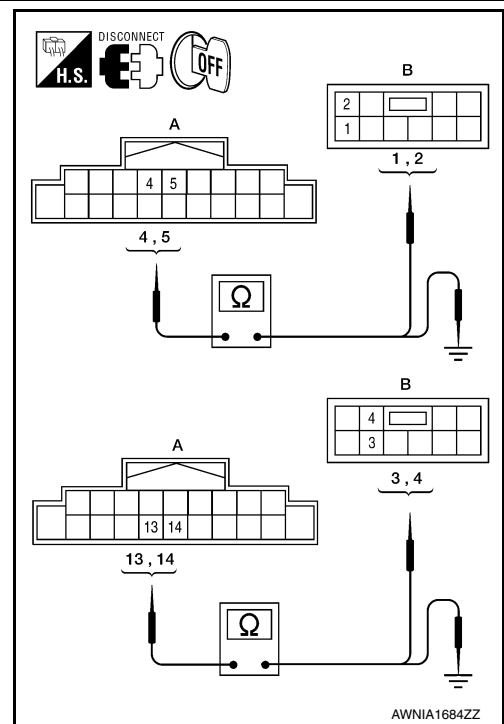
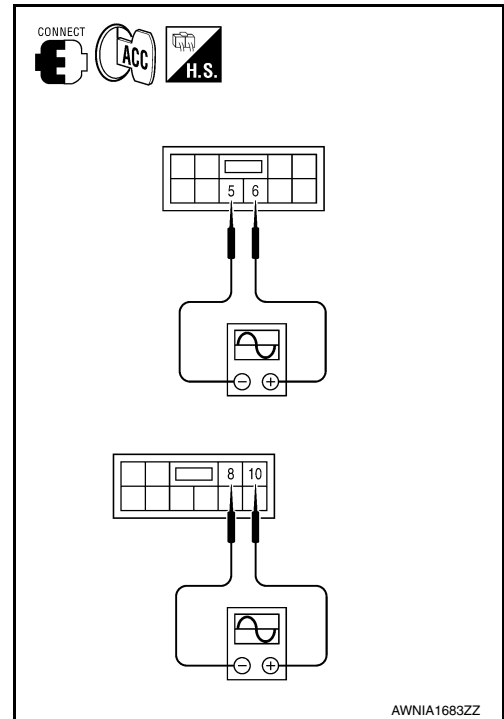
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M133      | 4        | Ground | No         |
|           | 5        |        |            |
|           | 13       |        |            |
|           | 14       |        |            |

Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 5. SUBWOOFER SIGNAL CHECK

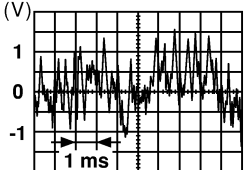


# SUBWOOFER

[MONOCHROME DISPLAY - W/O BOSE]

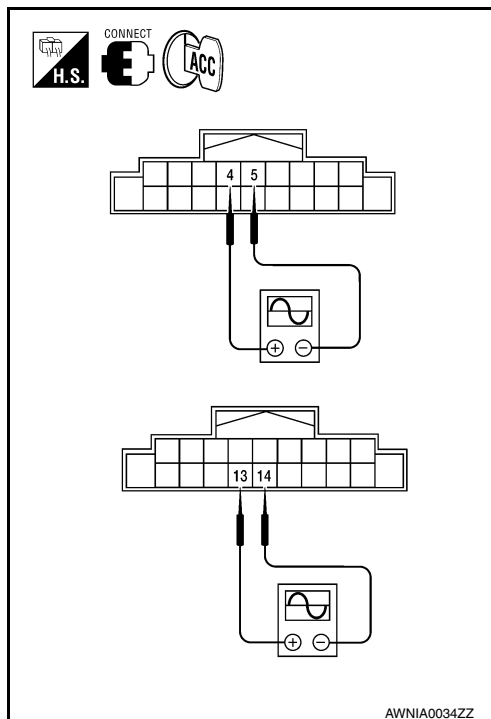
## < DTC/CIRCUIT DIAGNOSIS >

1. Connect audio unit connector M133 and subwoofer amp. connector B21.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M133 terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal   |
|-----------|-----------|-----|----------------------|--|
|           | (+)       | (-) |                      |  |
| M133      | 4         | 5   | Receive audio signal |  <p style="text-align: center;">SKIA0177E</p> |
|           | 13        | 14  |                      |  |

Is the audio signal voltage as specified?

- YES >> Replace subwoofer amp. Refer to [AV-80, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-73, "Removal and Installation"](#).





# STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/O BOSE]

## STEERING SWITCH

### Description

INFOID:000000009471182

When one of the steering wheel audio control switches is pushed, the resistance in steering switch circuit changes depending on which button is pushed.



### Diagnosis Procedure

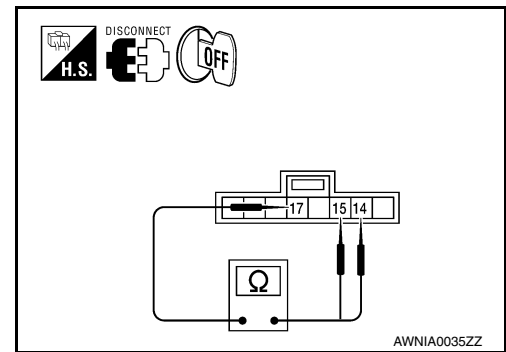
INFOID:000000009471183

Regarding Wiring Diagram information, refer to [AV-54, "Wiring Diagram - Without BOSE Audio system"](#).

### 1. CHECK STEERING SWITCH RESISTANCE

1. Disconnect steering switch connector M88.
2. Check resistance between steering switch connector terminals.

| Terminal | Signal name   | Condition   | Resistance (Ω)<br>(Approx.) |
|----------|---------------|---|-----------------------------|
| 14       | Source        | Depress SOURCE switch.  | 0                           |
|          | Seek (up)     | Depress Δ switch.   | 121                         |
|          | Seek (down)   | Depress ∇ switch.   | 321                         |
| 15       | Phone/Send    | Depress  switch.   | 723                         |
|          | Volume (down) | Depress volume DOWN switch.   | 0                           |
|          | Volume (up)   | Depress volume UP switch.   | 121                         |
|          | Phone/End     | Depress  switch. | 321                         |



Do the steering switches check OK?

YES >> GO TO 2.

NO >> Replace steering switch. Refer to [AV-81, "Removal and Installation"](#).

### 2. CHECK HARNESS BETWEEN COMBINATION SWITCH (SPIRAL CABLE) AND BLUETOOTH® CONTROL UNIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector B126 and combination switch (spiral cable) connector M30.
3. Check continuity between Bluetooth® control unit harness connector B126 and combination switch (spiral cable) harness connector M30.

| Connector | Terminal | Connector | Terminal | Continuity |
|-----------|----------|-----------|----------|------------|
| B126      | 12       | M30       | 24       | Yes        |
|           | 13       |           | 31       |            |
|           | 14       |           | 33       |            |

4. Check continuity between Bluetooth® control unit connector B126 and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| B126      | 12       | Ground | No         |
|           | 13       |        |            |
|           | 14       |        |            |

Are the continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness.

# STEERING SWITCH

[MONOCHROME DISPLAY - W/O BOSE]

< DTC/CIRCUIT DIAGNOSIS >

## 3. CHECK HARNESS BETWEEN COMBINATION SWITCH (SPIRAL CABLE) AND AUDIO UNIT

1. Disconnect audio unit connector M147.
2. Check continuity between audio unit harness connector M147 and combination switch (spiral cable) harness connector M30.

| Connector | Terminal | Connector | Terminal | Continuity |
|-----------|----------|-----------|----------|------------|
| M147      | 23       | M30       | 24       | Yes        |
|           | 24       |           | 31       |            |
|           | 30       |           | 33       |            |

3. Check continuity between audio unit connector M147 and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| M147      | 23       | Ground | No         |
|           | 24       |        |            |
|           | 30       |        |            |

Are the continuity results as specified?

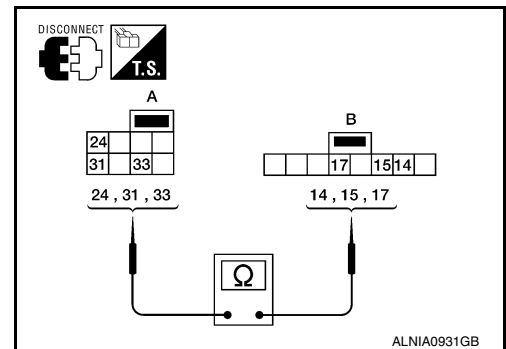
YES >> GO TO 4.

NO >> Repair harness.

## 4. COMBINATION SWITCH (SPIRAL CABLE) CHECK

1. Check continuity between combination switch (spiral cable) harness connector M30 (A) and M88 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M30       | 24       | M88       | 14       | Yes        |
|           | 31       |           | 15       |            |
|           | 33       |           | 17       |            |



Does the combination switch (spiral cable) check OK?

YES >> GO TO 5.

NO >> Replace combination switch (spiral cable). Refer to [SR-15. "Removal and Installation"](#).

## 5. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND AUDIO UNIT

1. Disconnect audio unit connector M133.
2. Check continuity between Bluetooth® control unit harness connector B126 and audio unit harness connector M133.

| Connector | Terminal | Connector | Terminal | Continuity |
|-----------|----------|-----------|----------|------------|
| B126      | 17       | M133      | 6        | Yes        |
|           | 18       |           | 16       |            |
|           | 19       |           | 15       |            |

3. Check continuity between Bluetooth® control unit connector B126 and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| B126      | 17       | Ground | No         |
|           | 18       |        |            |
|           | 19       |        |            |

Are the continuity results as specified?

YES >> GO TO 6.

# STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/O BOSE]

NO >> Repair harness.

## 6. CHECK AUDIO UNIT VOLTAGE

1. Connect audio unit harness connector M133 and Bluetooth® control unit harness connector B126.
2. Turn ignition switch ON.
3. Check voltage between audio unit harness connector M133 terminals.

| (+)        |          | (-)        |          | Voltage<br>(Approx.) |
|------------|----------|------------|----------|----------------------|
| Audio unit |          | Audio unit |          |                      |
| Connector  | Terminal | Connector  | Terminal |                      |
| M133       | 6        | M133       | 15       | 3.3V                 |
|            | 16       |            |          |                      |

Are the continuity results as specified?

YES >> Replace Bluetooth® control unit. Refer to [AV-88. "Removal and Installation"](#).

NO >> Replace audio unit. Refer to [AV-73. "Removal and Installation"](#).

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# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/O BOSE]

## MICROPHONE SIGNAL CIRCUIT

### Description

INFOID:000000009471184

Voice signals are transmitted from the microphone to the Bluetooth® control unit using the microphone signal circuits.

### Diagnosis Procedure

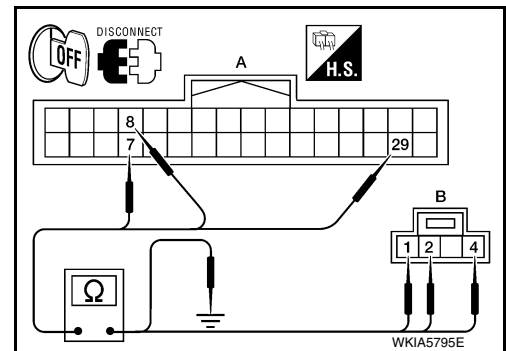
INFOID:000000009471185

Regarding Wiring Diagram information, refer to [AV-54, "Wiring Diagram - Without BOSE Audio system"](#).

### 1. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector and microphone connector.
3. Check continuity between Bluetooth® control unit harness connector B126 (A) and microphone harness connector R7 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B126      | 7        | R7        | 1        | Yes        |
|           | 8        |           | 2        |            |
|           | 29       |           | 4        |            |



4. Check continuity between Bluetooth® control unit harness connector B126 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B126      | 7        | Ground | No         |
|           | 8        |        |            |
|           | 29       |        |            |

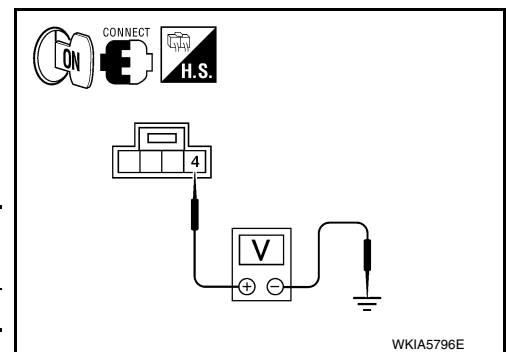
Are the continuity test results as specified?

- YES >> GO TO 2.  
 NO >> Repair harness or connector.

### 2. CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth® control unit connector and microphone connector.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector R7 terminal 4 and ground.

| (+)       |          | (-)    | Voltage (approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| R7        | 4        | Ground | 5V                |



Is voltage reading approx. 5 volts?

- YES >> GO TO 3.  
 NO >> Replace Bluetooth® control unit. Refer to [AV-88, "Removal and Installation"](#).

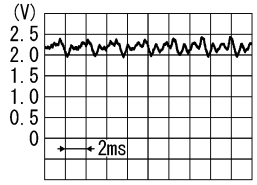
### 3. CHECK MICROPHONE SIGNAL

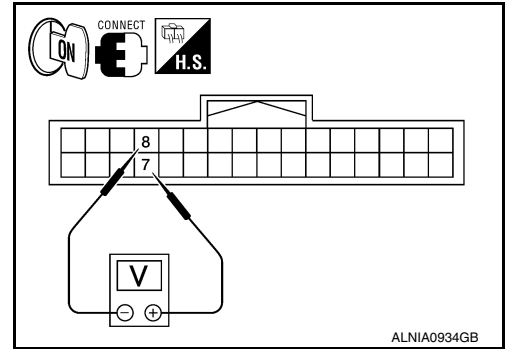
# MICROPHONE SIGNAL CIRCUIT

[MONOCHROME DISPLAY - W/O BOSE]

< DTC/CIRCUIT DIAGNOSIS >

Check signal between Bluetooth® control unit harness connector B126 terminals 7 and 8.

| Connector | (+)      | (-)      | Reference signal   |
|-----------|----------|----------|--|
|           | Terminal | Terminal |  |
| B126      | 7        | 8        | While talking into microphone<br><br><small>PKIB5037J</small> |



Are voltage readings as specified?

- YES >> Replace Bluetooth® control unit. Refer to [AV-88. "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-86. "Removal and Installation"](#).

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# AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[MONOCHROME DISPLAY - W/O BOSE]

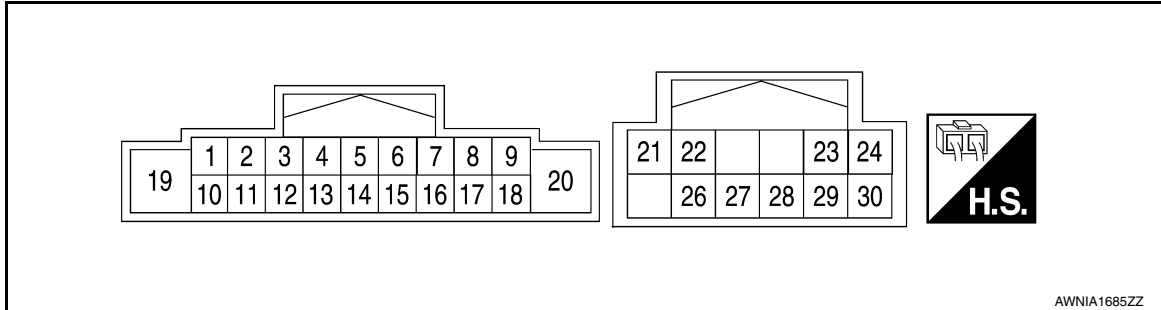
## ECU DIAGNOSIS INFORMATION

### AUDIO UNIT

Reference Value

INFOID:000000009471186

### TERMINAL LAYOUT



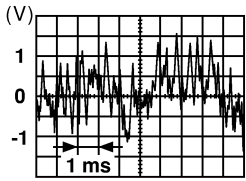
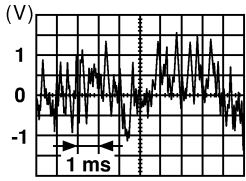




### PHYSICAL VALUES

| Terminal<br>(Wire color) |            | Item                           | Signal in-<br>put/out-<br>put | Condition          |                              | Reference value (approx) |
|--------------------------|------------|--------------------------------|-------------------------------|--------------------|------------------------------|--------------------------|
| +                        | -          |                                |                               | Ignition<br>switch | Operation                    |                          |
| 2<br>(L)                 | 3<br>(B/W) | Audio sound<br>signal front LH | Output                        | ON                 | Receive audio sig-<br>nal    | <p>SKIA0177E</p>         |
| 4<br>(LG)                | 5<br>(B/Y) | Audio sound<br>signal rear LH  | Output                        | ON                 | Receive audio sig-<br>nal    | <p>SKIA0177E</p>         |
| 6<br>(W/G)               | Ground     | Steering<br>switch signal<br>A | Input                         | ON                 | Depress SOURCE<br>switch.    | 0V                       |
|                          |            |                                |                               |                    | Depress $\Delta$ switch.     | 0.7V                     |
|                          |            |                                |                               |                    | Depress $\nabla$ switch.     | 1.3V                     |
|                          |            |                                |                               |                    | Depress  switch.             | 2.0V                     |
|                          |            |                                |                               |                    | Except for above.            | 3.3V                     |
| 7<br>(V/Y)               | Ground     | ACC signal                     | Input                         | ON                 | Ignition switch<br>ACC or ON | Battery voltage          |
| 9<br>(R/L)               | 8<br>(R/Y) | ILL signal                     | Input                         | ON                 | Headlamps ON                 | Battery voltage          |

# AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[MONOCHROME DISPLAY - W/O BOSE]

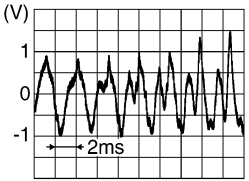
| Terminal<br>(Wire color) |             | Item                              | Signal in-<br>put/out-<br>put | Condition          |  | Reference value (approx)   |
|--------------------------|-------------|-----------------------------------|-------------------------------|--------------------|--|--|
| +                        | -           |                                   |                               | Ignition<br>switch | Operation  |  |
| 11<br>(BR)               | 12<br>(B/R) | Audio sound<br>signal front<br>RH | Output                        | ON                 | Receive audio sig-<br>nal  | <br>SKIA0177E |
| 13<br>(O)                | 14<br>(B/P) | Audio sound<br>signal rear RH     | Output                        | ON                 | Receive audio sig-<br>nal  | <br>SKIA0177E |
| 15<br>(L/B)              | -           | Remote con-<br>trol ground        | Input                         | -                  | -  | -  |
| 16<br>(GR/L)             | Ground      | Steering<br>switch signal<br>B    | Input                         | ON                 | Depress volume<br>DOWN switch.   | 0.7V   |
|                          |             |                                   |                               |                    | Depress volume<br>UP switch.   | 1.3V   |
|                          |             |                                   |                               |                    | Depress  switch.  | 2.0V   |
|                          |             |                                   |                               |                    | Except for above.  | 3.3V   |
| 19<br>(Y/R)              | Ground      | Battery power                     | Input                         | -                  | -  | Battery voltage  |
| 21<br>(G)                | 22<br>(R)   | Multimedia<br>CAN                 | Input                         | -                  | -  |  |
| 23<br>(W/B)              | Ground      | Ladder out 1                      | Output                        | ON                 | Depress SOURCE<br>switch.  | 0V   |
|                          |             |                                   |                               |                    | Depress $\Delta$ switch.   | 0.7V   |
|                          |             |                                   |                               |                    | Depress $\nabla$ switch.   | 1.3V   |
|                          |             |                                   |                               |                    | Depress   switch. | 2.0V   |
|                          |             |                                   |                               |                    | Except for above.  | 3.3V   |
| 24<br>(GR/R)             | Ground      | Ladder out 2                      | Output                        | ON                 | Depress volume<br>DOWN switch.   | 0.7V   |
|                          |             |                                   |                               |                    | Depress volume<br>UP switch.   | 1.3V   |
|                          |             |                                   |                               |                    | Depress  switch.  | 2.0V   |
|                          |             |                                   |                               |                    | Except for above.  | 3.3V   |
| 26                       | -           | Shield                            | -                             | -                  | -  | -  |

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# AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[MONOCHROME DISPLAY - W/O BOSE]

| Terminal<br>(Wire color) |           | Item                  | Signal in-<br>put/out-<br>put | Condition          |   | Reference value (approx)  |
|--------------------------|-----------|-----------------------|-------------------------------|--------------------|---|---|
| +                        | -         |                       |                               | Ignition<br>switch | Operation   |   |
| 27<br>(BR)               | 28<br>(Y) | Tel Voice sig-<br>nal | Input                         | ON                 | With Bluetooth®<br>transmitting tel-<br>voice signals to the<br>audio unit. |  <p style="text-align: right; font-size: small;">SKIB3609E</p> |
| 29<br>(G/O)              | Ground    | Telephone ON          | Output                        | ON                 | -   | -   |
| 30<br>(LG/B)             | -         | Ladder shield         | -                             | -                  | -   | -   |



# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

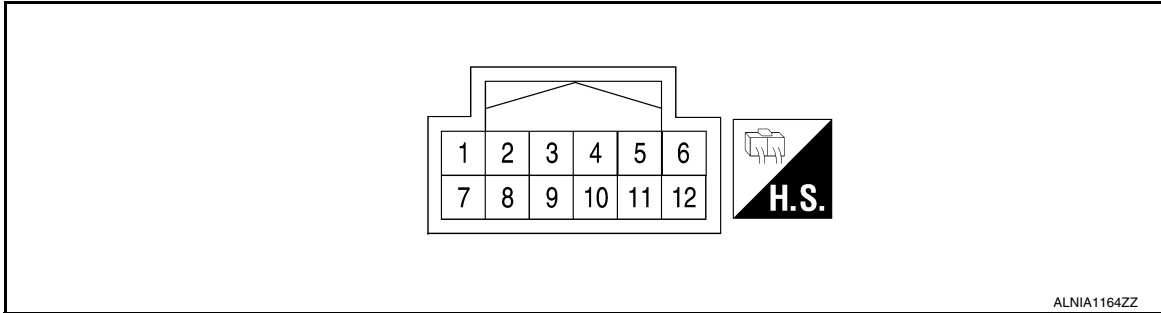
[MONOCHROME DISPLAY - W/O BOSE]

## DISPLAY UNIT

### Reference Values

INFOID:000000009471187

### TERMINAL LAYOUT



### PHYSICAL VALUES

| Terminal<br>(Wire color) |             | Description   | Condition        |                    |                        | Reference value<br>(Approx.) |
|--------------------------|-------------|---------------|------------------|--------------------|------------------------|------------------------------|
| +                        | -           | Signal name   | Input/<br>Output | Ignition<br>switch | Operation              |                              |
| 1<br>(G)                 | Ground      | M-CAN L       | —                | —                  | —                      | —                            |
| 2<br>(R)                 | Ground      | M-CAN H       | —                | —                  | —                      | —                            |
| 3<br>(B)                 | Ground      | Ground        | Input            | ACC                | —                      | 0V                           |
| 8<br>(V/Y)               | Ground      | ACC power     | Input            | ACC                | —                      | Battery voltage              |
| 9<br>(Y/R)               | Ground      | Battery power | Input            | OFF                | —                      | Battery voltage              |
| 10<br>(R/L)              | 11<br>(R/Y) | Illumination  | Input            | —                  | With parking lights ON | Battery voltage              |

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# SUBWOOFER AMP

< ECU DIAGNOSIS INFORMATION >

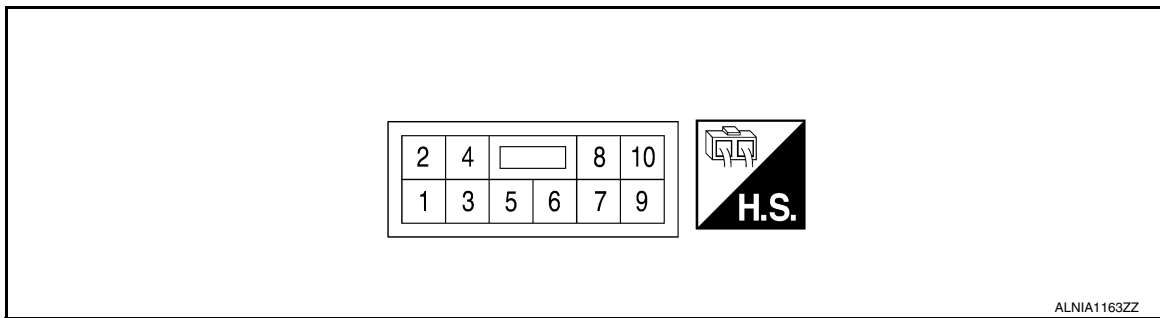
[MONOCHROME DISPLAY - W/O BOSE]

## SUBWOOFER AMP

Reference Value

INFOID:000000009471188

### TERMINAL LAYOUT



### PHYSICAL VALUES

| Terminal<br>(Wire color) |           | Item                         | Signal<br>input/<br>output | Condition          |                       | Voltage<br>(approx.) |
|--------------------------|-----------|------------------------------|----------------------------|--------------------|-----------------------|----------------------|
| +                        | -         |                              |                            | Ignition<br>switch | Operation             |                      |
| 2<br>(LG)                | 1<br>(O)  | Audio signal LH              | Input                      | ON                 | Receive audio signal. | <p>SKIB3609E</p>     |
| 4<br>(L)                 | 3<br>(P)  | Audio signal RH              | Input                      | ON                 | Receive audio signal. | <p>SKIB3609E</p>     |
| 6<br>(Y)                 | 5<br>(SB) | Subwoofer audio signal<br>LH | Output                     | ON                 | Receive audio signal. | <p>SKIB3609E</p>     |
| 7<br>(B)                 | Ground    | Ground                       | Input                      | ON                 | —                     | —                    |
| 9<br>(G)                 | Ground    | ACC power supply             | Input                      | ACC                | —                     | Battery voltage      |
| 10<br>(R)                | 8<br>(BR) | Subwoofer audio signal<br>RH | Output                     | ON                 | Receive audio signal. | <p>SKIB3609E</p>     |

# BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

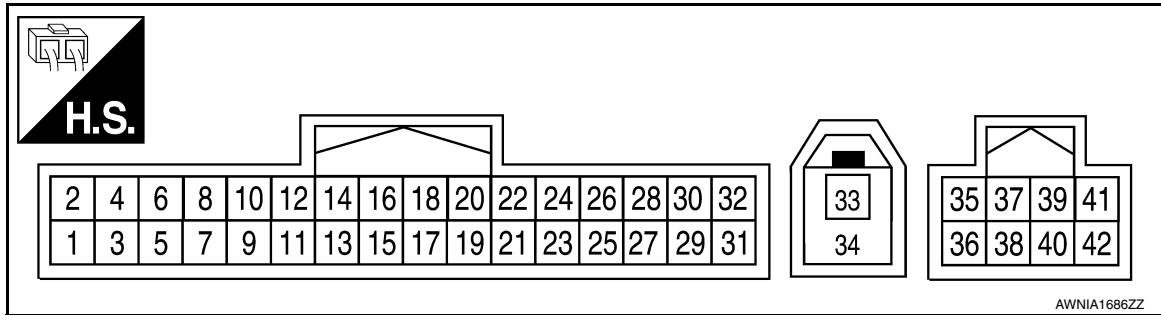
[MONOCHROME DISPLAY - W/O BOSE]

## BLUETOOTH® CONTROL UNIT

Reference Value

INFOID:000000009471189

### TERMINAL LAYOUT







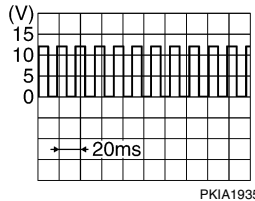
### PHYSICAL VALUES

| Terminal<br>(Wire color) |           | Item           | Signal<br>input/<br>output | Condition          |   | Reference value<br>(Approx.) |
|--------------------------|-----------|----------------|----------------------------|--------------------|---|------------------------------|
| +                        | -         |                |                            | Ignition<br>switch | Operation                                     |                              |
| 1<br>(V)                 | Ground    | Battery power  | Input                      | -                  | -   | Battery voltage              |
| 2<br>(GR)                | Ground    | ACC power      | Input                      | ACC/ON             | -   | Battery voltage              |
| 3<br>(O)                 | Ground    | IGN power      | Input                      | ON/<br>START       | -   | Battery voltage              |
| 4<br>(B)                 | Ground    | Ground         | -                          | -                  | -   | 0.2V                         |
| 7<br>(L)                 | 8         | Mic-in signal  | Input                      | -                  | -   | -                            |
| 9<br>(BR)                | 10<br>(Y) | Audio out      | Output                     | ACC/ON             | Bluetooth® control<br>unit sends audio signal |                              |
| 11<br>(SB)               | -         | Mute           | Output                     | -                  | -   | -                            |
| 12<br>(L)                | Ground    | Ladder input 1 | Input                      | ACC/ON             | Press SOURCE<br>switch.                       | 0 V                          |
|                          |           |                |                            |                    | Press SEEK UP<br>switch.                      | 0.7 V                        |
|                          |           |                |                            |                    | Press SEEK DOWN<br>switch.                    | 1.3 V                        |
|                          |           |                |                            |                    | Press  switch.                                | 2.0 V                        |
|                          |           |                |                            |                    | Except for above.                             | 3.3 V                        |

# BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[MONOCHROME DISPLAY - W/O BOSE]

| Terminal<br>(Wire color) |        | Item                                  | Signal<br>input/<br>output | Condition          |   | Reference value<br>(Approx.)  |
|--------------------------|--------|---------------------------------------|----------------------------|--------------------|---|---|
| +                        | -      |                                       |                            | Ignition<br>switch | Operation   |   |
| 13<br>(P)                | Ground | Ladder input 2                        | Input                      | ACC/ON             | Press VOL DOWN switch   | 0.7 V   |
|                          |        |                                       |                            |                    | Press VOL UP switch.  | 1.3 V   |
|                          |        |                                       |                            |                    | Pressing  switch.  | 2.0 V   |
|                          |        |                                       |                            |                    | Except for above.   | 3.3 V   |
| 14<br>(R)                | -      | Ladder ground                         | Input                      | -                  | -   | -   |
| 17<br>(G)                | Ground | Steering switch<br>signal A           | Output                     | ON                 | Depress SOURCE switch.  | 0V  |
|                          |        |                                       |                            |                    | Depress $\Delta$ switch.  | 0.7V  |
|                          |        |                                       |                            |                    | Depress $\nabla$ switch.  | 1.3V  |
|                          |        |                                       |                            |                    | Depress   switch. | 2.0V  |
|                          |        |                                       |                            |                    | Except for above.   | 3.3V  |
| 18<br>(W)                | Ground | Steering switch<br>signal B           | Output                     | ON                 | Depress volume DOWN switch.   | 0.7V  |
|                          |        |                                       |                            |                    | Depress volume UP switch.   | 1.3V  |
|                          |        |                                       |                            |                    | Depress  switch.   | 2.0V  |
|                          |        |                                       |                            |                    | Except for above.   | 3.3V  |
| 19<br>(LG)               | -      | Steering switch<br>ground             | Output                     | -                  | -   | -   |
| 23<br>(B)                | Gnd    | Ground                                | -                          | -                  | -   | 0V  |
| 28<br>(BR)               | -      | Vehicle speed<br>signal (8-<br>pulse) | Input                      | ON                 | When vehicle speed<br>is approx. 25 MPH<br>(40 km/h)  |  |
| 29<br>(R)                | Ground | Microphone<br>power                   | Output                     | ON                 | -   | 5V  |
| 33<br>(B)                | -      | Antenna                               | -                          | -                  | -   | -   |
| 34<br>(B)                | -      | Antenna                               | -                          | -                  | -   | -   |
| 35<br>(L)                | -      | M-CAN H1                              | -                          | -                  | -   | -   |
| 36<br>(P)                | -      | M-CAN L1                              | -                          | -                  | -   | -   |
| 37                       | -      | Shield                                | -                          | -                  | -   | -   |
| 38                       | -      | Shield                                | -                          | -                  | -   | -   |

# BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[MONOCHROME DISPLAY - W/O BOSE]

| Terminal<br>(Wire color) |   | Item     | Signal<br>input/<br>output | Condition          |           | Reference value<br>(Approx.) |
|--------------------------|---|----------|----------------------------|--------------------|-----------|------------------------------|
| +                        | - |          |                            | Ignition<br>switch | Operation |                              |
| 40<br>(G)                | - | M-CAN H2 | -                          | -                  | -         | -                            |
| 42<br>(R)                | - | M-CAN L2 | -                          | -                  | -         | -                            |

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# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/O BOSE]

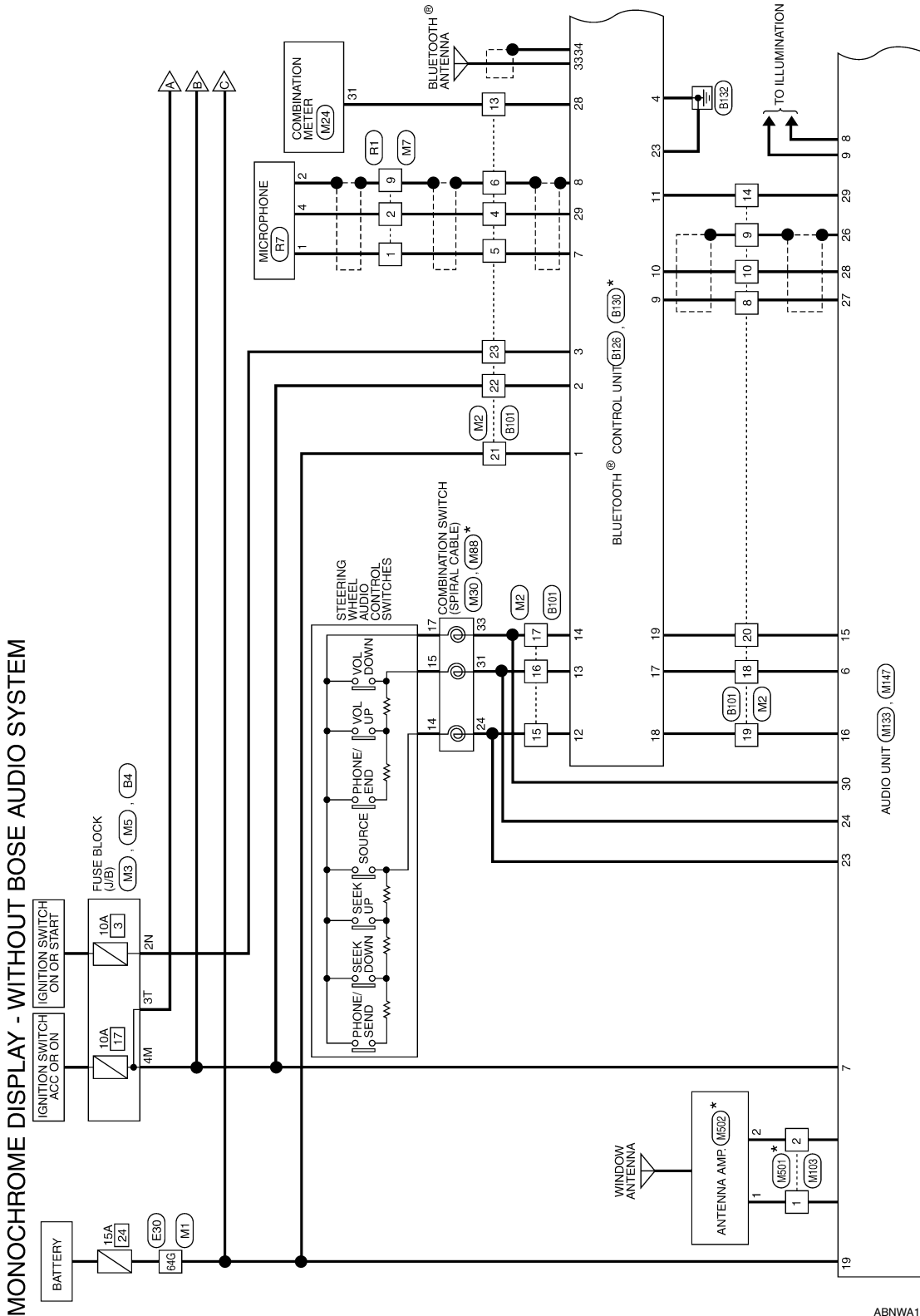
< WIRING DIAGRAM >

## WIRING DIAGRAM

### MONOCHROME DISPLAY

Wiring Diagram - Without BOSE Audio system

INFOID:000000009471190

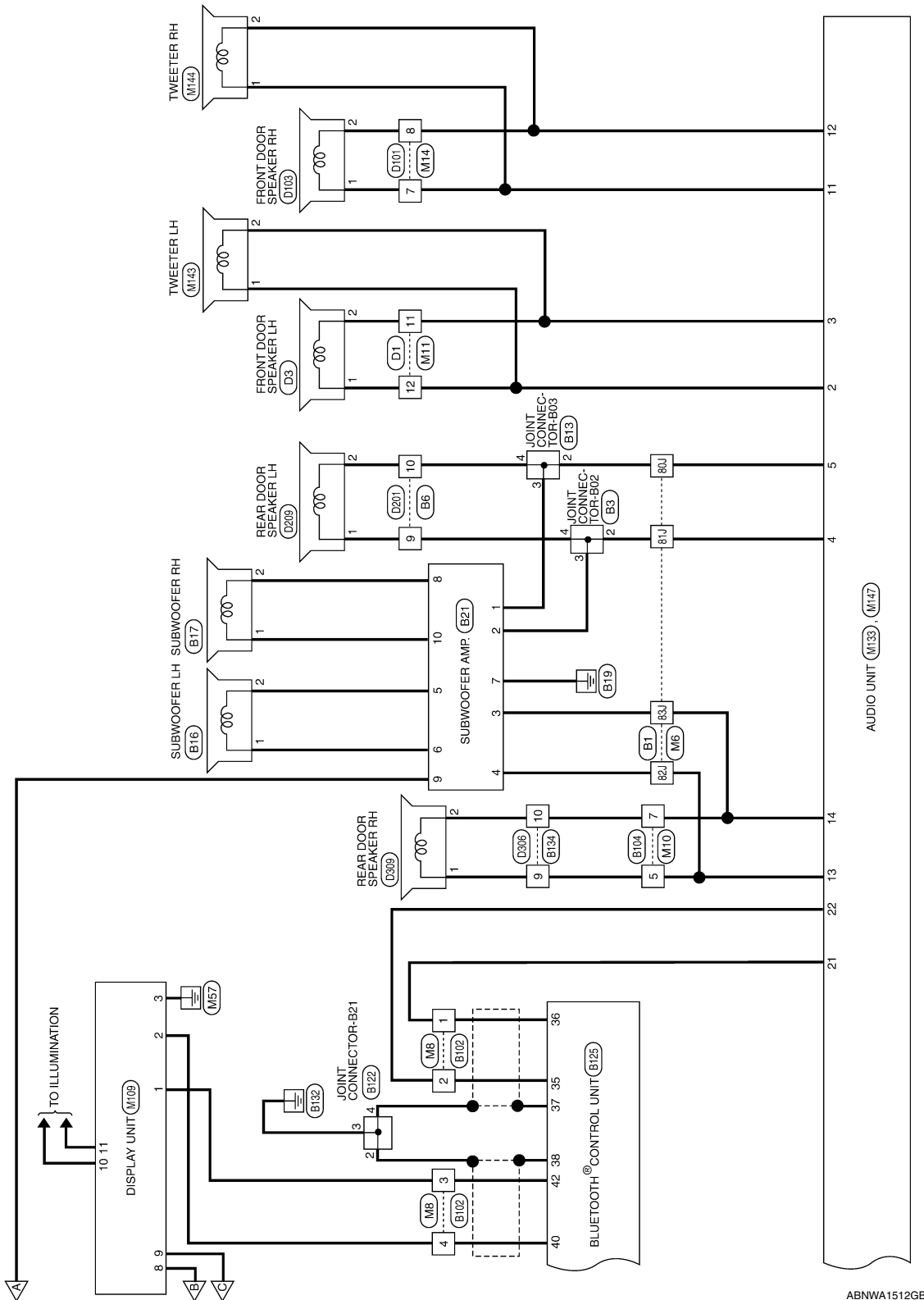


ABNWA1937GB

# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/O BOSE]

< WIRING DIAGRAM >



ABNWA1512GB

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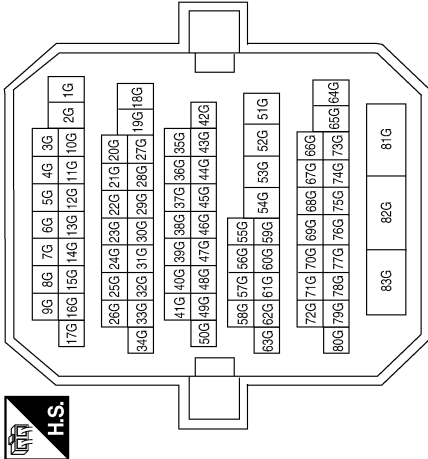
# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/O BOSE]

< WIRING DIAGRAM >

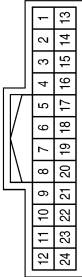
## MONOCHROME DISPLAY CONNECTORS - WITHOUT BOSE AUDIO SYSTEM

|                 |              |
|-----------------|--------------|
| Connector No.   | M1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 64G          | Y/R           | -           |

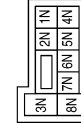
|                 |              |
|-----------------|--------------|
| Connector No.   | M2           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4            | R             | -           |
| 5            | L             | -           |
| 6            | SHIELD        | -           |
| 8            | BR            | -           |
| 9            | SHIELD        | -           |
| 10           | Y             | -           |
| 13           | V/W           | -           |
| 14           | SB            | -           |
| 15           | W/B           | -           |
| 16           | GR/R          | -           |
| 17           | LG/B          | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 18           | G             | -           |
| 19           | W             | -           |
| 20           | LG            | -           |
| 21           | Y/R           | -           |
| 22           | V/Y           | -           |
| 23           | G             | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | M3               |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | WHITE            |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2N           | G             | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | M5               |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | WHITE            |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4M           | V/Y           | -           |

ABNIA5112GB

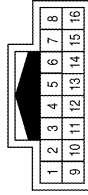


# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/O BOSE]

< WIRING DIAGRAM >

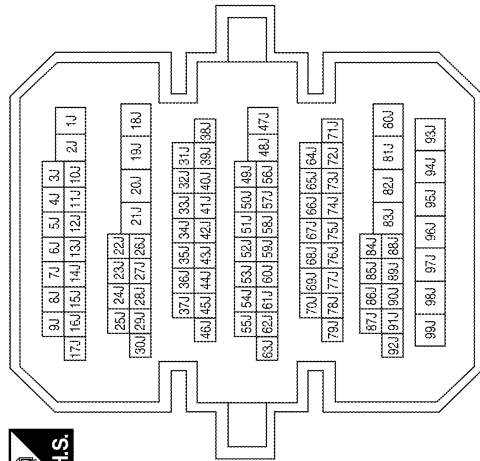
|                 |              |
|-----------------|--------------|
| Connector No.   | M7           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



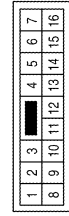
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | --          |
| 2            | R             | --          |
| 9            | SHIELD        | --          |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 80J          | B/Y           | --          |
| 81J          | LG            | --          |
| 82J          | O             | --          |
| 83J          | B/P           | --          |

|                 |              |
|-----------------|--------------|
| Connector No.   | M6           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

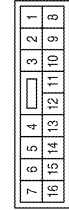


|                 |              |
|-----------------|--------------|
| Connector No.   | M11          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



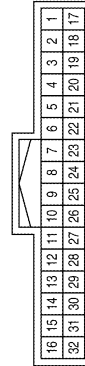
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11           | B/W           | --          |
| 12           | L             | --          |

|                 |              |
|-----------------|--------------|
| Connector No.   | M10          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | O             | --          |
| 7            | B/P           | --          |

|                 |              |
|-----------------|--------------|
| Connector No.   | M8           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | --          |
| 2            | R             | --          |
| 3            | G             | --          |
| 4            | R             | --          |

ABNIA1560GB

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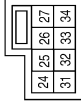
AV

# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/O BOSE]

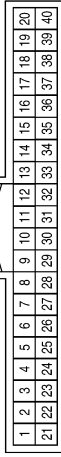
< WIRING DIAGRAM >

|                 |                                      |
|-----------------|--------------------------------------|
| Connector No.   | M30                                  |
| Connector Name  | COMBINATION SWITCH<br>(SPIRAL CABLE) |
| Connector Color | GRAY                                 |



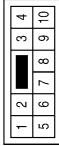
| Terminal No. | Color of Wire | Signal Name                 |
|--------------|---------------|-----------------------------|
| 24           | W/B           | -(WITH MONO-CHROME DISPLAY) |
| 31           | GR/R          | -(WITH MONO-CHROME DISPLAY) |
| 33           | LG/B          | -(WITH MONO-CHROME DISPLAY) |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | M24               |
| Connector Name  | COMBINATION METER |
| Connector Color | WHITE             |



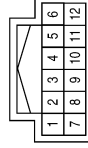
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 31           | V/W           | 8P/R OUT    |

|                 |              |
|-----------------|--------------|
| Connector No.   | M14          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | BR            | -           |
| 8            | B/R           | -           |

|                 |  |
|-----------------|--|
| Connector No.   | M109                                   |
| Connector Name  | DISPLAY UNIT (WITH MONOCHROME DISPLAY) |
| Connector Color | WHITE                                  |



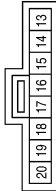
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | M-CAN L     |
| 2            | R             | M-CAN H     |
| 3            | B             | GND         |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | -             | -           |
| 7            | -             | -           |
| 8            | V/Y           | ACC         |
| 9            | Y/R           | +B          |
| 10           | R/L           | ILL+        |
| 11           | R/Y           | ILL-        |
| 12           | -             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M103         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

|                 |                                      |
|-----------------|--------------------------------------|
| Connector No.   | M88                                  |
| Connector Name  | COMBINATION SWITCH<br>(SPIRAL CABLE) |
| Connector Color | GRAY                                 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 14           | W             | -           |
| 15           | L             | -           |
| 17           | BR            | -           |

ABNIA5113GB

# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/O BOSE]

< WIRING DIAGRAM >

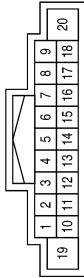
|                 |  |
|-----------------|--|
| Connector No.   | M143                                   |
| Connector Name  | TWEETER LH (WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | BROWN                                  |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | B/W           | -           |

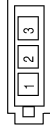
| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 7            | V/Y           | ACC              |
| 8            | R/Y           | ILL (-)          |
| 9            | R/L           | ILL(+), LIGHT SW |
| 10           | -             | -                |
| 11           | BR            | FR SP RH (+)     |
| 12           | B/R           | FR SP RH (-)     |
| 13           | O             | RR SP RH (+)     |
| 14           | B/P           | RR SP RH (-)     |
| 15           | L/B           | STRG SW GND      |
| 16           | GR/L          | STRG SW B        |
| 17           | -             | -                |
| 18           | -             | -                |
| 19           | Y/R           | BAT              |
| 20           | -             | -                |

|                 |   |
|-----------------|---|
| Connector No.   | M133  |
| Connector Name  | AUDIO UNIT (MONOCHROME DISPLAY - WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | WHITE   |



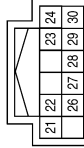
| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 1            | -             | -            |
| 2            | L             | FR SP LH (+) |
| 3            | B/W           | FR SP LH (-) |
| 4            | LG            | RR SP LH (+) |
| 5            | B/Y           | RR SP LH (-) |
| 6            | W/G           | STRG SW A    |

|                 |              |
|-----------------|--------------|
| Connector No.   | M501         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

|                 |   |
|-----------------|---|
| Connector No.   | M147  |
| Connector Name  | AUDIO UNIT (MONOCHROME DISPLAY - WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | WHITE   |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 21           | G             | MULTIMEDIA CAN L |
| 22           | R             | MULTIMEDIA CAN H |
| 23           | W/B           | LADDER OUT 1     |
| 24           | GR/R          | LADDER OUT 2     |
| 26           | SHIELD        | TEL SHIELD       |
| 27           | BR            | TEL I/F+         |
| 28           | Y             | TEL I/F-         |
| 29           | G/O           | TEL ON           |
| 30           | LG/B          | LADDER SHIELD    |

|                 |  |
|-----------------|--|
| Connector No.   | M144                                   |
| Connector Name  | TWEETER RH (WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | BROWN                                  |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | BR            | -           |
| 2            | B/R           | -           |

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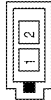
AV

# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/O BOSE]

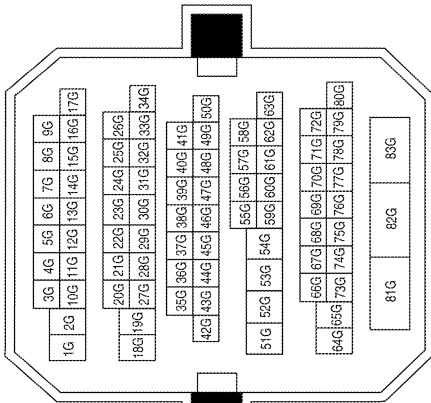
< WIRING DIAGRAM >

|                 |              |
|-----------------|--------------|
| Connector No.   | M502         |
| Connector Name  | ANTENNA AMP. |
| Connector Color | GRAY         |



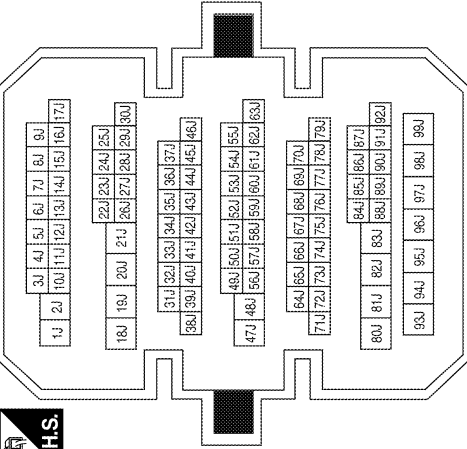
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | E30          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 64G          | V             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



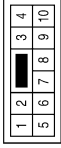
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 80J          | O             | -           |
| 81J          | LG            | -           |
| 82J          | L             | -           |
| 83J          | P             | -           |

# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/O BOSE]

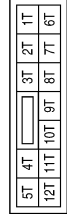
< WIRING DIAGRAM >

|                 |              |
|-----------------|--------------|
| Connector No.   | B6           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



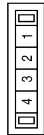
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | B4               |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | BROWN            |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3T           | G             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | B3                  |
| Connector Name  | JOINT CONNECTOR-B02 |
| Connector Color | WHITE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2            | LG            | -           |
| 3            | LG            | -           |
| 4            | LG            | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B17          |
| Connector Name  | SUBWOOFER RH |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | BR            | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B16          |
| Connector Name  | SUBWOOFER LH |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name                  |
|--------------|---------------|------------------------------|
| 1            | Y             | - (WITH MONO-CHROME DISPLAY) |
| 2            | SB            | - (WITH MONO-CHROME DISPLAY) |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | B13                 |
| Connector Name  | JOINT CONNECTOR-B03 |
| Connector Color | WHITE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2            | O             | -           |
| 3            | O             | -           |
| 4            | O             | -           |

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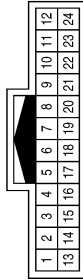
# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/O BOSE]

< WIRING DIAGRAM >

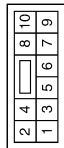
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 16           | P             | -           |
| 17           | R             | -           |
| 18           | G             | -           |
| 19           | W             | -           |
| 20           | LG            | -           |
| 21           | V             | -           |
| 22           | GR            | -           |
| 23           | O             | -           |

| Connector No.   | B101         |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4            | R             | -           |
| 5            | L             | -           |
| 6            | SHIELD        | -           |
| 8            | BR            | -           |
| 9            | SHIELD        | -           |
| 10           | Y             | -           |
| 13           | BR            | -           |
| 14           | SB            | -           |
| 15           | L             | -           |

| Connector No.   | B21            |
|-----------------|----------------|
| Connector Name  | SUBWOOFER AMP. |
| Connector Color | WHITE          |



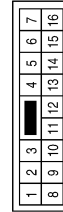
| Terminal No. | Color of Wire | Signal Name                                   |
|--------------|---------------|---|
| 1            | O             | SPL LH (-) IN                                 |
| 2            | LG            | SPL LH (+) IN                                 |
| 3            | P             | SP RH (-) IN                                  |
| 4            | L             | SP RH (+) IN                                  |
| 5            | SB            | WOOFER LH (-)<br>(WITH MONOCHROME<br>DISPLAY) |
| 6            | Y             | WOOFER LH (+)<br>(WITH MONOCHROME<br>DISPLAY) |
| 7            | B             | GND   |
| 8            | BR            | WOOFER RH (-)                                 |
| 9            | G             | ACC   |
| 10           | R             | WOOFER RH (+)                                 |

| Connector No.   | B122                |
|-----------------|---------------------|
| Connector Name  | JOINT CONNECTOR-B21 |
| Connector Color | WHITE               |



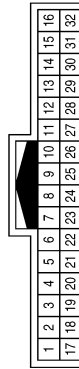
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2            | SHIELD        | -           |
| 3            | B             | -           |
| 4            | SHIELD        | -           |

| Connector No.   | B104         |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | LG            | -           |
| 7            | O             | -           |

| Connector No.   | B102         |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | L             | -           |
| 3            | R             | -           |
| 4            | G             | -           |

ABNIA5287GB

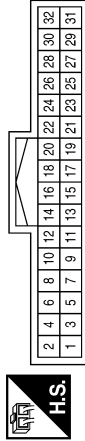
# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/O BOSE]

< WIRING DIAGRAM >

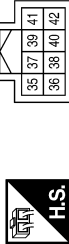
| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 13           | P             | LADDER IN2      |
| 14           | R             | LADDER GND      |
| 15           | -             | -               |
| 16           | -             | -               |
| 17           | G             | STRG SW OUT A   |
| 18           | W             | STRG SW OUT B   |
| 19           | LG            | STRG SW OUT GND |
| 20           | -             | -               |
| 21           | -             | -               |
| 22           | -             | -               |
| 23           | B             | CONT4           |
| 24           | -             | -               |
| 25           | -             | -               |
| 26           | -             | -               |
| 27           | -             | -               |
| 28           | BR            | SPEED           |
| 29           | R             | MIC POWER       |
| 30           | -             | -               |
| 31           | -             | -               |
| 32           | -             | -               |

|                 |   |
|-----------------|---|
| Connector No.   | B126  |
| Connector Name  | BLUETOOTH® CONTROL UNIT (WITH MONOCHROME DISPLAY WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | WHITE   |



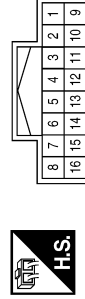
| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 1            | V             | +B            |
| 2            | GR            | ACC           |
| 3            | O             | IGN           |
| 4            | B             | GND           |
| 5            | -             | -             |
| 6            | -             | -             |
| 7            | L             | MIC IN +      |
| 8            | SHIELD        | MIC IN -      |
| 9            | BR            | AUDIO OUT (+) |
| 10           | Y             | AUDIO OUT (-) |
| 11           | SB            | MUTE CONTROL  |
| 12           | L             | LADDER IN1    |

|                 |                         |
|-----------------|-------------------------|
| Connector No.   | B125                    |
| Connector Name  | BLUETOOTH® CONTROL UNIT |
| Connector Color | WHITE                   |



| Terminal No. | Color of Wire | Signal Name                      |
|--------------|---------------|----------------------------------|
| 35           | L             | CAN H1                           |
| 36           | P             | CAN L1                           |
| 37           | SHIELD        | CAN SHIELD 1                     |
| 38           | SHIELD        | CAN SHIELD 2                     |
| 39           | -             | -                                |
| 40           | G             | CAN H2 (WITH MONOCHROME DISPLAY) |
| 41           | -             | -                                |
| 42           | R             | CAN L2 (WITH MONOCHROME DISPLAY) |

|                 |              |
|-----------------|--------------|
| Connector No.   | R1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | R             | -           |
| 9            | SHIELD        | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B134         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

|                 |                         |
|-----------------|-------------------------|
| Connector No.   | B130                    |
| Connector Name  | BLUETOOTH® CONTROL UNIT |
| Connector Color | BLACK                   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33           | B             | -           |
| 34           | B             | -           |

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# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/O BOSE]

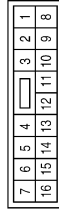
< WIRING DIAGRAM >

|                 |                       |
|-----------------|-----------------------|
| Connector No.   | D3                    |
| Connector Name  | FRONT DOOR SPEAKER LH |
| Connector Color | WHITE                 |



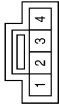
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11           | O             | -           |
| 12           | LG            | -           |

|                 |            |
|-----------------|------------|
| Connector No.   | R7         |
| Connector Name  | MICROPHONE |
| Connector Color | WHITE      |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | SHIELD        | -           |
| 4            | R             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D201         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



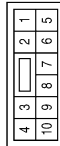
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

|                 |                       |
|-----------------|-----------------------|
| Connector No.   | D103                  |
| Connector Name  | FRONT DOOR SPEAKER RH |
| Connector Color | WHITE                 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D101         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | LG            | -           |
| 8            | O             | -           |

ABNIA5116GB



# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/O BOSE]

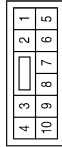
< WIRING DIAGRAM >

|                 |   |
|-----------------|---|
| Connector No.   | D309  |
| Connector Name  | REAR DOOR SPEAKER RH<br>(WITH MONOCHROME<br>DISPLAY WITHOUT BOSE<br>AUDIO SYSTEM) |
| Connector Color | WHITE   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D306         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

|                 |   |
|-----------------|---|
| Connector No.   | D209  |
| Connector Name  | REAR DOOR SPEAKER LH<br>(WITH MONOCHROME<br>DISPLAY WITHOUT BOSE<br>AUDIO SYSTEM) |
| Connector Color | WHITE   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

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# AUDIO SYSTEM

[MONOCHROME DISPLAY - W/O BOSE]

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

### AUDIO SYSTEM

#### Symptom Table

INFOID:000000009471191

#### AUDIO SYSTEM

| Symptoms   | Check items  | Probable malfunction location  |
|--|--|--|
| The disk cannot be removed.                          | Audio unit   | Malfunction in audio unit.<br>Refer to <a href="#">AV-73, "Removal and Installation"</a> .   |
| No sound comes out or the level of the sound is low. | No sound from all speakers.  | <ul style="list-style-type: none"> <li>Speaker circuit shorted to ground.<br/>Refer to <a href="#">AV-54, "Wiring Diagram - Without BOSE Audio system"</a>.</li> <li>Audio unit power supply and ground circuits malfunction.<br/>Refer to <a href="#">AV-27, "AUDIO UNIT : Diagnosis Procedure"</a>.</li> </ul>   |
|  | Only a certain speaker (front door speaker LH, front door speaker RH, tweeter LH, tweeter RH, rear door speaker LH, rear door speaker RH, subwoofer LH, subwoofer RH) does not output sound. | <ul style="list-style-type: none"> <li>Poor connector connection of speaker.</li> <li>Sound signal circuit malfunction between audio unit and speaker.<br/>Refer to <a href="#">AV-32, "Diagnosis Procedure"</a> (front door speaker).<br/>Refer to <a href="#">AV-34, "Diagnosis Procedure"</a> (tweeter).<br/>Refer to <a href="#">AV-36, "Diagnosis Procedure"</a> (rear door speaker).</li> <li>Sound signal circuit malfunction between subwoofer amp. and subwoofer.<br/>Refer to <a href="#">AV-38, "Diagnosis Procedure"</a> (subwoofer).</li> <li>Malfunction in speaker.<br/>Refer to <a href="#">AV-77, "Removal and Installation"</a> (front door speaker).<br/>Refer to <a href="#">AV-76, "Removal and Installation"</a> (tweeter).<br/>Refer to <a href="#">AV-78, "Removal and Installation"</a> (rear door speaker).<br/>Refer to <a href="#">AV-79, "Removal and Installation"</a> (subwoofer).</li> <li>Malfunction in audio unit.<br/>Refer to <a href="#">AV-73, "Removal and Installation"</a>.</li> </ul> |

# AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[MONOCHROME DISPLAY - W/O BOSE]

| Symptoms                              | Check items  | Probable malfunction location   |
|---------------------------------------|--|---|
| Noise is mixed with audio.            | Noise comes out from all speakers.   | Malfunction in audio unit.<br>Refer to <a href="#">AV-73, "Removal and Installation"</a> .  |
|                                       | Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, tweeter LH, tweeter RH, rear door speaker LH, rear door speaker RH, subwoofer LH, subwoofer RH).  | <ul style="list-style-type: none"> <li>• Poor connector connection of speaker.</li> <li>• Sound signal circuit malfunction between audio unit and speaker.<br/>Refer to <a href="#">AV-32, "Diagnosis Procedure"</a> (front door speaker).<br/>Refer to <a href="#">AV-34, "Diagnosis Procedure"</a> (tweeter).<br/>Refer to <a href="#">AV-36, "Diagnosis Procedure"</a> (rear door speaker).</li> <li>• Sound signal circuit malfunction between subwoofer amp. and subwoofer.<br/>Refer to <a href="#">AV-38, "Diagnosis Procedure"</a> (subwoofer).</li> <li>• Malfunction in speaker.</li> <li>• Poor Installation of speaker (e.g. backlash and looseness).<br/>Refer to <a href="#">AV-77, "Removal and Installation"</a> (front door speaker).<br/>Refer to <a href="#">AV-76, "Removal and Installation"</a> (tweeter).<br/>Refer to <a href="#">AV-78, "Removal and Installation"</a> (rear door speaker).<br/>Refer to <a href="#">AV-79, "Removal and Installation"</a> (subwoofer).</li> <li>• Malfunction in audio unit.<br/>Refer to <a href="#">AV-73, "Removal and Installation"</a>.</li> </ul> |
|                                       | Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)  | Poor connector connection of antenna or antenna feeder.<br>Refer to <a href="#">AV-82, "Location of Antenna"</a> .  |
| No radio reception or poor reception. | <ul style="list-style-type: none"> <li>• Other audio sounds are normal.</li> <li>• Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).</li> </ul> | <ul style="list-style-type: none"> <li>• Antenna amp. ON signal circuit malfunction.<br/>Refer to <a href="#">AV-46, "Reference Value"</a>.</li> <li>• Poor connector connection of antenna or antenna feeder.<br/>Refer to <a href="#">AV-82, "Location of Antenna"</a>.</li> </ul>  |
| Buzz/rattle sound from speaker        | The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.   | Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.  |

## RELATED TO HANDS-FREE PHONE

- Before performing diagnosis, confirm that the cellular phone being used by the customer is compatible with the vehicle.
- It is possible that a malfunction is occurring due to a version change of the phone even though the phone is a compatible type. This can be confirmed by changing the cellular phone to another compatible type, and check that it operates normally. It is important to determine whether the cause of the malfunction is the vehicle or the cellular phone.

### Check Compatibility





1. Make sure the customer's Bluetooth<sup>®</sup> related concern is understood.
2. Verify the customer's concern.  
**NOTE:**  
The customer's phone may be required, depending upon their concern.
3. Write down the customer's phone brand, model and service provider.  
**NOTE:**  
It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.
4. Go to "www.nissanusa.com/bluetooth/".

## AUDIO SYSTEM

[MONOCHROME DISPLAY - W/O BOSE]

### < SYMPTOM DIAGNOSIS >

- a. Using the website's search engine, find out if the customer's phone is on the approved list.
- b. If the customer's phone is NOT on the approved list:  
Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.
- c. If the feature related to the customer's concern shows as "N" (not compatible):  
Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".
- d. If the feature related to the customer's concern shows as "Y" (compatible):  
Perform diagnosis as per the following table.

| Symptoms   | Check items  | Probable malfunction location  |
|--|--|--|
| Does not recognize cellular phone connection (no connection is displayed on the display at the guide). | Repeat the registration of cellular phone.   |  |
| Hands-free phone cannot be established.  | <ul style="list-style-type: none"> <li>• Hands-free phone operation can be made, but the communication cannot be established.</li> <li>• Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.</li> </ul>  | <ul style="list-style-type: none"> <li>• Malfunction in Bluetooth® control unit. Replace Bluetooth® control unit. Refer to <a href="#">AV-88. "Removal and Installation"</a>.</li> <li>• Malfunction in audio unit. Replace audio unit. Refer to <a href="#">AV-73. "Removal and Installation"</a>.</li> </ul> |
| The other party's voice cannot be heard by hands-free phone.   | Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.  |  |
| Originating sound is not heard by the other party with hands-free phone communication.                 | Sound operation function is normal.  |  |
|  | Sound operation function does not work.  | Microphone signal circuit malfunction. Refer to <a href="#">AV-44. "Diagnosis Procedure"</a> .   |
| The system cannot be operated.   | <ul style="list-style-type: none"> <li>• The voice recognition can be controlled.</li> <li>• Steering switch's volume DOWN and volume UP switch works, but   does not work.</li> </ul> | Steering switch malfunction. Replace steering switch. Refer to <a href="#">AV-81. "Removal and Installation"</a> .   |
|  | Steering switch's   , volume DOWN and volume UP switches do not work.  | Steering switch signal circuit malfunction. Refer to <a href="#">AV-41. "Diagnosis Procedure"</a> .  |
|  | All steering switches do not work.   | Steering switch ground circuit malfunction. Refer to <a href="#">AV-41. "Diagnosis Procedure"</a> .  |

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[MONOCHROME DISPLAY - W/O BOSE]

## NORMAL OPERATING CONDITION

### Description

INFOID:000000009471192

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).

### NOISE

The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction.

- Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
- Multi-path noise: This noise results from the waves sent directly from the broadcast station arriving at the antenna at a different time from the waves which reflect off mountains or buildings.

The vehicle itself can be a source of noise, if noise prevention parts or electrical equipment are malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and determine the cause.

#### NOTE:

The source of the noise can be found easily by listening to the noise while removing the fuses of electrical components, one by one.

#### Type of Noise and Possible Cause

| Occurrence condition  |   | Possible cause   |
|---|---|--|
| Occurs only when engine is ON.  | A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed. | <ul style="list-style-type: none"> <li>• Ignition components</li> </ul>  |
| The occurrence of the noise is linked with the operation of the fuel pump.  |   | <ul style="list-style-type: none"> <li>• Fuel pump condenser</li> </ul>  |
| Noise only occurs when various electrical components are operating.   | A cracking or snapping sound occurs with the operation of various switches.                         | <ul style="list-style-type: none"> <li>• Relay malfunction, audio unit malfunction</li> </ul>  |
|   | The noise occurs when various motors are operating.   | <ul style="list-style-type: none"> <li>• Motor case ground</li> <li>• Motor</li> </ul>   |
| The noise occurs constantly, not just under certain conditions.   |   | <ul style="list-style-type: none"> <li>• Rear defogger coil malfunction</li> <li>• Open circuit in printed heater</li> <li>• Poor ground of antenna feeder line</li> </ul>         |
| A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively. |   | <ul style="list-style-type: none"> <li>• Ground wire of body parts</li> <li>• Ground due to improper part installation</li> <li>• Wiring connections or a short circuit</li> </ul> |

### RELATED TO HANDS-FREE PHONE

| Symptom  | Cause and Counter measure   |
|--|---|
| Does not recognize cellular phone connection (No connection is displayed on the display at the guide). | Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in <a href="#">AV-66, "Symptom Table"</a> .  |
| Cannot use hands-free phone.   | <p>Customer will not be able to use a hands-free phone under the following conditions:</p> <ul style="list-style-type: none"> <li>• The vehicle is outside of the telephone service area.</li> <li>• The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area.</li> <li>• The cellular phone is locked to prevent it from being dialed.</li> </ul> <p><b>NOTE:</b></p> <p>While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.</p> |

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[MONOCHROME DISPLAY - W/O BOSE]

| Symptom  | Cause and Counter measure   |
|--|---|
| The other party's voice cannot be heard by hands-free phone. | When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.  |
| Poor sound quality.  | Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption. |

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000010135040

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

**WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

**WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.

Precaution for Work

INFOID:000000009471194

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
  - Water soluble dirt:
    - Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
    - Then rub with a soft, dry cloth.
  - Oily dirt:
    - Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
    - Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
    - Then rub with a soft, dry cloth.
  - Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
  - For genuine leather seats, use a genuine leather seat cleaner.

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# PREPARATION

[MONOCHROME DISPLAY - W/O BOSE]

< PREPARATION >

## PREPARATION

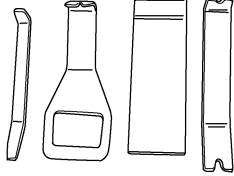
### PREPARATION

#### Special Service Tool

INFOID:000000009471195

The actual shape of the tools may differ from those illustrated here.

| Tool number<br>(TechMate No.)<br>Tool name | Description              |
|--|--------------------------|
| —<br>(J-46534)<br>Trim Tool Set            | Removing trim components |




AWJIA0483ZZ

#### Commercial Service Tools

INFOID:000000009471196

| Tool name  | Description                      |
|------------|----------------------------------|
| Power tool | Loosening nuts, screws and bolts |



PIIB1407E



# AUDIO UNIT

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

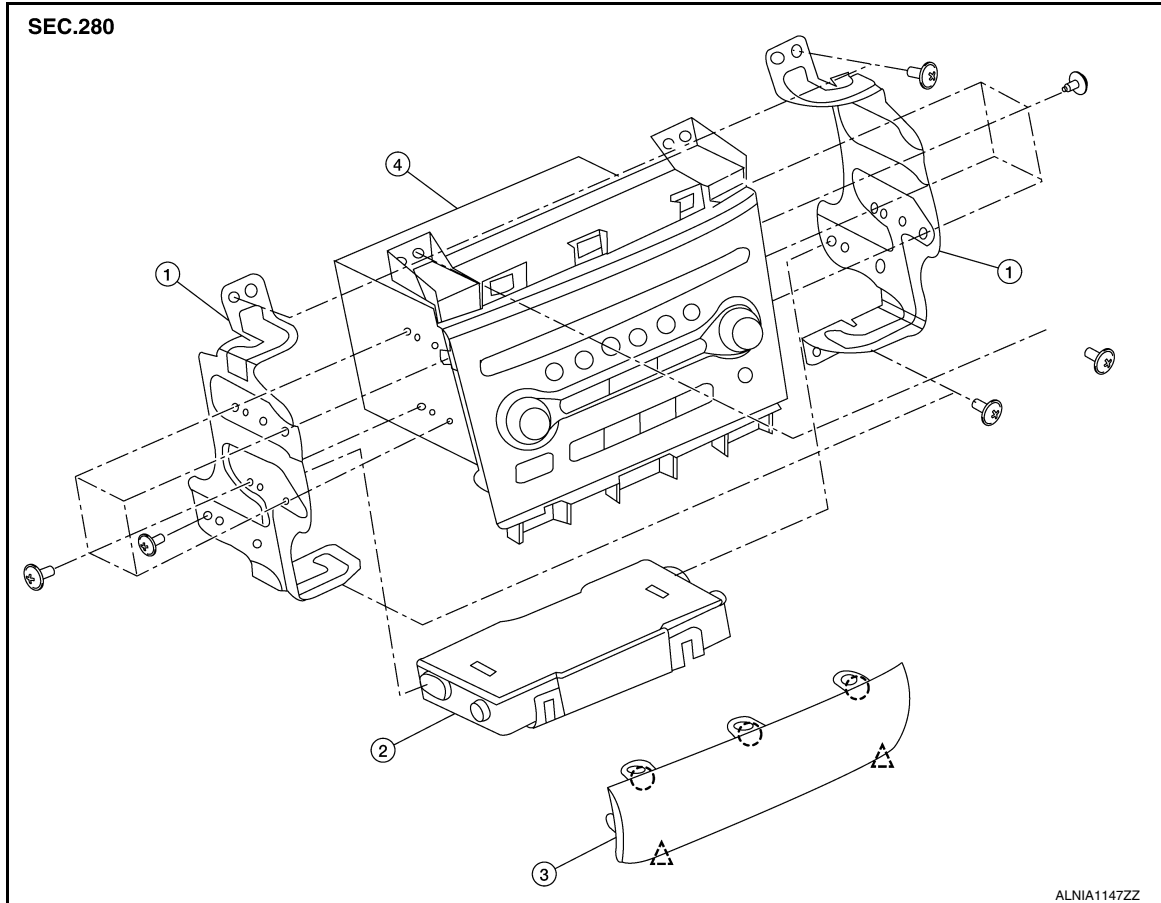
## REMOVAL AND INSTALLATION

### AUDIO UNIT

#### Removal and Installation

INFOID:000000009471197

#### Base Audio

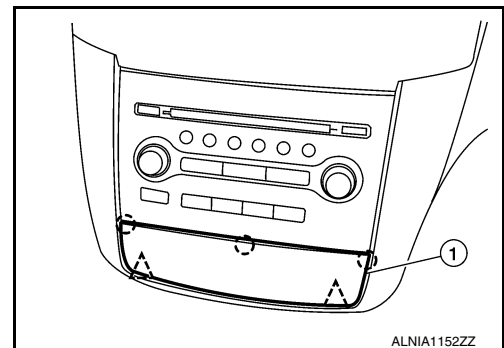


- |                                |                  |                        |
|--------------------------------|------------------|------------------------|
| 1. Audio unit brackets (LH/RH) | 2. A/C auto amp. | 3. Cluster lid C lower |
| 4. Audio unit                  | △ Clip           | ○ Pawl                 |

#### REMOVAL

1. Disconnect the battery negative terminal. Refer to [PG-67, "Removal and Installation \(Battery\)"](#).
2. Remove cluster lid D. Refer to [IP-11, "Removal and Installation"](#).
3. Remove cluster lid C lower finisher (1).

- ○: Pawl
- △: Clip

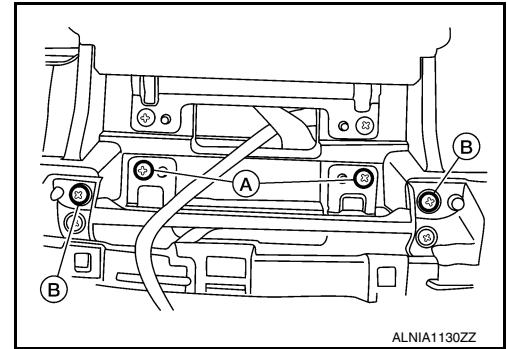


## AUDIO UNIT

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

4. Remove the audio unit screws (A) and cluster lid C screws (B).



5. Pull out the audio unit, disconnect the harness connector from the audio unit and remove.

### INSTALLATION

Installation is in the reverse order of removal.

# AUDIO DISPLAY UNIT

< REMOVAL AND INSTALLATION >

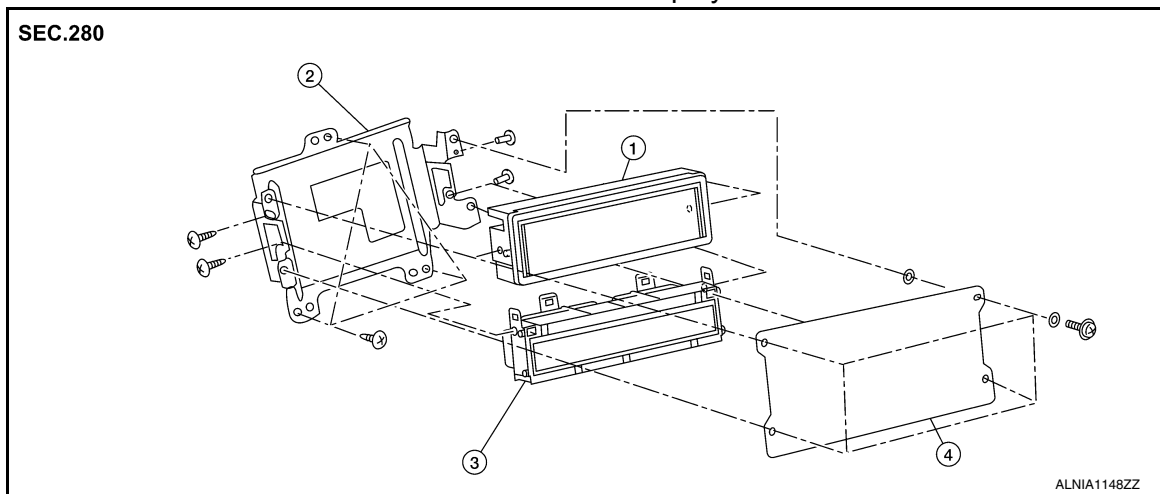
[MONOCHROME DISPLAY - W/O BOSE]

## AUDIO DISPLAY UNIT

### Removal and Installation

INFOID:000000009471198

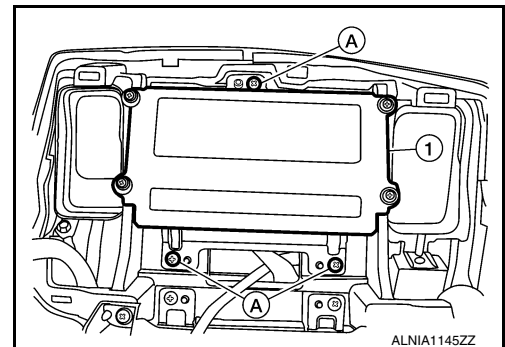
#### Monochrome Display



1. Audio display unit
2. Audio & A/C display unit bracket
3. A/C display unit
4. Front cover

### REMOVAL

1. Disconnect the battery negative terminal. Refer to [PG-67, "Removal and Installation \(Battery\)"](#).
2. Remove cluster lid D. Refer to [IP-11, "Removal and Installation"](#).
3. Remove the audio & A/C display unit bracket screws (A).
4. Pull out the audio & A/C display unit assembly (1), disconnect the harness connectors from the audio display unit and remove.



5. Remove the front cover, then disconnect the audio display unit connectors and remove the audio display unit from the audio/A/C display unit brackets.

### INSTALLATION

Installation is in the reverse order of removal.

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## FRONT TWEETER

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

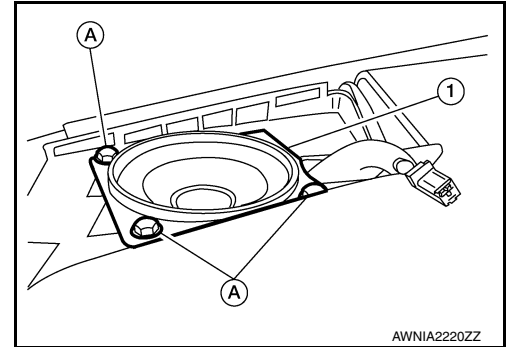
### FRONT TWEETER

#### Removal and Installation

INFOID:000000009471199

#### REMOVAL

1. Remove the front pillar finisher. Refer to [IP-10, "Exploded View"](#).
2. Remove the front tweeter speaker grille. Refer to [IP-10, "Exploded View"](#).
3. Remove the front tweeter speaker screws (A).
4. Pull out front tweeter speaker (1), disconnect the harness connector from the front tweeter speaker and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

# FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

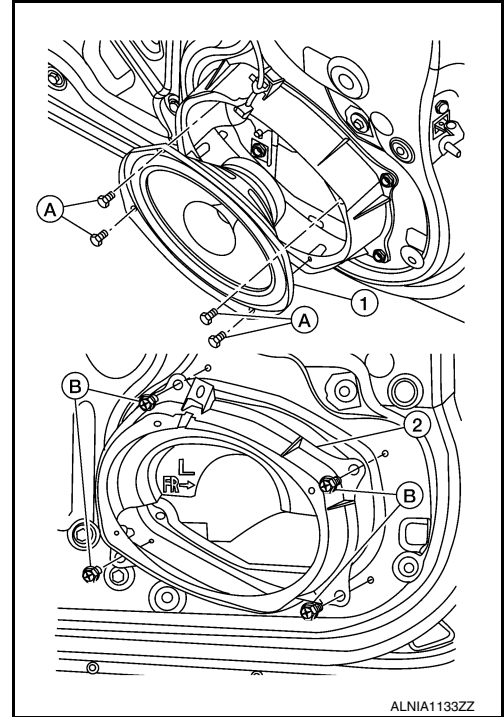
## FRONT DOOR SPEAKER

### Removal and Installation

INFOID:000000009471200

#### REMOVAL

1. Remove the front door finisher. Refer to [INT-18, "Removal and Installation"](#).
2. Remove the front door speaker screws (A).
3. Disconnect the harness connector from the front door speaker (1) and remove.
4. Remove the front door speaker spacer screws (B) and remove the front door speaker spacer (2).



#### INSTALLATION

Installation is in the reverse order of removal.

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## REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

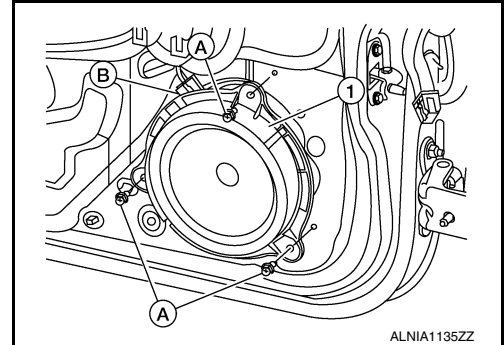
### REAR DOOR SPEAKER

#### Removal and Installation

INFOID:000000009471201

#### REMOVAL

1. Remove the rear door finisher. Refer to [INT-21. "Removal and Installation"](#).
2. Remove the rear door speaker screws (A).
3. Disconnect the harness connector (B) from the rear door speaker (1) and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

# SUBWOOFER

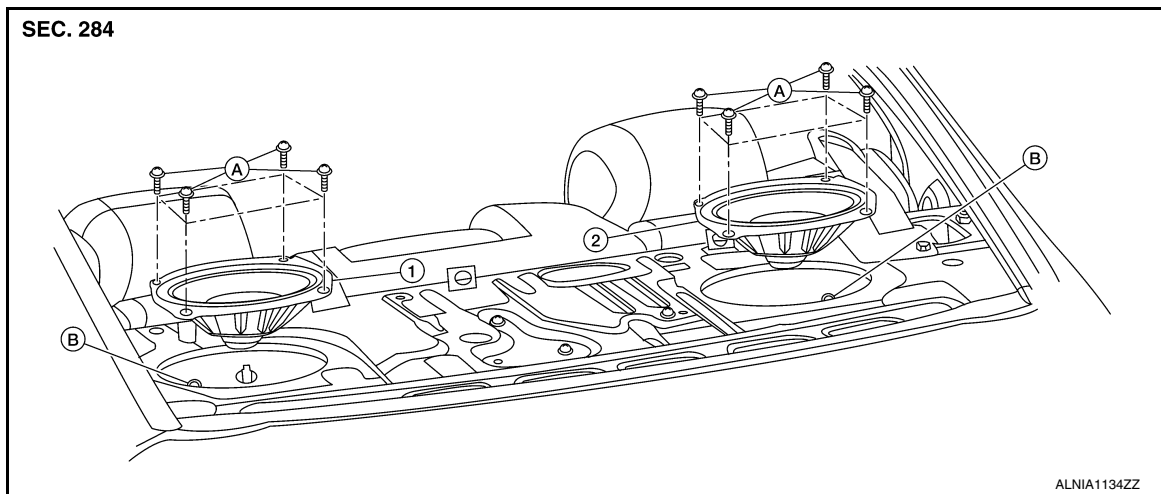
< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

## SUBWOOFER

### Removal and Installation

INFOID:000000009471202



- 1. Subwoofer (LH)
- 2. Subwoofer (RH)
- A. Subwoofer screws
- B. Subwoofer connectors

### REMOVAL

1. Remove the rear parcel shelf finisher. Refer to [INT-28. "Removal and Installation"](#).
2. Remove the subwoofer screws.
3. Pull out the subwoofer, disconnect the harness connector from the subwoofer and remove.

### INSTALLATION

Installation is in the reverse order of removal.

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# SUBWOOFER AMP

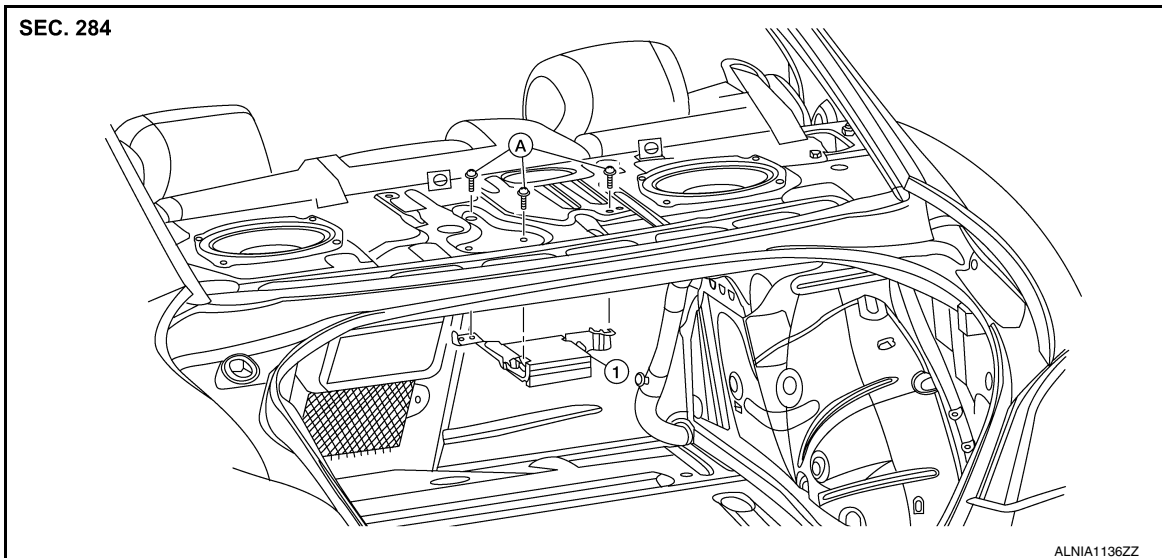
< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

## SUBWOOFER AMP

### Removal and Installation

INFOID:00000009471203



1. Subwoofer amp. and bracket

A. Subwoofer amp. bracket screws

### REMOVAL

1. Disconnect the battery negative terminal. Refer to [PG-67. "Removal and Installation \(Battery\)"](#).
2. Remove the parcel shelf finisher. Refer to [INT-28. "Removal and Installation"](#).

#### NOTE:

The subwoofer amp. can be removed without removing the parcel amp finisher. If moving the subwoofer amp. and bracket, it is necessary to remove the parcel shelf finisher.

3. Remove the trunk upper finisher. Refer to [INT-36. "Exploded View"](#).
4. Remove the subwoofer amp. screws.
5. Disconnect the harness connectors from the subwoofer amp. and remove.

### INSTALLATION

Installation is in the reverse order of removal.



# STEERING SWITCH

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

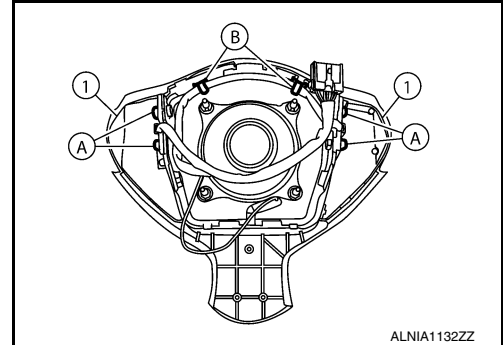
## STEERING SWITCH

### Removal and Installation

INFOID:000000009471204

#### REMOVAL

1. Remove the driver airbag module. Refer to [SR-12. "Removal and Installation"](#).
2. Remove the steering wheel audio control switch screws (A).
3. Release the steering wheel audio control switch harness clips (B).
4. Remove the steering wheel audio control switches (1).



#### INSTALLATION

Installation is in the reverse order of removal.

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# AUDIO ANTENNA

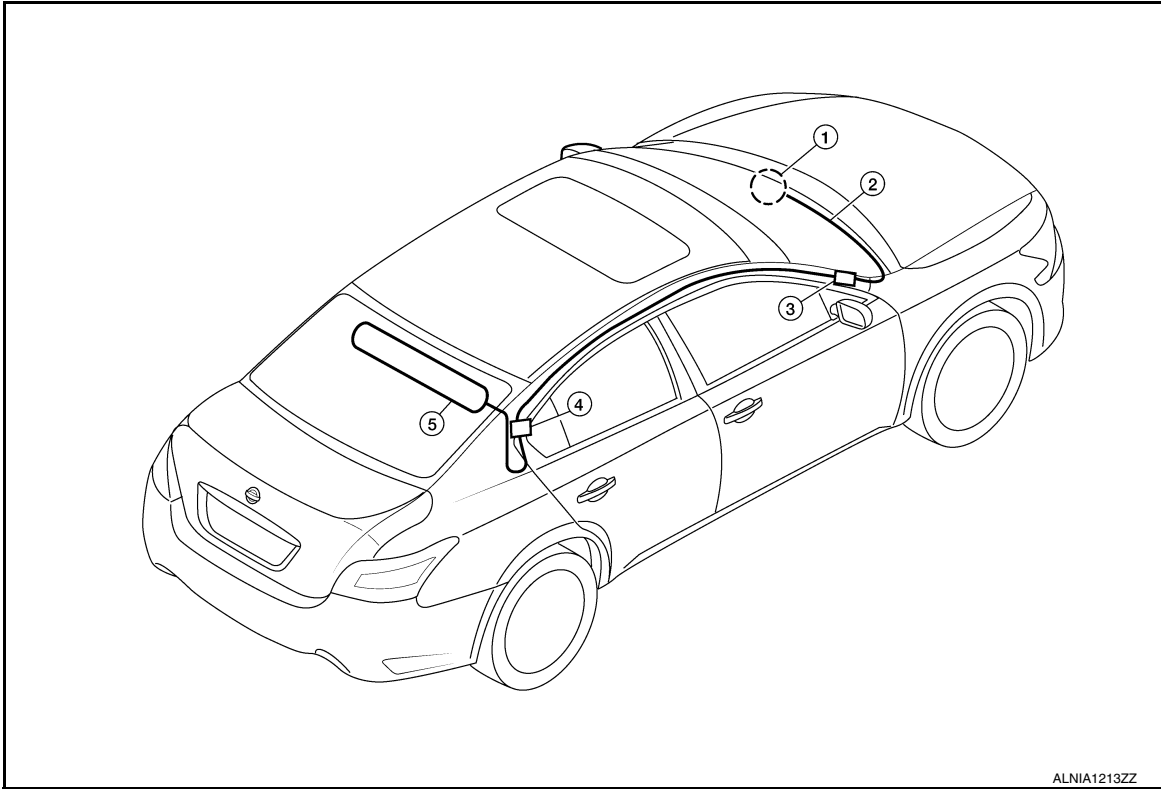
< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

## AUDIO ANTENNA

### Location of Antenna

INFOID:000000009471205



ALNIA1213ZZ

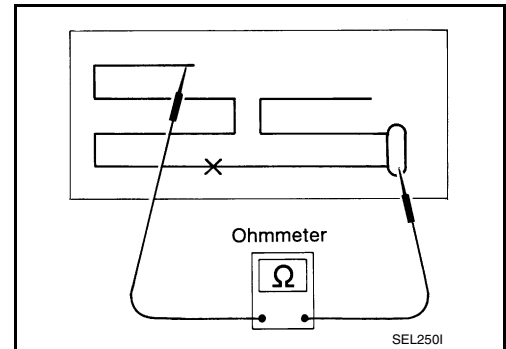
1. Audio unit
2. Audio unit antenna feeder
3. In-line connectors M103, M501
4. Antenna amp.
5. Window antenna

### Window Antenna Repair

INFOID:000000009471206

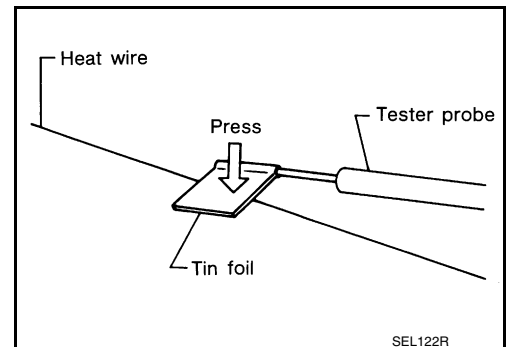
#### ELEMENT CHECK

1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



SEL250I

- When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



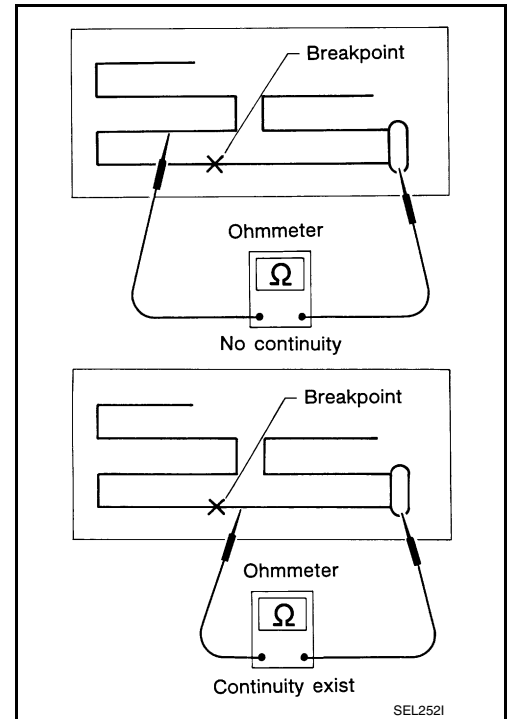
SEL122R

# AUDIO ANTENNA

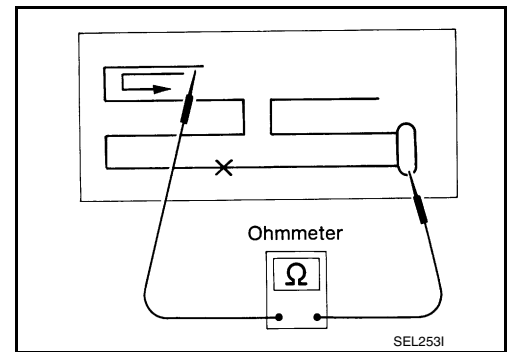
< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

- If an element is broken, no continuity will exist.



- To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.



## REPAIR EQUIPMENT

- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

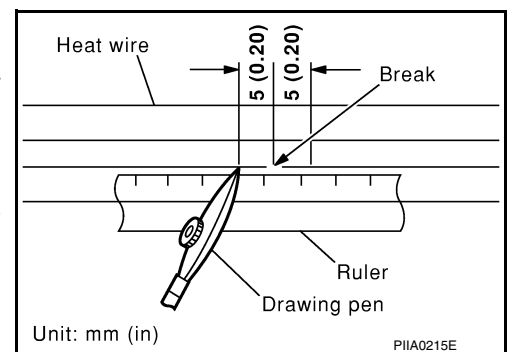
## REPAIRING PROCEDURE

- Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
- Apply a small amount of conductive silver composition to tip of drawing pen.

**NOTE:**

Shake silver composition container before use.

- Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.

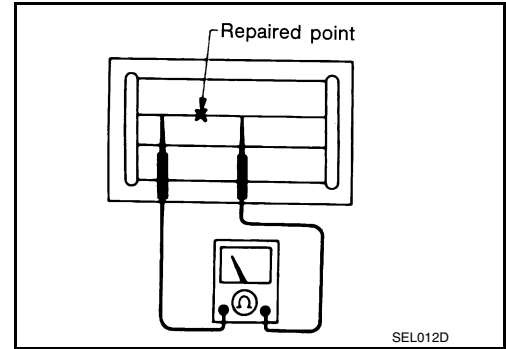


# AUDIO ANTENNA

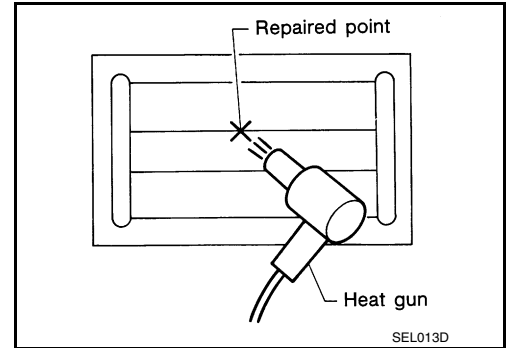
< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.  
Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet.  
If a heat gun is not available, let the repaired area dry for 24 hours.



## ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

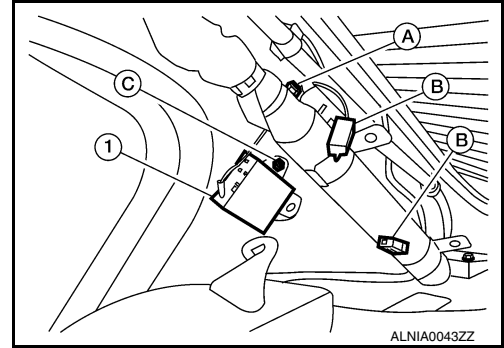
### ANTENNA AMP.

#### Removal and Installation

INFOID:000000009471207

#### REMOVAL

1. Remove the rear pillar finisher RH. Refer to [INT-23, "Exploded View"](#).
2. Detach the antenna amp. harness clip (A).
3. Disconnect the harness connectors (B) from the antenna amp. (1).
4. Remove the antenna amp. screw (C) and the antenna amp. (1).



#### INSTALLATION

Installation is in the reverse order of removal.

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# MICROPHONE

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

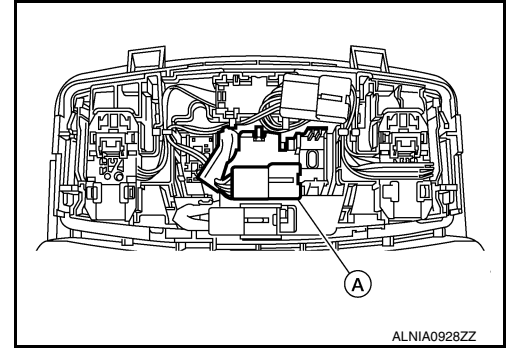
## MICROPHONE

### Removal and Installation

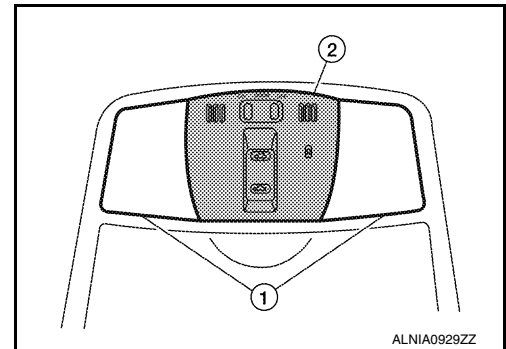
INFOID:000000009471208

#### REMOVAL

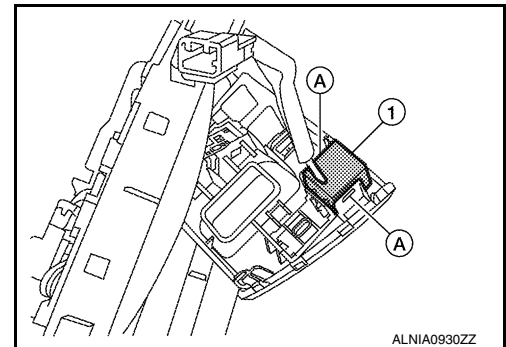
1. Remove the front room/map lamp assembly. Refer to [INL-84. "Removal and Installation"](#).
2. Detach the microphone connector (A).



3. Remove the front room/map lamp covers (1), then remove the map lamp assembly cover (2).



4. Release the microphone tabs (A), then remove the microphone (1).



#### INSTALLATION

Installation is in the reverse order of removal.

# TEL ANTENNA

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

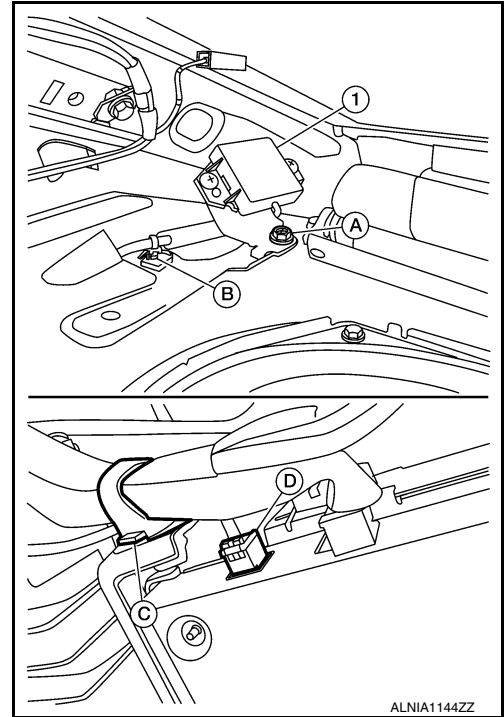
## TEL ANTENNA

### Removal and Installation

INFOID:000000009471209

#### REMOVAL

1. Disconnect the battery negative terminal. Refer to [PG-67. "Removal and Installation \(Battery\)"](#).
2. Remove the rear parcel shelf finisher. Refer to [INT-28. "Removal and Installation"](#).
3. Remove the Bluetooth antenna screw (A).
4. Detach the Bluetooth antenna harness clip (B).
5. Fold down the rear seat (if equipped) or open the trunk lid, then detach the Bluetooth antenna harness clip (C).
6. Disconnect the harness connector (D) from the Bluetooth antenna (1) and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

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# BLUETOOTH CONTROL UNIT

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/O BOSE]

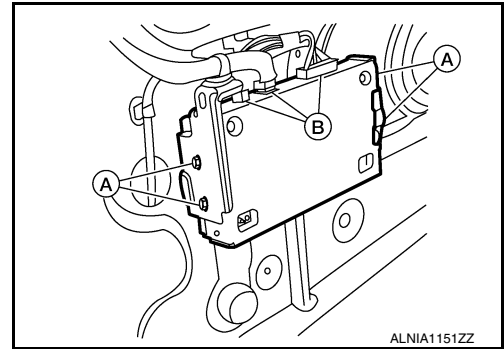
## BLUETOOTH CONTROL UNIT

### Removal and Installation

INFOID:000000009471210

#### REMOVAL

1. Disconnect the battery negative terminal. Refer to [PG-67, "Removal and Installation \(Battery\)"](#).
2. Remove the trunk upper finisher. Refer to [INT-23, "Exploded View"](#).
3. Remove the parcel shelf finisher. Refer to [INT-28, "Removal and Installation"](#).
4. From inside the passenger compartment, remove the Bluetooth control unit bracket screws.
5. From inside the trunk, disconnect the Bluetooth control unit connectors (B) and remove the Bluetooth control unit and bracket assembly.
6. Remove the Bluetooth control unit bracket screws (A) to remove the Bluetooth control unit from the Bluetooth control unit brackets.



#### INSTALLATION

Installation is in the reverse order of removal.



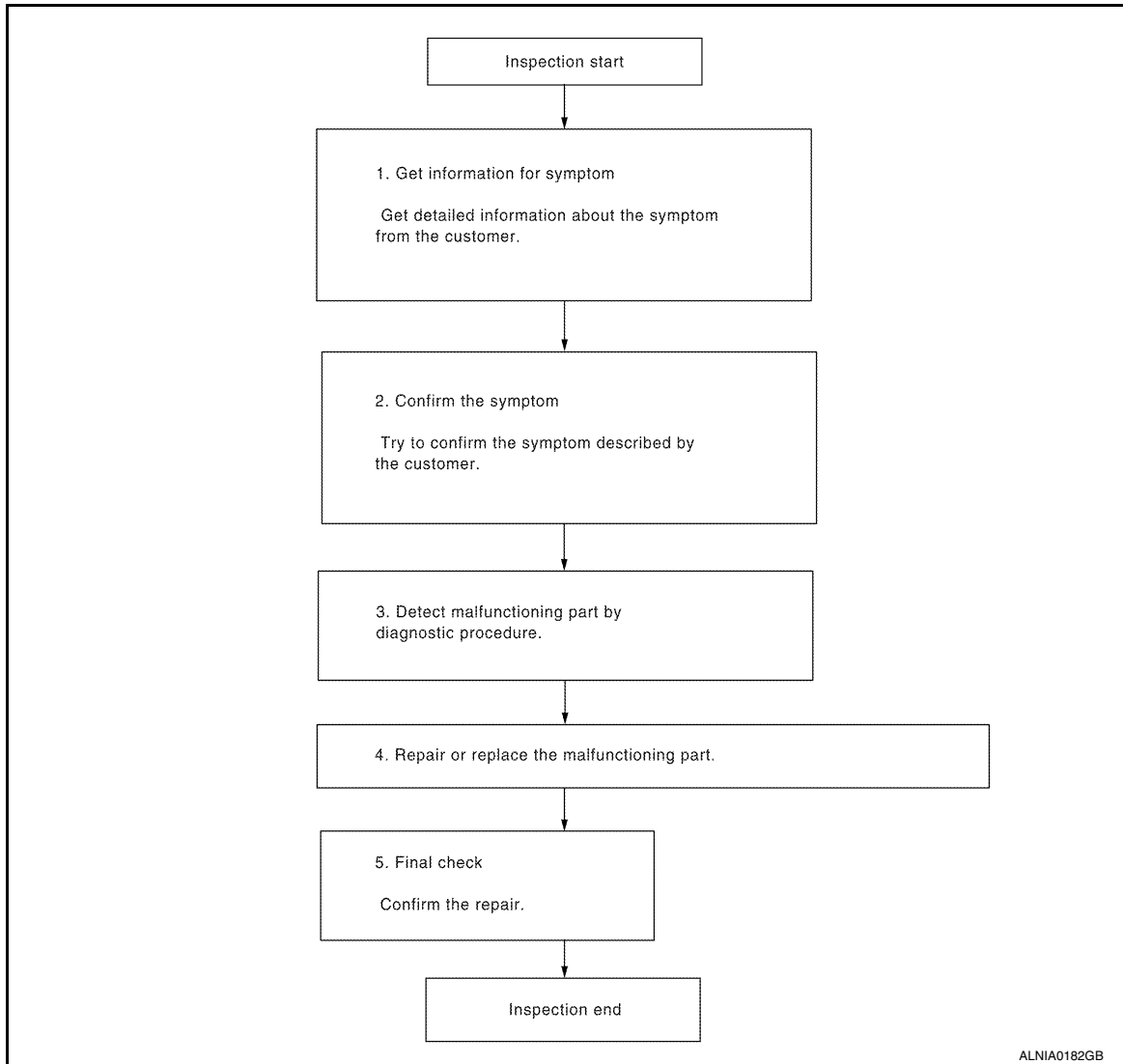
**BASIC INSPECTION**

**DIAGNOSIS AND REPAIR WORKFLOW**

Work Flow

INFOID:000000009471211

OVERALL SEQUENCE



DETAILED FLOW

**1.GET INFORMATION FOR SYMPTOM**

Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

>> GO TO 2.

**2.CONFIRM THE SYMPTOM**

Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 3.

**3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE**

Inspect according to Diagnostic Procedure of the system.

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## DIAGNOSIS AND REPAIR WORKFLOW

[MONOCHROME DISPLAY - W/ BOSE]

< BASIC INSPECTION >

Is malfunctioning part detected?

YES >> GO TO 4.

NO >> GO TO 2.

### 4. REPAIR OR REPLACE THE MALFUNCTIONING PART

---

1. Repair or replace the malfunctioning part.
2. Reconnect parts or connectors disconnected during Diagnostic Procedure.

>> GO TO 5.

### 5. FINAL CHECK

---

Refer to confirmed symptom in step 2, and make sure that the symptom is not detected.

Has the symptom been repaired?

YES >> Inspection End.

NO >> GO TO 2.

# AUDIO SYSTEM

< SYSTEM DESCRIPTION >

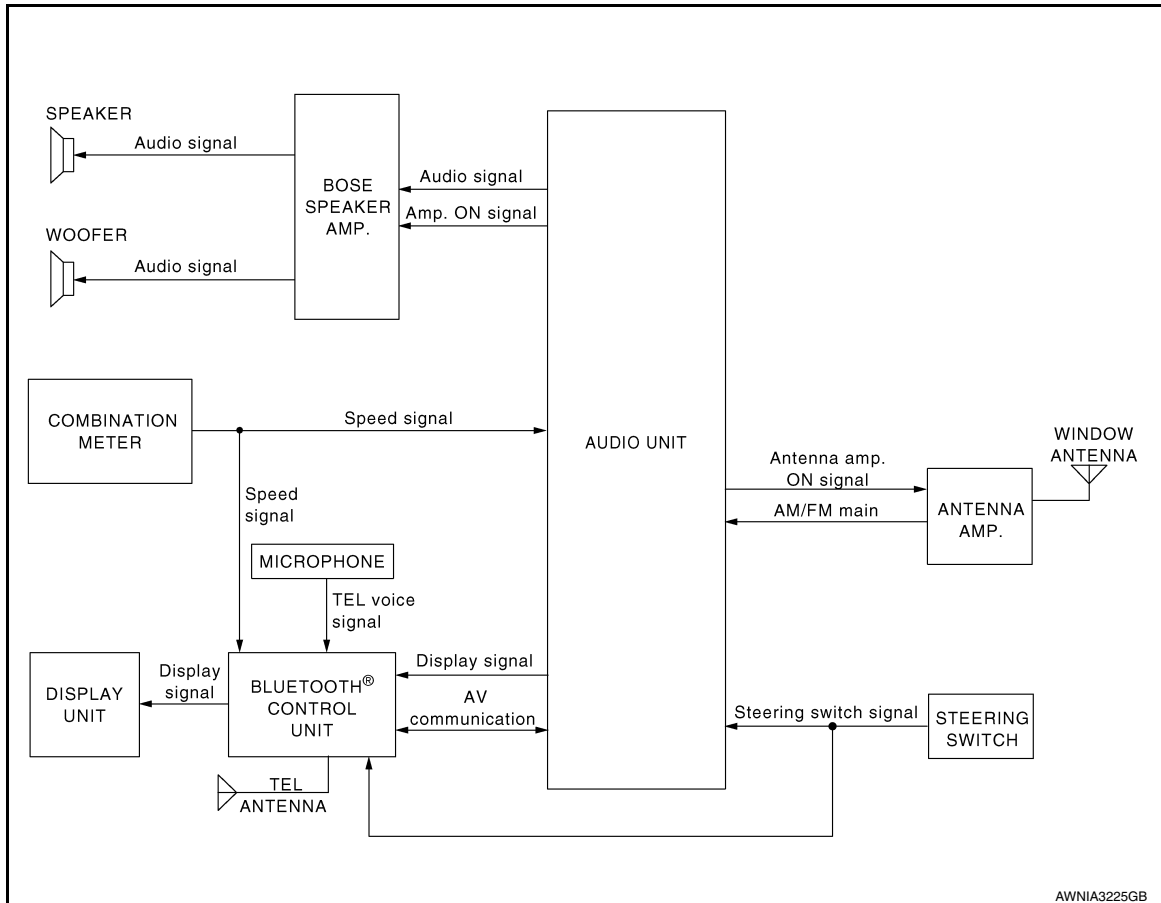
[MONOCHROME DISPLAY - W/ BOSE]

## SYSTEM DESCRIPTION

### AUDIO SYSTEM

#### System Diagram

INFOID:000000009471212



#### System Description

INFOID:000000009471213

#### AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Display unit
- Bluetooth® control unit
- Window antenna
- BOSE speaker amp.
- Steering wheel audio control switches
- Front door speakers
- Tweeters
- Center speaker
- Rear door speakers
- Rear subwoofers

When the audio system is on, radio signals are received by the window antenna. The audio unit then sends audio signals to the BOSE speaker amp. The Bose speaker amp. sends the audio signals to the front door speakers, tweeters, center speaker, rear door speakers and rear subwoofers.

Refer to Owner's Manual for audio system operating instructions.

#### SPEED SENSITIVE VOLUME SYSTEM

Volume level of this system goes up and down automatically in proportion to the vehicle speed. The control level can be selected by the customer. Refer to Owner's Manual for operating instructions.

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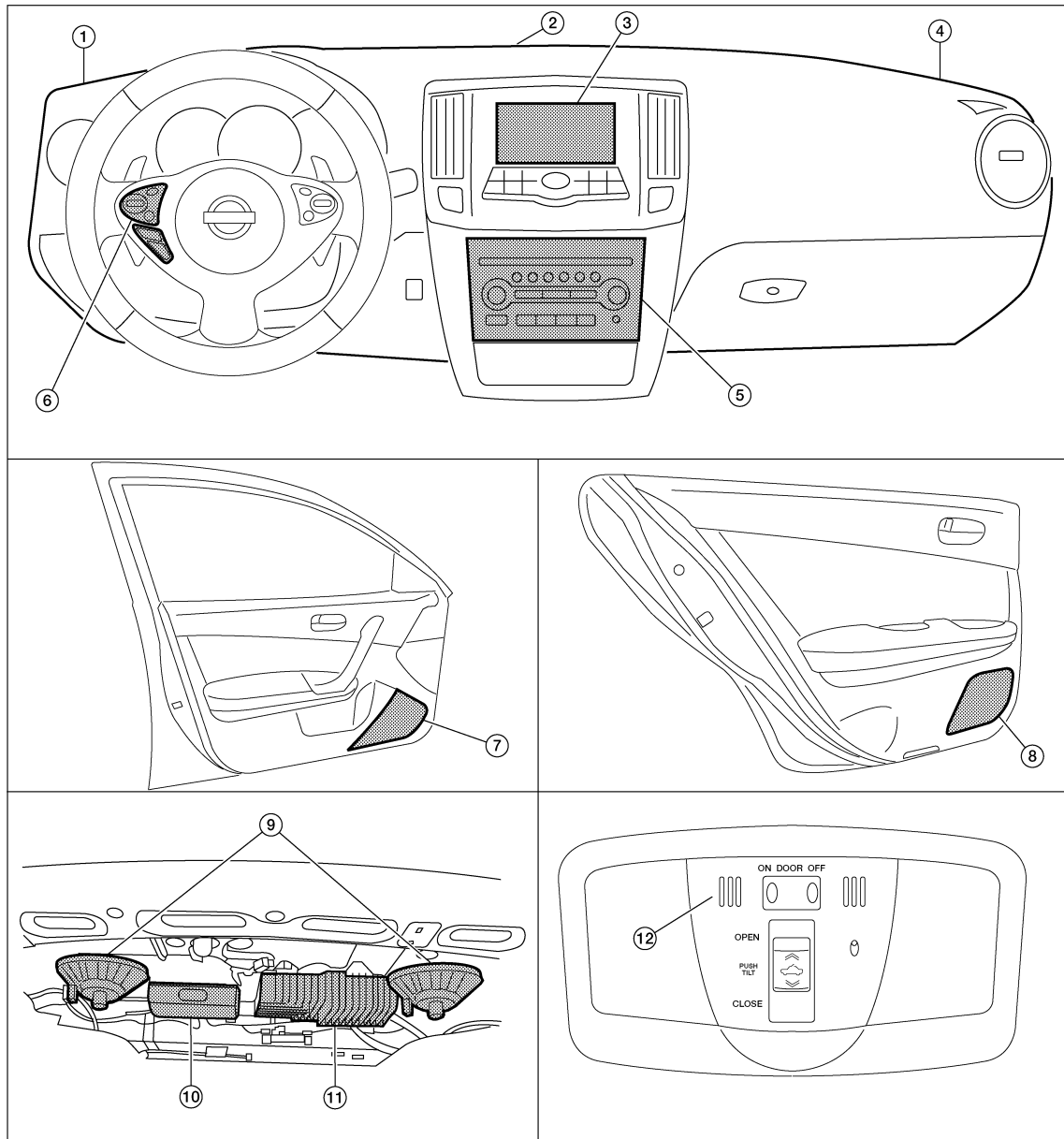
# AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[MONOCHROME DISPLAY - W/ BOSE]

## Component Parts Location

INFOID:000000009471214



AWNIA322ZZZ

- |   |  |  |
|---|--|--|
| 1. Tweeter LH M51                               | 2. Center speaker M130                     | 3. Display unit M109                     |
| 4. Tweeter RH M52                               | 5. Audio unit M132, M135                   | 6. Steering wheel audio control switches |
| 7. Front door speaker<br>LH D3<br>RH D103       | 8. Rear door speaker<br>LH D202<br>RH D302 | 9. Rear subwoofer<br>LH B106<br>RH B107  |
| 10. Bluetooth® control unit<br>B125, B130, B131 | 11. BOSE speaker amp. B109, B110           | 12. Microphone R7                        |

## Component Description

INFOID:000000009471215

| Part name               | Description   |
|-------------------------|---|
| Audio unit              | Controls audio system and AUX IN system functions   |
| Bluetooth® control unit | <ul style="list-style-type: none"> <li>Receives display signals from the audio unit.</li> <li>Outputs display signals to the display unit.</li> </ul> |

# AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[MONOCHROME DISPLAY - W/ BOSE]

| Part name                             | Description   |
|---------------------------------------|---|
| Display unit                          | <ul style="list-style-type: none"> <li>• Receives display signals from the Bluetooth® control unit.</li> <li>• Displays audio system information.</li> </ul>                                      |
| BOSE speaker amp.                     | Receives power (amp ON) and audio signals from audio unit, and outputs audio signals to each speaker.   |
| Steering wheel audio control switches | <ul style="list-style-type: none"> <li>• Each audio operation can be operated</li> <li>• Steering switch signal (operation signal) is output to audio unit and Bluetooth® control unit</li> </ul> |
| Front door speakers                   | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs high, mid and low range sounds</li> </ul>   |
| Center speaker                        | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs high, mid and low range sounds</li> </ul>   |
| Tweeters                              | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs high range sounds</li> </ul>  |
| Rear door speakers                    | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs high, mid and low range sounds</li> </ul>   |
| Rear subwoofers                       | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs low range sounds</li> </ul>   |

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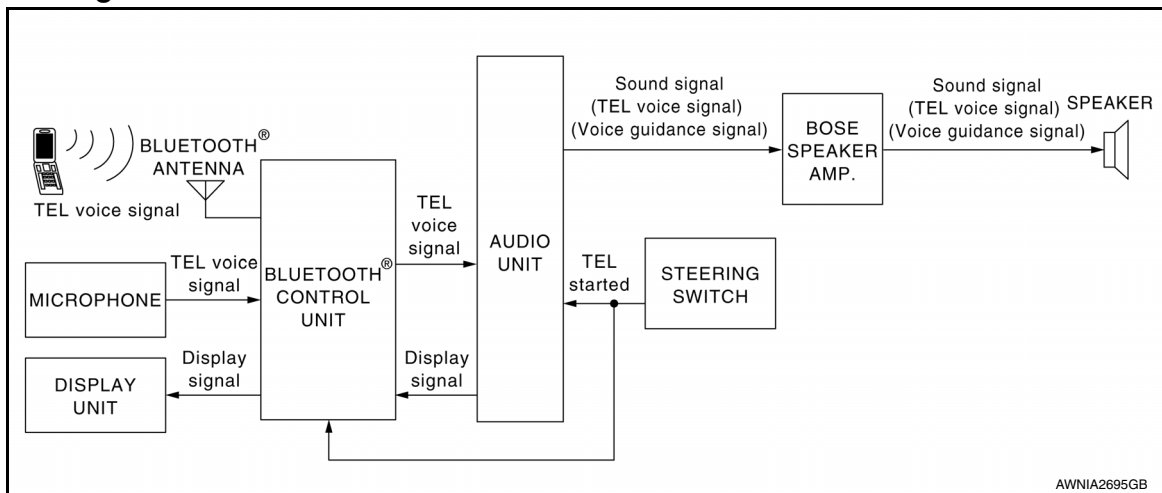
# HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[MONOCHROME DISPLAY - W/ BOSE]

## HANDS-FREE PHONE SYSTEM

### System Diagram



### System Description

INFOID:000000009471217

Refer to the Owner's Manual for Bluetooth<sup>®</sup> telephone system operating instructions.

#### NOTE:

Cellular telephones must have their wireless connection set up (paired) before using the Bluetooth<sup>®</sup> telephone system.

Bluetooth<sup>®</sup> telephone system allows users who have a Bluetooth<sup>®</sup> cellular telephone to make a wireless connection between their cellular telephone and the Bluetooth<sup>®</sup> control unit. Hands-free cellular telephone calls can be sent and received. Some Bluetooth<sup>®</sup> cellular telephones may not be recognized by the Bluetooth<sup>®</sup> control unit. When a cellular telephone or the Bluetooth<sup>®</sup> control unit is replaced, the telephone must be paired with the Bluetooth<sup>®</sup> control unit. Different cellular telephones may have different pairing procedures. Refer to the cellular telephone operating manual.

#### BLUETOOTH<sup>®</sup> CONTROL UNIT

When the ignition switch is turned to ACC or ON, the Bluetooth<sup>®</sup> control unit will power up. During power up, the Bluetooth<sup>®</sup> control unit is initialized and performs various self-checks. Initialization may take up to 20 seconds. If a phone is present in the vehicle and paired with the Bluetooth<sup>®</sup> control unit, Nissan Voice Recognition will then become active. Bluetooth<sup>®</sup> telephone functions can be turned off using the Nissan Voice Recognition system.

#### STEERING WHEEL AUDIO CONTROL SWITCHES

When buttons on the steering wheel audio control switch are pushed, the resistance in steering wheel audio control switch circuit changes, depending on which button is pushed. The Bluetooth<sup>®</sup> control unit uses this signal to perform various functions while navigating through the voice recognition system.

The following functions can be performed using the steering wheel audio control switch:

- Initiate self-diagnosis of the Bluetooth<sup>®</sup> telephone system
- Start a voice recognition session
- Answer and end telephone calls
- Adjust the volume of calls

#### MICROPHONE

The microphone is located in the roof console assembly. The microphone sends a signal to the Bluetooth<sup>®</sup> control unit. The microphone can be actively tested during self-diagnosis.

#### AUDIO UNIT

The audio unit receives signals from the Bluetooth<sup>®</sup> control unit and sends audio signals to the speakers.

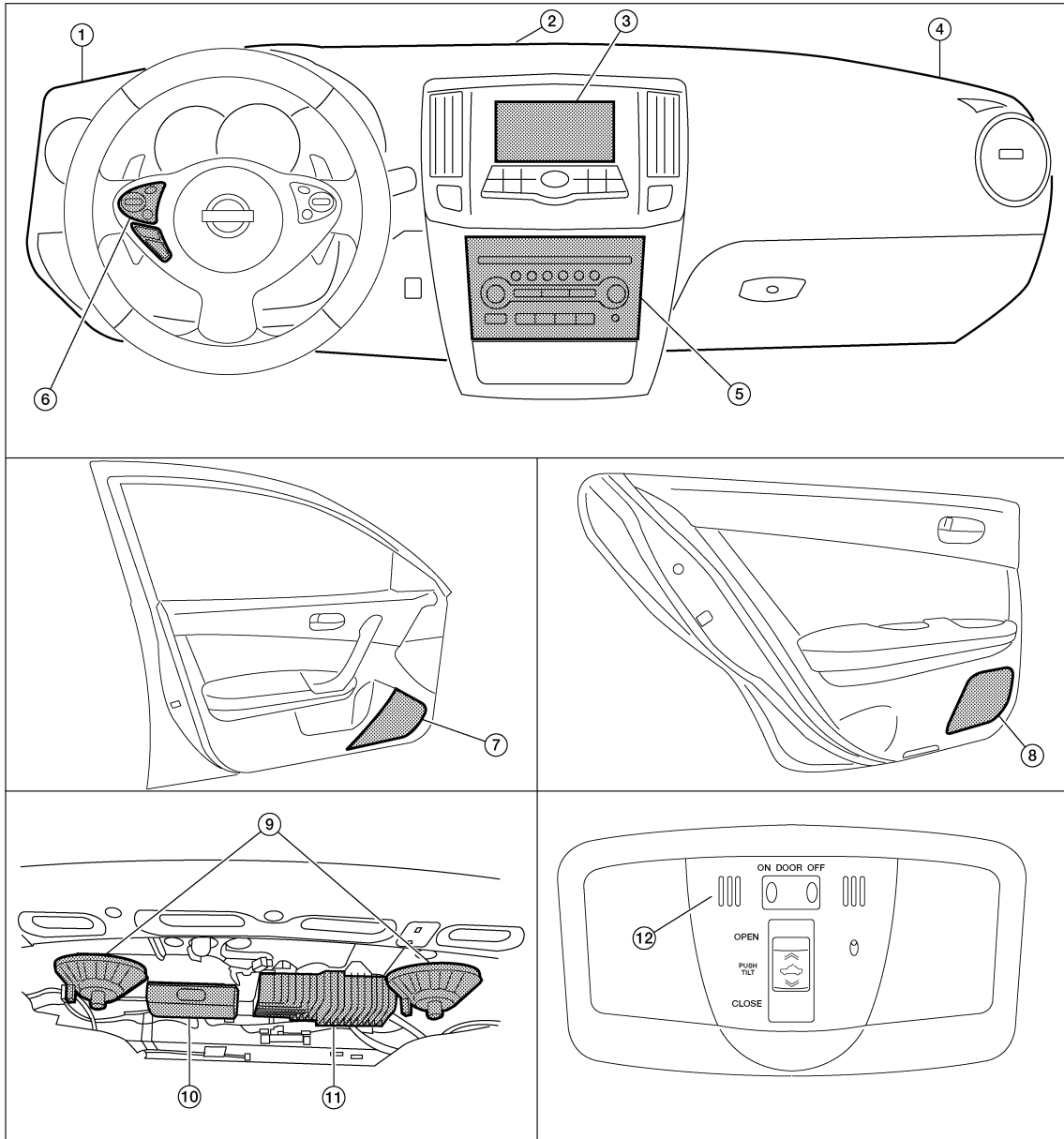
# HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[MONOCHROME DISPLAY - W/ BOSE]

## Component Parts Location

INFOID:0000000110062742



AVN1A32ZZZ

- |   |  |  |
|---|--|--|
| 1. Tweeter LH M51                               | 2. Center speaker M130                     | 3. Display unit M109                     |
| 4. Tweeter RH M52                               | 5. Audio unit M132, M135                   | 6. Steering wheel audio control switches |
| 7. Front door speaker<br>LH D3<br>RH D103       | 8. Rear door speaker<br>LH D202<br>RH D302 | 9. Rear subwoofer<br>LH B106<br>RH B107  |
| 10. Bluetooth® control unit<br>B125, B130, B131 | 11. BOSE speaker amp. B109, B110           | 12. Microphone R7                        |

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AV

# HANDS-FREE PHONE SYSTEM

[MONOCHROME DISPLAY - W/ BOSE]

< SYSTEM DESCRIPTION >

## Component Description

INFOID:000000009471219

| Part name                             | Description   |
|---------------------------------------|---|
| Audio unit                            | <ul style="list-style-type: none"><li>• Receives telephone voice signal from Bluetooth® control unit.</li><li>• Sends telephone voice and voice guidance signals to BOSE speaker amp.</li></ul> |
| BOSE speaker amp.                     | Inputs power (amp ON) and sound signal from audio unit, and outputs sound signal to each speaker.   |
| Door speaker                          | Receives telephone voice and voice guidance signals from BOSE speaker amp.  |
| Front tweeter                         |   |
| Center speaker                        |   |
| Steering wheel audio control switches | <ul style="list-style-type: none"><li>• Start a voice recognition session</li><li>• Answer and end telephone calls</li><li>• Adjust the volume level</li></ul>                                  |
| Display unit                          | <ul style="list-style-type: none"><li>• Receives display signal from Bluetooth® control unit.</li><li>• Displays audio system information.</li></ul>  |
| Microphone                            | Sends voice signals to Bluetooth® control unit.   |
| Bluetooth® control unit               | Controls hands-free phone functions.  |
| Bluetooth® antenna                    | Sends telephone voice signal to Bluetooth® control unit.  |



# DIAGNOSIS SYSTEM (AUDIO UNIT)

[MONOCHROME DISPLAY - W/ BOSE]

< SYSTEM DESCRIPTION >

## DIAGNOSIS SYSTEM (AUDIO UNIT)

### Diagnosis Description

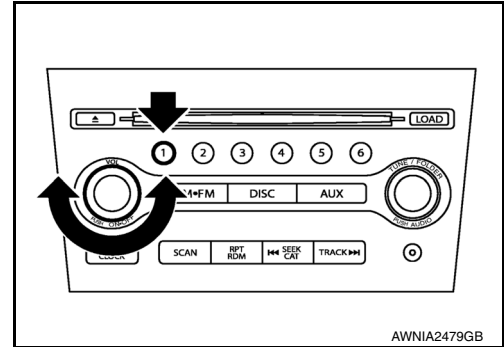
INFOID:000000009471220

Self-diagnosis mode can perform the following items.

- Versions display
- Channel check diagnosis
- Key check diagnosis
- AV communication diagnosis

### VERSIONS DISPLAY FUNCTION

1. Turn ignition switch ON.
2. Turn the audio unit off.
3. While pressing "1" button, turn volume control dial clockwise or counterclockwise for 30 clicks or more.



4. Diagnosis default screen of audio display unit is displayed.

**NOTE:**

Diagnosis default screen = All icons and segments of the audio display unit are turned on.

5. Pressing the AUDIO switch briefly displays the version display mode. Pressing the AUDIO switch briefly switches to each version display. Pressing and holding the AUDIO switch when displaying each software version returns to the diagnosis default screen.

#### Version display item

|                  | Mode            | Description   |
|------------------|-----------------|---|
| Versions display | Software V##### | Audio unit software version is displayed.   |
|                  | Hardware V##### | Audio unit hardware version is displayed.   |
|                  | CD Mech V#####  | Audio unit CD mechanism version is displayed.   |
|                  | EEPROM V#####   | Audio unit EEPROM version is displayed.   |
|                  | Disp SW V#####  | Display unit software version is displayed.   |
|                  | Disp HW V#####  | Display unit hardware version is displayed.   |
|                  | SDARS V#####    | Audio unit SDARS version is displayed.<br><b>NOTE:</b><br>"VFFFFFF" is displayed when SDARS is not available. |

6. Self-diagnosis mode is canceled when the ignition switch is turned OFF.

### CHANNEL CHECK DIAGNOSIS FUNCTION

1. Turn ignition switch ON.
2. Turn the audio unit off.

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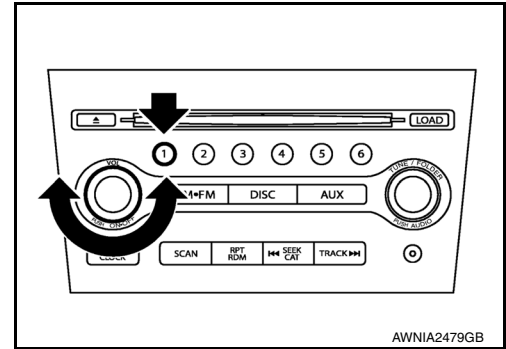
AV

## DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[MONOCHROME DISPLAY - W/ BOSE]

3. While pressing the “1” button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more.



4. The diagnosis default screen of audio display unit is displayed.  
**NOTE:**  
 Diagnosis default screen = All icons and segments of the audio display unit are turned on.
5. Turning the TUNE/FOLDER dial clockwise displays the channel check mode. Pressing and holding the AUDIO switch during each channel check or waiting approximately 1 second after finishing all channel checks returns to the diagnosis default screen.

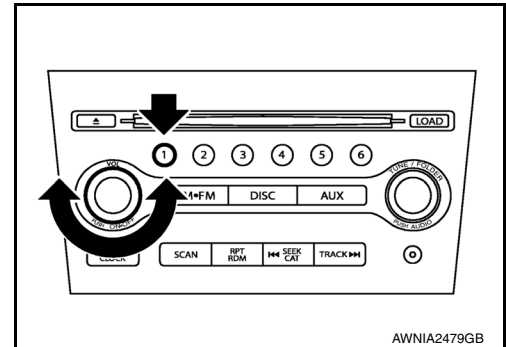
Channel check item

|               | Mode                      | Description  |
|---------------|---------------------------|--|
| Channel check | Channel Check Front Left  | Connection of a speaker can be confirmed by test tone. |
|               | Channel Check Front Right |  |
|               | Channel Check Rear Right  |  |
|               | Channel Check Rear Left   |  |

6. Self-diagnosis mode is canceled when the ignition switch is turned OFF.

### KEY CHECK DIAGNOSIS FUNCTION

1. Turn ignition switch ON.
2. Turn the audio unit off.
3. While pressing the “1” button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more.



4. The diagnosis default screen of audio display unit is displayed.  
**NOTE:**  
 Diagnosis default screen = All icons and segments of the audio display unit are turned on.
5. Turning the TUNE/FOLDER dial counterclockwise displays the key check mode, and the pressed switch name is shown. Pressing and holding the AUDIO switch during the key check mode returns to the diagnosis default screen.

# DIAGNOSIS SYSTEM (AUDIO UNIT)



[MONOCHROME DISPLAY - W/ BOSE]

## < SYSTEM DESCRIPTION >

### Key check item (audio unit)

| Mode      | Display item     | Switch name              |
|-----------|------------------|--------------------------|
| Key check | 1                | Preset button "1" switch |
|           | 2                | Preset button "2" switch |
|           | 3                | Preset button "3" switch |
|           | 4                | Preset button "4" switch |
|           | 5                | Preset button "5" switch |
|           | 6                | Preset button "6" switch |
|           | POWER            | ON-OFF switch            |
|           | VOLUME up        | VOL up switch            |
|           | VOLUME down      | VOL down switch          |
|           | AM-FM            | AM-FM switch             |
|           | DISC             | DISC switch              |
|           | AUX              | AUX switch               |
|           | AUDIO            | AUDIO switch             |
|           | TUNE/FOLDER up   | TUNE/FOLDER up switch    |
|           | TUNE/FOLDER down | TUNE/FOLDER up switch    |
|           | DISP CLOCK       | DISP CLOCK switch        |
|           | SCAN             | SCAN switch              |
|           | RPT/RDM          | RPT RDM switch           |
|           | SEEK/TRACK up    | SEEK CAT switch          |
|           | SEEK/TRACK down  | TRACK switch             |
| LOAD      | LOAD switch      |                          |
| EJECT     | EJECT switch     |                          |

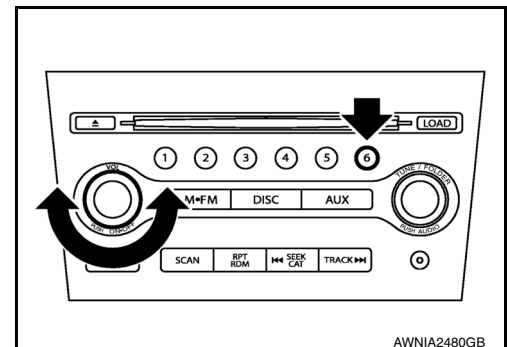
### Key check item (steering switch)

| Mode      | Display item | Switch name  |
|-----------|--------------|--|
| Key check | STR SOURCE   | SOURCE switch  |
|           | STR VOL UP   | VOL up switch  |
|           | STR VOL DOWN | VOL down switch  |
|           | STR UP       | MENU up switch   |
|           | STR DOWN     | MENU down switch   |
|           | STR TEL END  |  switch |
|           | STR TEL SEND |  switch |

6. Self-diagnosis mode is canceled when the ignition switch is turned OFF.

## AV COMMUNICATION DIAGNOSIS FUNCTION

1. Turn ignition switch ON.
2. Turn the audio unit off.
3. While pressing the "6" button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more.



## DIAGNOSIS SYSTEM (AUDIO UNIT)

[MONOCHROME DISPLAY - W/ BOSE]

< SYSTEM DESCRIPTION >

4. Returns to diagnosis default screen and displays "AV DIAGNOSIS".
5. Pressing the AUDIO switch briefly displays the AV communication diagnosis mode. Pressing the AUDIO switch briefly again switches to each AV communication display.

AV communication diagnosis item

| Display item          |         |            | Description  |
|-----------------------|---------|------------|--|
| AV communication item | Current | Past       |  |
| TRANSMIT              | OK / UN | OK / 0 -39 | The communication condition and error counter from the audio unit to the audio display unit are displayed. |
| DISP                  | OK / UN | OK / 0 -39 | The communication condition and error counter from the audio display unit to the audio unit.               |
| DISP MPDT             | OK / UN | OK / 0 -39 |  |
| BTHF MPDT             | OK / UN | OK / 0 -39 | The communication condition and error counter from the audio unit to the Bluetooth® control unit.          |
| NO HISTORY BTHF       | —       | —          | This is displayed on models without Bluetooth®.  |
| AV TROUBLE DEL.       | —       | —          | The error record can be deleted.   |

6. Pressing the SEEK up switch displays the confirmation screen of "delete error record". Press the SEEK down switch if returning from RECORD DEL YES? to RECORD DEL NO?  
The item is automatically determined approximately 6 seconds after it is displayed. Then the display returns to AV TROUBLE DEL display item.

| Display item    | Description                   |
|-----------------|-------------------------------|
| RECORD DEL-NO?  | Does not delete error record. |
| RECORD DEL-YES? | Deletes error record.         |

7. Self-diagnosis mode is canceled when the ignition switch is turned OFF.

# DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

< SYSTEM DESCRIPTION >

[MONOCHROME DISPLAY - W/ BOSE]

## DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

### Diagnosis Description

INFOID:000000009471221

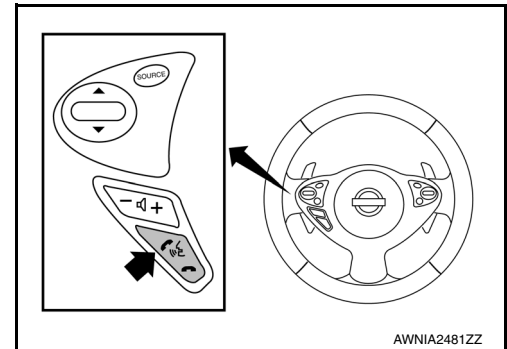
The Bluetooth® control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

### BLUETOOTH® CONTROL UNIT INITIALIZATION CHECKS

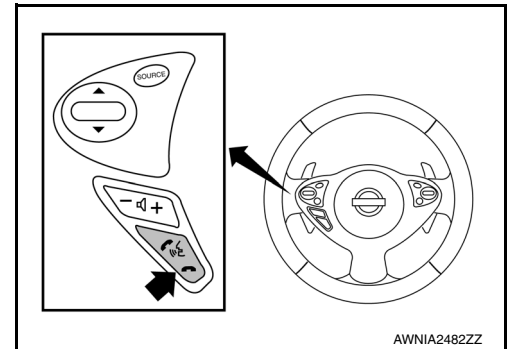
- Internal control unit failure
- Bluetooth® antenna connection open or shorted
- Steering wheel audio control switches [☞ (PHONE/SEND), ☜ (PHONE/END)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth® inquiry check

### OPERATION PROCEDURE

1. Turn ignition switch to ACC or ON.
2. Wait for the Bluetooth® system to complete initialization. This may take up to 20 seconds.
3. Press and hold the steering wheel audio control switch ☞ (PHONE/SEND) button for at least 5 seconds. The Bluetooth® system will begin to play a verbal prompt.



4. While the prompt is playing, press and hold the steering wheel audio control switch ☜ (PHONE/END) button until you hear the “Diagnostics mode” prompt. The Bluetooth® system will sound a 5-second beep.
5. While the beep is sounding, press and hold the steering wheel audio control switch ☜ (PHONE/END) button again until you hear prompts.
6. The Bluetooth® system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician. Refer to [AV-101, "Work Flow"](#).
7. After the failure records are reported, an interactive microphone test will be performed. Follow the voice prompt. If the microphone test fails, refer to [AV-101, "Work Flow"](#).



### Work Flow

INFOID:000000009471222

| Failure Message                                | Action   |
|--|--|
| “Internal failure”                             | Replace Bluetooth® control unit. Refer to <a href="#">AV-177, "Removal and Installation"</a> .   |
| “Bluetooth® antenna open”                      | 1. Inspect harness connection.<br>2. Replace Bluetooth® antenna. Refer to <a href="#">AV-176, "Removal and Installation"</a> .                             |
| “Bluetooth® antenna shorted”                   |  |
| “Phone/Send for Hands Free System is stuck”    | Check steering wheel audio control switches. Refer to <a href="#">AV-170, "Removal and Installation"</a> .   |
| “Phone/End for the Hands Free System is stuck” |  |
| “Microphone test” (failed interactive test)    | 1. Inspect harness between Bluetooth® control unit and microphone.<br>2. Replace microphone. Refer to <a href="#">AV-175, "Removal and Installation"</a> . |

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/ BOSE]

## DTC/CIRCUIT DIAGNOSIS

### POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

#### AUDIO UNIT : Diagnosis Procedure

INFOID:000000009471223

Regarding Wiring Diagram information, refer to [AV-138, "Wiring Diagram - With BOSE Audio System"](#).

#### 1.CHECK FUSES

Check that the following fuses are not blown.

| Unit       | Terminals | Signal name               | Fuse No. |
|------------|-----------|---------------------------|----------|
| Audio unit | 19        | Battery power             | 24       |
|            | 7         | Ignition switch ACC or ON | 17       |

Are the fuses OK?

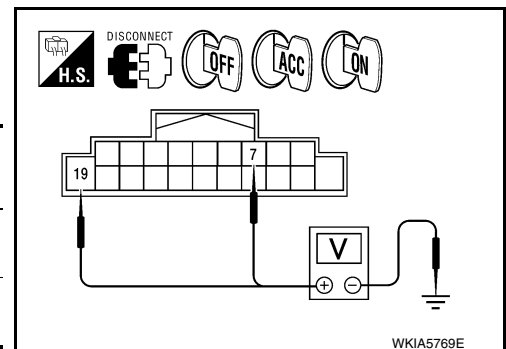
YES >> GO TO 2.

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

#### 2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect audio unit connector M132.
2. Check voltage between the audio unit connector M132 and ground.

| (+)       |          | (-)    | OFF             | ACC             | ON              |
|-----------|----------|--------|-----------------|-----------------|-----------------|
| Connector | Terminal |        |                 |                 |                 |
| M132      | 19       | Ground | Battery voltage | Battery voltage | Battery voltage |
|           | 7        | Ground | 0V              | Battery voltage | Battery voltage |



Are the voltage results as specified?

YES >> GO TO 3.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

#### 3.GROUND CIRCUIT CHECK

Inspect audio unit case ground.

Does case ground pass inspection?

YES >> Inspection End.

NO >> Repair audio unit case ground.

## DISPLAY UNIT

#### DISPLAY UNIT : Diagnosis Procedure

INFOID:000000009471224

Regarding Wiring Diagram information, refer to [AV-138, "Wiring Diagram - With BOSE Audio System"](#).

#### 1.CHECK FUSES

Check that the following fuses are not blown.

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/ BOSE]

| Unit         | Terminals | Signal name               | Fuse No. |
|--------------|-----------|---------------------------|----------|
| Display unit | 9         | Battery power             | 24       |
|              | 8         | Ignition switch ACC or ON | 17       |

Are the fuses OK?

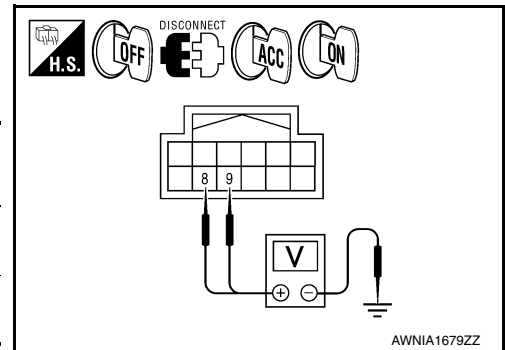
YES >> GO TO 2.

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

## 2. POWER SUPPLY CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Disconnect display unit connector.
3. Check voltage between the display unit and ground.

| (+)       |          | (-)    | OFF             | ACC             | ON              |
|-----------|----------|--------|-----------------|-----------------|-----------------|
| Connector | Terminal |        |                 |                 |                 |
| M109      | 9        | Ground | Battery voltage | Battery voltage | Battery voltage |
|           | 8        | Ground | 0V              | Battery voltage | Battery voltage |



Are the voltage results as specified?

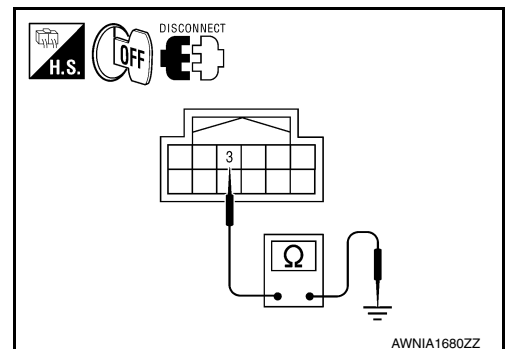
YES >> GO TO 3.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 3. GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Check continuity between display unit harness connector and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| M109      | 3        | Ground | Yes        |



Is the inspection result normal?

YES >> Inspection End.

NO >> Repair harness or connector.

## BOSE SPEAKER AMP

### BOSE SPEAKER AMP : Diagnosis Procedure

INFOID:00000009471225

Regarding Wiring Diagram information, refer to [AV-138. "Wiring Diagram - With BOSE Audio System"](#).

## 1. CHECK FUSE

Check for blown fuses.

| Unit              | Terminals | Signal name   | Fuse No. |
|-------------------|-----------|---------------|----------|
| BOSE speaker amp. | 10        | Battery power | 25       |
|                   | 11        |               | 26       |

Are the fuses OK?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

# POWER SUPPLY AND GROUND CIRCUIT

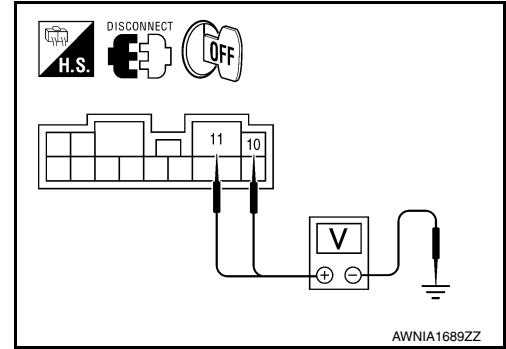
< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/ BOSE]

## 2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp connector.
3. Check voltage between BOSE speaker amp harness connector and ground.

| (+)       |          | (-)    | Voltage (approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| B110      | 10       | Ground | Battery voltage   |
|           | 11       |        |                   |



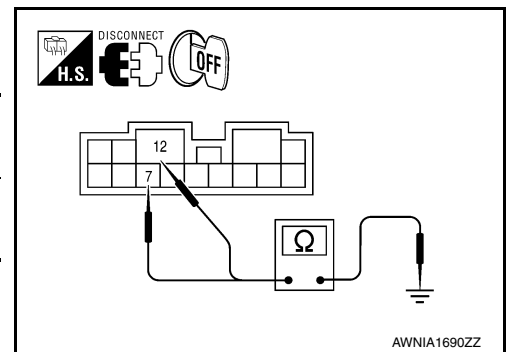
Is battery voltage present?

- YES >> GO TO 3.  
 NO >> Check harness between BOSE speaker amp and fuse.

## 3. CHECK GROUND CIRCUIT

Check continuity between BOSE speaker amp harness connector and ground.

| (+)       |          | (-)    | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B110      | 7        | Ground | Yes        |
|           | 12       |        |            |



Does continuity exist?

- YES >> Inspection End.  
 NO >> Repair harness or connector.

## BLUETOOTH® CONTROL UNIT

### BLUETOOTH® CONTROL UNIT : Diagnosis Procedure

INFOID:000000009471227

Regarding Wiring Diagram information, refer to [AV-138. "Wiring Diagram - With BOSE Audio System"](#).

## 1. CHECK FUSE

Check that the following fuses of the Bluetooth® control unit are not blown.

| Power source                | Fuse No. |
|-----------------------------|----------|
| Battery                     | 24       |
| Ignition switch ACC or ON   | 17       |
| Ignition switch ON or START | 3        |

Are the fuses OK?

- YES >> GO TO 2.  
 NO >> Be sure to eliminate cause of malfunction before installing new fuse.

## 2. CHECK POWER SUPPLY CIRCUIT



# POWER SUPPLY AND GROUND CIRCUIT

[MONOCHROME DISPLAY - W/ BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

Check voltage between Bluetooth® control unit harness connector and ground.

| (+)       |          | (-)    | Ignition switch position | Value (Approx.) |
|-----------|----------|--------|--------------------------|-----------------|
| Connector | Terminal |        |                          |                 |
| B131      | 1        | Ground | OFF                      | Battery voltage |
|           | 2        |        | ACC                      |                 |
|           | 3        |        | ON                       |                 |

Are the voltage results as specified?

YES >> GO TO 3.

NO >> Check harness between Bluetooth® control unit and fuse.

### 3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector B131.
3. Check continuity between Bluetooth® control unit harness connector and ground.

| (+)       |          | (-)    | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B131      | 4        | Ground | Yes        |
|           | 23       |        |            |

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

## MICROPHONE

### MICROPHONE : Diagnosis Procedure

INFOID:000000009471228

Regarding Wiring Diagram information, refer to [AV-138, "Wiring Diagram - With BOSE Audio System"](#).

### 1.CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

Check voltage between microphone harness connector and ground.

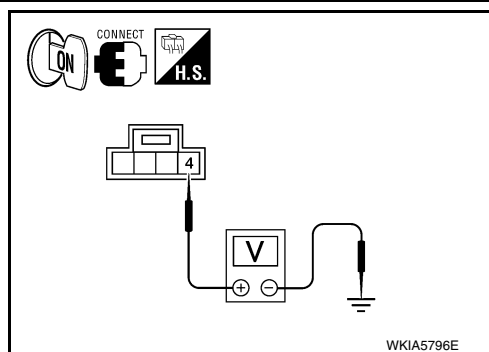
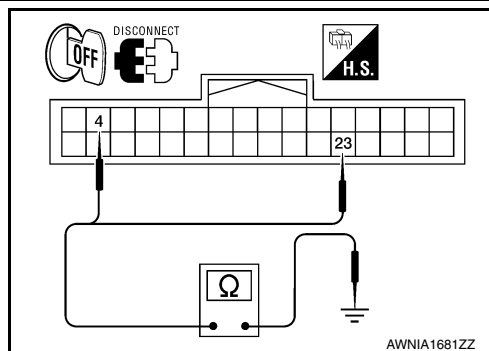
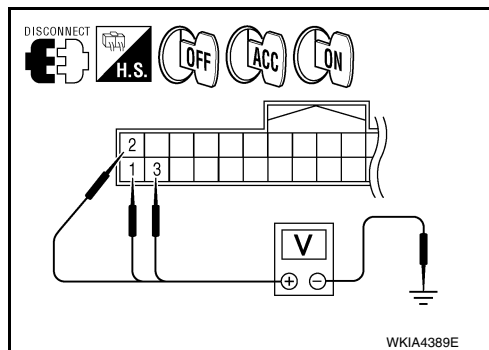
| (+)       |          | (-)    | Ignition switch position | Value (Approx.) |
|-----------|----------|--------|--------------------------|-----------------|
| Connector | Terminal |        |                          |                 |
| R7        | 4        | Ground | ON                       | 5V              |

Is proper voltage present?

YES >> GO TO 3.

NO >> GO TO 2.

### 2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)



# POWER SUPPLY AND GROUND CIRCUIT

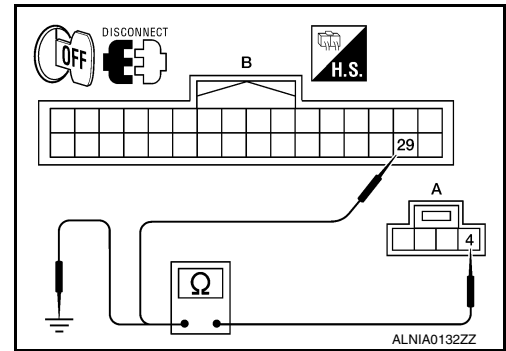
[MONOCHROME DISPLAY - W/ BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit and microphone connectors.
3. Check continuity between microphone harness connector R7 (A) terminal 4 and Bluetooth® control unit harness connector B131 (B) terminal 29.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| R7        | 4        | B131      | 29       | Yes        |

4. Check continuity between microphone harness connector R7 (A) terminal 4 and ground.



| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| R7        | 4        | Ground | No         |

### Are continuity results as specified?

- YES >> Replace the Bluetooth® control unit. Refer to [AV-177. "Removal and Installation"](#).  
 NO >> Repair harness or connector.

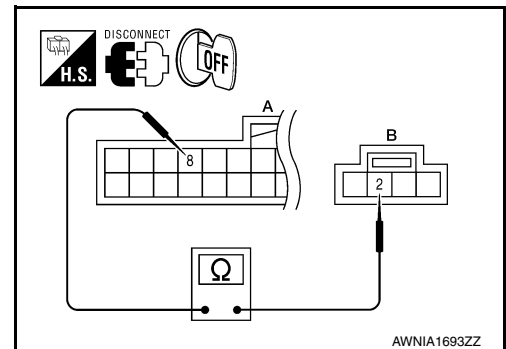
## 3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit and microphone connectors.
3. Check continuity between Bluetooth® control unit harness connector B131 (A) terminal 8 and microphone harness connector R7 (B) terminal 2.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B131      | 8        | R7        | 2        | Yes        |

### Is continuity present?

- YES >> Inspection End.  
 NO >> Repair harness or connector.



# FRONT DOOR SPEAKER

[MONOCHROME DISPLAY - W/ BOSE]

< DTC/CIRCUIT DIAGNOSIS >

## FRONT DOOR SPEAKER

### Description

INFOID:000000009471229

The audio unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the front door speakers using the audio signal circuits.

### Diagnosis Procedure

INFOID:000000009471230

Regarding Wiring Diagram information, refer to [AV-138, "Wiring Diagram - With BOSE Audio System"](#).

### 1. CONNECTOR CHECK

Check the audio unit, BOSE speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

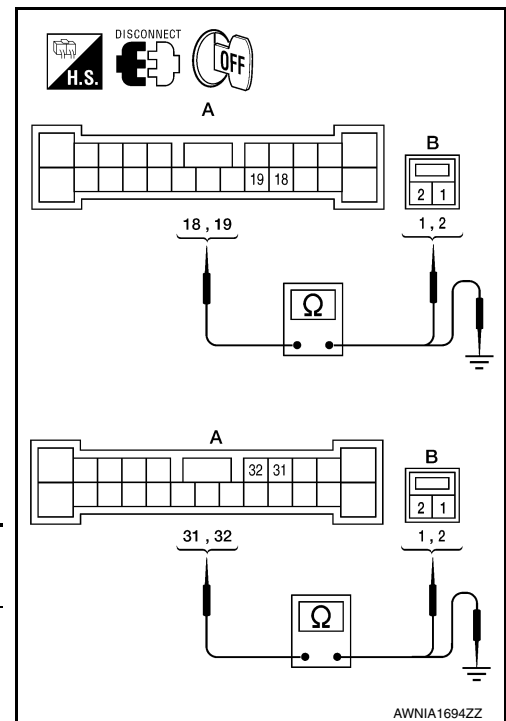
### 2. HARNESS CHECK

1. Disconnect BOSE speaker amp. connector B109 and suspect speaker connector.
2. Check continuity between BOSE speaker amp. harness connector B109 (A) and suspect speaker harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B109      | 18       | D3        | 1        | Yes        |
|           | 19       |           | 2        |            |
|           | 31       | D103      | 1        |            |
|           | 32       |           | 2        |            |

3. Check continuity between BOSE speaker amp. harness connector B109 (A) and ground.

| A         |          | B      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B109      | 18       | Ground | No         |
|           | 19       |        |            |
|           | 31       |        |            |
|           | 32       |        |            |



Are continuity test results as specified?

YES >> GO TO 3.

- NO >>
- Check connector housings for disconnected or loose terminals.
  - Repair harness or connector.

### 3. FRONT DOOR SPEAKER SIGNAL CHECK

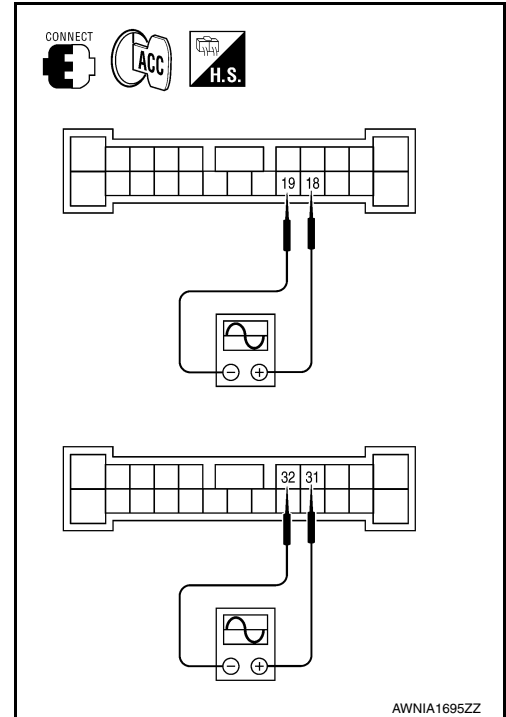
# FRONT DOOR SPEAKER

[MONOCHROME DISPLAY - W/ BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

1. Connect BOSE speaker amp. connector B109 and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connector B109 terminals with CONSULT or oscilloscope.

| Connector | Terminal |     | Condition            | Reference signal |
|-----------|----------|-----|----------------------|------------------|
|           | (+)      | (-) |                      |                  |
| B109      | 18       | 19  | Receive audio signal |                  |
|           | 31       | 32  |                      |                  |



Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to [AV-166. "Removal and Installation"](#).

NO >> GO TO 4.

## 4. HARNESS CHECK

1. Disconnect audio unit connector M132 and BOSE speaker amp. connector B109.
2. Check continuity between audio unit harness connector M132 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M132      | 2        | B109      | 35       | Yes        |
|           | 3        |           | 36       |            |
|           | 11       |           | 33       |            |
|           | 12       |           | 34       |            |

3. Check continuity between audio unit harness connector M132 (A) and ground.

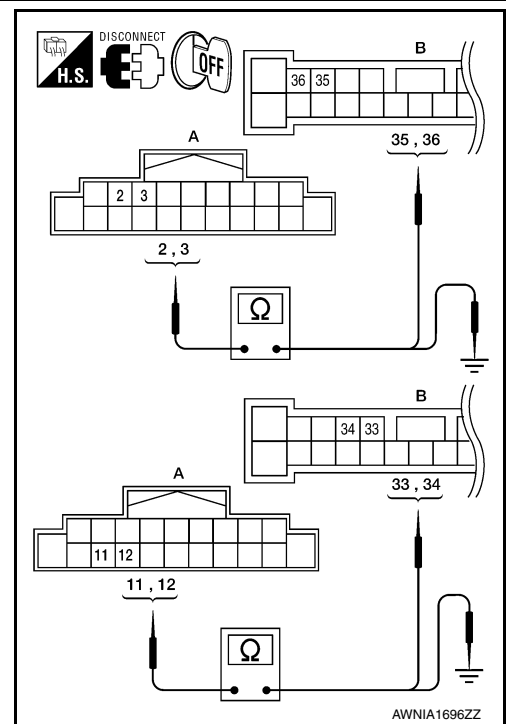
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M132      | 2        | Ground | No         |
|           | 3        |        |            |
|           | 11       |        |            |
|           | 12       |        |            |

Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 5. FRONT DOOR SPEAKER SIGNAL CHECK

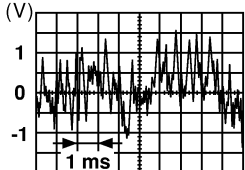


# FRONT DOOR SPEAKER

[MONOCHROME DISPLAY - W/ BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

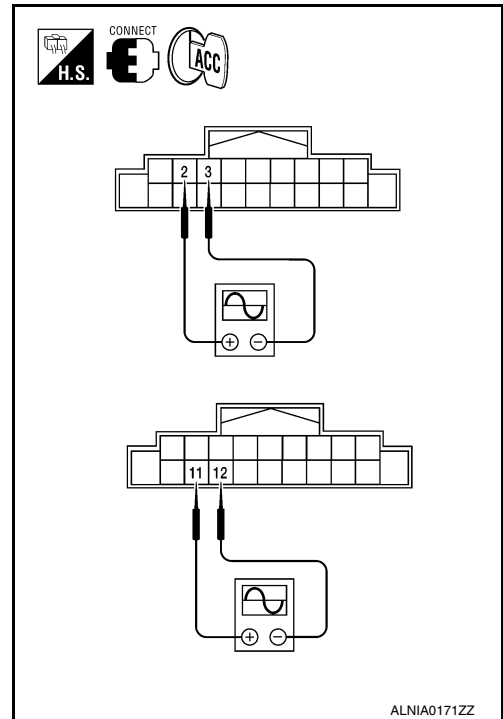
1. Connect audio unit connector and BOSE speaker amp. connector.
2. Turn ignition switch ACC.
3. Push POWER switch.
4. Check the signal between audio unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal  |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| M132      | 2         | 3   | Receive audio signal |  |
|           | 11        | 12  |                      |   |

SKIA0177E

Are the audio signal voltage readings as specified?

- YES >> Replace BOSE speaker amp. Refer to [AV-169, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-161, "Removal and Installation"](#).



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AV

TWEETER

Description

INFOID:000000009471231

The audio unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the tweeters using the audio signal circuits.

Diagnosis Procedure

INFOID:000000009471232

Regarding Wiring Diagram information, refer to [AV-138, "Wiring Diagram - With BOSE Audio System"](#).

1.CONNECTOR CHECK

Check the audio unit, BOSE speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

2.HARNES CHECK

1. Disconnect BOSE speaker amp. connector B110 and suspect tweeter connector.
2. Check continuity between BOSE speaker amp. harness connector B110 (A) and suspect tweeter harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B110      | 1        | M51       | 1        | Yes        |
|           | 2        |           | 2        |            |
|           | 4        | M52       | 1        |            |
|           | 3        |           | 2        |            |

3. Check continuity between BOSE speaker amp. harness connector B110 (A) and ground.

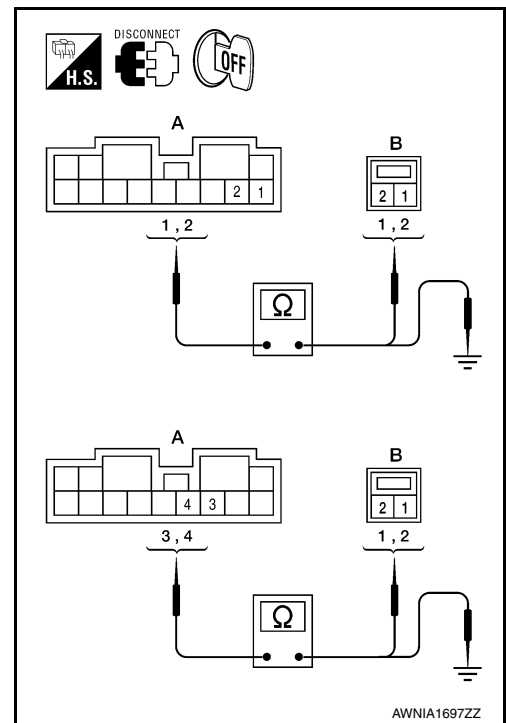
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B110      | 1        | Ground | No         |
|           | 2        |        |            |
|           | 4        |        |            |
|           | 3        |        |            |

Are continuity test results as specified?

YES >> GO TO 3.

- NO >>
- Check connector housings for disconnected or loose terminals.
  - Repair harness or connector.

3.TWEETER SIGNAL CHECK



AWNIA1697ZZ

# TWEETER

[MONOCHROME DISPLAY - W/ BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

1. Connect BOSE speaker amp. connector B110 and suspect tweeter connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connector B110 terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal |
|-----------|-----------|-----|----------------------|------------------|
|           | (+)       | (-) |                      |                  |
| B110      | 1         | 2   | Receive audio signal |                  |
|           | 4         | 3   |                      |                  |

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace suspect tweeter. Refer to [AV-164, "Removal and Installation"](#).

NO >> GO TO 4.

## 4. HARNESS CHECK

1. Disconnect audio unit connector M132 and BOSE speaker amp. connector B109.
2. Check continuity between audio unit harness connector M132 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M132      | 2        | B109      | 35       | Yes        |
|           | 3        |           | 36       |            |
|           | 11       |           | 33       |            |
|           | 12       |           | 34       |            |

3. Check continuity between audio unit harness connector M132 (A) and ground.

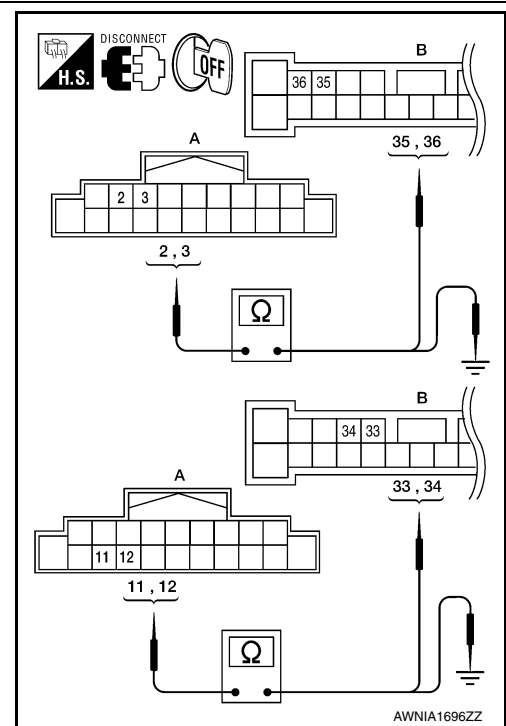
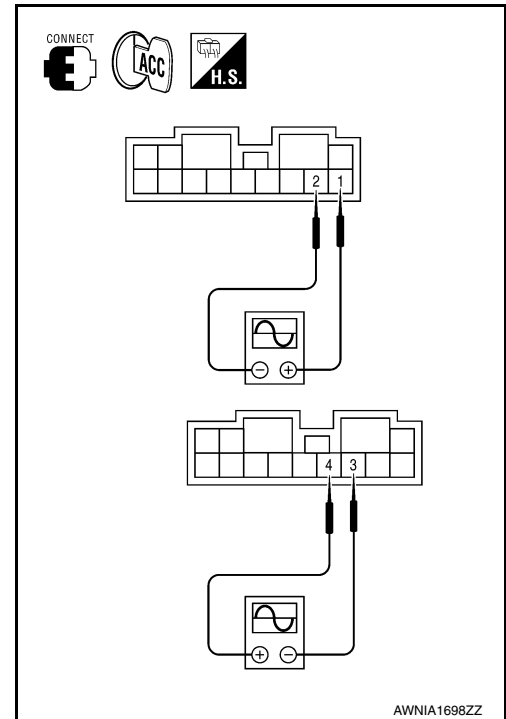
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M132      | 2        | Ground | No         |
|           | 3        |        |            |
|           | 11       |        |            |
|           | 12       |        |            |

Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 5. TWEETER SIGNAL CHECK



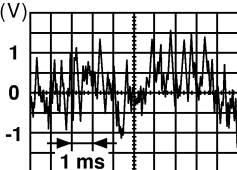
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# TWEETER

[MONOCHROME DISPLAY - W/ BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

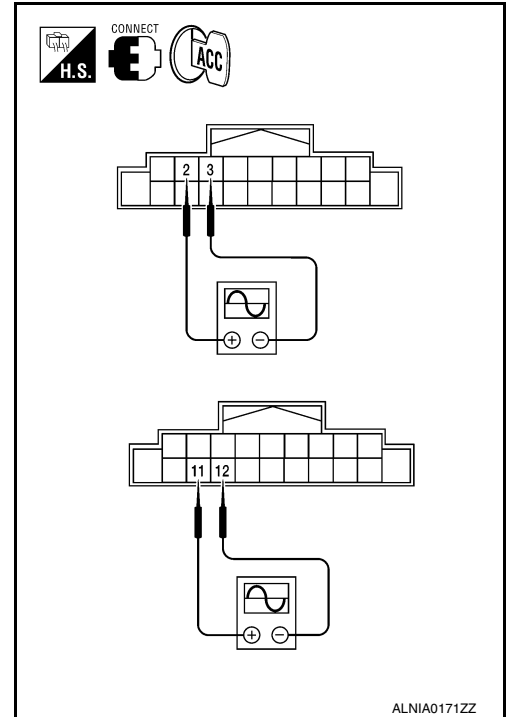
1. Connect audio unit connector and BOSE speaker amp. connector.
2. Turn ignition switch ACC.
3. Push POWER switch.
4. Check the signal between audio unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal  |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| M132      | 2         | 3   | Receive audio signal |  |
|           | 11        | 12  |                      |   |

SKIA0177E

Are the audio signal voltage readings as specified?

- YES >> Replace BOSE speaker amp. Refer to [AV-169, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-161, "Removal and Installation"](#).





# CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/ BOSE]

## CENTER SPEAKER

### Description

INFOID:000000009471233

The audio unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the center speaker using the audio signal circuits.

### Diagnosis Procedure

INFOID:000000009471234

Regarding Wiring Diagram information, refer to [AV-138, "Wiring Diagram - With BOSE Audio System"](#).

### 1.CONNECTOR CHECK

Check the audio unit, BOSE speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

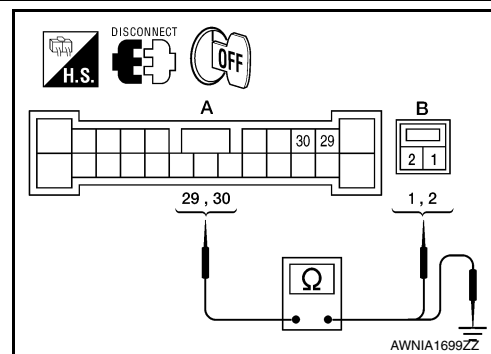
YES >> GO TO 2

NO >> Repair the terminal and connector.

### 2.HARNES CHECK

1. Disconnect BOSE speaker amp. connector B109 and center speaker connector M130.
2. Check continuity between BOSE speaker amp. harness connector B109 (A) and center speaker harness connector M130 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B109      | 29       | M130      | 1        | Yes        |
|           | 30       |           | 2        |            |



3. Check continuity between BOSE speaker amp. harness connector B109 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B109      | 29       | Ground | No         |
|           | 30       |        |            |

Are continuity test results as specified?

YES >> GO TO 3.

- NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

### 3.CENTER SPEAKER SIGNAL CHECK

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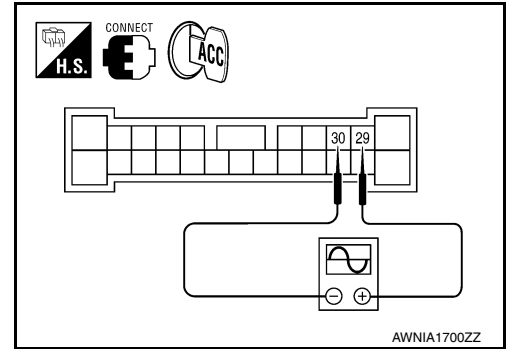
AV

# CENTER SPEAKER

[MONOCHROME DISPLAY - W/ BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

1. Connect BOSE speaker amp. connector B109 and center speaker connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connector B109 terminals with CONSULT or oscilloscope.



| Connector | Terminals |     | Condition            | Reference signal |
|-----------|-----------|-----|----------------------|------------------|
|           | (+)       | (-) |                      |                  |
| B109      | 29        | 30  | Receive audio signal | <p>SKIA0177E</p> |

Is the audio signal voltage reading as specified?

- YES >> Replace center speaker. Refer to [AV-165, "Removal and Installation"](#).  
 NO >> GO TO 4.

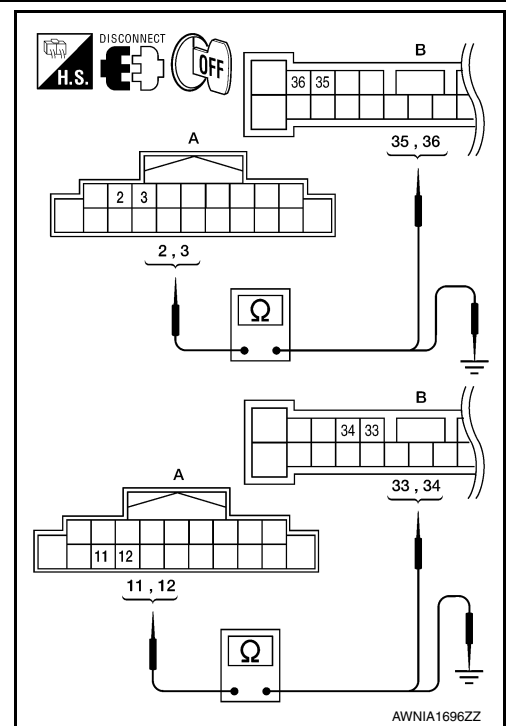
## 4. HARNESS CHECK

1. Disconnect audio unit connector M132 and BOSE speaker amp. connector B109.
2. Check continuity between audio unit harness connector M132 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M132      | 2        | B109      | 35       | Yes        |
|           | 3        |           | 36       |            |
|           | 11       |           | 33       |            |
|           | 12       |           | 34       |            |

3. Check continuity between audio unit harness connector M132 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M132      | 2        | Ground | No         |
|           | 3        |        |            |
|           | 11       |        |            |
|           | 12       |        |            |



Are continuity test results as specified?

- YES >> GO TO 5.  
 NO >> • Check connector housings for disconnected or loose terminals.  
 • Repair harness or connector.

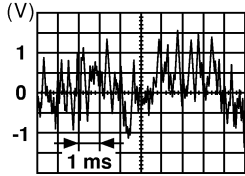
## 5. CENTER SPEAKER SIGNAL CHECK

# CENTER SPEAKER

[MONOCHROME DISPLAY - W/ BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

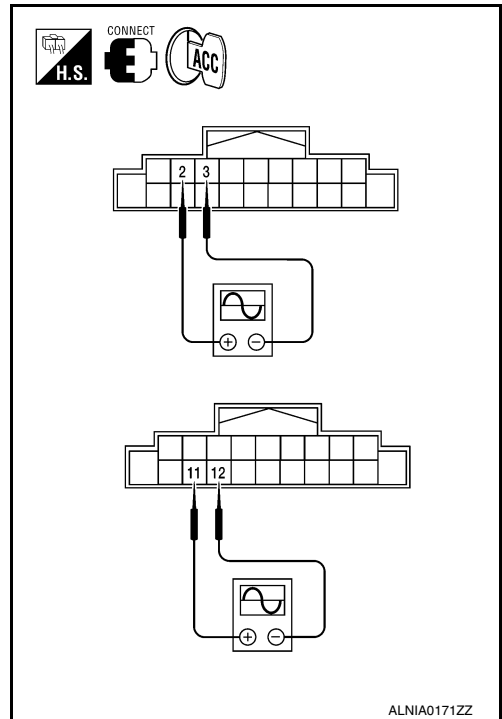
1. Connect audio unit connector and BOSE speaker amp. connector.
2. Turn ignition switch ACC.
3. Push POWER switch.
4. Check the signal between audio unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal  |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| M132      | 2         | 3   | Receive audio signal |  |
|           | 11        | 12  |                      |   |

SKIA0177E

Are the audio signal voltage readings as specified?

- YES >> Replace BOSE speaker amp. Refer to [AV-169, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-161, "Removal and Installation"](#).



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# REAR DOOR SPEAKER

[MONOCHROME DISPLAY - W/ BOSE]

< DTC/CIRCUIT DIAGNOSIS >

## REAR DOOR SPEAKER

### Description

INFOID:000000009471235

The audio unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the rear door speakers using the audio signal circuits.

### Diagnosis Procedure

INFOID:000000009471236

Regarding Wiring Diagram information, refer to [AV-138, "Wiring Diagram - With BOSE Audio System"](#).

### 1.CONNECTOR CHECK

Check the audio unit, BOSE speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

- YES >> GO TO 2  
 NO >> Repair the terminal and connector.

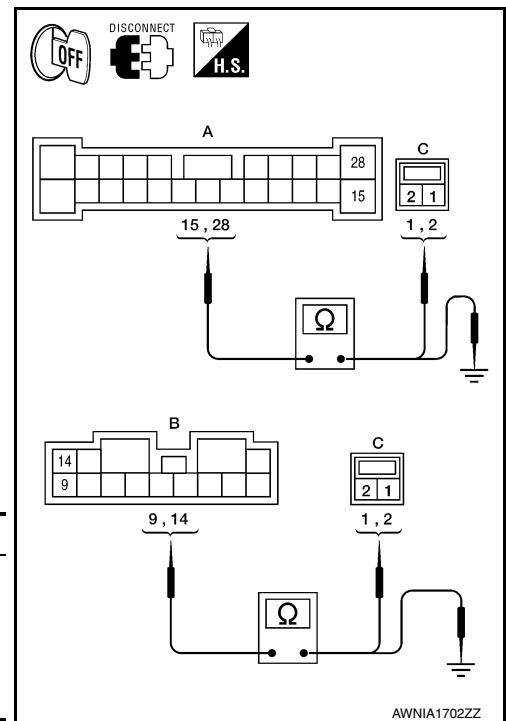
### 2.HARNES CHECK

1. Disconnect BOSE speaker amp. connectors B109, B110 and suspect speaker connector.
2. Check continuity between BOSE speaker amp. harness connectors B109 (A) and B110 (B) and suspect speaker harness connector (C).

| Connector | Terminal | Connector | Terminal | Continuity |
|-----------|----------|-----------|----------|------------|
| A: B109   | 15       | C: D202   | 2        | Yes        |
|           | 28       |           | 1        |            |
| B: B110   | 9        | C: D302   | 2        |            |
|           | 14       |           | 1        |            |

3. Check continuity between BOSE speaker amp. harness connectors B109 (A) and B110 (B) and ground.

| Connector | Terminal | -      | Continuity |
|-----------|----------|--------|------------|
| A: B109   | 15       | Ground | No         |
|           | 28       |        |            |
| B: B110   | 9        |        |            |
|           | 14       |        |            |



Are the continuity test results as specified?

- YES >> GO TO 3.  
 NO >> • Check connector housings for disconnected or loose terminals.  
 • Repair harness or connector.

### 3.REAR DOOR SPEAKER SIGNAL CHECK

# REAR DOOR SPEAKER

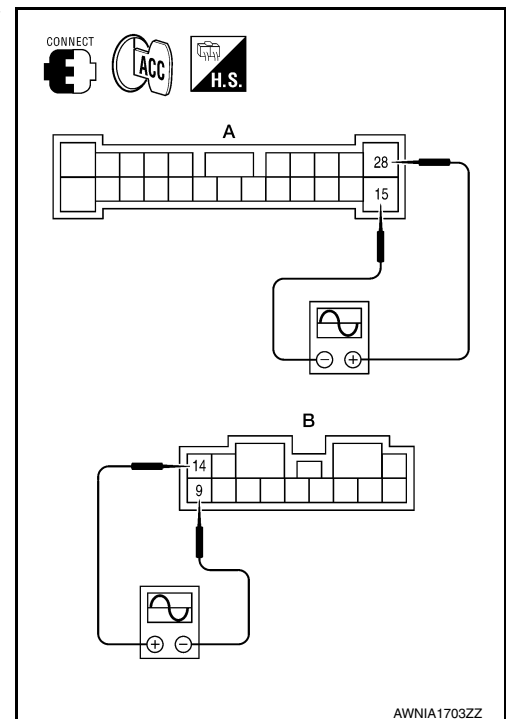
[MONOCHROME DISPLAY - W/ BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

1. Connect BOSE speaker amp. connectors and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connectors B109 (A) and B110 (B) terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal |
|-----------|-----------|-----|----------------------|------------------|
|           | (+)       | (-) |                      |                  |
| A: B109   | 28        | 15  | Receive audio signal |                  |
| B: B110   | 14        | 9   |                      |                  |

SKIA0177E



Are audio signal voltage readings as specified?

- YES >> Replace suspect speaker. Refer to [AV-167. "Removal and Installation"](#).
- NO >> GO TO 4.

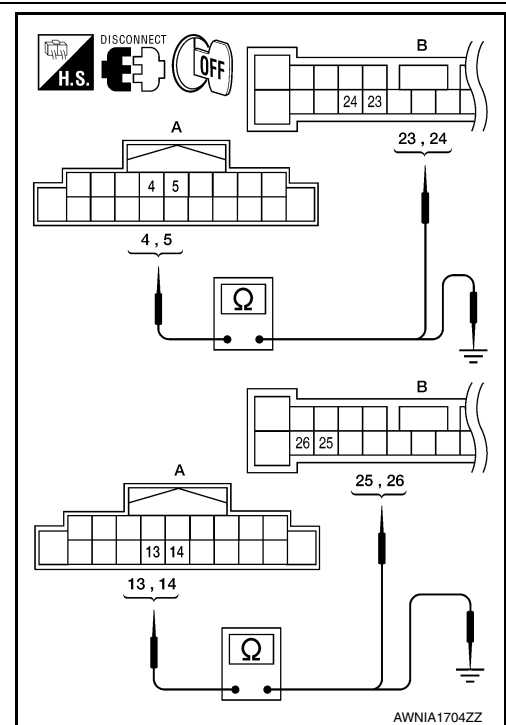
## 4. HARNESS CHECK

1. Disconnect audio unit connector M132 and BOSE speaker amp. connector B109.
2. Check continuity between audio unit harness connector M132 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M132      | 4        | B109      | 24       | Yes        |
|           | 5        |           | 23       |            |
|           | 13       |           | 26       |            |
|           | 14       |           | 25       |            |

3. Check continuity between audio unit harness connector M132 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M132      | 4        | Ground | No         |
|           | 5        |        |            |
|           | 13       |        |            |
|           | 14       |        |            |



Are the continuity test results as specified?

- YES >> GO TO 5.
- NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

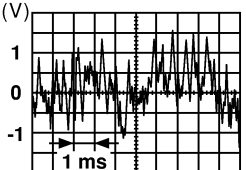
## 5. REAR DOOR SPEAKER SIGNAL CHECK

# REAR DOOR SPEAKER

[MONOCHROME DISPLAY - W/ BOSE]

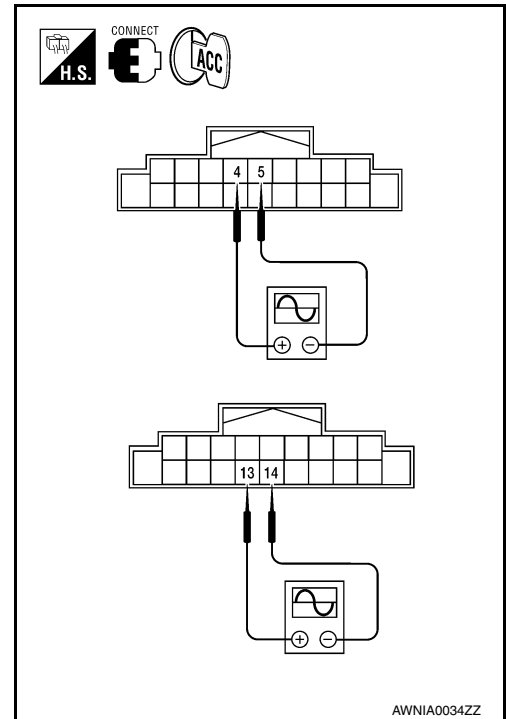
## < DTC/CIRCUIT DIAGNOSIS >

1. Connect audio unit connector M132 and BOSE speaker amp. connector B109.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between audio unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal   |
|-----------|-----------|-----|----------------------|--|
|           | (+)       | (-) |                      |  |
| M132      | 4         | 5   | Receive audio signal |  <p style="text-align: center;">SKIA0177E</p> |
|           | 13        | 14  |                      |  |

Is the audio signal voltage reading as specified?

- YES >> Replace BOSE speaker amp. Refer to [AV-169, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-161, "Removal and Installation"](#).



# SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/ BOSE]

## SUBWOOFER

### Description

INFOID:000000009471237

The audio unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the subwoofers using the audio signal circuits.

### Diagnosis Procedure

INFOID:000000009471238

Regarding Wiring Diagram information, refer to [AV-138, "Wiring Diagram - With BOSE Audio System"](#).

### 1.CONNECTOR CHECK

Check the audio unit, BOSE speaker amp. and subwoofer connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

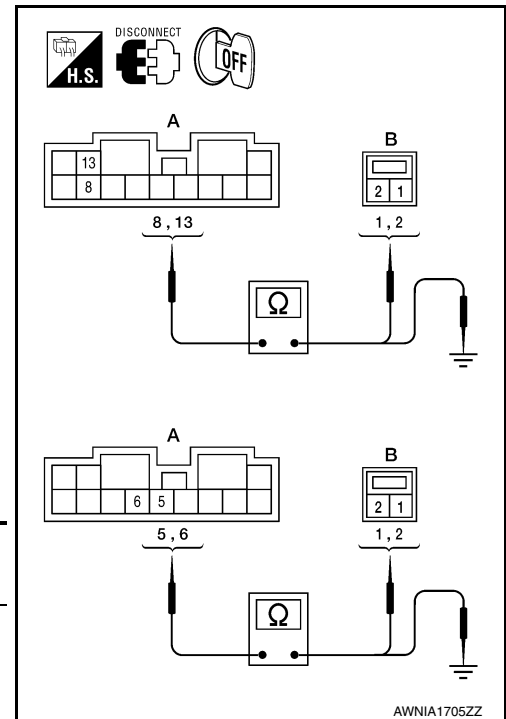
### 2.HARNES CHECK

1. Disconnect BOSE speaker amp. connector B110 and suspect rear subwoofer connector.
2. Check continuity between BOSE speaker amp. harness connector B110 (A) and suspect rear subwoofer harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B110      | 13       | B106      | 1        | Yes        |
|           | 8        |           | 2        |            |
|           | 5        | B107      | 1        |            |
|           | 6        |           | 2        |            |

3. Check continuity between BOSE speaker amp. harness connector B110 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B110      | 13       | Ground | No         |
|           | 8        |        |            |
|           | 5        |        |            |
|           | 6        |        |            |



Are the continuity test results as specified?

YES >> GO TO 3.

- NO >>
- Check connector housings for disconnected or loose terminals.
  - Repair harness or connector.

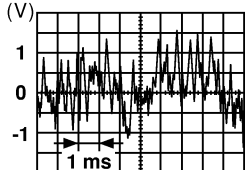
### 3.REAR SUBWOOFER SIGNAL CHECK

# SUBWOOFER

[MONOCHROME DISPLAY - W/ BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

1. Connect BOSE speaker amp. connector B110 and suspect rear subwoofer connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connector B110 terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal  |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| B110      | 13        | 8   | Receive audio signal | <br><small>SKIA0177E</small> |
|           | 5         | 6   |                      |   |

Is the audio signal voltage as specified?

YES >> Replace suspect rear subwoofer. Refer to [AV-168](#), "[Removal and Installation](#)".

NO >> GO TO 4.

## 4. HARNESS CHECK

1. Disconnect audio unit connector M132 and BOSE speaker amp. connector B109.
2. Check continuity between audio unit harness connector M132 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M132      | 4        | B109      | 24       | Yes        |
|           | 5        |           | 23       |            |
|           | 13       |           | 26       |            |
|           | 14       |           | 25       |            |

3. Check continuity between audio unit harness connector M132 (A) terminal and ground.

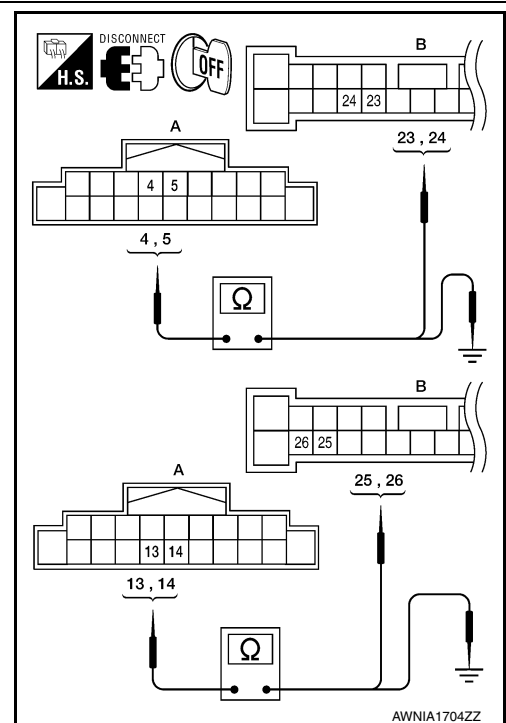
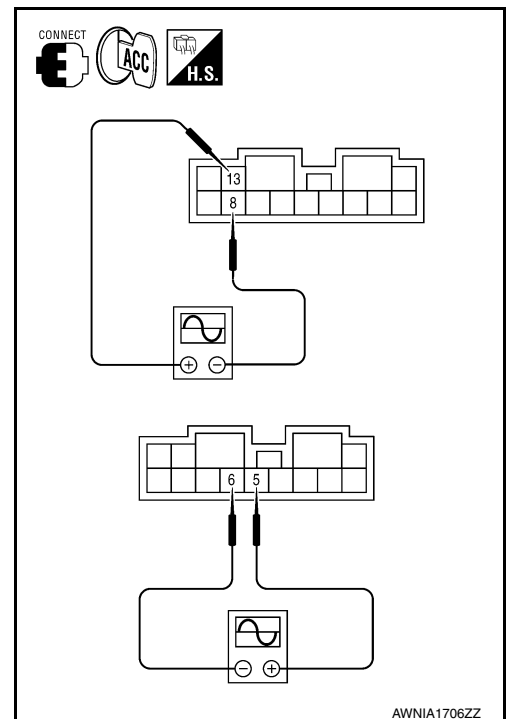
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M132      | 4        | Ground | No         |
|           | 5        |        |            |
|           | 13       |        |            |
|           | 14       |        |            |

Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 5. REAR SUBWOOFER SIGNAL CHECK



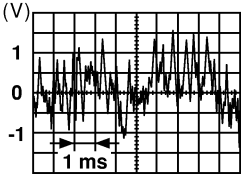


# SUBWOOFER

[MONOCHROME DISPLAY - W/ BOSE]

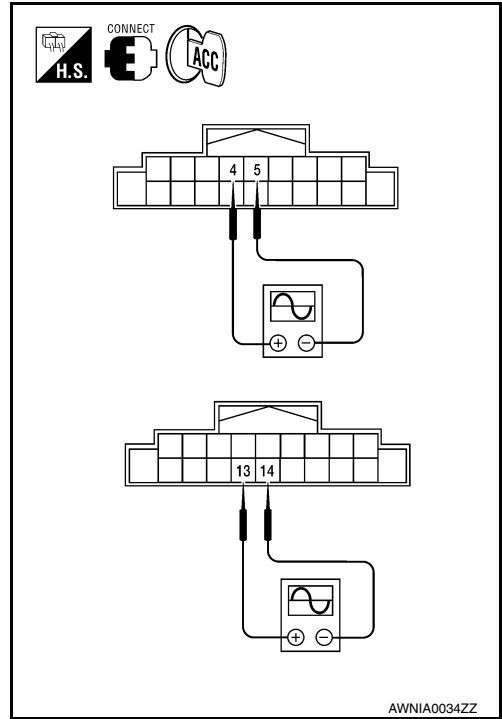
## < DTC/CIRCUIT DIAGNOSIS >

1. Connect audio unit connector M132 and BOSE speaker amp. connector B109.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between audio unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal   |
|-----------|-----------|-----|----------------------|--|
|           | (+)       | (-) |                      |  |
| M132      | 4         | 5   | Receive audio signal |  <p style="text-align: center; font-size: small;">SKIA0177E</p> |
|           | 13        | 14  |                      |  |

Is the audio signal voltage as specified?

- YES >> Replace BOSE speaker amp. Refer to [AV-169, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-161, "Removal and Installation"](#).



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# AMP ON SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/ BOSE]

## AMP ON SIGNAL CIRCUIT

### Description

INFOID:000000009471239

When the audio system is turned on, a voltage signal is supplied from the audio unit to the BOSE speaker amp. When this signal is received, the BOSE speaker amp. will turn on.

### Diagnosis Procedure

INFOID:000000009471240

Regarding Wiring Diagram information, refer to [AV-138, "Wiring Diagram - With BOSE Audio System"](#).

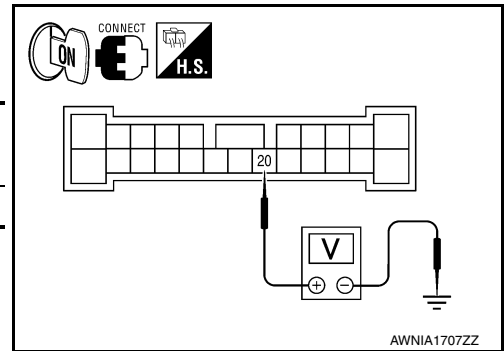
### 1. CHECK AMP ON SIGNAL (BOSE SPEAKER AMP)

1. Turn audio system ON.
2. Check voltage between BOSE speaker amp. harness connector B109 terminal 20 and ground.

| (+)       |          | (-)    | Voltage (Approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| B109      | 20       | Ground | Battery voltage   |

Is inspection result normal?

- YES >> Inspection End.  
NO >> GO TO 2.



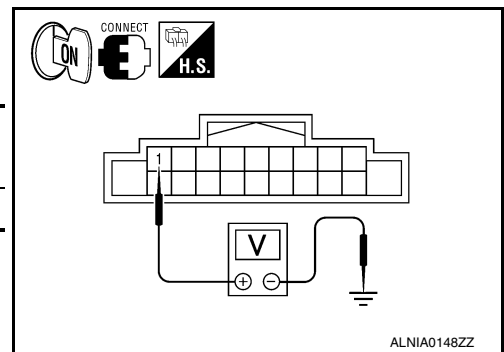
### 2. CHECK AMP ON SIGNAL (AUDIO UNIT)

Check voltage between audio unit harness connector M132 terminal 1 and ground.

| (+)       |          | (-)    | Voltage (Approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| M132      | 1        | Ground | Battery voltage   |

Is inspection result normal?

- YES >> Repair harness or connector.  
NO >> Replace audio unit. Refer to [AV-161, "Removal and Installation"](#).



# STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/ BOSE]

## STEERING SWITCH

### Description

INFOID:000000009471241

When one of the steering wheel audio control switches is pushed, the resistance in the steering wheel audio control switch circuit changes, depending on which button is pushed.






### Diagnosis Procedure

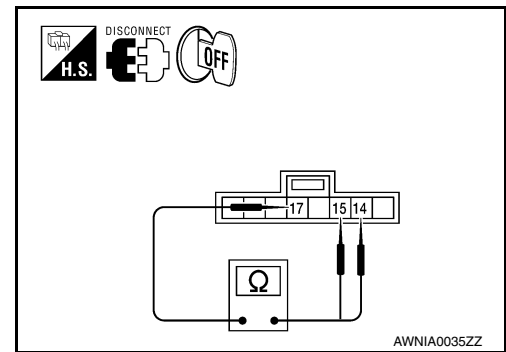
INFOID:000000009471242

Regarding Wiring Diagram information, refer to [AV-138, "Wiring Diagram - With BOSE Audio System"](#).

### 1. CHECK STEERING SWITCH RESISTANCE

1. Disconnect steering switch connector M88.
2. Check resistance between steering switch connector terminals.

| Terminal | Signal name   | Condition   | Resistance (Ω)<br>(Approx.) |
|----------|---------------|---|-----------------------------|
| 15       | Volume (down) | Depress volume DOWN switch.   | 0                           |
|          | Volume (up)   | Depress volume UP switch.   | 121                         |
|          | Phone/End     | Depress  switch.   | 321                         |
| 14       | Source        | Depress SOURCE switch.  | 0                           |
|          | Seek (up)     | Depress  switch.  | 121                         |
|          | Seek (down)   | Depress  switch.   | 321                         |
|          | Phone/Send    | Depress   switch. | 723                         |



Do the steering switches check OK?

YES >> GO TO 2.

NO >> Replace steering switch. Refer to [AV-170, "Removal and Installation"](#).

### 2. CHECK HARNESS BETWEEN COMBINATION SWITCH (SPIRAL CABLE) AND BLUETOOTH® CONTROL UNIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector B131 and combination switch (spiral cable) connector M30.
3. Check continuity between Bluetooth® control unit harness connector B131 and combination switch (spiral cable) harness connector M30.

| Connector | Terminal | Connector | Terminal | Continuity |
|-----------|----------|-----------|----------|------------|
| B131      | 12       | M30       | 24       | Yes        |
|           | 13       |           | 31       |            |
|           | 14       |           | 33       |            |

4. Check continuity between Bluetooth® control unit connector B131 and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| B131      | 12       | Ground | No         |
|           | 13       |        |            |
|           | 14       |        |            |

Are the continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness.

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# STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/ BOSE]

## 3. CHECK HARNESS BETWEEN COMBINATION SWITCH (SPIRAL CABLE) AND AUDIO UNIT

1. Disconnect audio unit connector M135.
2. Check continuity between audio unit harness connector M135 and combination switch (spiral cable) harness connector M30.

| Connector | Terminal | Connector | Terminal | Continuity |
|-----------|----------|-----------|----------|------------|
| M135      | 23       | M30       | 24       | Yes        |
|           | 24       |           | 31       |            |
|           | 30       |           | 33       |            |

3. Check continuity between audio unit connector M135 and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| M135      | 23       | Ground | No         |
|           | 24       |        |            |
|           | 30       |        |            |

Are the continuity results as specified?

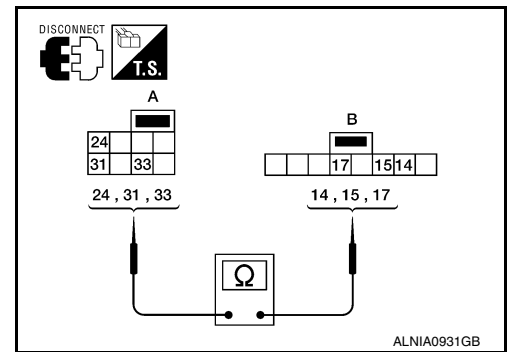
YES >> GO TO 4.

NO >> Repair harness.

## 4. COMBINATION SWITCH (SPIRAL CABLE) CHECK

1. Check continuity between combination switch (spiral cable) harness connector M30 (A) and M88 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M30       | 24       | M88       | 14       | Yes        |
|           | 31       |           | 15       |            |
|           | 33       |           | 17       |            |



Does the combination switch (spiral cable) check OK?

YES >> GO TO 5.

NO >> Replace combination switch (spiral cable). Refer to [SR-15. "Removal and Installation"](#).

## 5. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND AUDIO UNIT

1. Disconnect audio unit connector M132.
2. Check continuity between Bluetooth® control unit harness connector B131 and audio unit harness connector M132.

| Connector | Terminal | Connector | Terminal | Continuity |
|-----------|----------|-----------|----------|------------|
| B131      | 17       | M132      | 6        | Yes        |
|           | 18       |           | 16       |            |
|           | 19       |           | 15       |            |

3. Check continuity between Bluetooth® control unit connector B131 and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| B131      | 17       | Ground | No         |
|           | 18       |        |            |
|           | 19       |        |            |

Are the continuity results as specified?

YES >> GO TO 6.

# STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/ BOSE]

NO >> Repair harness.

## 6. CHECK AUDIO UNIT VOLTAGE

1. Connect audio unit harness connector M132 and Bluetooth® control unit harness connector B131.
2. Turn ignition switch ON.
3. Check voltage between audio unit harness connector M132 terminals.

| (+)        |          | (-)        |          | Voltage<br>(Approx.) |
|------------|----------|------------|----------|----------------------|
| Audio unit |          | Audio unit |          |                      |
| Connector  | Terminal | Connector  | Terminal |                      |
| M132       | 6        | M132       | 15       | 3.3V                 |
|            | 16       |            |          |                      |

Are the continuity results as specified?

YES >> Replace Bluetooth® control unit. Refer to [AV-177. "Removal and Installation"](#).

NO >> Replace audio unit. Refer to [AV-161. "Removal and Installation"](#).

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# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MONOCHROME DISPLAY - W/ BOSE]

## MICROPHONE SIGNAL CIRCUIT

### Description

INFOID:000000009471247

Voice signals are transmitted from the microphone to the Bluetooth® control unit using the microphone signal circuits.

### Diagnosis Procedure

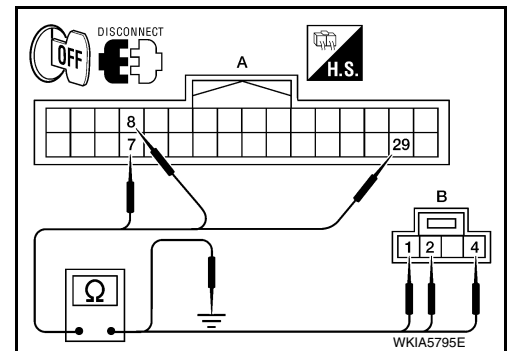
INFOID:000000009471248

Regarding Wiring Diagram information, refer to [AV-138, "Wiring Diagram - With BOSE Audio System"](#).

### 1. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector and microphone connector.
3. Check continuity between Bluetooth® control unit harness connector B131 (A) and microphone harness connector R7 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B131      | 7        | R7        | 1        | Yes        |
|           | 8        |           | 2        |            |
|           | 29       |           | 4        |            |



4. Check continuity between Bluetooth® control unit harness connector B131 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B131      | 7        | Ground | No         |
|           | 8        |        |            |
|           | 29       |        |            |

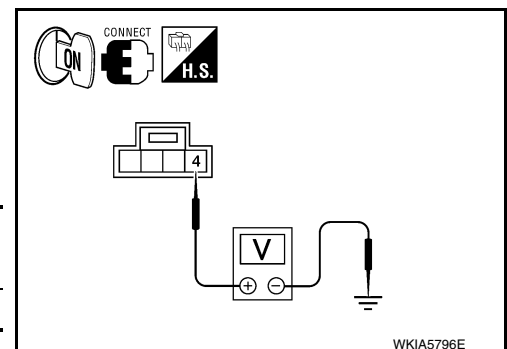
Are the continuity test results as specified?

- YES >> GO TO 2.  
 NO >> Repair harness or connector.

### 2. CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth® control unit connector and microphone connector.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector R7 terminal 4 and ground.

| (+)       |          | (-)    | Voltage (Approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| R7        | 4        | Ground | 5V                |



Is voltage reading approx. 5 volts?

- YES >> GO TO 3.  
 NO >> Replace Bluetooth® control unit. Refer to [AV-177, "Removal and Installation"](#).

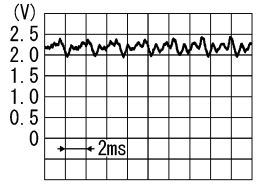
### 3. CHECK MICROPHONE SIGNAL

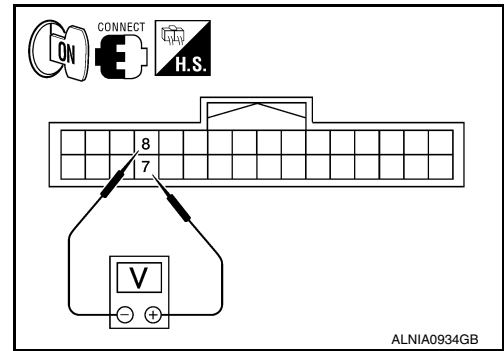
# MICROPHONE SIGNAL CIRCUIT

[MONOCHROME DISPLAY - W/ BOSE]

< DTC/CIRCUIT DIAGNOSIS >

Check signal between Bluetooth® control unit harness connector B131 terminals 7 and 8.

| Connector | (+)      | (-)      | Reference signal   |
|-----------|----------|----------|--|
|           | Terminal | Terminal |  |
| B131      | 7        | 8        | While talking into microphone<br><br><small>PKIB5037J</small> |



Are voltage readings as specified?

- YES >> Replace Bluetooth® control unit. Refer to [AV-177. "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-175. "Removal and Installation"](#).

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# AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[MONOCHROME DISPLAY - W/ BOSE]

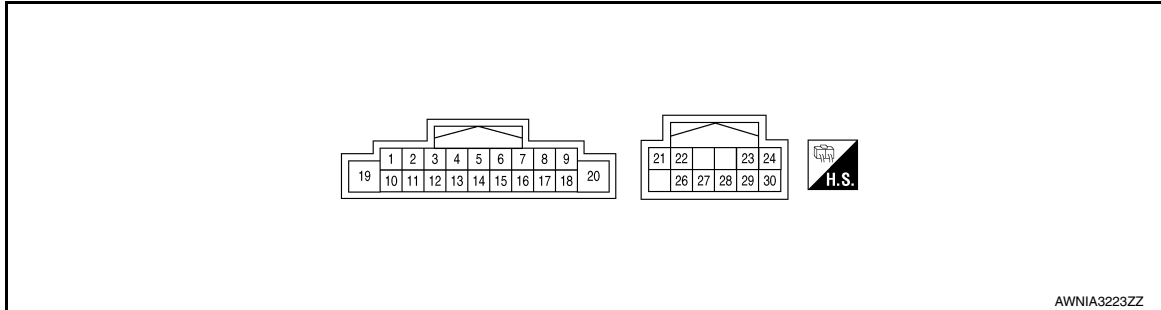
## ECU DIAGNOSIS INFORMATION

### AUDIO UNIT

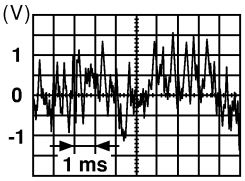
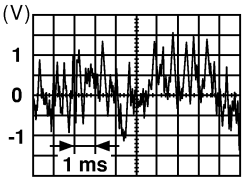

Reference Value

INFOID:000000009471249

### TERMINAL LAYOUT



### PHYSICAL VALUES

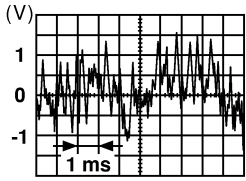
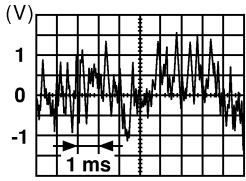

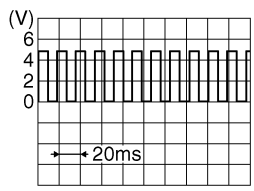

| Terminal<br>(Wire color) |            | Item                     | Signal input/output | Condition       |  | Reference value (Approx.)   |
|--------------------------|------------|--------------------------|---------------------|-----------------|--|---|
| +                        | -          |                          |                     | Ignition switch | Operation  |   |
| 1<br>(B/P)               | Ground     | Amp ON                   | Output              | ON              | —  | Battery voltage   |
| 2<br>(W)                 | 3<br>(B)   | Audio signal front LH    | Output              | ON              | Receive audio signal   |  |
| 4<br>(W/R)               | 5<br>(B/R) | Audio signal rear LH     | Output              | ON              | Receive audio signal   |  |
| 6<br>(W/G)               | Ground     | Steering switch signal A | Input               | ON              | Depress SOURCE switch.   | 0V  |
|                          |            |                          |                     |                 | Depress $\Delta$ switch.   | 0.7V  |
|                          |            |                          |                     |                 | Depress $\nabla$ switch.   | 1.3V  |
|                          |            |                          |                     |                 | Depress  switch. | 2.0V  |
|                          |            |                          |                     |                 | Except for above.  | 3.3V  |
| 7<br>(V/Y)               | Ground     | ACC power                | Input               | ON              | Ignition switch ACC or ON  | Battery voltage   |
| 9<br>(R/L)               | 8<br>(R/Y) | ILL signal               | Input               | ON              | Parking lamps ON   | Battery voltage   |



# AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[MONOCHROME DISPLAY - W/ BOSE]

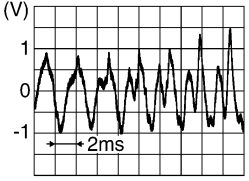
| Terminal<br>(Wire color) |           | Item                           | Signal in-<br>put/out-<br>put | Condition          |   | Reference value (Approx.)   |
|--------------------------|-----------|--------------------------------|-------------------------------|--------------------|---|---|
| +                        | -         |                                |                               | Ignition<br>switch | Operation   |   |
| 11<br>(LG)               | 12<br>(V) | Audio signal<br>front RH       | Output                        | ON                 | Receive audio sig-<br>nal   |    |
| 13<br>(V)                | 14<br>(P) | Audio sound<br>signal rear RH  | Output                        | ON                 | Receive audio sig-<br>nal   |    |
| 15<br>(L/B)              | -         | Steering<br>switch ground      | -                             | -                  | -   | -   |
| 16<br>(GR/L)             | Ground    | Steering<br>switch signal<br>B | Input                         | ON                 | Depress volume<br>DOWN switch.  | 0.7V  |
|                          |           |                                |                               |                    | Depress volume<br>UP switch.  | 1.3V  |
|                          |           |                                |                               |                    | Depress  switch. | 2.0V  |
|                          |           |                                |                               |                    | Except for above.   | 3.3V  |
| 18<br>(V/W)              | Ground    | Speed signal                   | Input                         | ON                 | When vehicle<br>speed is approx 40<br>km/hr (25 mph)  |  |
| 19<br>(Y/R)              | Ground    | Battery power                  | Input                         | -                  | -   | Battery voltage   |
| 21<br>(G)                | 22<br>(R) | Multimedia<br>CAN              | Input                         | -                  | -   |   |
| 23<br>(W/b)              | Ground    | Steering<br>switch signal<br>A | Output                        | ON                 | Depress volume<br>DOWN switch.  | 0.7V  |
|                          |           |                                |                               |                    | Depress volume<br>UP switch.  | 1.3V  |
|                          |           |                                |                               |                    | Depress  switch. | 2.0V  |
|                          |           |                                |                               |                    | Except for above.   | 3.3V  |

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# AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[MONOCHROME DISPLAY - W/ BOSE]

| Terminal<br>(Wire color) |           | Item                           | Signal in-<br>put/out-<br>put | Condition          |   | Reference value (Approx.)   |
|--------------------------|-----------|--------------------------------|-------------------------------|--------------------|---|---|
| +                        | -         |                                |                               | Ignition<br>switch | Operation   |   |
| 24<br>(GR/R)             | Ground    | Steering<br>switch signal<br>B | Output                        | ON                 | Depress SOURCE<br>switch.   | 0V  |
|                          |           |                                |                               |                    | Depress $\Delta$ switch.  | 0.7V  |
|                          |           |                                |                               |                    | Depress $\nabla$ switch.  | 1.3V  |
|                          |           |                                |                               |                    | Depress  switch.  | 2.0V  |
|                          |           |                                |                               |                    | Except for above.   | 3.3V  |
| 26                       | -         | Shield                         | -                             | -                  | -   | -   |
| 27<br>(BR)               | 28<br>(Y) | Tel Voice sig-<br>nal          | Input                         | ON                 | With Bluetooth®<br>transmitting tel-<br>voice signals to the<br>audio unit. |  <p style="text-align: right; font-size: small;">SKIB3609E</p> |
| 29<br>(G/O)              | Ground    | Telephone ON                   | Output                        | ON                 | -   | -   |
| 30<br>(LG/B)             | -         | Shield                         | -                             | -                  | -   | -   |

# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

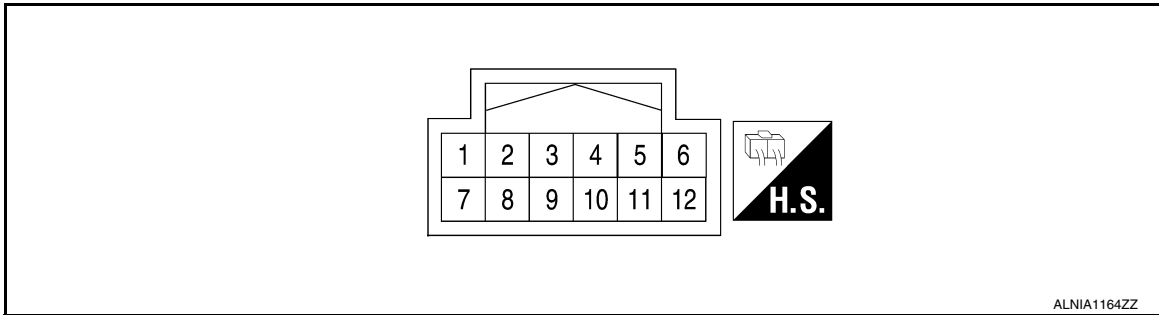
[MONOCHROME DISPLAY - W/ BOSE]

## DISPLAY UNIT

### Reference Values

INFOID:000000009471250

### TERMINAL LAYOUT



### PHYSICAL VALUES

| Terminal<br>(Wire color) |             | Description   | Condition        |                    |                        | Reference value<br>(Approx.) |
|--------------------------|-------------|---------------|------------------|--------------------|------------------------|------------------------------|
| +                        | -           | Signal name   | Input/<br>Output | Ignition<br>switch | Operation              |                              |
| 1<br>(G)                 | Ground      | M-CAN L       | —                | —                  | —                      | —                            |
| 2<br>(R)                 | Ground      | M-CAN H       | —                | —                  | —                      | —                            |
| 3<br>(B)                 | Ground      | Ground        | Input            | ACC                | —                      | 0V                           |
| 8<br>(V/Y)               | Ground      | ACC power     | Input            | ACC                | —                      | Battery voltage              |
| 9<br>(Y/R)               | Ground      | Battery power | Input            | OFF                | —                      | Battery voltage              |
| 10<br>(R/L)              | 11<br>(R/Y) | Illumination  | Input            | —                  | With parking lights ON | Battery voltage              |

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# BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

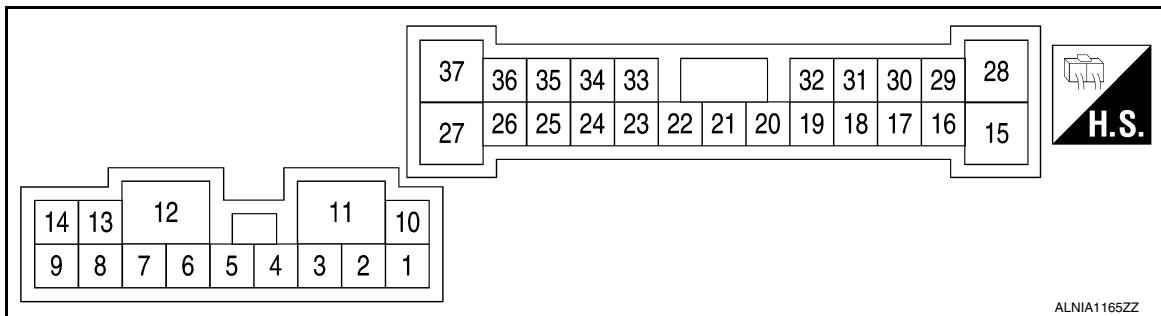
[MONOCHROME DISPLAY - W/ BOSE]

## BOSE SPEAKER AMP

### Reference Values

INFOID:00000009471251

### TERMINAL LAYOUT



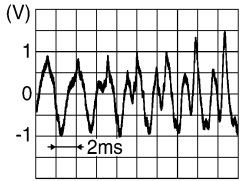
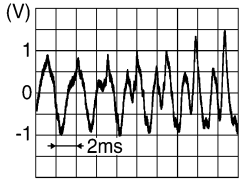
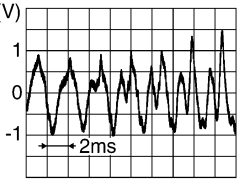
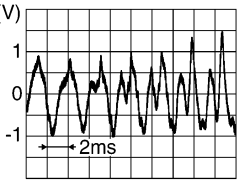
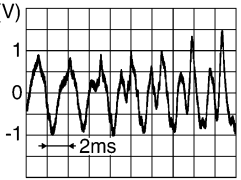
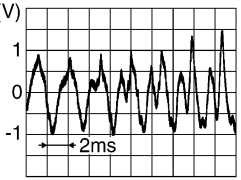
### PHYSICAL VALUES

| Terminal<br>(Wire color) |           | Description                         |                  | Condition                 |               | Reference value<br>(Approx.) |
|--------------------------|-----------|-------------------------------------|------------------|---------------------------|---------------|------------------------------|
| +                        | -         | Signal name                         | Input/<br>Output |                           |               |                              |
| 1<br>(LG)                | 2<br>(V)  | Sound signal front tweeter<br>LH    | Output           | Ignition<br>switch<br>ON  | Sound output. | <br>SKIB3609E                |
| 4<br>(G)                 | 3<br>(W)  | Sound signal front tweeter<br>RH    | Output           | Ignition<br>switch<br>ON  | Sound output. | <br>SKIB3609E                |
| 5<br>(R)                 | 6<br>(BR) | Sound signal rear subwoof-<br>er RH | Output           | Ignition<br>switch<br>ON  | Sound output. | <br>SKIB3609E                |
| 7<br>(B)                 | Ground    | Ground                              | —                | Ignition<br>switch<br>ON  | —             | 0 V                          |
| 10<br>(SB)               | Ground    | Battery power supply                | Input            | Ignition<br>switch<br>OFF | —             | Battery voltage              |
| 11<br>(GR)               | Ground    | Battery power supply                | Input            | Ignition<br>switch<br>OFF | —             | Battery voltage              |
| 12<br>(B)                | Ground    | Ground                              | —                | Ignition<br>switch<br>ON  | —             | 0 V                          |

# BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

[MONOCHROME DISPLAY - W/ BOSE]

| Terminal<br>(Wire color) |           | Description                        |                  | Condition           |               | Reference value<br>(Approx.)  |
|--------------------------|-----------|------------------------------------|------------------|---------------------|---------------|---|
| +                        | -         | Signal name                        | Input/<br>Output |                     |               |   |
| 13<br>(L)                | 8<br>(P)  | Sound signal rear subwoofer LH     | Output           | Ignition switch ON  | Sound output. |  <p style="text-align: right; font-size: small;">SKIB3609E</p>   |
| 14<br>(LG)               | 9<br>(O)  | Sound signal rear door speaker RH  | Output           | Ignition switch ON  | Sound output. |  <p style="text-align: right; font-size: small;">SKIB3609E</p>   |
| 18<br>(W)                | 19<br>(B) | Sound signal front door speaker LH | Output           | Ignition switch ON  | Sound output. |  <p style="text-align: right; font-size: small;">SKIB3609E</p>  |
| 20<br>(SB)               | Ground    | Amp. ON signal                     | Input            | Ignition switch ACC | —             | Battery voltage   |
| 24<br>(GR)               | 23<br>(L) | Sound signal rear LH               | Input            | Ignition switch ON  | Sound output. |  <p style="text-align: right; font-size: small;">SKIB3609E</p> |
| 26<br>(BR)               | 25<br>(Y) | Sound signal rear RH               | Input            | Ignition switch ON  | Sound output. |  <p style="text-align: right; font-size: small;">SKIB3609E</p> |
| 28<br>(G)                | 15<br>(L) | Sound signal rear door speaker LH  | Output           | Ignition switch ON  | Sound output. |  <p style="text-align: right; font-size: small;">SKIB3609E</p> |

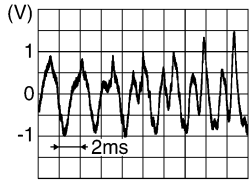
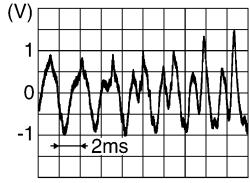
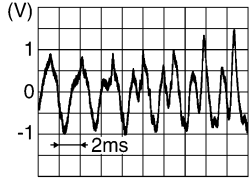
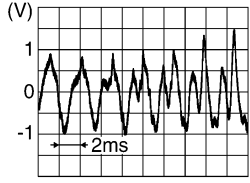
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# BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

[MONOCHROME DISPLAY - W/ BOSE]

| Terminal<br>(Wire color) |            | Description                        |                  | Condition                |               | Reference value<br>(Approx.)  |
|--------------------------|------------|------------------------------------|------------------|--------------------------|---------------|---|
| +                        | -          | Signal name                        | Input/<br>Output |                          |               |   |
| 29<br>(V)                | 30<br>(P)  | Sound signal center speaker        | Output           | Ignition<br>switch<br>ON | Sound output. |    |
| 31<br>(R)                | 32<br>(BR) | Sound signal front door speaker RH | Output           | Ignition<br>switch<br>ON | Sound output. |    |
| 33<br>(LG)               | 34<br>(V)  | Sound signal front RH              | Input            | Ignition<br>switch<br>ON | Sound output. |   |
| 35<br>(W)                | 36<br>(B)  | Sound signal front LH              | Input            | Ignition<br>switch<br>ON | Sound output. |  |

# BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

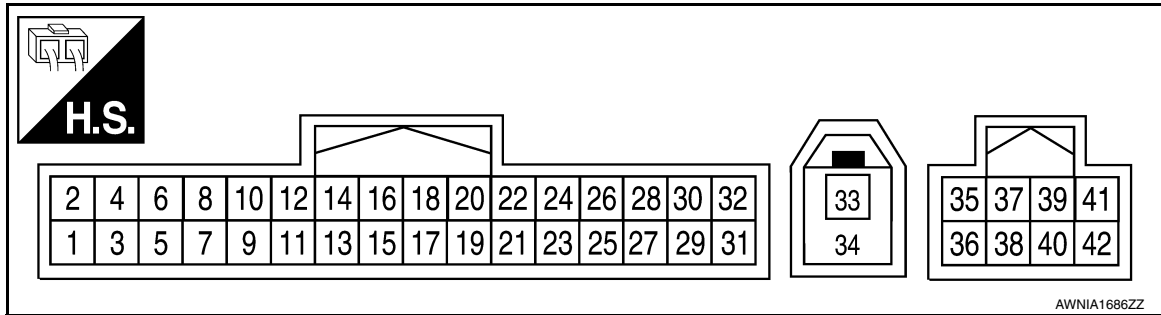
[MONOCHROME DISPLAY - W/ BOSE]

## BLUETOOTH® CONTROL UNIT

### Reference Values

INFOID:000000009471253

### TERMINAL LAYOUT



### PHYSICAL VALUES

| Terminal<br>(Wire color) |           | Item           | Signal<br>input/<br>output | Condition          |  | Reference value<br>(Approx.)                                  |
|--------------------------|-----------|----------------|----------------------------|--------------------|--|---|
| +                        | -         |                |                            | Ignition<br>switch | Operation  |   |
| 1<br>(V)                 | Ground    | Battery power  | Input                      | -                  | -  | Battery voltage   |
| 2<br>(GR)                | Ground    | ACC power      | Input                      | ACC/ON             | -  | Battery voltage   |
| 3<br>(O)                 | Ground    | IGN power      | Input                      | ON/<br>START       | -  | Battery voltage   |
| 4<br>(B)                 | Ground    | Ground         | -                          | -                  | -  | 0.2V  |
| 7<br>(L)                 | 8         | Mic-in signal  | Input                      | -                  | -  | -   |
| 9<br>(BR)                | 10<br>(Y) | Audio out      | Output                     | ACC/ON             | Bluetooth® control<br>unit sends audio sig-<br>nal | <p style="text-align: right; font-size: small;">SKIB3609E</p> |
| 11<br>(SB)               | -         | Mute           | Output                     | -                  | -  | -   |
| 12<br>(L)                | Ground    | Ladder input 1 | Input                      | ACC/ON             | Press VOL DOWN<br>switch                           | 0.7 V   |
|                          |           |                |                            |                    | Press VOL UP<br>switch.                            | 1.3 V   |
|                          |           |                |                            |                    | Pressing  switch.                                  | 2.0 V   |
|                          |           |                |                            |                    | Except for above.                                  | 3.3 V   |

# BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[MONOCHROME DISPLAY - W/ BOSE]

| Terminal<br>(Wire color) |        | Item                                  | Signal<br>input/<br>output | Condition          |  | Reference value<br>(Approx.) |
|--------------------------|--------|---------------------------------------|----------------------------|--------------------|--|------------------------------|
| +                        | -      |                                       |                            | Ignition<br>switch | Operation  |                              |
| 13<br>(P)                | Ground | Ladder input 2                        | Input                      | ACC/ON             | Press SOURCE switch.                                 | 0 V                          |
|                          |        |                                       |                            |                    | Press SEEK UP switch.                                | 0.7 V                        |
|                          |        |                                       |                            |                    | Press SEEK DOWN switch.                              | 1.3 V                        |
|                          |        |                                       |                            |                    | Press  switch.                                       | 2.0 V                        |
|                          |        |                                       |                            |                    | Except for above.                                    | 3.3 V                        |
| 14<br>(R)                | -      | Ladder ground                         | Input                      | -                  | -  | -                            |
| 17<br>(G)                | Ground | Steering switch<br>signal A           | Output                     | ON                 | Depress SOURCE switch.                               | 0V                           |
|                          |        |                                       |                            |                    | Depress $\Delta$ switch.                             | 0.7V                         |
|                          |        |                                       |                            |                    | Depress $\nabla$ switch.                             | 1.3V                         |
|                          |        |                                       |                            |                    | Depress  switch.                                     | 2.0V                         |
|                          |        |                                       |                            |                    | Except for above.                                    | 3.3V                         |
| 18<br>(W)                | Ground | Steering switch<br>signal B           | Output                     | ON                 | Depress volume DOWN switch.                          | 0.7V                         |
|                          |        |                                       |                            |                    | Depress volume UP switch.                            | 1.3V                         |
|                          |        |                                       |                            |                    | Depress  switch.                                     | 2.0V                         |
|                          |        |                                       |                            |                    | Except for above.                                    | 3.3V                         |
| 19<br>(LG)               | -      | Steering switch<br>ground             | Output                     | -                  | -  | -                            |
| 23<br>(B)                | Gnd    | Ground                                | -                          | -                  | -  | 0V                           |
| 28<br>(BR)               | -      | Vehicle speed<br>signal (8-<br>pulse) | Input                      | ON                 | When vehicle speed<br>is approx. 25 MPH<br>(40 km/h) |                              |
| 29<br>(R)                | Ground | Microphone<br>power                   | Output                     | ON                 | -  | 5V                           |
| 33<br>(B)                | -      | Antenna                               | -                          | -                  | -  | -                            |
| 34<br>(B)                | -      | Antenna                               | -                          | -                  | -  | -                            |
| 35<br>(L)                | -      | M-CAN H1                              | -                          | -                  | -  | -                            |
| 36<br>(P)                | -      | M-CAN L1                              | -                          | -                  | -  | -                            |
| 37                       | -      | Shield                                | -                          | -                  | -  | -                            |
| 38                       | -      | Shield                                | -                          | -                  | -  | -                            |



# BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[MONOCHROME DISPLAY - W/ BOSE]

| Terminal<br>(Wire color) |   | Item     | Signal<br>input/<br>output | Condition          |           | Reference value<br>(Approx.) |
|--------------------------|---|----------|----------------------------|--------------------|-----------|------------------------------|
| +                        | - |          |                            | Ignition<br>switch | Operation |                              |
| 40<br>(G)                | - | M-CAN H2 | -                          | -                  | -         | -                            |
| 42<br>(R)                | - | M-CAN L2 | -                          | -                  | -         | -                            |

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# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/ BOSE]

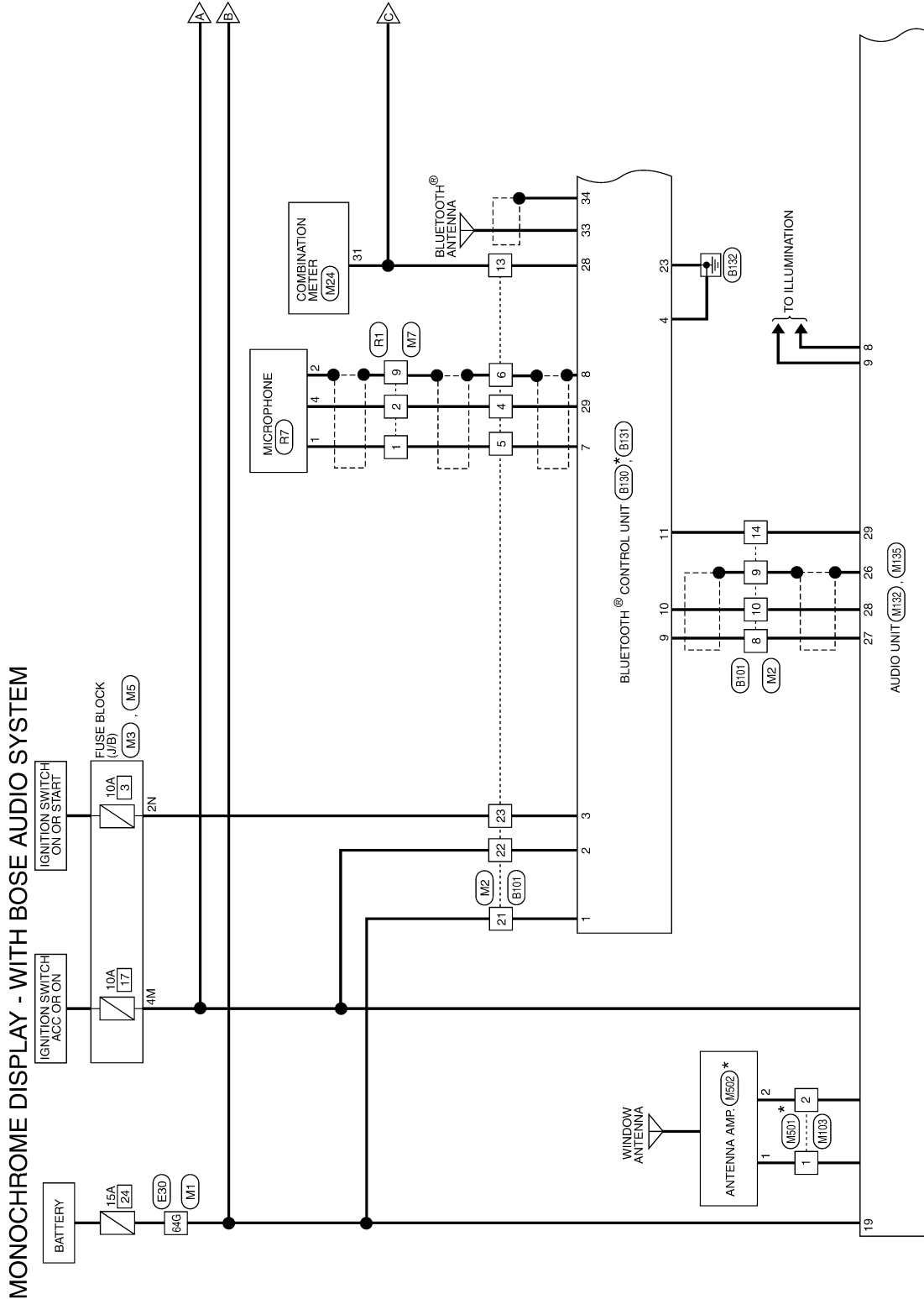
< WIRING DIAGRAM >

## WIRING DIAGRAM

### MONOCHROME DISPLAY

Wiring Diagram - With BOSE Audio System

INFOID:000000009471254



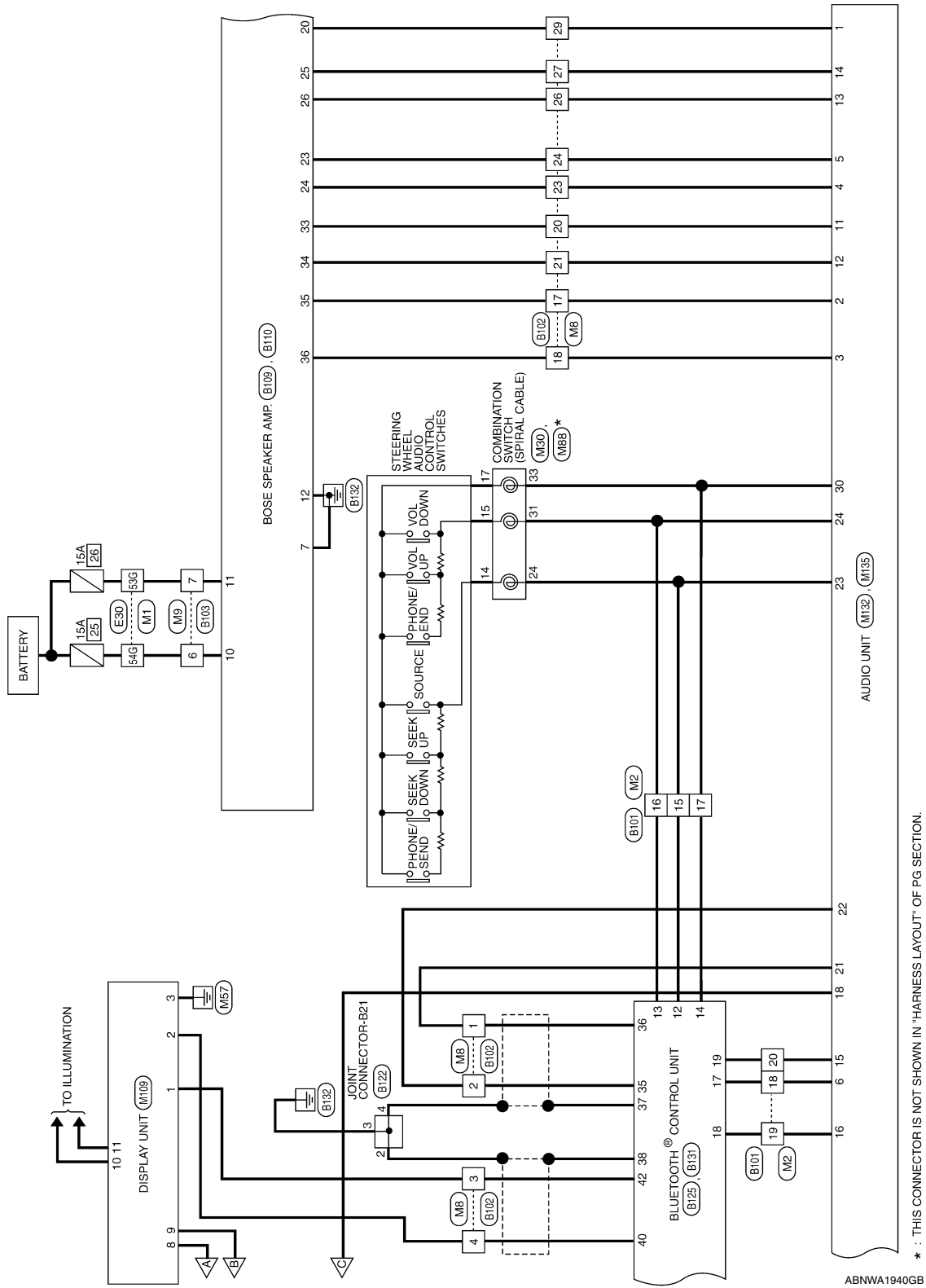
\* : THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

ABNWA1939GB

# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/ BOSE]

< WIRING DIAGRAM >



\* : THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

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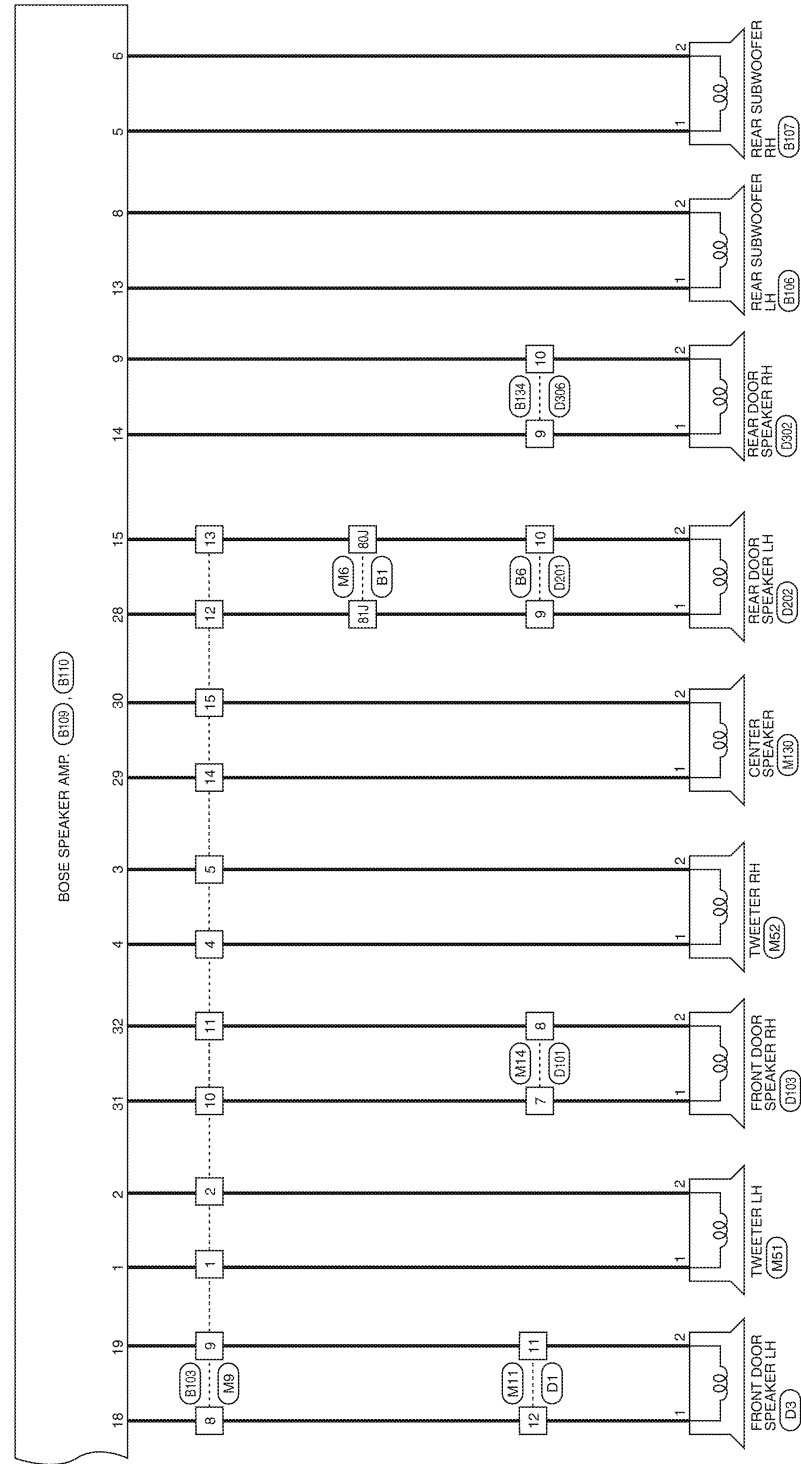
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# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/ BOSE]

< WIRING DIAGRAM >



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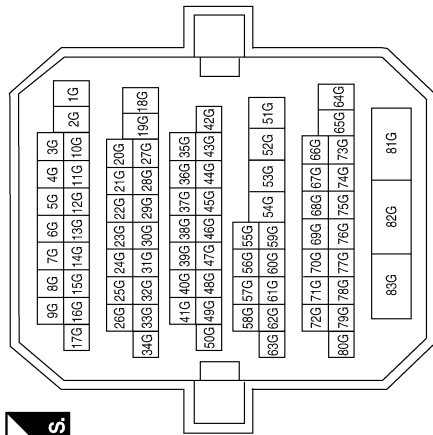
# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/ BOSE]

< WIRING DIAGRAM >

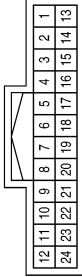
## MONOCHROME DISPLAY CONNECTORS - WITH BOSE AUDIO SYSTEM

|                 |              |
|-----------------|--------------|
| Connector No.   | M1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 53G          | B/R           | -           |
| 54G          | BR            | -           |
| 64G          | Y/R           | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M2           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4            | R             | -           |
| 5            | L             | -           |
| 6            | SHIELD        | -           |
| 8            | BR            | -           |
| 9            | SHIELD        | -           |
| 10           | Y             | -           |
| 13           | V/W           | -           |
| 14           | SB            | -           |
| 15           | W/B           | -           |
| 16           | GR/R          | -           |
| 17           | LG/B          | -           |
| 18           | G             | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | M3               |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | WHITE            |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2N           | G             | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | M5               |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | WHITE            |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4M           | V/Y           | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 19           | W             | -           |
| 20           | LG            | -           |
| 21           | Y/R           | -           |
| 22           | V/Y           | -           |
| 23           | G             | -           |

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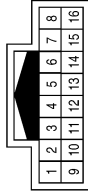


# MONOCHROME DISPLAY

< WIRING DIAGRAM >

[MONOCHROME DISPLAY - W/ BOSE]

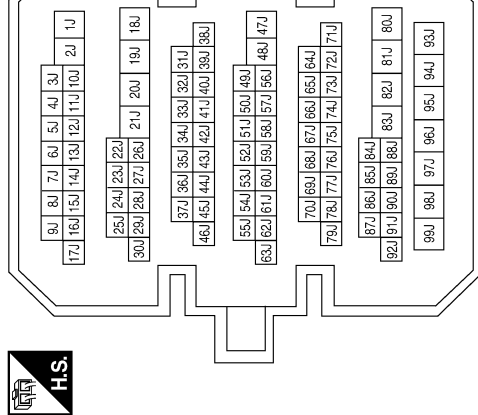
|                 |              |
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| Connector No.   | M7           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | R             | -           |
| 9            | SHIELD        | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 80J          | B/Y           | -           |
| 81J          | LG            | -           |

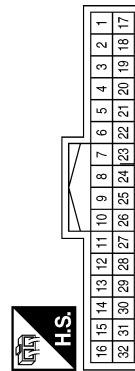
|                 |              |
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| Connector No.   | M6           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name                 |
|--------------|---------------|-----------------------------|
| 21           | V             | - (WITH MONOCHROME DISPLAY) |
| 23           | W/R           | -                           |
| 24           | B/R           | - (WITH MONOCHROME DISPLAY) |
| 26           | V             | -                           |
| 27           | P             | - (WITH MONOCHROME DISPLAY) |
| 29           | B/P           | -                           |

| Terminal No. | Color of Wire | Signal Name                 |
|--------------|---------------|-----------------------------|
| 17           | W             | - (WITH MONOCHROME DISPLAY) |
| 18           | B             | - (WITH MONOCHROME DISPLAY) |
| 20           | LG            | - (WITH MONOCHROME DISPLAY) |

|                 |              |
|-----------------|--------------|
| Connector No.   | M8           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | -           |
| 2            | R             | -           |
| 3            | G             | -           |
| 4            | R             | -           |


ABNIA5127GB

# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/ BOSE]

< WIRING DIAGRAM >

|                 |              |
|-----------------|--------------|
| Connector No.   | M11          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |




|   |   |    |    |    |    |    |    |    |
|---|---|----|----|----|----|----|----|----|
| 1 | 2 | 3  | 4  | 5  | 6  | 7  |    |    |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11           | B/W           | -           |
| 12           | L             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | B/W           | -           |
| 10           | BR            | -           |
| 11           | B/R           | -           |
| 12           | LG            | -           |
| 13           | B/Y           | -           |
| 14           | B/P           | -           |
| 15           | O/B           | -           |


|                 |              |
|-----------------|--------------|
| Connector No.   | M9           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BROWN        |



|    |    |    |    |    |    |    |   |   |
|----|----|----|----|----|----|----|---|---|
| 7  | 6  | 5  | 4  | 3  | 2  | 1  |   |   |
| 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | B/Y           | -           |
| 4            | L/O           | -           |
| 5            | GR/L          | -           |
| 6            | BR            | -           |
| 7            | B/R           | -           |
| 8            | L             | -           |


|                 |                                   |
|-----------------|-----------------------------------|
| Connector No.   | M30                               |
| Connector Name  | COMBINATION SWITCH (SPIRAL CABLE) |
| Connector Color | GRAY                              |



|    |    |    |    |
|----|----|----|----|
| 24 | 25 | 26 | 27 |
| 31 | 32 | 33 | 34 |

| Terminal No. | Color of Wire | Signal Name                |
|--------------|---------------|----------------------------|
| 24           | W/B           | -(WITH MONOCHROME DISPLAY) |
| 31           | GR/R          | -(WITH MONOCHROME DISPLAY) |
| 33           | LG/B          | -(WITH MONOCHROME DISPLAY) |


|                 |                   |
|-----------------|-------------------|
| Connector No.   | M24               |
| Connector Name  | COMBINATION METER |
| Connector Color | WHITE             |



|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 31           | V/W           | 8P/R OUT    |

|                 |              |
|-----------------|--------------|
| Connector No.   | M14          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|   |   |   |   |   |    |
|---|---|---|---|---|----|
| 1 | 2 | 3 | 4 |   |    |
| 5 | 6 | 7 | 8 | 9 | 10 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | BR            | -           |
| 8            | B/R           | -           |

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# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/ BOSE]

< WIRING DIAGRAM >

|                 |                                     |
|-----------------|-------------------------------------|
| Connector No.   | M51                                 |
| Connector Name  | TWEETER LH (WITH BOSE AUDIO SYSTEM) |
| Connector Color | BROWN                               |



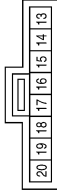
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | B/Y           | -           |

|                 |                                     |
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| Connector No.   | M52                                 |
| Connector Name  | TWEETER RH (WITH BOSE AUDIO SYSTEM) |
| Connector Color | BROWN                               |



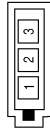
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L/O           | -           |
| 2            | GR/L          | -           |

|                 |                                   |
|-----------------|-----------------------------------|
| Connector No.   | M88                               |
| Connector Name  | COMBINATION SWITCH (SPIRAL CABLE) |
| Connector Color | GRAY                              |



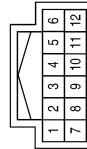
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 14           | W             | -           |
| 15           | L             | -           |
| 17           | BR            | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M103         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

|                 |  |
|-----------------|--|
| Connector No.   | M109                                   |
| Connector Name  | DISPLAY UNIT (WITH MONOCHROME DISPLAY) |
| Connector Color | WHITE                                  |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | M-CAN L     |
| 2            | R             | M-CAN H     |
| 3            | B             | GND         |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | -             | -           |
| 7            | -             | -           |
| 8            | V/Y           | ACC         |
| 9            | Y/R           | +B          |
| 10           | R/L           | ILL+        |
| 11           | R/Y           | ILL-        |
| 12           | -             | -           |

|                 |                |
|-----------------|----------------|
| Connector No.   | M130           |
| Connector Name  | CENTER SPEAKER |
| Connector Color | BROWN          |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B/P           | -           |
| 2            | O/B           | -           |

ABNIA5170GB

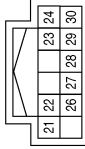


# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/ BOSE]

< WIRING DIAGRAM >

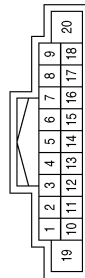
|                 |   |
|-----------------|---|
| Connector No.   | M135  |
| Connector Name  | AUDIO UNIT<br>(MONOCHROME DISPLAY -<br>WITH BOSE AUDIO<br>SYSTEM) |
| Connector Color | WHITE   |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 21           | G             | MULTIMEDIA CAN L |
| 22           | R             | MULTIMEDIA CAN H |
| 23           | W/B           | LADDER OUT 1     |
| 24           | GR/R          | LADDER OUT 2     |
| 26           | SHIELD        | TEL SHIELD       |
| 27           | BR            | TEL I/F+         |
| 28           | Y             | TEL I/F-         |
| 29           | G/O           | TEL ON           |
| 30           | LG/B          | LADDER SHIELD    |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 8            | R/Y           | ILL (-)          |
| 9            | R/L           | ILL(+), LIGHT SW |
| 10           | -             | -                |
| 11           | LG            | FR SP RH (+)     |
| 12           | V             | FR SP RH (-)     |
| 13           | V             | RR SP RH (+)     |
| 14           | P             | RR SP RH (-)     |
| 15           | L/B           | STRG SW GND      |
| 16           | GR/L          | STRG SW B        |
| 17           | -             | -                |
| 18           | V/W           | SPEED SIGNAL     |
| 19           | Y/R           | BAT              |
| 20           | -             | -                |

|                 |   |
|-----------------|---|
| Connector No.   | M132  |
| Connector Name  | AUDIO UNIT<br>(MONOCHROME DISPLAY -<br>WITH BOSE AUDIO<br>SYSTEM) |
| Connector Color | WHITE   |



| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 1            | B/P           | AMP ON       |
| 2            | W             | FR SP LH (+) |
| 3            | B             | FR SP LH (-) |
| 4            | W/R           | RR SP LH (+) |
| 5            | B/R           | RR SP LH (-) |
| 6            | W/G           | STRG SW A    |
| 7            | V/Y           | ACC          |

|                 |              |
|-----------------|--------------|
| Connector No.   | M502         |
| Connector Name  | ANTENNA AMP. |
| Connector Color | GRAY         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M501         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

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# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/ BOSE]

< WIRING DIAGRAM >

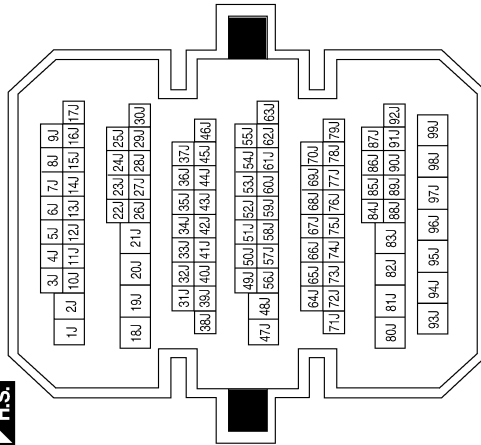
|                 |              |
|-----------------|--------------|
| Connector No.   | B6           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|   |    |   |   |
|---|----|---|---|
| 1 | 2  | 3 | 4 |
| 5 | 6  | 7 | 8 |
| 9 | 10 |   |   |



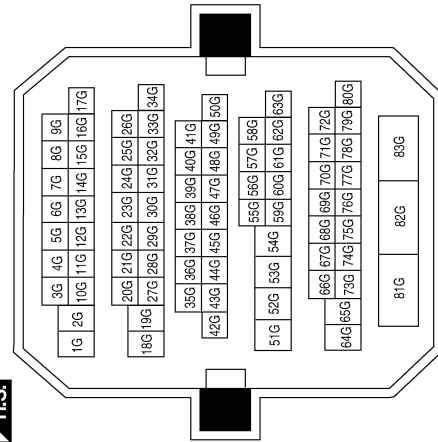
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 80J          | O             | -           |
| 81J          | LG            | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | E30          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 53G          | GR            | -           |
| 54G          | BR            | -           |
| 64G          | V             | -           |

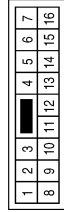
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# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/ BOSE]

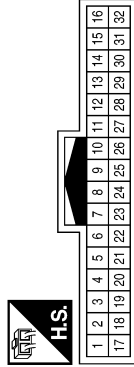
< WIRING DIAGRAM >

|                 |              |
|-----------------|--------------|
| Connector No.   | B103         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BROWN        |



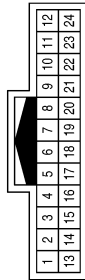
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | V             | -           |
| 4            | G             | -           |
| 5            | W             | -           |
| 6            | SB            | -           |
| 7            | GR            | -           |
| 8            | W             | -           |
| 9            | B             | -           |
| 10           | R             | -           |
| 11           | BR            | -           |
| 12           | G             | -           |
| 13           | L             | -           |
| 14           | V             | -           |
| 15           | P             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B102         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | L             | -           |
| 3            | R             | -           |
| 4            | G             | -           |
| 17           | W             | -           |
| 18           | B             | -           |
| 20           | LG            | -           |
| 21           | V             | -           |
| 23           | GR            | -           |
| 24           | L             | -           |
| 26           | BR            | -           |
| 27           | Y             | -           |
| 29           | SB            | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B101         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4            | R             | -           |
| 5            | L             | -           |
| 6            | SHIELD        | -           |
| 8            | BR            | -           |
| 9            | SHIELD        | -           |
| 10           | Y             | -           |
| 13           | BR            | -           |
| 14           | SB            | -           |
| 15           | L             | -           |
| 16           | P             | -           |
| 17           | R             | -           |
| 18           | G             | -           |
| 19           | W             | -           |
| 20           | LG            | -           |
| 21           | V             | -           |
| 22           | GR            | -           |
| 23           | O             | -           |

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
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# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/ BOSE]



< WIRING DIAGRAM >

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|-----------------|-------------------|
| Connector No.   | B107              |
| Connector Name  | REAR SUBWOOFER RH |
| Connector Color | WHITE             |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | BR            | -           |


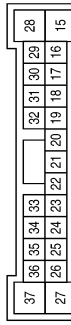
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| Connector No.   | B106              |
| Connector Name  | REAR SUBWOOFER LH |
| Connector Color | WHITE             |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | P             | -           |

| Terminal No. | Color of Wire | Signal Name        |
|--------------|---------------|--------------------|
| 25           | Y             | RR RH- IN          |
| 26           | BR            | RR RH+ IN          |
| 27           | -             | -                  |
| 28           | G             | RR DOOR LH+ OUT    |
| 29           | V             | INST CTR TWDR+ OUT |
| 30           | P             | INST CTR TWDR- OUT |
| 31           | R             | FR DOOR RH+ OUT    |
| 32           | BR            | FR DOOR RH- OUT    |
| 33           | LG            | FR RH+ IN          |
| 34           | V             | FR RH- IN          |
| 35           | W             | FR LH+ IN          |
| 36           | B             | FR LH- IN          |
| 37           | -             | -                  |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | B109              |
| Connector Name  | BOSE SPEAKER AMP. |
| Connector Color | BROWN             |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 15           | L             | RR DOOR LH- OUT |
| 16           | -             | -               |
| 17           | -             | -               |
| 18           | W             | FR DOOR LH+ OUT |
| 19           | B             | FR DOOR LH- OUT |
| 20           | SB            | AMP ON          |
| 21           | -             | -               |
| 22           | -             | -               |
| 23           | L             | RR LH- IN       |
| 24           | GR            | RR LH+ IN       |

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# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/ BOSE]

< WIRING DIAGRAM >

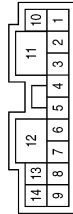
|                 |                     |
|-----------------|---------------------|
| Connector No.   | B122                |
| Connector Name  | JOINT CONNECTOR-B21 |
| Connector Color | WHITE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2            | SHIELD        | -           |
| 3            | B             | -           |
| 4            | SHIELD        | -           |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 4            | G             | FR TWDR RH+ OUT |
| 5            | R             | RH WOOFER+ OUT  |
| 6            | BR            | RH WOOFER- OUT  |
| 7            | B             | GND             |
| 8            | P             | LH WOOFER- OUT  |
| 9            | O             | RR DOOR RH- OUT |
| 10           | SB            | BAT             |
| 11           | GR            | BAT             |
| 12           | B             | GND             |
| 13           | L             | LH WOOFER+ OUT  |
| 14           | LG            | RR DOOR RH+ OUT |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | B110              |
| Connector Name  | BOSE SPEAKER AMP. |
| Connector Color | BROWN             |



| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 1            | LG            | FR TWDR LH+ OUT |
| 2            | V             | FR TWDR LH- OUT |
| 3            | W             | FR TWDR RH- OUT |

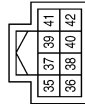
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|-----------------|-------------------------|
| Connector No.   | B130                    |
| Connector Name  | BLUETOOTH® CONTORL UNIT |
| Connector Color | BLACK                   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33           | B             | -           |
| 34           | B             | -           |

| Terminal No. | Color of Wire | Signal Name                      |
|--------------|---------------|----------------------------------|
| 38           | SHIELD        | CAN SHIELD 2                     |
| 39           | -             | -                                |
| 40           | G             | CAN H2 (WITH MONOCHROME DISPLAY) |
| 41           | -             | -                                |
| 42           | R             | CAN L2 (WITH MONOCHROME DISPLAY) |

|                 |                         |
|-----------------|-------------------------|
| Connector No.   | B125                    |
| Connector Name  | BLUETOOTH® CONTROL UNIT |
| Connector Color | WHITE                   |



| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 35           | L             | CAN H1       |
| 36           | P             | CAN L1       |
| 37           | SHIELD        | CAN SHIELD 1 |

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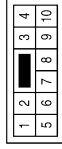
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# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/ BOSE]

< WIRING DIAGRAM >

|                 |              |
|-----------------|--------------|
| Connector No.   | B134         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 12           | L             | LADDER IN1      |
| 13           | P             | LADDER IN2      |
| 14           | R             | LADDER GND      |
| 15           | -             | -               |
| 16           | -             | -               |
| 17           | G             | STRG SW OUT A   |
| 18           | W             | STRG SW OUT B   |
| 19           | LG            | STRG SW OUT GND |
| 20           | -             | -               |
| 21           | -             | -               |
| 22           | -             | -               |
| 23           | B             | CONT4           |
| 24           | -             | -               |
| 25           | -             | -               |
| 26           | -             | -               |
| 27           | -             | -               |
| 28           | BR            | SPEED           |
| 29           | R             | MIC POWER       |
| 30           | -             | -               |
| 31           | -             | -               |
| 32           | -             | -               |

|                 |   |
|-----------------|---|
| Connector No.   | B131  |
| Connector Name  | BLUETOOTH® CONTROL UNIT (EXCEPT MONOCHROME DISPLAY WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | WHITE   |



| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 1            | V             | +B            |
| 2            | GR            | ACC           |
| 3            | O             | IGN           |
| 4            | B             | GND           |
| 5            | -             | -             |
| 6            | -             | -             |
| 7            | L             | MIC IN +      |
| 8            | SHIELD        | MIC IN -      |
| 9            | BR            | AUDIO OUT (+) |
| 10           | Y             | AUDIO OUT (-) |
| 11           | SB            | MUTE CONTROL  |

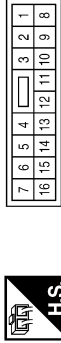
ABNIA5133GB

# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/ BOSE]

< WIRING DIAGRAM >

|                 |              |
|-----------------|--------------|
| Connector No.   | D1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



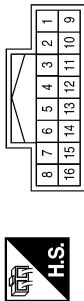
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11           | O             | -           |
| 12           | LG            | -           |

|                 |            |
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| Connector No.   | R7         |
| Connector Name  | MICROPHONE |
| Connector Color | WHITE      |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | SHIELD        | -           |
| 4            | R             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | R1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



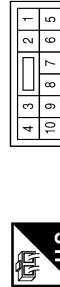
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | R             | -           |
| 9            | SHIELD        | -           |

|                 |                       |
|-----------------|-----------------------|
| Connector No.   | D103                  |
| Connector Name  | FRONT DOOR SPEAKER RH |
| Connector Color | WHITE                 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D101         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | LG            | -           |
| 8            | O             | -           |

|                 |                       |
|-----------------|-----------------------|
| Connector No.   | D3                    |
| Connector Name  | FRONT DOOR SPEAKER LH |
| Connector Color | WHITE                 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

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# MONOCHROME DISPLAY

[MONOCHROME DISPLAY - W/ BOSE]

< WIRING DIAGRAM >

|                 |   |
|-----------------|---|
| Connector No.   | D302  |
| Connector Name  | REAR DOOR SPEAKER RH<br>(EXCEPT MONOCHROME<br>DISPLAY WITHOUT BOSE<br>AUDIO SYSTEM) |
| Connector Color | BROWN   |



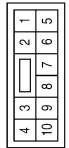
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |   |
|-----------------|---|
| Connector No.   | D202  |
| Connector Name  | REAR DOOR SPEAKER LH<br>(EXCEPT MONOCHROME<br>DISPLAY WITHOUT BOSE<br>AUDIO SYSTEM) |
| Connector Color | BROWN   |



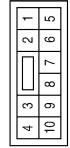
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D201         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D306         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

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# AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[MONOCHROME DISPLAY - W/ BOSE]

## SYMPTOM DIAGNOSIS

### AUDIO SYSTEM

#### Symptom Table

INFOID:000000009471255

### AUDIO SYSTEM

| Symptoms                    | Check items | Probable malfunction location   |
|-----------------------------|-------------|---|
| The disk cannot be removed. | Audio unit  | Malfunction in audio unit.<br>Refer to <a href="#">AV-161. "Removal and Installation"</a> . |

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# AUDIO SYSTEM

[MONOCHROME DISPLAY - W/ BOSE]

< SYMPTOM DIAGNOSIS >

| Symptoms   | Check items  | Probable malfunction location  |
|--|--|--|
|  | No sound from all speakers.  | <ul style="list-style-type: none"> <li>• Speaker circuit shorted to ground.<br/>Refer to <a href="#">AV-138, "Wiring Diagram - With BOSE Audio System"</a>.</li> <li>• Audio unit power supply and ground circuits malfunction.<br/>Refer to <a href="#">AV-102, "AUDIO UNIT : Diagnosis Procedure"</a>.</li> <li>• BOSE speaker amp. power supply and ground circuits malfunction.<br/>Refer to <a href="#">AV-103, "BOSE SPEAKER AMP : Diagnosis Procedure"</a>.</li> <li>• BOSE speaker amp. ON signal circuits malfunction.<br/>Refer to <a href="#">AV-122, "Diagnosis Procedure"</a>.</li> </ul>   |
| No sound comes out or the level of the sound is low. | Only a certain speaker (front door speaker LH, front door speaker RH, tweeter LH, tweeter RH, center speaker, rear door speaker LH, rear door speaker RH, rear subwoofer LH, rear subwoofer RH) does not output sound. | <ul style="list-style-type: none"> <li>• Poor connector connection of speaker.</li> <li>• Sound signal circuit malfunction between audio unit and BOSE speaker amp.<br/>Refer to <a href="#">AV-107, "Diagnosis Procedure"</a> (front door speaker).<br/>Refer to <a href="#">AV-110, "Diagnosis Procedure"</a> (tweeter).<br/>Refer to <a href="#">AV-113, "Diagnosis Procedure"</a> (center speaker).<br/>Refer to <a href="#">AV-116, "Diagnosis Procedure"</a> (rear door speaker).<br/>Refer to <a href="#">AV-119, "Diagnosis Procedure"</a> (subwoofer).</li> <li>• Sound signal circuit malfunction between BOSE speaker amp. and speaker<br/>Refer to <a href="#">AV-107, "Diagnosis Procedure"</a> (front door speaker).<br/>Refer to <a href="#">AV-110, "Diagnosis Procedure"</a> (tweeter).<br/>Refer to <a href="#">AV-113, "Diagnosis Procedure"</a> (center speaker).<br/>Refer to <a href="#">AV-116, "Diagnosis Procedure"</a> (rear door speaker).<br/>Refer to <a href="#">AV-119, "Diagnosis Procedure"</a> (subwoofer).</li> <li>• Malfunction in speaker.<br/>Refer to <a href="#">AV-166, "Removal and Installation"</a> (front door speaker).<br/>Refer to <a href="#">AV-164, "Removal and Installation"</a> (tweeter).<br/>Refer to <a href="#">AV-165, "Removal and Installation"</a> (center speaker).<br/>Refer to <a href="#">AV-167, "Removal and Installation"</a> (rear door speaker).<br/>Refer to <a href="#">AV-168, "Removal and Installation"</a> (subwoofer).</li> <li>• Malfunction in audio unit.<br/>Refer to <a href="#">AV-161, "Removal and Installation"</a>.</li> <li>• Malfunction in BOSE speaker amp.<br/>Refer to <a href="#">AV-169, "Removal and Installation"</a>.</li> </ul> |

# AUDIO SYSTEM

[MONOCHROME DISPLAY - W/ BOSE]

< SYMPTOM DIAGNOSIS >

| Symptoms                              | Check items  | Probable malfunction location  |
|---------------------------------------|--|--|
|                                       | Noise comes out from all speakers.   | <ul style="list-style-type: none"> <li>• Malfunction in audio unit<br/>Refer to <a href="#">AV-161, "Removal and Installation"</a>.</li> <li>• Malfunction in BOSE speaker amp.<br/>Refer to <a href="#">AV-169, "Removal and Installation"</a>.</li> </ul>  |
| Noise is mixed with audio.            | Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, tweeter LH, tweeter RH, center speaker, rear door speaker LH, rear door speaker RH, rear subwoofer LH, rear subwoofer RH).  | <ul style="list-style-type: none"> <li>• Poor connector connection of speaker.</li> <li>• Sound signal circuit malfunction between audio unit and BOSE speaker amp.<br/>Refer to <a href="#">AV-107, "Diagnosis Procedure"</a> (front door speaker).<br/>Refer to <a href="#">AV-110, "Diagnosis Procedure"</a> (tweeter).<br/>Refer to <a href="#">AV-113, "Diagnosis Procedure"</a> (center speaker).<br/>Refer to <a href="#">AV-116, "Diagnosis Procedure"</a> (rear door speaker).<br/>Refer to <a href="#">AV-119, "Diagnosis Procedure"</a> (subwoofer).</li> <li>• Sound signal circuit malfunction between BOSE speaker amp. and speaker<br/>Refer to <a href="#">AV-107, "Diagnosis Procedure"</a> (front door speaker).<br/>Refer to <a href="#">AV-110, "Diagnosis Procedure"</a> (tweeter).<br/>Refer to <a href="#">AV-113, "Diagnosis Procedure"</a> (center speaker).<br/>Refer to <a href="#">AV-116, "Diagnosis Procedure"</a> (rear door speaker).<br/>Refer to <a href="#">AV-119, "Diagnosis Procedure"</a> (subwoofer).</li> <li>• Malfunction in speaker.<br/>Refer to <a href="#">AV-166, "Removal and Installation"</a> (front door speaker).<br/>Refer to <a href="#">AV-164, "Removal and Installation"</a> (tweeter).<br/>Refer to <a href="#">AV-165, "Removal and Installation"</a> (center speaker).<br/>Refer to <a href="#">AV-167, "Removal and Installation"</a> (rear door speaker).<br/>Refer to <a href="#">AV-168, "Removal and Installation"</a> (subwoofer).</li> <li>• Malfunction in audio unit.<br/>Refer to <a href="#">AV-161, "Removal and Installation"</a>.</li> <li>• Malfunction in BOSE speaker amp.<br/>Refer to <a href="#">AV-169, "Removal and Installation"</a>.</li> </ul> |
|                                       | Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)  | Poor connector connection of antenna or antenna feeder.<br>Refer to <a href="#">AV-171, "Location of Antenna"</a> .  |
| No radio reception or poor reception. | <ul style="list-style-type: none"> <li>• Other audio sounds are normal.</li> <li>• Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).</li> </ul> | <ul style="list-style-type: none"> <li>• Antenna amp. ON signal circuit malfunction.<br/>Refer to <a href="#">AV-128, "Reference Value"</a>.</li> <li>• Poor connector connection of antenna or antenna feeder.<br/>Refer to <a href="#">AV-171, "Location of Antenna"</a>.</li> </ul>   |
| Buzz/rattle sound from speaker        | The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.   | Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.   |

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RELATED TO HANDS-FREE PHONE

# AUDIO SYSTEM





[MONOCHROME DISPLAY - W/ BOSE]

## < SYMPTOM DIAGNOSIS >

- Before performing diagnosis, confirm that the cellular phone being used by the customer is compatible with the vehicle.
- It is possible that a malfunction is occurring due to a version change of the phone even though the phone is a compatible type. This can be confirmed by changing the cellular phone to another compatible type, and check that it operates normally. It is important to determine whether the cause of the malfunction is the vehicle or the cellular phone.

### Check Compatibility

1. Make sure the customer's Bluetooth® related concern is understood.
2. Verify the customer's concern.  
**NOTE:**  
The customer's phone may be required, depending upon their concern.
3. Write down the customer's phone brand, model and service provider.  
**NOTE:**  
It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.
4. Go to "www.nissanusa.com/bluetooth/".
  - a. Using the website's search engine, find out if the customer's phone is on the approved list.
  - b. If the customer's phone is NOT on the approved list:  
Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.
  - c. If the feature related to the customer's concern shows as "N" (not compatible):  
Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".
  - d. If the feature related to the customer's concern shows as "Y" (compatible):  
Perform diagnosis as per the following table.

| Symptoms   | Check items  | Probable malfunction location  |
|--|--|--|
| Does not recognize cellular phone connection (no connection is displayed on the display at the guide). | Repeat the registration of cellular phone.   |  |
| Hands-free phone cannot be established.  | <ul style="list-style-type: none"> <li>• Hands-free phone operation can be made, but the communication cannot be established.</li> <li>• Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.</li> </ul>  | <ul style="list-style-type: none"> <li>• Malfunction in Bluetooth® control unit. Replace Bluetooth® control unit. Refer to <a href="#">AV-177. "Removal and Installation"</a>.</li> <li>• Malfunction in audio unit. Replace audio unit. Refer to <a href="#">AV-161. "Removal and Installation"</a>.</li> </ul> |
| The other party's voice cannot be heard by hands-free phone.   | Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.  |  |
| Originating sound is not heard by the other party with hands-free phone communication.                 | Sound operation function is normal.  |  |
|  | Sound operation function does not work.  | Microphone signal circuit malfunction. Refer to <a href="#">AV-126. "Diagnosis Procedure"</a> .  |
| The system cannot be operated.   | <ul style="list-style-type: none"> <li>• The voice recognition can be controlled.</li> <li>• Steering switch's volume DOWN and volume UP switch works, but   does not work.</li> </ul> | Steering switch malfunction. Replace steering switch. Refer to <a href="#">AV-170. "Removal and Installation"</a> .  |
|  | Steering switch's   , volume DOWN and volume UP switches do not work.  | Steering switch signal circuit malfunction. Refer to <a href="#">AV-123. "Diagnosis Procedure"</a> .   |
|  | All steering switches do not work.   | Steering switch ground circuit malfunction. Refer to <a href="#">AV-123. "Diagnosis Procedure"</a> .   |

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[MONOCHROME DISPLAY - W/ BOSE]

## NORMAL OPERATING CONDITION

### Description

INFOID:000000009471256

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).

### NOISE

The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction.

- Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
- Multi-path noise: This noise results from the waves sent directly from the broadcast station arriving at the antenna at a different time from the waves which reflect off mountains or buildings.

The vehicle itself can be a source of noise, if noise prevention parts or electrical equipment are malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and determine the cause.

#### NOTE:

The source of the noise can be found easily by listening to the noise while removing the fuses of electrical components, one by one.

#### Type of Noise and Possible Cause

| Occurrence condition  |   | Possible cause   |
|---|---|--|
| Occurs only when engine is ON.  | A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed. | <ul style="list-style-type: none"> <li>• Ignition components</li> </ul>  |
| The occurrence of the noise is linked with the operation of the fuel pump.  |   | <ul style="list-style-type: none"> <li>• Fuel pump condenser</li> </ul>  |
| Noise only occurs when various electrical components are operating.   | A cracking or snapping sound occurs with the operation of various switches.                         | <ul style="list-style-type: none"> <li>• Relay malfunction, audio unit malfunction</li> </ul>  |
|   | The noise occurs when various motors are operating.   | <ul style="list-style-type: none"> <li>• Motor case ground</li> <li>• Motor</li> </ul>   |
| The noise occurs constantly, not just under certain conditions.   |   | <ul style="list-style-type: none"> <li>• Rear defogger coil malfunction</li> <li>• Open circuit in printed heater</li> <li>• Poor ground of antenna feeder line</li> </ul>         |
| A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively. |   | <ul style="list-style-type: none"> <li>• Ground wire of body parts</li> <li>• Ground due to improper part installation</li> <li>• Wiring connections or a short circuit</li> </ul> |

### RELATED TO HANDS-FREE PHONE

| Symptom  | Cause and Counter measure   |
|--|---|
| Does not recognize cellular phone connection (No connection is displayed on the display at the guide). | Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in <a href="#">AV-153, "Symptom Table"</a> .   |
| Cannot use hands-free phone.   | <p>Customer will not be able to use a hands-free phone under the following conditions:</p> <ul style="list-style-type: none"> <li>• The vehicle is outside of the telephone service area.</li> <li>• The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area.</li> <li>• The cellular phone is locked to prevent it from being dialed.</li> </ul> <p><b>NOTE:</b></p> <p>While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.</p> |

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[MONOCHROME DISPLAY - W/ BOSE]

| Symptom  | Cause and Counter measure   |
|--|---|
| The other party's voice cannot be heard by hands-free phone. | When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.  |
| Poor sound quality.  | Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption. |

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000010135272

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

**WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

**WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.

Precaution for Work

INFOID:000000009471258

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
  - Water soluble dirt:
    - Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
    - Then rub with a soft, dry cloth.
  - Oily dirt:
    - Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
    - Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
    - Then rub with a soft, dry cloth.
  - Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
  - For genuine leather seats, use a genuine leather seat cleaner.

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# PREPARATION

[MONOCHROME DISPLAY - W/ BOSE]

< PREPARATION >

## PREPARATION

### PREPARATION

#### Special Service Tool

INFOID:000000009471259

The actual shape of the tools may differ from those illustrated here.

| Tool number<br>(TechMate No.)<br>Tool name | Description              |
|--|--------------------------|
| —<br>(J-46534)<br>Trim Tool Set            | Removing trim components |

AWJIA0483ZZ

#### Commercial Service Tools

INFOID:000000009471260

| Tool name  | Description                      |
|------------|----------------------------------|
| Power tool | Loosening nuts, screws and bolts |

PIIB1407E



# AUDIO UNIT

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

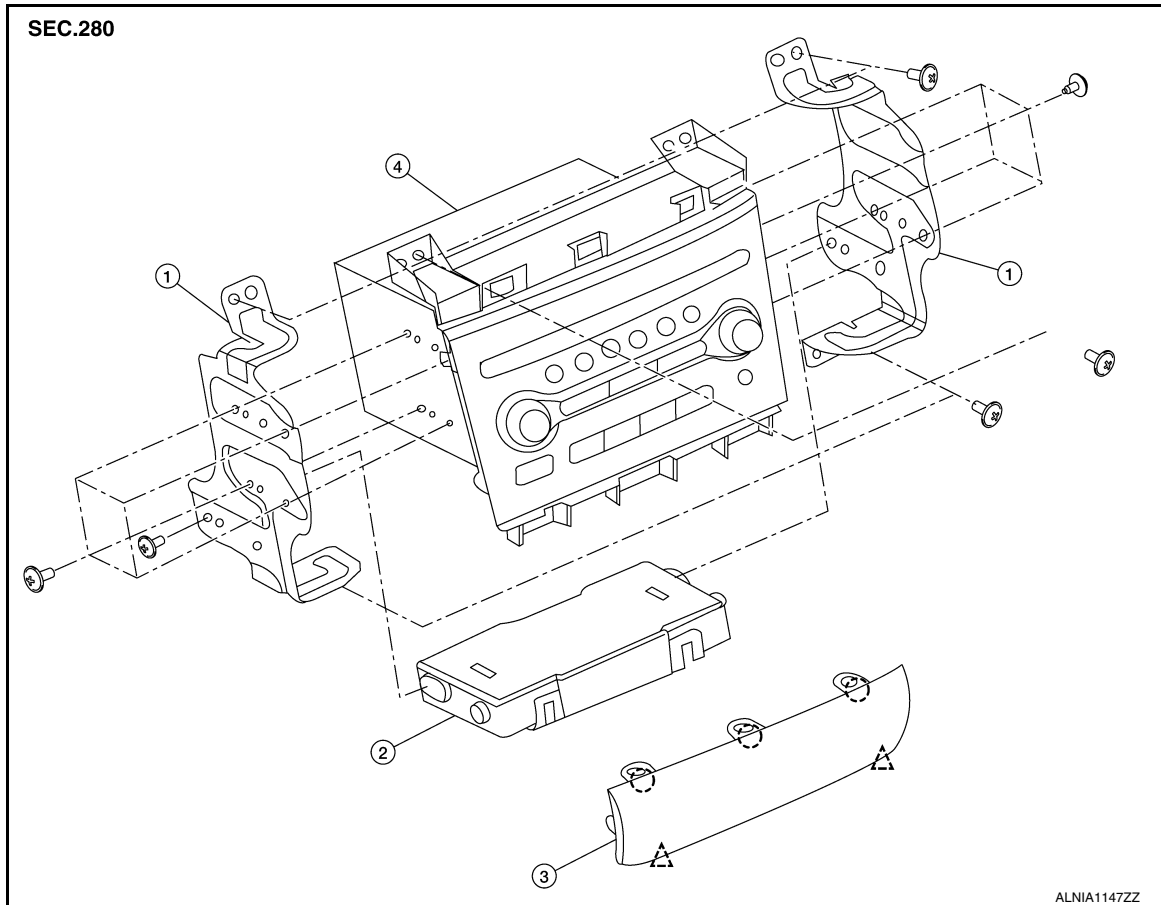
## REMOVAL AND INSTALLATION

### AUDIO UNIT

#### Removal and Installation

INFOID:000000009767261

#### Bose Audio

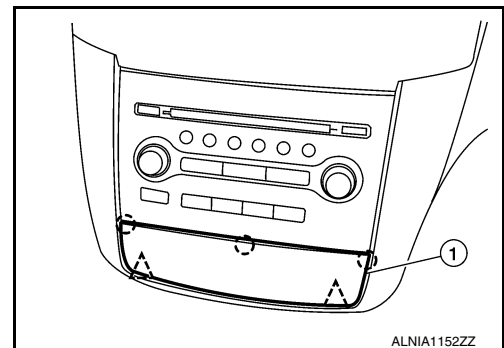


- |                                |                  |                        |
|--------------------------------|------------------|------------------------|
| 1. Audio unit brackets (LH/RH) | 2. A/C auto amp. | 3. Cluster lid C lower |
| 4. Audio unit                  | △ Clip           | ○ Pawl                 |

#### REMOVAL

1. Disconnect the battery negative terminal. Refer to [PG-67, "Removal and Installation \(Battery\)"](#).
2. Remove the cluster lid D. Refer to [IP-11, "Removal and Installation"](#).
3. Remove the cluster lid C lower finisher (1).

- ○: Pawl
- △: Clip



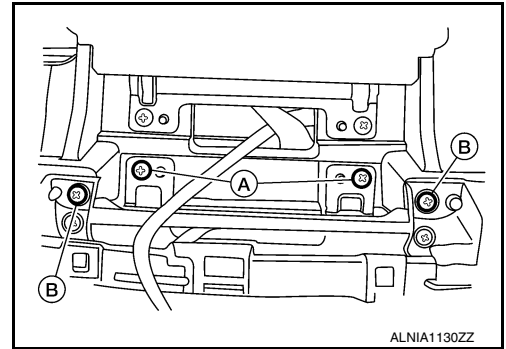
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## AUDIO UNIT

### < REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

4. Remove the audio unit screws (A) and the cluster lid C screws (B).



5. Pull out the audio unit, disconnect the connectors and remove the audio unit.

### INSTALLATION

Installation is in the reverse order of removal.

# AUDIO DISPLAY UNIT

< REMOVAL AND INSTALLATION >

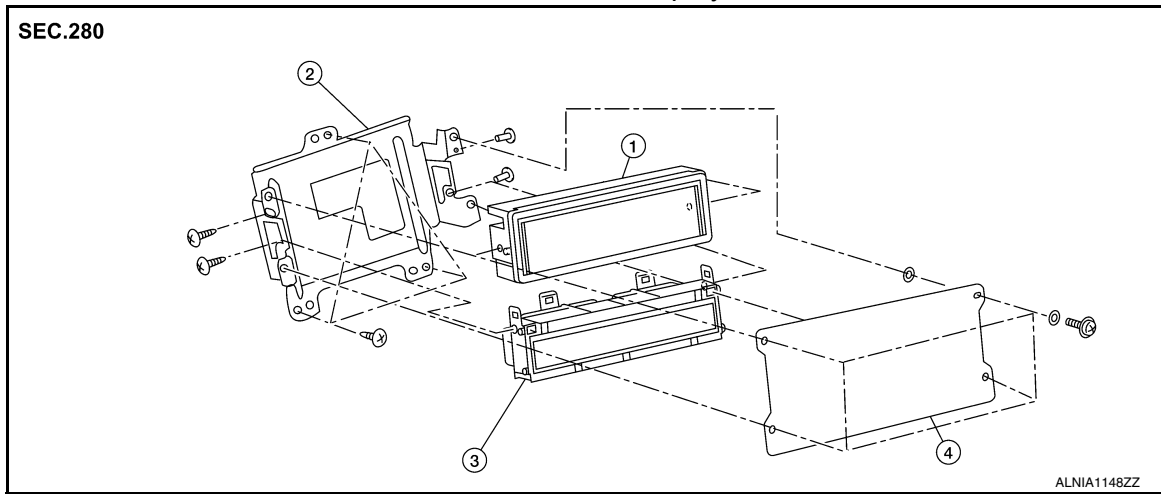
[MONOCHROME DISPLAY - W/ BOSE]

## AUDIO DISPLAY UNIT

### Removal and Installation

INFOID:00000009767262

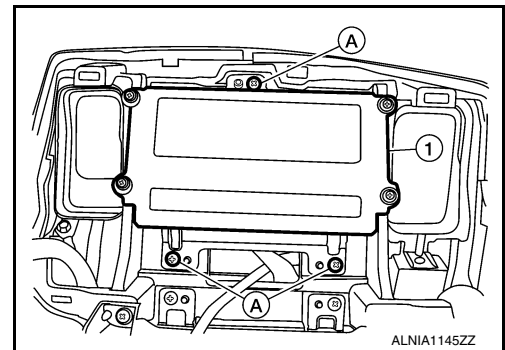
#### Monochrome Display



1. Audio display unit
2. Audio & A/C display unit bracket
3. A/C display unit
4. Front cover

### REMOVAL

1. Disconnect the battery negative terminal. Refer to [PG-68, "Removal and Installation \(Battery Tray\)"](#).
2. Remove the cluster lid D. Refer to [IP-11, "Removal and Installation"](#).
3. Remove the audio & A/C display unit bracket screws (A).
4. Pull out the audio & A/C display unit assembly (1), disconnect the harness connectors from the audio display unit and remove.



5. Remove the front cover, then disconnect the audio display unit connectors and remove the audio display unit from the audio/A/C display unit brackets.

### INSTALLATION

Installation is in the reverse order of removal.

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## FRONT TWEETER

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

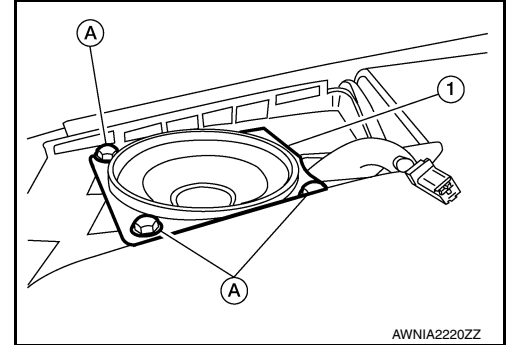
### FRONT TWEETER

#### Removal and Installation

INFOID:000000009471263

#### REMOVAL

1. Remove the front pillar finisher. Refer to [INT-24, "Removal and Installation"](#).
2. Remove the front tweeter speaker grille. Refer to [IP-10, "Exploded View"](#).
3. Remove the front tweeter speaker screws (A).
4. Pull out front tweeter speaker (1), disconnect the harness connector from the front tweeter speaker and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

## CENTER SPEAKER

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

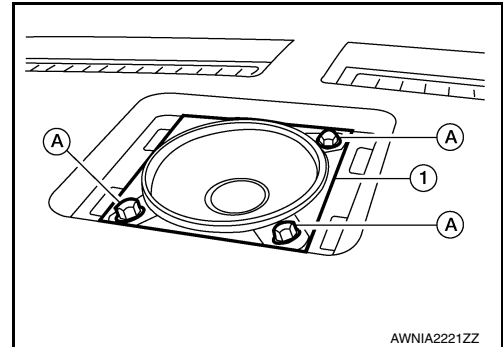
### CENTER SPEAKER

#### Removal and Installation

INFOID:000000009767264

#### REMOVAL

1. Remove the center speaker grille, using a suitable tool.
2. Remove the center speaker screws (A).
3. Pull out the center speaker (1), disconnect the harness connector from the center speaker and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

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# FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

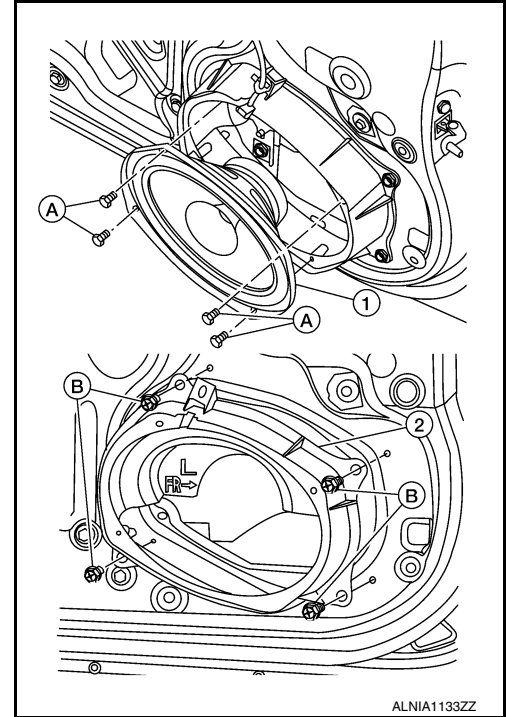
## FRONT DOOR SPEAKER

### Removal and Installation

INFOID:000000009471265

#### REMOVAL

1. Remove the front door finisher. Refer to [INT-18, "Removal and Installation"](#).
2. Remove the front door speaker screws (A).
3. Disconnect the harness connector from the front door speaker (1) and remove.
4. Remove the front door speaker spacer screws (B) and remove the front door speaker spacer (2).



#### INSTALLATION

Installation is in the reverse order of removal.

# REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

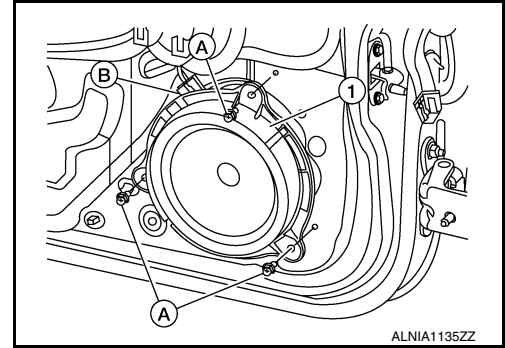
## REAR DOOR SPEAKER

### Removal and Installation

INFOID:000000009471266

#### REMOVAL

1. Remove the rear door finisher. Refer to [INT-21. "Removal and Installation"](#).
2. Remove the rear door speaker screws (A).
3. Disconnect the harness connector (B) from the rear door speaker (1) and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

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# SUBWOOFER

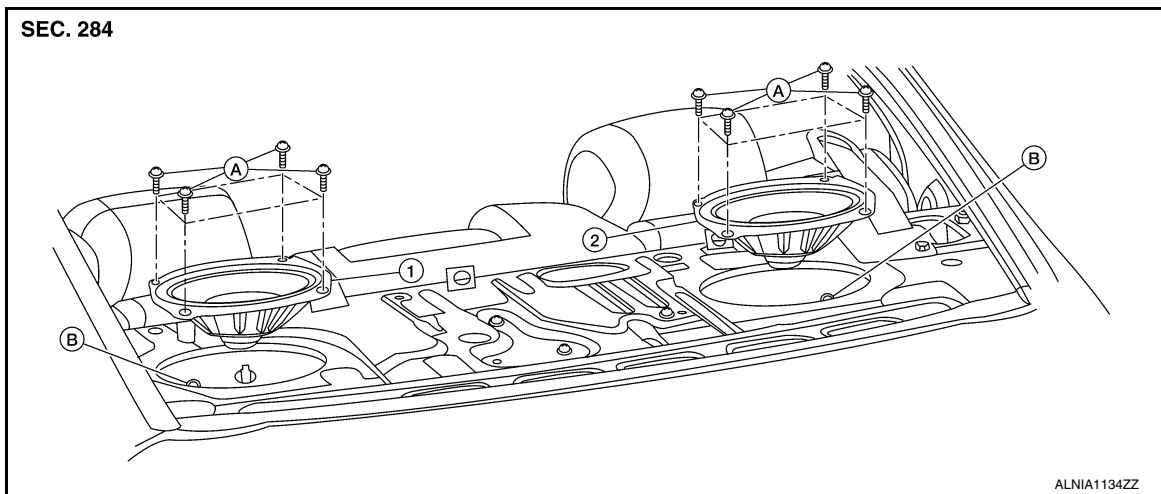
< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

## SUBWOOFER

### Removal and Installation

INFOID:000000009471267



- 1. Subwoofer (LH)
- 2. Subwoofer (RH)
- A. Subwoofer screws
- B. Subwoofer connectors

### REMOVAL

1. Remove the rear parcel shelf finisher. Refer to [INT-28. "Removal and Installation"](#).
2. Remove the subwoofer screws.
3. Pull out the subwoofer, disconnect the harness connector from the subwoofer and remove.

### INSTALLATION

Installation is in the reverse order of removal.



# BOSE SPEAKER AMP

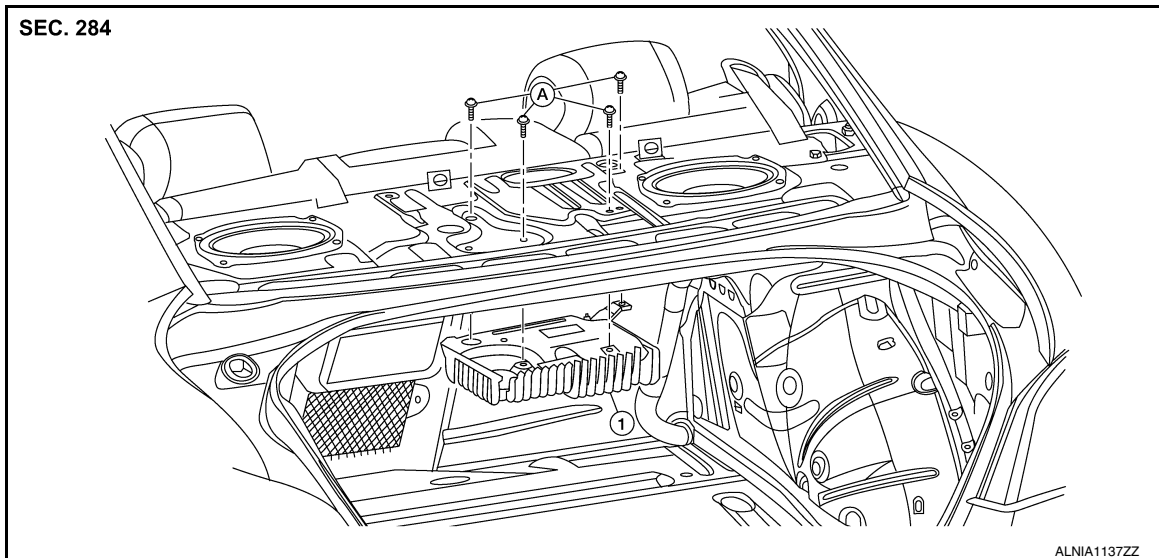
< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

## BOSE SPEAKER AMP

### Removal and Installation

INFOID:00000009767263



1. Bose speaker amp.

A. Bose speaker amp. screws

### REMOVAL

#### NOTE:

If removing the BOSE speaker amp. bracket, it is necessary to remove the parcel shelf finisher. The BOSE speaker amp. can be removed without removing the BOSE speaker amp. bracket.

1. Disconnect the battery negative terminal.
2. Remove the trunk upper finisher. Refer to [INT-36, "Exploded View"](#).
3. Remove the Bose speaker amp. screws.
4. Disconnect the Bose speaker amp. connectors and remove the Bose speaker amp.

### INSTALLATION

Installation is in the reverse order of removal.

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# STEERING SWITCH

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

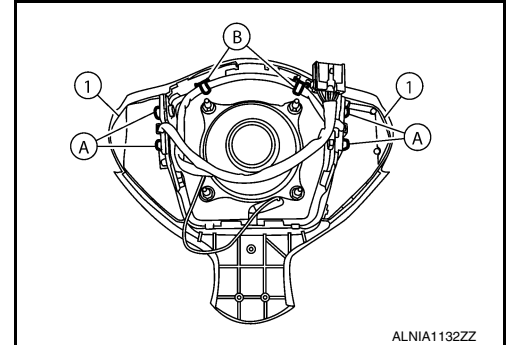
## STEERING SWITCH

### Removal and Installation

INFOID:000000009471271

#### REMOVAL

1. Remove the driver airbag module. Refer to [SR-12. "Removal and Installation"](#).
2. Remove the steering wheel audio control switch screws (A).
3. Release the steering wheel audio control switch harness clips (B).
4. Remove the steering wheel audio control switches (1).



#### INSTALLATION

Installation is in the reverse order of removal.

# AUDIO ANTENNA

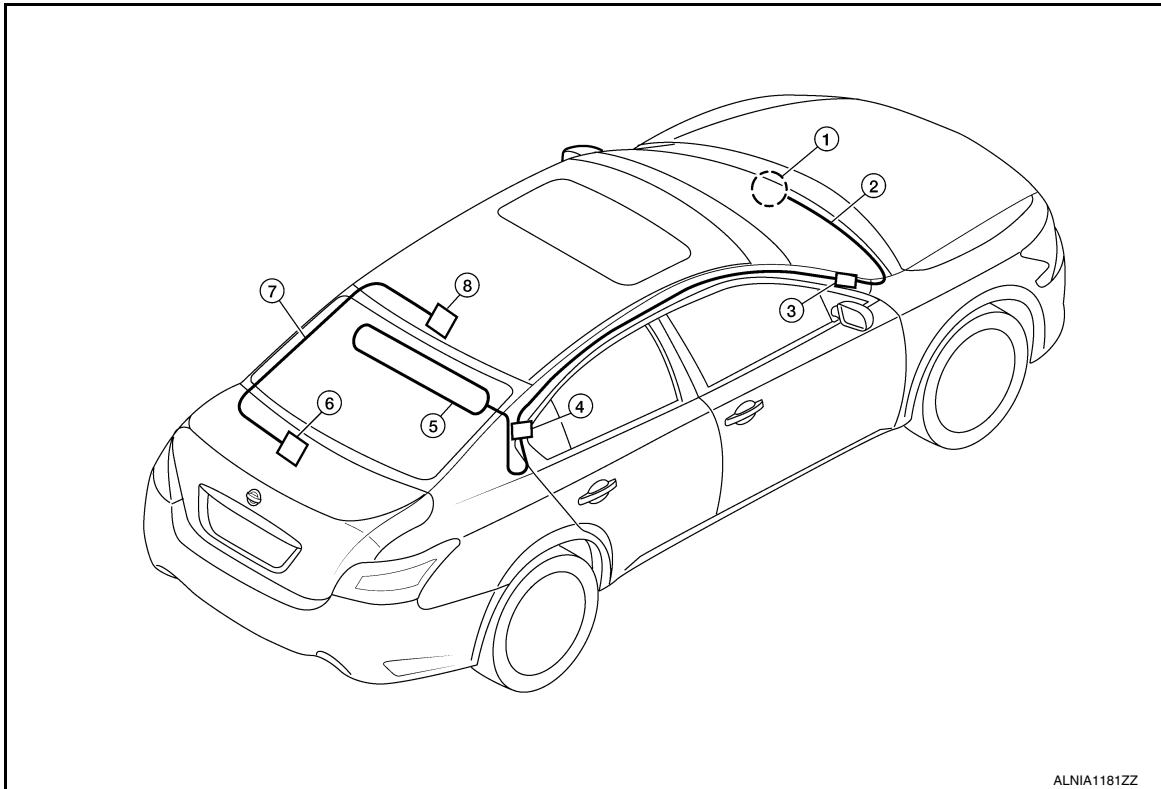
< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

## AUDIO ANTENNA

### Location of Antenna

INFOID:000000009471272



ALNIA1181ZZ

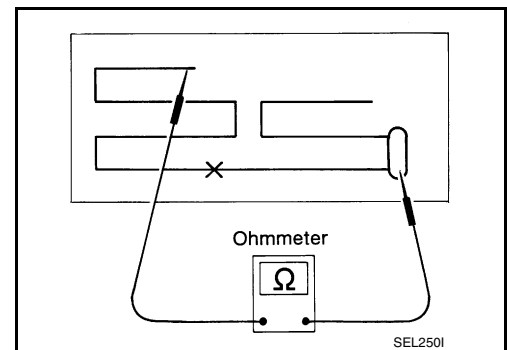
- |                                   |                              |                                  |
|-----------------------------------|------------------------------|----------------------------------|
| 1. Audio unit                     | 2. Audio unit antenna feeder | 3. In-line connectors M103, M501 |
| 4. Antenna amp.                   | 5. Window antenna            | 6. Satellite radio tuner         |
| 7. Satellite radio antenna feeder | 8. Satellite radio antenna   |                                  |

### Window Antenna Repair

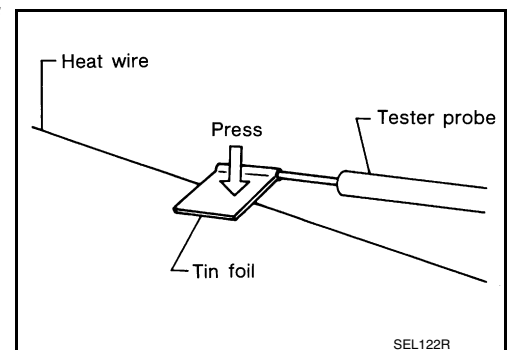
INFOID:000000009471273

#### ELEMENT CHECK

1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



- When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



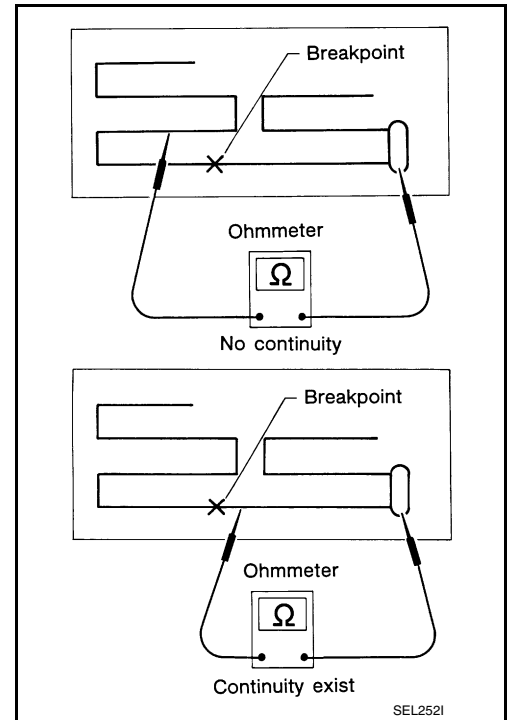
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# AUDIO ANTENNA

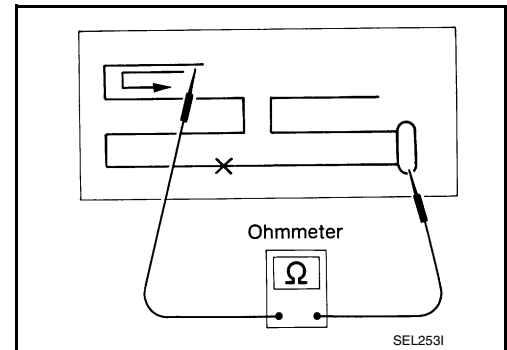
< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

- If an element is broken, no continuity will exist.



- To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.



## REPAIR EQUIPMENT

- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

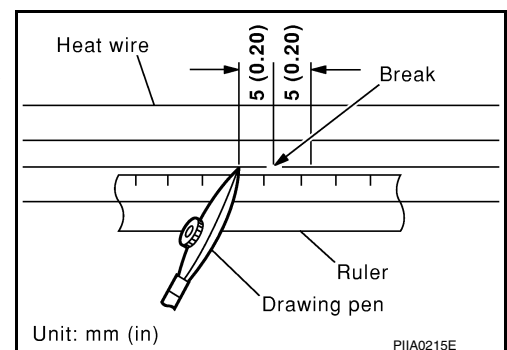
## REPAIRING PROCEDURE

- Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
- Apply a small amount of conductive silver composition to tip of drawing pen.

### NOTE:

Shake silver composition container before use.

- Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.

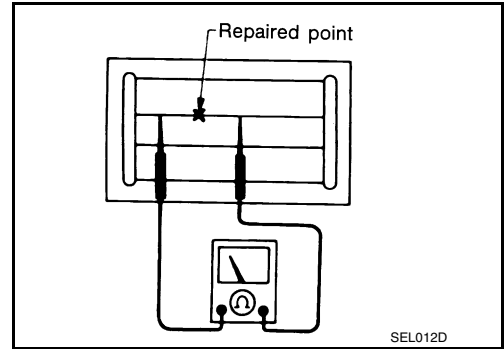


# AUDIO ANTENNA

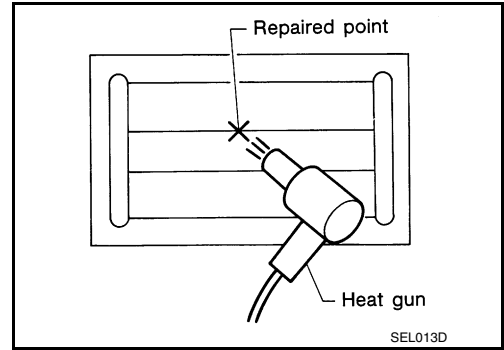
## < REMOVAL AND INSTALLATION >

## [MONOCHROME DISPLAY - W/ BOSE]

4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited. Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.



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AV

## ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

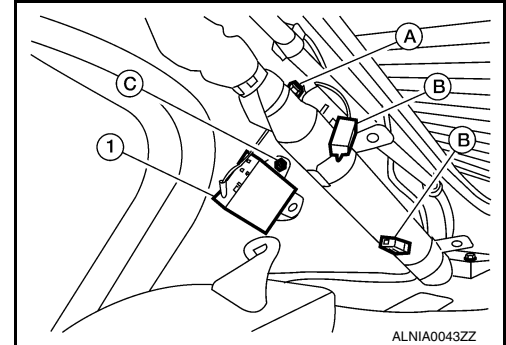
### ANTENNA AMP.

#### Removal and Installation

INFOID:000000009471274

#### REMOVAL

1. Remove the rear pillar finisher RH. Refer to [INT-27. "Exploded View"](#).
2. Detach the antenna amp. harness clip (A).
3. Disconnect the harness connectors (B) from the antenna amp. (1).
4. Remove the antenna amp. screw (C) and the antenna amp. (1).



#### INSTALLATION

Installation is in the reverse order of removal.

# MICROPHONE

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

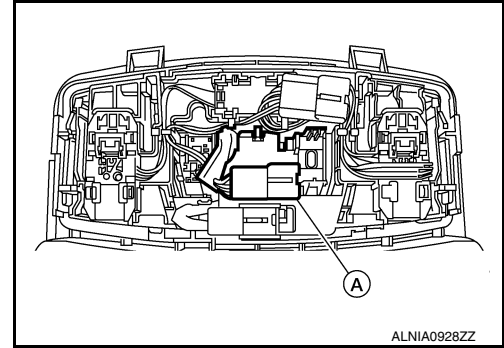
## MICROPHONE

### Removal and Installation

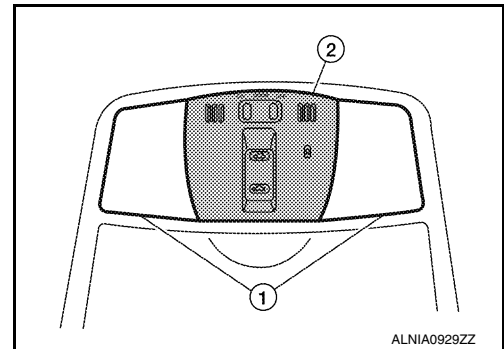
INFOID:000000009471275

#### REMOVAL

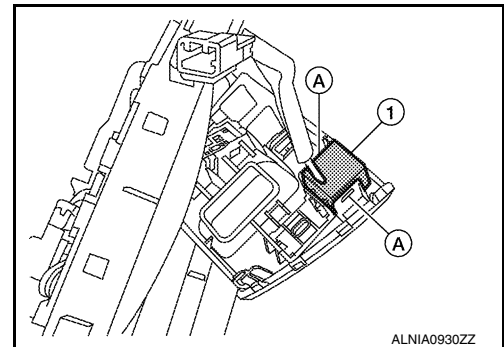
1. Remove the front room/map lamp assembly. Refer to [INL-84, "Removal and Installation"](#).
2. Detach the microphone connector (A).



3. Remove the front room/map lamp covers (1), then remove the map lamp assembly cover (2).



4. Release the microphone tabs (A), then remove the microphone (1).



#### INSTALLATION

Installation is in the reverse order of removal.

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# TEL ANTENNA

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

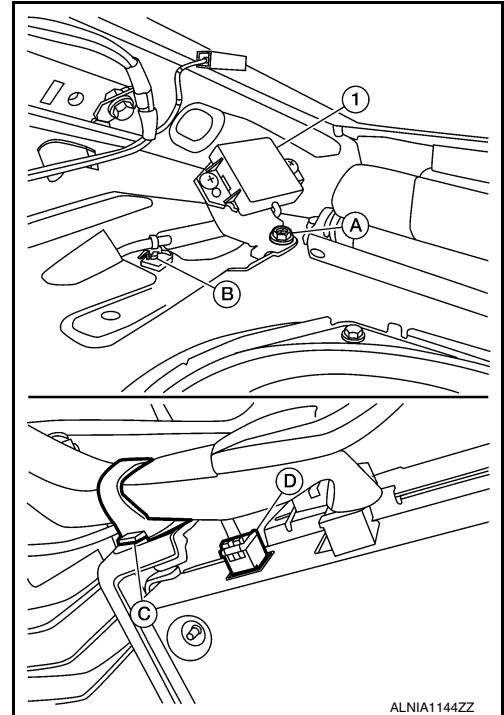
## TEL ANTENNA

### Removal and Installation

INFOID:000000009471276

#### REMOVAL

1. Disconnect the battery negative terminal. Refer to [PG-67, "Removal and Installation \(Battery\)"](#).
2. Remove the rear parcel shelf finisher. Refer to [INT-28, "Removal and Installation"](#).
3. Remove the Bluetooth antenna screw (A).
4. Detach the Bluetooth antenna harness clip (B).
5. Fold down the rear seat (if equipped) or open the trunk lid, then detach the Bluetooth antenna harness clip (C).
6. Disconnect the harness connector (D) from the Bluetooth antenna (1) and remove.



#### INSTALLATION

Installation is in the reverse order of removal.



# BLUETOOTH CONTROL UNIT

< REMOVAL AND INSTALLATION >

[MONOCHROME DISPLAY - W/ BOSE]

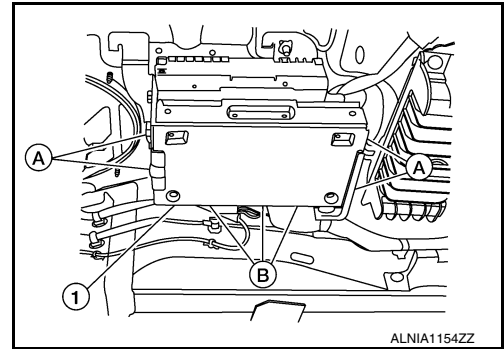
## BLUETOOTH CONTROL UNIT

### Removal and Installation

INFOID:000000009471277

#### REMOVAL

1. Disconnect the battery negative terminal. Refer to [PG-67. "Removal and Installation \(Battery\)"](#).
2. Remove the trunk upper finisher. Refer to [INT-23. "Exploded View"](#).
3. Remove the parcel shelf finisher. Refer to [INT-28. "Removal and Installation"](#).
4. From inside the passenger compartment, remove the bracket screws and lower the assembly for access.
5. Remove the Bluetooth control unit screws (A).
6. Disconnect the harness connector (B) from the Bluetooth control unit and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

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AV

# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[COLOR DISPLAY - W/O BOSE]

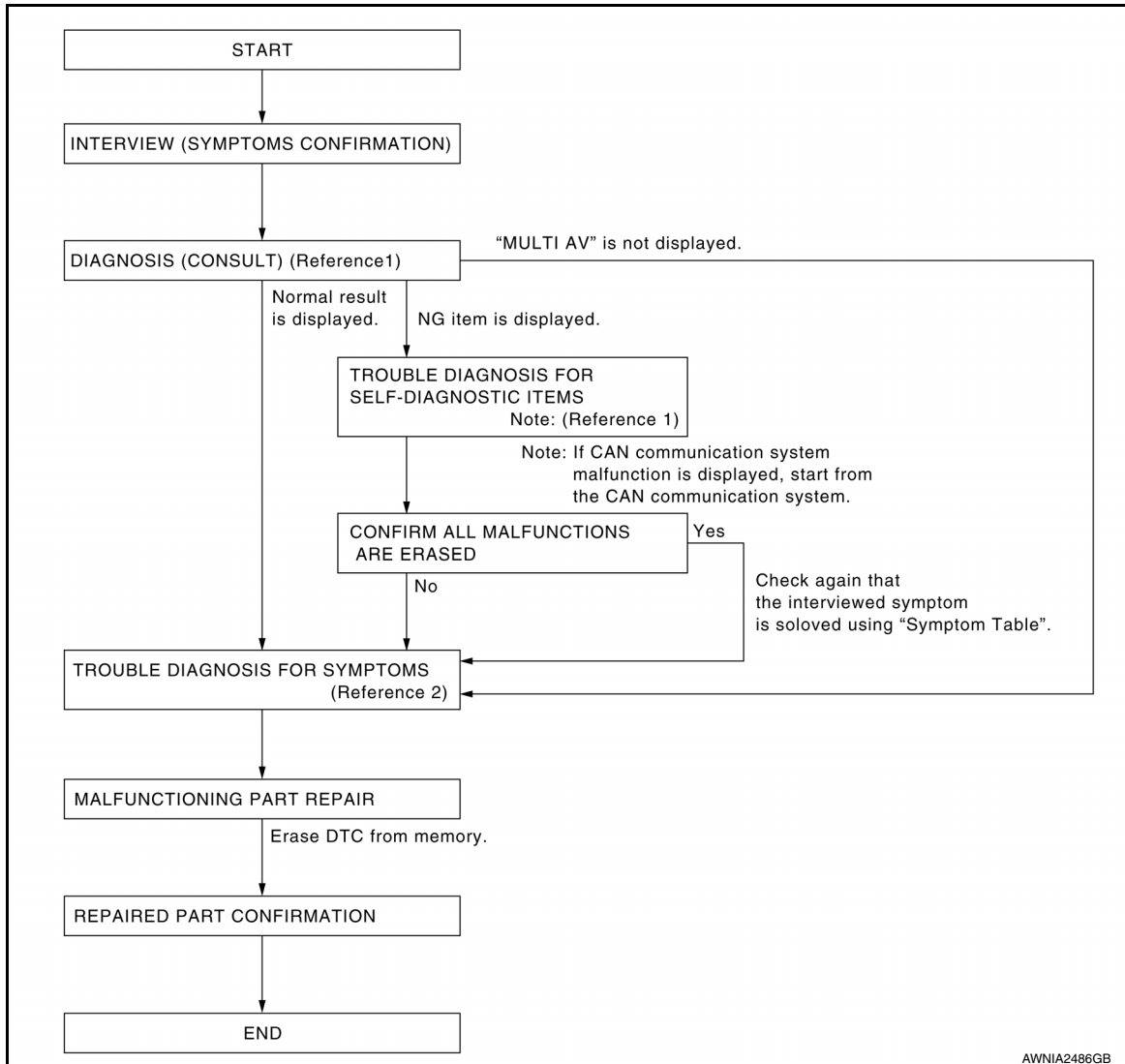
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000010064809

#### OVERALL SEQUENCE



- Reference 1... Refer to [AV-202, "CONSULT Function \(MULTI AV\)"](#).
- Reference 2... Refer to [AV-304, "Symptom Table"](#).

#### DETAILED FLOW

##### 1. CHECK SYMPTOM

Check the malfunction symptoms by performing the following items.

- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

>> GO TO 2

##### 2. SELF-DIAGNOSIS (CONSULT)

1. Connect CONSULT and perform "SELF-DIAGNOSIS" for "MULTI AV".

**NOTE:**

Skip to step 4 of the diagnosis procedure if "MULTI AV" is not displayed.

2. Check if any DTC No. is displayed in the self-diagnosis results.

# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[COLOR DISPLAY - W/O BOSE]

Is any DTC No. displayed?

- YES >> GO TO 3
- NO >> GO TO 4

## 3. CHECK SELF-DIAGNOSIS RESULTS (CONSULT)

1. Check the DTC No. indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC No. list. Refer to [AV-272, "DTC Index"](#).

### NOTE:

Start with the diagnosis for the CAN communication system if "CAN COMM CIRCUIT [U1000] or CONTROL UNIT (CAN) [U1010]" is displayed.

>> GO TO 5

## 4. PERFORM DIAGNOSIS BY SYMPTOM

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-304, "Symptom Table"](#).

>> GO TO 5

## 5. REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace the identified malfunctioning parts.

### NOTE:

Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC No. has been indicated in the self-diagnosis results.

>> GO TO 6

## 6. CHECK AFTER REPAIR

1. Perform self-diagnosis for "MULTI AV" with CONSULT after repairing or replacing the malfunctioning parts.
2. Check if any DTC No. is displayed in the self-diagnosis results.

Is any DTC No. displayed?

- YES >> GO TO 3
- NO >> GO TO 7

## 7. FINAL CHECK

Perform the operation check to confirm that the malfunction symptom is solved or that any other symptoms are present.

Are any symptoms present?

- YES >> GO TO 4
- NO >> Inspection End.

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AV

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[COLOR DISPLAY - W/O BOSE]

## INSPECTION AND ADJUSTMENT

### REAR VIEW MONITOR POSSIBLE ROUTE LINE CENTER POSITION ADJUSTMENT

#### REAR VIEW MONITOR POSSIBLE ROUTE LINE CENTER POSITION ADJUSTMENT : Description

INFOID:000000010064810

Adjust the center position of the possible route line of the rear view monitor if it is shifted.

#### REAR VIEW MONITOR POSSIBLE ROUTE LINE CENTER POSITION ADJUSTMENT : Special Repair Requirement

INFOID:000000010064811

### 1. STEERING OPERATION

Steer the steering wheel to the leftmost and rightmost positions.

>> GO TO 2

### 2. DRIVING

Drive the vehicle straight ahead 100 m (328.1 ft) or more at a speed of 30 km/h (18.6 MPH) or more.

>> END

## ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:000000010064812

#### BEFORE REPLACEMENT

When replacing AV control unit, save current vehicle specification with CONSULT configuration before replacement.

#### AFTER REPLACEMENT

##### **CAUTION:**

**When replacing AV control unit, you must perform "WRITE CONFIGURATION" with CONSULT.**

- Complete the procedure of "WRITE CONFIGURATION" in order.
- If you set incorrect "WRITE CONFIGURATION", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:000000010064813

### 1. SAVING VEHICLE SPECIFICATION

#### Ⓟ-CONSULT Configuration

Perform "READ CONFIGURATION" to save current vehicle specification. Refer to [AV-181. "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

##### **NOTE:**

If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection".

>> GO TO 2.

### 2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to [AV-311. "Removal and Installation"](#).

>> GO TO 3.

### 3. WRITING VEHICLE SPECIFICATION

#### Ⓟ-CONSULT Configuration

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[COLOR DISPLAY - W/O BOSE]

Perform "WRITE CONFIGURATION - Config file" or "WRITE CONFIGURATION - Manual selection" to write vehicle specification. Refer to [AV-181, "CONFIGURATION \(AV CONTROL UNIT\) : Special Repair Requirement"](#).

>> GO TO 4.

## 4. OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

## CONFIGURATION (AV CONTROL UNIT)

### CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:0000000010064814

- Since vehicle specifications are not included in the AV control unit after replacement, it is required to write vehicle specifications with CONSULT.
- Configuration has three functions as follows.

| Function                             | Description   |
|--------------------------------------|---|
| READ CONFIGURATION                   | <ul style="list-style-type: none"><li>• Reads the vehicle configuration of current AV control unit.</li><li>• Saves the read vehicle configuration.</li></ul> |
| WRITE CONFIGURATION-Manual selection | Writes the vehicle configuration with manual selection.   |
| WRITE CONFIGURATION-Config file      | Writes the vehicle configuration with saved data.   |

### CONFIGURATION (AV CONTROL UNIT) : Special Repair Requirement

INFOID:0000000010064815

#### 1. WRITING MODE SELECTION

 CONSULT Configuration  
Select "CONFIGURATION" of AV control unit.


When writing saved data>>GO TO 2.  
When writing manually>>GO TO 3.

#### 2. PERFORM "WRITE CONFIGURATION-CONFIG FILE"

 CONSULT Configuration  
Perform "WRITE CONFIGURATION-Config file".

>> WORK END

#### 3. PERFORM "WRITE CONFIGURATION-MANUAL SELECTION"

 CONSULT Configuration  
Select "WRITE CONFIGURATION-Manual selection" to write vehicle specifications into the AV control unit. For data to write, refer to [AV-181, "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

>> GO TO 4.

#### 4. OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

## CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:0000000010064816

**CAUTION:**

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[COLOR DISPLAY - W/O BOSE]

**Check vehicle specifications before servicing.**

| MANUAL SETTING ITEM |               | Note                    |
|---------------------|---------------|-------------------------|
| Items               | Setting value |                         |
| STEERING            | LHD           | —                       |
|                     | RHD           | —                       |
| GRADE               | MODE 1        | BASE                    |
|                     | MODE 2        | OTHER                   |
| ENGINE TYPE         | NORMAL        | —                       |
|                     | HYBRID        | —                       |
| BODY TYPE           | NORMAL        | NORMAL                  |
|                     | CONV          | CONVERTIBLE             |
| CAMERA SYSTEM       | NONE/AVM      | NONE or AVM             |
|                     | REAR          | REAR CAMERA             |
|                     | REAR + SIDE   | REAR + SIDE CAMERA      |
| 4WAS                | WITHOUT       | —                       |
|                     | WITH          | —                       |
| SOUND SYSTEM        | BASE          | —                       |
|                     | BOSE          | —                       |
| ANTENNA TYPE        | ROD TYPE      | —                       |
|                     | LONG TYPE     | —                       |
| DUAL-ZONE AUTO TEMP | WITHOUT       | —                       |
|                     | WITH          | —                       |
| DVD PLAY FUNCTION   | WITHOUT       | —                       |
|                     | WITH          | —                       |
| BODY TYPE           | SED 2DR       | SEDAN 2 DOOR            |
|                     | SED 4DR 1     | SEDAN 4 DOOR            |
|                     | SED 4DR 2     | SEDAN 4 DOOR (WIDE)     |
|                     | H/B 2DR       | H/B 2 DOOR              |
|                     | H/B 4DR       | H/B 4 DOOR              |
|                     | COUPE 2DR     | COUPE 2 DOOR            |
|                     | COUPE T       | COUPE T BAR             |
|                     | WGN 4DR 2     | 49H WAGON 4 DOOR (WIDE) |
|                     | H/T 2DR 1     | H/T 2 DOOR              |
|                     | H/T 2DR 2     | H/T 2 DOOR (HIGHROOF)   |
|                     | H/T 4DR 1     | H/T 4 DOOR              |
|                     | H/T 4DR 2     | H/T 4 DOOR (WIDE)       |
|                     | WGN 2DR       | WAGON 2 DOOR            |
|                     | WGN 4DR 1     | WAGON 4 DOOR            |
|                     | WGN 4DR 3     | WAGON 4 DOOR (HIGHROOF) |
|                     | WGN 4DR 4     | 56H WAGON 4 DOOR (WIDE) |
|                     | VAN 2DR       | VAN 2 DOOR              |
|                     | VAN 4DR 1     | VAN 4 DOOR              |
|                     | VAN 4DR 2     | VAN 4 DOOR (HIGHROOF)   |
|                     | CONV          | CONVERTIBLE             |

# AUDIO SYSTEM

< SYSTEM DESCRIPTION >

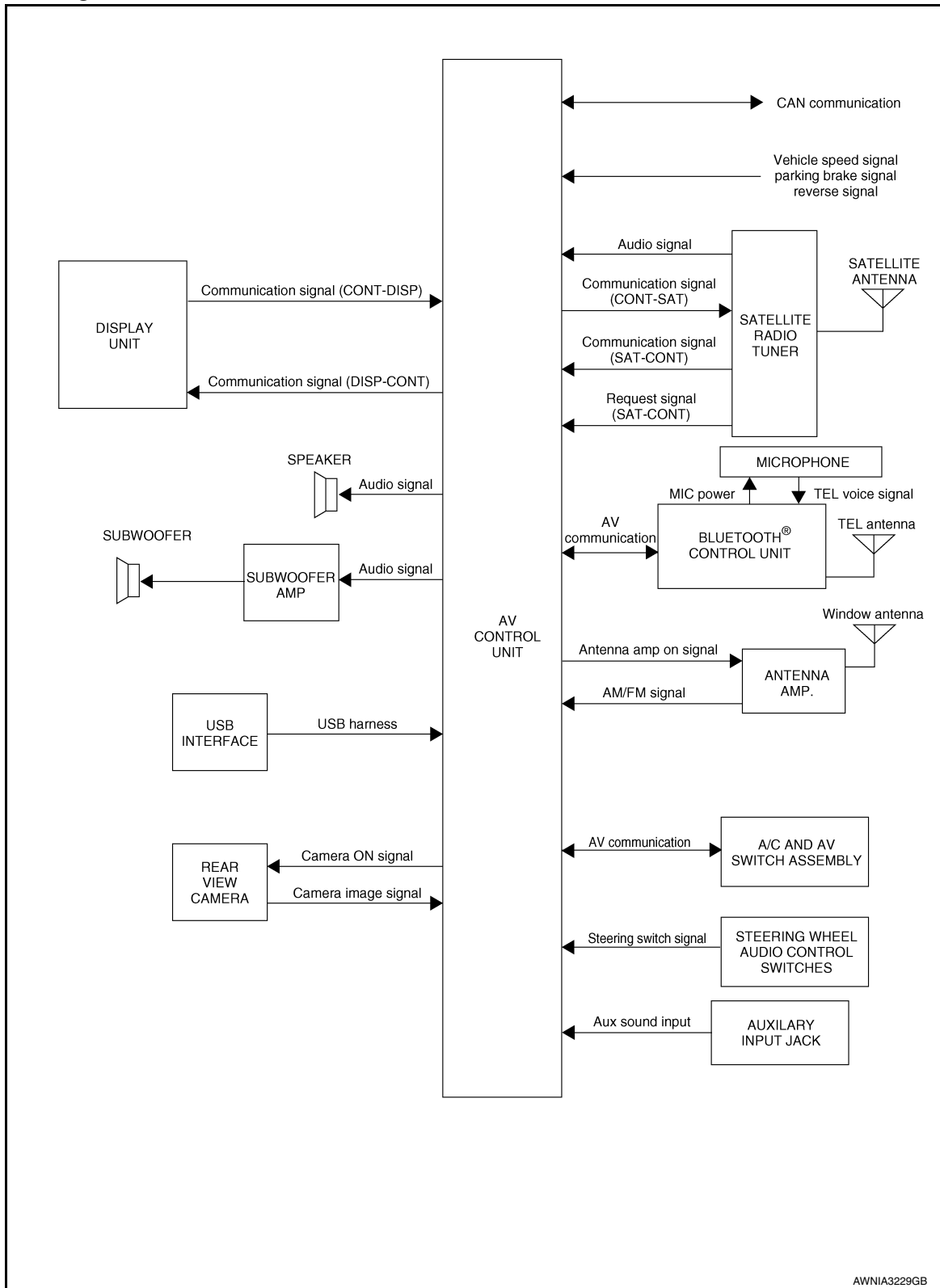
[COLOR DISPLAY - W/O BOSE]

## SYSTEM DESCRIPTION

### AUDIO SYSTEM

#### System Diagram

INFOID:0000000010064817



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AV

## System Description

INFOID:000000010064818

### AUDIO SYSTEM

The audio system consists of the following components

- AV control unit
- Display unit
- Window antenna
- Steering wheel audio control switches
- A/C and AV switch assembly
- Front door speakers
- Tweeters
- Rear door speakers
- Subwoofers

When the audio system is on, radio signals are received by the window antenna. The AV control unit then sends audio signals to the front door speakers, tweeters, rear door speakers, subwoofer amp. and subwoofers.

Refer to Owner's Manual for audio system operating instructions.

### SATELLITE RADIO SYSTEM

The satellite radio system consists of the following components

- Satellite antenna
- Satellite radio tuner

When the satellite radio system is on, radio signals are supplied to the satellite radio tuner from the satellite antenna. The satellite radio tuner then sends audio signals to the AV control unit.

Refer to Owner's Manual for satellite radio system operating instructions.

### SPEED SENSITIVE VOLUME SYSTEM

Volume level of this system goes up and down automatically in proportion to the vehicle speed. The control level can be selected by the customer. Refer to Owner's Manual for operating instructions.



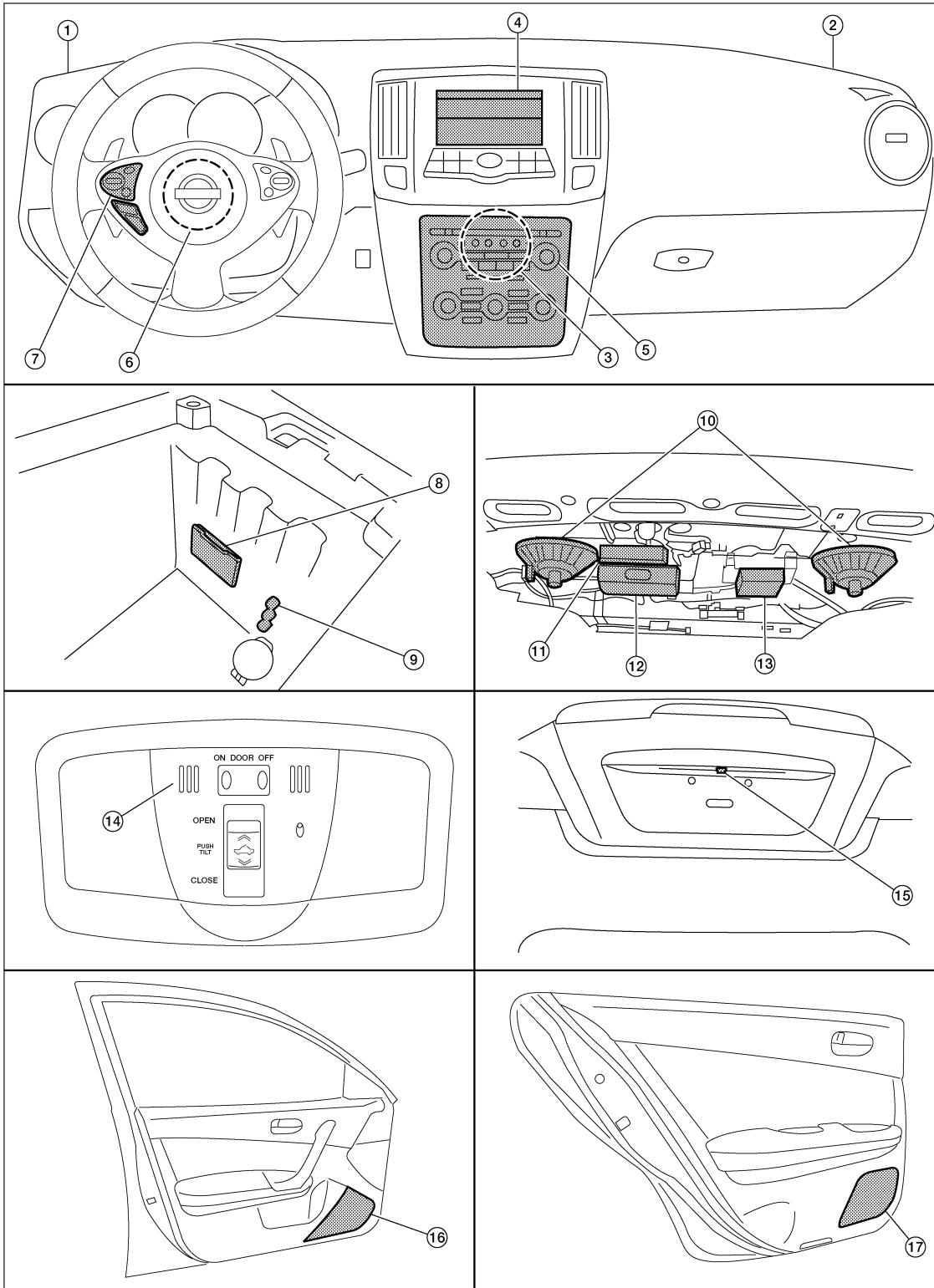
# AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

## Component Parts Location

INFOID:000000010064819



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AWNIA3227ZZ

# AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

- |  |  |   |
|--|--|---|
| 1. Tweeter LH M143   | 2. Tweeter RH M144                             | 3. AV control unit M115, M116, M117, M118, M119, M120, M121 (located behind A/C and AV switch assembly) |
| 4. Display unit M141   | 5. A/C and AV switch assembly M98              | 6. Steering angle sensor M53 [located in steering column behind combination switch (spiral cable)]      |
| 7. Steering wheel audio control switches                         | 8. USB interface M211 (view in center console) | 9. Aux jack M209  |
| 10. Subwoofer (view under rear parcel shelf)<br>LH B16<br>RH B17 | 11. Satellite radio tuner B111                 | 12. Bluetooth® control unit B125, B130, B131  |
| 13. Subwoofer amp. B21   | 14. Microphone R7                              | 15. Rear view camera T101   |
| 16. Front door speaker<br>LH D3<br>RH D103                       | 17. Rear door speaker<br>LH D202<br>RH D302    |   |

## Component Description

INFOID:000000010064820

| Part name                             | Description   |
|---------------------------------------|---|
| AV control unit                       | Controls audio system, USB connection, AUX IN connection and satellite radio system functions   |
| Display unit                          | Displays all audio and climate control related information  |
| Steering wheel audio control switches | <ul style="list-style-type: none"> <li>• Audio operation can be operated</li> <li>• Steering switch signal is output to AV control unit</li> </ul>                        |
| Front door speakers                   | <ul style="list-style-type: none"> <li>• Outputs audio signal from AV control unit</li> <li>• Outputs high, mid and low range sounds</li> </ul>                           |
| Tweeters                              | <ul style="list-style-type: none"> <li>• Outputs audio signal from AV control unit</li> <li>• Outputs high range sounds</li> </ul>  |
| Rear door speakers                    | <ul style="list-style-type: none"> <li>• Outputs audio signal from AV control unit</li> <li>• Outputs high, mid and low range sounds</li> </ul>                           |
| Subwoofer amp.                        | <ul style="list-style-type: none"> <li>• Receives and amplifies sound signal from AV control unit</li> <li>• Outputs amplified sound signal to the subwoofers.</li> </ul> |
| Subwoofers                            | <ul style="list-style-type: none"> <li>• Outputs audio signal from subwoofer amp.</li> <li>• Outputs low range sounds.</li> </ul>   |
| Satellite radio tuner                 | <ul style="list-style-type: none"> <li>• Receives radio signals from satellite antenna</li> <li>• Sends audio signals to AV control unit</li> </ul>                       |
| Satellite antenna                     | Audio signal (satellite radio) is received and output to AV control unit.   |

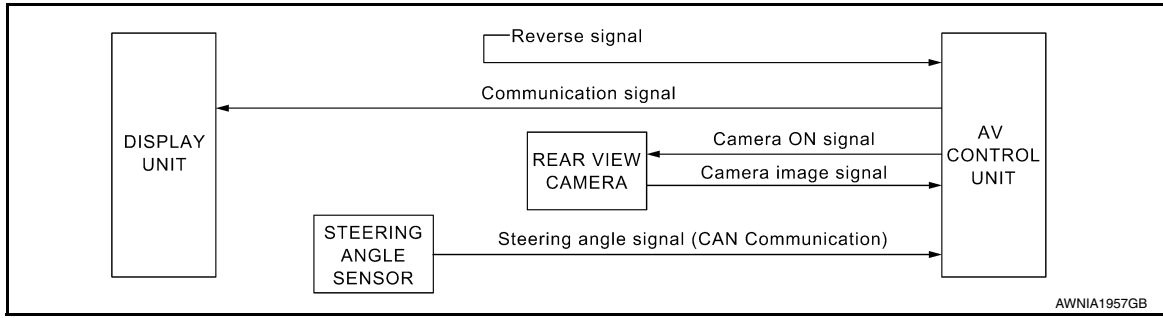
# REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

## REAR VIEW MONITOR SYSTEM

### System Diagram



INFOID:000000010064821

### System Description

INFOID:000000010064822

When the shift selector is in the R position, the display shows a view to the rear of the vehicle. Lines which indicate the vehicle clearance and distances are also displayed.

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AV

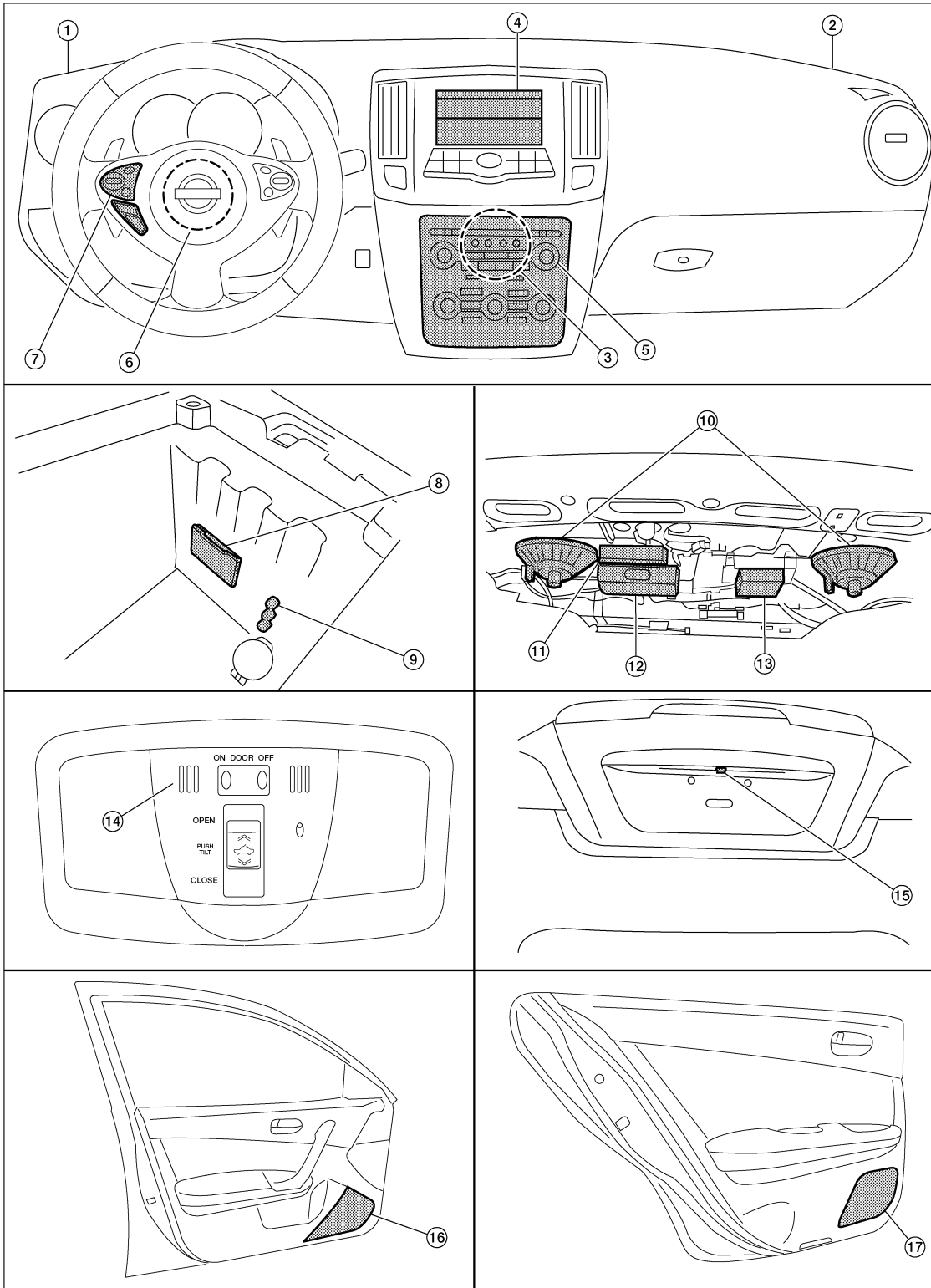
# REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

## Component Parts Location

INFOID:000000010064823



AWNIA3227ZZ

# REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

- |  |  |   |   |
|--|--|---|---|
| 1. Tweeter LH M143   | 2. Tweeter RH M144                             | 3. AV control unit M115, M116, M117, M118, M119, M120, M121 (located behind A/C and AV switch assembly) | A |
| 4. Display unit M141   | 5. A/C and AV switch assembly M98              | 6. Steering angle sensor M53 [located in steering column behind combination switch (spiral cable)]      | B |
| 7. Steering wheel audio control switches                         | 8. USB interface M211 (view in center console) | 9. Aux jack M209  | C |
| 10. Subwoofer (view under rear parcel shelf)<br>LH B16<br>RH B17 | 11. Satellite radio tuner B111                 | 12. Bluetooth® control unit B125, B130, B131  | D |
| 13. Subwoofer amp. B21   | 14. Microphone R7                              | 15. Rear view camera T101   |   |
| 16. Front door speaker<br>LH D3<br>RH D103                       | 17. Rear door speaker<br>LH D202<br>RH D302    |   | E |

## Component Description

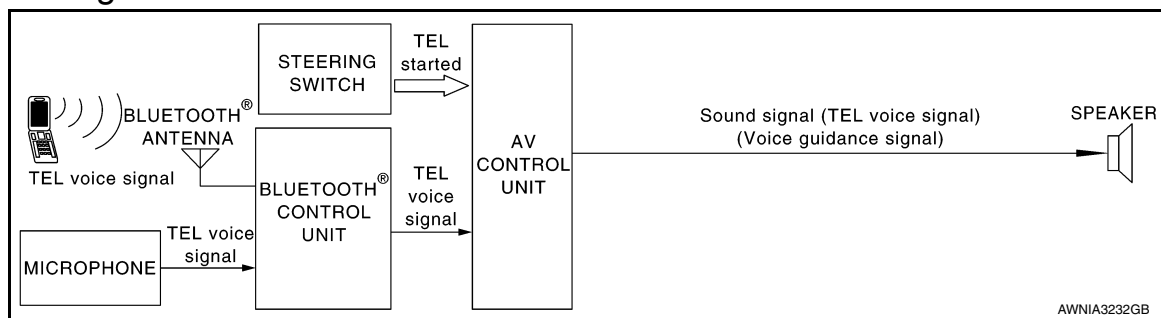
INFOID:0000000010064824

| Part name             | Description  |
|-----------------------|--|
| AV control unit       | <ul style="list-style-type: none"> <li>Sends camera ON signal to the rear view camera</li> <li>Receives camera image signal from the rear view camera</li> <li>Sends image signal to the display unit</li> </ul> |
| Rear view camera      | <ul style="list-style-type: none"> <li>Receives camera ON signal from the AV control unit</li> <li>Sends image signal to the AV control unit</li> </ul>  |
| Steering angle sensor | Sends steering angle information to the AV control unit via CAN communication  |

AV

## HANDS-FREE PHONE SYSTEM

## System Diagram



## System Description

INFOID:000000010064826

Refer to the Owner's Manual for Bluetooth<sup>®</sup> telephone system operating instructions.

**NOTE:**

Cellular telephones must have their wireless connection set up (paired) before using the Bluetooth<sup>®</sup> telephone system.

Bluetooth<sup>®</sup> telephone system allows users who have a Bluetooth<sup>®</sup> cellular telephone to make a wireless connection between their cellular telephone and the Bluetooth<sup>®</sup> control unit. Hands-free cellular telephone calls can be sent and received. Some Bluetooth<sup>®</sup> cellular telephones may not be recognized by the Bluetooth<sup>®</sup> control unit. When a cellular telephone or the Bluetooth<sup>®</sup> control unit is replaced, the telephone must be paired with the Bluetooth<sup>®</sup> control unit. Different cellular telephones may have different pairing procedures. Refer to the cellular telephone operating manual.

**BLUETOOTH<sup>®</sup> CONTROL UNIT**

When the ignition switch is turned to ACC or ON, the Bluetooth<sup>®</sup> control unit will power up. During power up, the Bluetooth<sup>®</sup> control unit is initialized and performs various self-checks. Initialization may take up to 20 seconds. If a phone is present in the vehicle and paired with the Bluetooth<sup>®</sup> control unit, Nissan Voice Recognition will then become active. Bluetooth<sup>®</sup> telephone functions can be turned off using the Nissan Voice Recognition system.

**STEERING WHEEL AUDIO CONTROL SWITCHES**

When buttons on the steering wheel audio control switch are pushed, the resistance in steering wheel audio control switch circuit changes, depending on which button is pushed. The Bluetooth<sup>®</sup> control unit uses this signal to perform various functions while navigating through the voice recognition system.

The following functions can be performed using the steering wheel audio control switch:

- Initiate self-diagnosis of the Bluetooth<sup>®</sup> telephone system
- Start a voice recognition session
- Answer and end telephone calls
- Adjust the volume of calls

**MICROPHONE**

The microphone is located in the roof console assembly. The microphone sends a signal to the Bluetooth<sup>®</sup> control unit. The microphone can be actively tested during self-diagnosis.

**AV CONTROL UNIT**

The AV control unit receives signals from the Bluetooth<sup>®</sup> control unit and sends audio signals to the speakers.

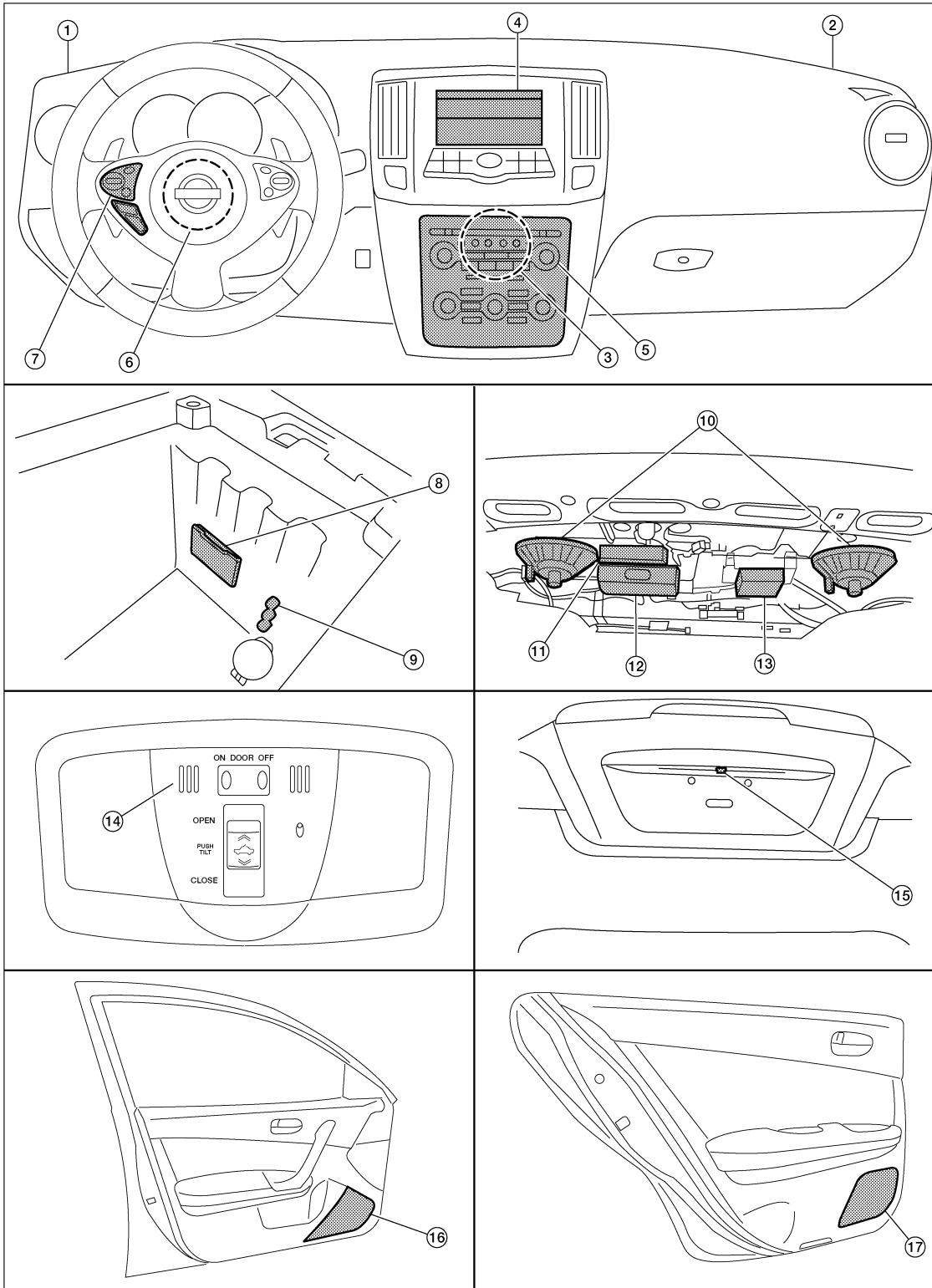
# HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

## Component Parts Location

INFOID:0000000110064827



AWNIA3227ZZ

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# HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

- |  |  |   |
|--|--|---|
| 1. Tweeter LH M143   | 2. Tweeter RH M144                             | 3. AV control unit M115, M116, M117, M118, M119, M120, M121 (located behind A/C and AV switch assembly) |
| 4. Display unit M141   | 5. A/C and AV switch assembly M98              | 6. Steering angle sensor M53 [located in steering column behind combination switch (spiral cable)]      |
| 7. Steering wheel audio control switches                         | 8. USB interface M211 (view in center console) | 9. Aux jack M209  |
| 10. Subwoofer (view under rear parcel shelf)<br>LH B16<br>RH B17 | 11. Satellite radio tuner B111                 | 12. Bluetooth® control unit B125, B130, B131  |
| 13. Subwoofer amp. B21   | 14. Microphone R7                              | 15. Rear view camera T101   |
| 16. Front door speaker<br>LH D3<br>RH D103                       | 17. Rear door speaker<br>LH D202<br>RH D302    |   |

## Component Description

INFOID:000000010064828

| Part name                             | Description  |
|---------------------------------------|--|
| AV control unit                       | <ul style="list-style-type: none"> <li>Receives telephone voice signal from Bluetooth® control unit</li> <li>Sends telephone voice and voice guidance signals to the speakers</li> </ul> |
| Front door speaker<br>Front tweeter   | Receives telephone voice and voice guidance signals from the AV control unit   |
| Steering wheel audio control switches | <ul style="list-style-type: none"> <li>Start a voice recognition session</li> <li>Answer and end telephone calls</li> <li>Adjust the volume level</li> </ul>                             |
| Microphone                            | Sends voice signals to Bluetooth® control unit   |
| Bluetooth® control unit               | Controls hands-free phone functions  |
| Bluetooth® antenna                    | Sends telephone voice signal to Bluetooth® control unit  |



# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)


### Diagnosis Description

INFOID:000000010064829

#### MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

The ON/OFF operation (continuity) of each switch in the multifunction switch and preset switch can be checked.

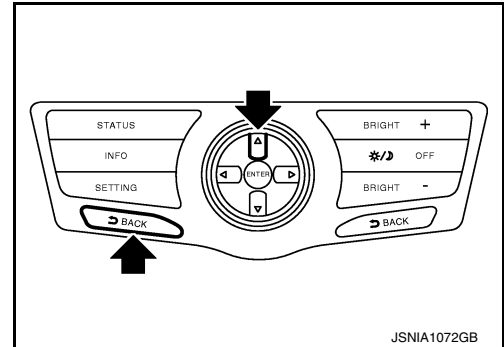
##### Self-Diagnosis Mode

- Press the BACK switch and the  switch of the 8-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. Then the buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.

- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.

**NOTE:**

The disk eject switch cannot be checked.



##### Finishing Self-diagnosis Mode

Self-diagnosis mode is canceled when the ignition switch is turned OFF.

#### MULTI AV SYSTEM ON BOARD DIAGNOSIS FUNCTION

- The AV control unit diagnosis function starts up with multifunction switch operation and the AV control unit performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT diagnosis if the on board diagnosis does not start, e.g., if the screen does not display anything, the multifunction switch does not function, etc.

#### ON BOARD DIAGNOSIS

##### Description

- The trouble diagnosis function has a self-diagnosis mode for conducting trouble diagnosis automatically and a confirmation/adjustment mode for operating manually.
- Self-diagnosis mode performs the AV control unit diagnosis and the connection diagnosis between each of the units that make up the system, and it indicates the results to the display.
- The confirmation/adjustment mode allows the technician to check, modify or adjust the vehicle signals and set values, as well as to monitor the system error records and system communication status. The checking, modifying or adjusting generally requires human intervention and judgment (the system cannot make judgment automatically).

##### On Board Diagnosis Item

| Mode           | Description  |
|----------------|--|
| Self-Diagnosis | <ul style="list-style-type: none"> <li>• AV control unit diagnosis</li> <li>• Perform the connection diagnosis between each of the units.</li> </ul> |

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AV

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

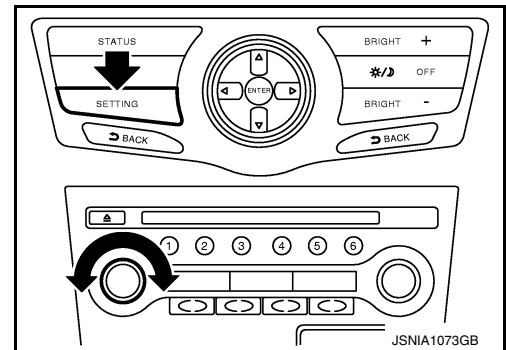
< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

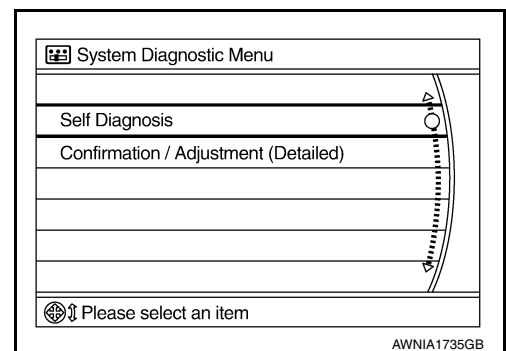
| Mode                       | Description   |
|----------------------------|---|
| Display Diagnosis          | The confirmation of the tint with the color spectrum bar display and shading of color with the gradation bar display can be performed.  |
| Vehicle Signals            | Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition switch, and reverse.   |
| Speaker Test               | The connection of a speaker can be confirmed by test tone.  |
| Error History (Detailed)   | System malfunctions and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed. |
| Camera Cont.               | The signal connected to camera control unit can be checked and the guiding line position that overlaps rear view camera image can be adjusted.  |
| Vehicle CAN Diagnosis      | The transmitting/receiving of CAN communication can be monitored.   |
| AV COMM Diagnosis          | The communication condition of each unit of MULTI AV system can be monitored.   |
| Delete Unit Connection Log | Erase the connection history of unit and error history  |
| Initialize Settings        | Initializes the AV control unit memory.   |

## STARTING PROCEDURE

1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the SETTING button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
  - Shifting from current screen to previous screen is performed by pressing the BACK button.



4. The trouble diagnosis initial screen is displayed, and then the items of "Self Diagnosis" and "Confirmation/Adjustment" can be selected.



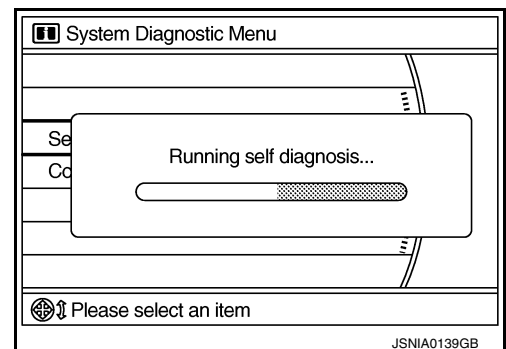
## SELF-DIAGNOSIS MODE

1. Start the self-diagnosis function and select "Self-diagnosis".

### NOTE:

Because the start condition of diagnosis function is a switch operation, the on board diagnosis function cannot start up if any malfunction is detected in the AV communication circuit between AV control unit and multifunction switch.

- Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
- The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.



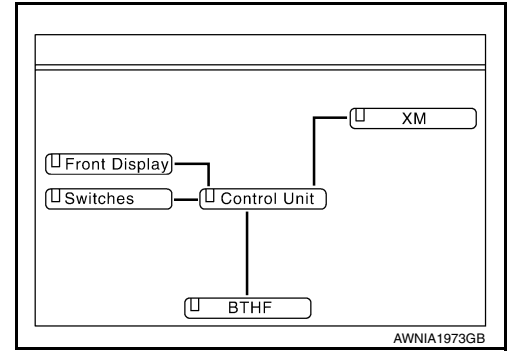
# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

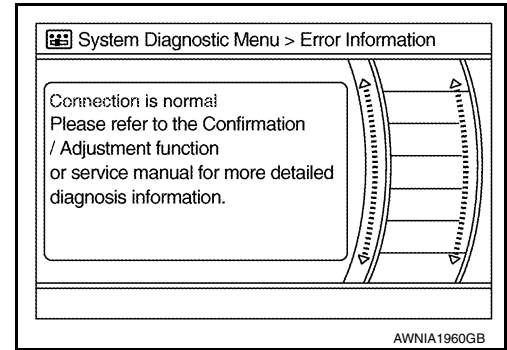
2. Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

| Diagnosis results                | Unit  | Connection line |
|----------------------------------|-------|-----------------|
| Normal                           | Green | Green           |
| Connection malfunction           | Gray  | Yellow          |
| Unit malfunction <sup>Note</sup> | Red   | Green           |



**NOTE:**

- Only the control unit (AV control unit) is displayed in red.
- Replace AV control unit if “Self-Diagnosis did not run because of a control unit malfunction” is indicated. The symptom is AV control unit internal error.
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.
- The comments of the self-diagnosis results can be viewed with a component in the diagnosis result screen.



## SELF-DIAGNOSIS RESULTS

Check the applicable display at the following table, and then repair the malfunctioning parts.

**NOTE:**

Because the start condition of diagnosis function is a switch operation, the on board diagnosis function cannot be started up if any malfunction is detected in the AV communication circuit between AV control unit and multi-function switch.

Self-diagnosis Result Chart

| Diagnosis results  | Detection logic   | Possible malfunction location / Action to take   |
|--------------------|---|--|
| <p>AWNIA1974GB</p> | <p>Malfunction is detected in AV control unit power supply and ground circuits.</p> | <p>Check AV control unit power supply and ground circuits. When detecting no malfunction in those components, replace AV control unit.</p> |

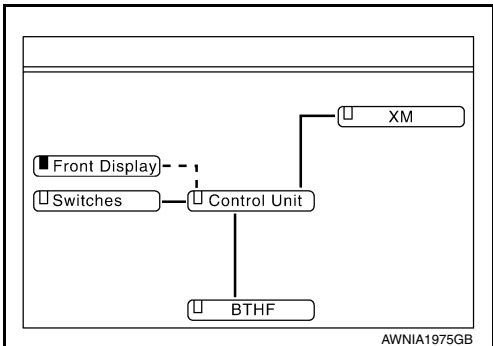
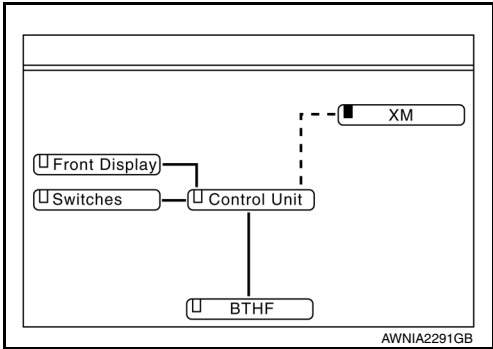
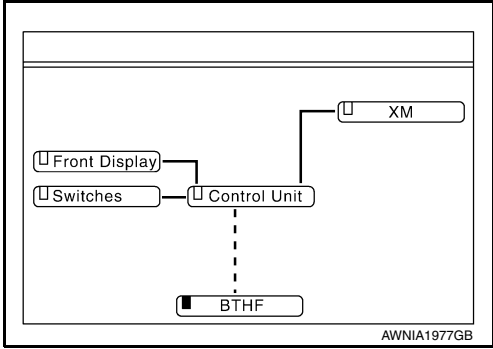
**NOTE:**

When a control unit malfunction is detected (red in unit display), connection malfunctions with other connection unit may be displayed. “Self-Diagnosis did not run because of a control unit malfunction”

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

| Diagnosis results  | Detection logic  | Possible malfunction location / Action to take   |
|--|--|--|
|  <p>AWNIA1975GB</p>   | <p>When either one of the following items are detected:</p> <ul style="list-style-type: none"> <li>serial communication circuits between AV control unit and front display unit are malfunctioning.</li> <li>serial communication signal between AV control unit and front display unit is malfunctioning.</li> </ul>  | <p>Serial communication circuits between AV control unit and front display unit.</p>   |
|  <p>AWNIA2291GB</p>   | <p>When any one of the following items is detected:</p> <ul style="list-style-type: none"> <li>satellite radio tuner power supply and ground circuits are malfunctioning.</li> <li>serial communication circuits between AV control unit and satellite radio tuner are malfunctioning.</li> <li>serial communication or request signal between AV control unit and satellite radio tuner is malfunctioning.</li> <li>request signal circuit between AV control unit and satellite radio tuner is malfunctioning.</li> </ul>  | <ul style="list-style-type: none"> <li>Satellite radio tuner power supply and ground circuits.</li> <li>Serial communication circuits between AV control unit and satellite radio tuner.</li> <li>Request signal circuit between AV control unit and satellite radio tuner.</li> </ul>   |
|  <p>AWNIA1977GB</p> | <p>When any one of the following items is detected:</p> <ul style="list-style-type: none"> <li>Bluetooth® control unit power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between camera control unit and Bluetooth® control unit are malfunctioning.</li> <li>AV communication circuits between multifunction switch and camera control unit are malfunctioning. (without DVD player models)</li> <li>AV communication circuits between DVD player and camera control unit are malfunctioning. (with DVD player models)</li> <li>AV communication signal between AV control unit and Bluetooth® control unit is malfunctioning.</li> </ul> | <ul style="list-style-type: none"> <li>Bluetooth® control unit power supply and ground circuits.</li> <li>AV communication circuits between camera control unit and Bluetooth® control unit.</li> <li>AV communication circuits between multifunction switch and camera control unit. (without DVD player models)</li> <li>AV communication circuits between DVD player and camera control unit. (with DVD player models)</li> <li>AV communication circuits between multifunction switch and Bluetooth® control unit. (without rear view camera)</li> </ul> |

**NOTE:**

The number of units that are displayed on the on board self-diagnosis display according to equipment.

**CONFIRMATION/ADJUSTMENT MODE**

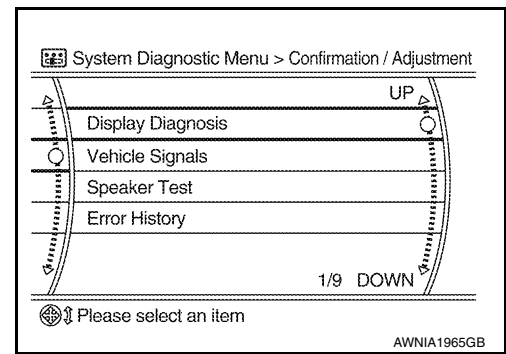
1. Start the diagnosis function and select “Confirmation/Adjustment”. The confirmation/adjustment mode indicates where each item can be checked or adjusted.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

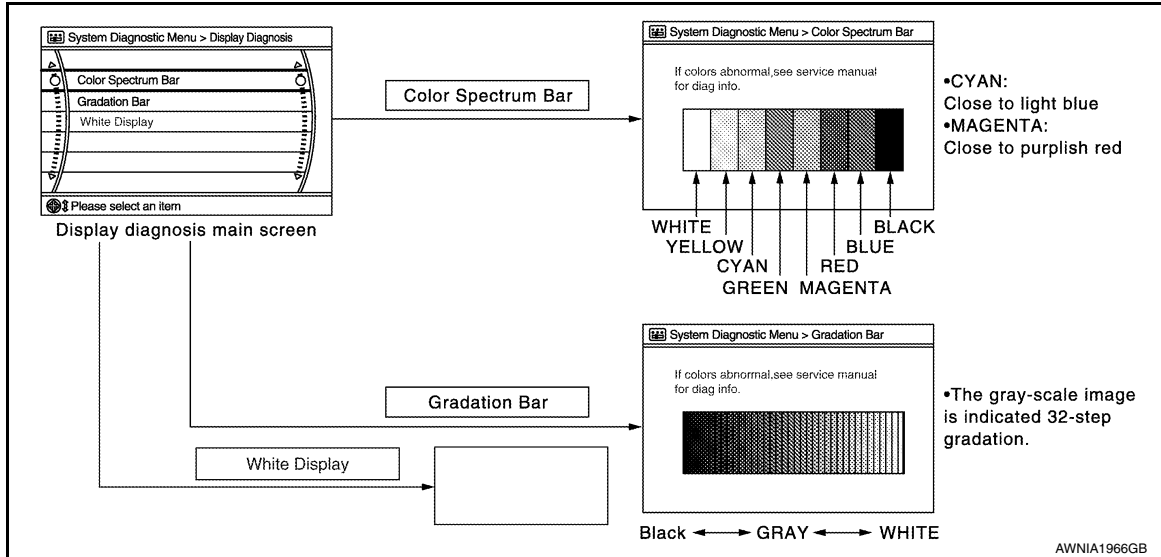
[COLOR DISPLAY - W/O BOSE]

## < SYSTEM DESCRIPTION >

- Select each switch on the "Confirmation/Adjustment Mode" screen to display the relevant trouble diagnosis screen. Press the RETURN switch to return to the initial Confirmation/Adjustment Mode screen.



## Display Diagnosis

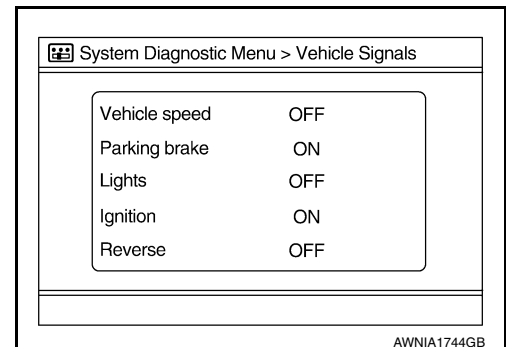


The tint of the color bar indication is as per the following list if RGB image signal error is detected.

- R (red) signal error** : Light blue (Cyan) tint
- G (green) signal error** : Purple (Magenta) tint
- B (blue) signal error** : Yellow tint

## Vehicle Signals

A comparison check can be made of each actual vehicle signal and the signals recognized by the system.



| Diagnosis item | Display | Vehicle status                 | Remarks   |
|----------------|---------|--------------------------------|---|
| Vehicle speed  | ON      | Vehicle speed > 0 km/h (0 MPH) | Changes in indication may be delayed. This is normal. |
|                |         | Vehicle speed = 0 km/h (0 MPH) |   |
| Parking brake  | ON      | Parking brake is applied.      |   |
|                | OFF     | Parking brake is released.     |   |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

| Diagnosis item | Display | Vehicle status   | Remarks   |
|----------------|---------|--|---|
| Lights         | ON      | Light switch ON  | —   |
|                | OFF     | Light switch OFF   |   |
| Ignition       | ON      | Ignition switch ON   | —   |
|                | OFF     | Ignition switch in the ACC position                                |   |
| Reverse        | ON      | Shift the selector lever to the "R" position                       | Changes in indication may be delayed. This is normal. |
|                | OFF     | Shift the selector lever to a position other than the "R" position |   |

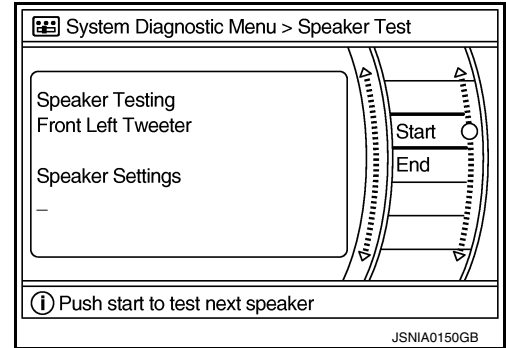
## Speaker Test

Select "SPEAKER DIAGNOSIS" to display the Speaker Diagnosis screen. Press "START and NEXT" to generate a test tone in a speaker. Press "Start" to generate a test tone in the next speaker. Press "End" to stop the test tones.

### NOTE:

The frequency of test tone emitted from each speaker is as follows.

|                      |                 |
|----------------------|-----------------|
| <b>Tweeter</b>       | <b>: 3 kHz</b>  |
| <b>Front speaker</b> | <b>: 300 Hz</b> |
| <b>Rear speaker</b>  | <b>: 1 kHz</b>  |



## Climate Control

On-board self-diagnosis is not supported. Only CONSULT is supported.  
Refer to [AV-202, "CONSULT Function \(MULTI AV\)"](#).

## Error History

The self-diagnosis results are judged depending on whether any error occurs from when "Self-diagnosis" is selected until the self-diagnosis results are displayed.

However, the diagnosis results are judged normal if an error has occurred before the ignition switch is turned ON and then no error has occurred until the self-diagnosis start. Check the "Error Record" to detect any error that may have occurred before the self-diagnosis start because of this situation.

### Count up method A

- The counter resets to 0 if an error occurs when IGN switch is turned ON. The counter increases by 1 if the condition is normal at the next IGN ON cycle.
- The counter upper limit is 39. Any counts exceeding 39 are ignored. The counter can be reset (no error record display) with the "Delete log" switch or CONSULT.

### Count up method B

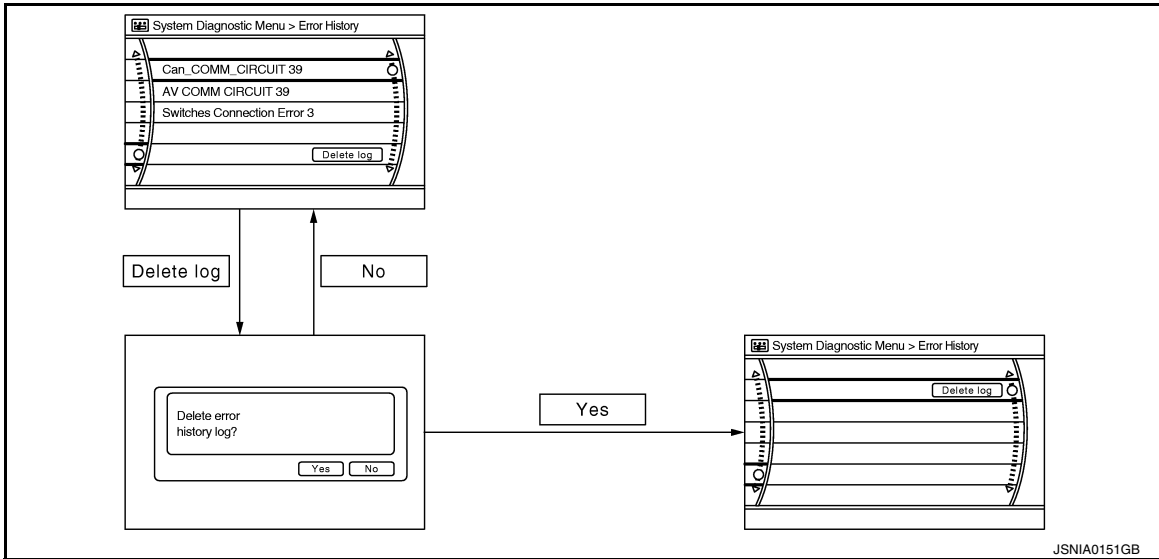
- The counter increases by 1 if an error occurs when IGN switch is ON. The counter will not decrease even if the condition is normal at the next IGN ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. The counter can be reset (no error record display) with the "Delete log" switch or CONSULT.

| Display type of occurrence frequency | Error history display item   |
|--------------------------------------|--|
| Count up method A                    | CAN communication line, control unit (CAN), AV communication line, control unit (AV communication) |
| Count up method B                    | Other than the above   |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]



## Error Item

Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items.

| Error item   | Description   | Possible malfunction factor/Action to take  |
|--|---|---|
| CAN COMM CIRCUIT   | CAN communication malfunction is detected.  | Perform diagnosis with CONSULT, and then repair the malfunctioning parts according to the diagnosis results.<br>Refer to <a href="#">AV-202. "CONSULT Function (MULTI AV)".</a>               |
| CONTROL UNIT (CAN)   | CAN initial diagnosis malfunction is detected.  | Replace the AV control unit.  |
| CONTROL UNIT (AV)  | AV communication circuit initial diagnosis malfunction is detected.   |   |
| FLASH-ROM Error Of Control Unit<br>CAN Controller Memory Error | AV control unit malfunction is detected.  |   |
| Front Display Connection Error                                 | When any one of the following items is detected: <ul style="list-style-type: none"> <li>front display unit power supply and ground circuits are malfunctioning.</li> <li>serial communication circuits between AV control unit and front display unit are malfunctioning.</li> <li>serial communication signal between AV control unit and front display unit is malfunctioning.</li> </ul> | <ul style="list-style-type: none"> <li>Front display unit power supply and ground circuits.</li> <li>Serial communication circuits between AV control unit and front display unit.</li> </ul> |

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# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

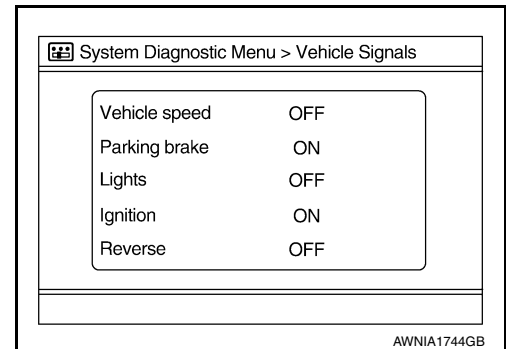
| Error item   | Description  | Possible malfunction factor/Action to take   |
|--|--|--|
| SAT Connection Error   | When any one of the following items is detected: <ul style="list-style-type: none"> <li>• satellite radio tuner power supply and ground circuits are malfunctioning.</li> <li>• serial communication circuits between AV control unit and satellite radio tuner are malfunctioning.</li> <li>• serial communication or request signal between AV control unit and satellite radio tuner is malfunctioning.</li> <li>• request signal circuit between AV control unit and satellite radio tuner is malfunctioning.</li> </ul> | <ul style="list-style-type: none"> <li>• Satellite radio tuner power supply and ground circuits.</li> <li>• Serial communication circuits between AV control unit and satellite radio tuner.</li> <li>• Request signal circuit between AV control unit and satellite radio tuner.</li> </ul> |
| <ul style="list-style-type: none"> <li>• AV COMM CIRCUIT</li> <li>• Switches Connection Error</li> </ul> | When any one of the following items is detected: <ul style="list-style-type: none"> <li>• multifunction switch power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li> <li>• AV communication signal between AV control unit and multifunction switch is malfunctioning.</li> </ul>  | <ul style="list-style-type: none"> <li>• Multifunction switch power supply and ground circuits.</li> <li>• AV communication circuits between AV control unit and multifunction switch.</li> </ul>  |

Camera Cont.

The two functions of “Connection Confirmation” and “Adjust Offset of Rear View Camera” are available.

### CONNECTION CONFIRMATION

The vehicle speed sensor, parking brake, park lights, ignition switch and reverse sensor can be inspected.



| Diagnosis item       | Display | Vehicle status   |
|----------------------|---------|--|
| Steer. Angle Sensor  | ON      | When steering the vehicle with ignition switch ON (remains ON until connection mode is stopped when it is turned ON).  |
|                      | OFF     | <ul style="list-style-type: none"> <li>• Ignition switch at ACC.</li> <li>• No steering with ignition switch ON.</li> </ul>                                  |
|                      | —       | Malfunction detected in camera connection recognition signal.  |
| Reverse Sensor       | ON      | Selector lever is in “R” with ignition switch ON.  |
|                      | OFF     | <ul style="list-style-type: none"> <li>• Ignition switch at ACC.</li> <li>• Selector lever is in position other than “R” with ignition switch ON.</li> </ul> |
|                      | —       | Malfunction detected in camera-connection recognition signal.  |
| Vehicle Speed Sensor | ON      | Vehicle speed is more than 0 km/h (0 MPH) with ignition switch ON.   |
|                      | OFF     | <ul style="list-style-type: none"> <li>• Ignition switch at ACC.</li> <li>• Vehicle speed is 0 km/h (0 MPH) with ignition switch ON.</li> </ul>              |
|                      | —       | Malfunction detected in camera connection recognition signal.  |
| Side view Switch     | —       | Not used.  |

### ADJUST OFFSET OF REAR VIEW CAMERA

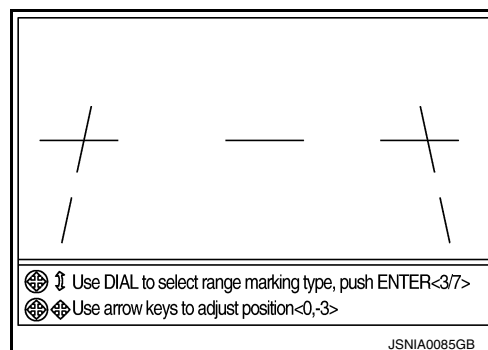


# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

[COLOR DISPLAY - W/O BOSE]

## < SYSTEM DESCRIPTION >

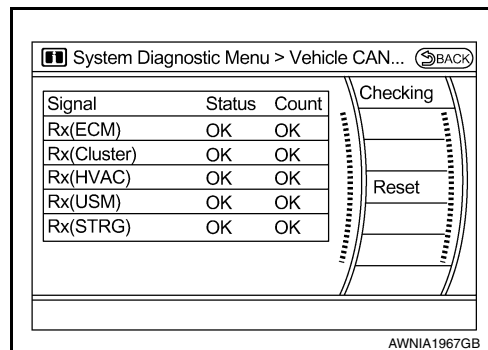
Use this mode to adjust the guide line display position of the rear-view monitor if necessary after removing the rear view monitor camera.



### Vehicle CAN Diagnosis

- CAN communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the status is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if reset.

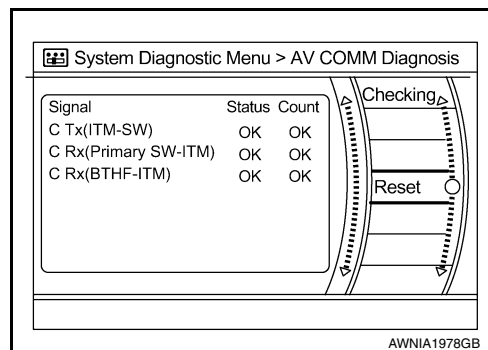
| Items        | Display (Current) | Malfunction counter (Past) |
|--------------|-------------------|----------------------------|
| Tx (HVAC)    | OK / UNKWN        | OK / 0 - 39                |
| Rx (ECM)     | OK / UNKWN        | OK / 0 - 39                |
| Rx (Cluster) | OK / UNKWN        | OK / 0 - 39                |
| Rx (HVAC)    | OK / UNKWN        | OK / 0 - 39                |
| Rx (USM)     | OK / UNKWN        | OK / 0 - 39                |
| Rx (STRG)    | OK / UNKWN        | OK / 0 - 39                |



### AV COMM Diagnosis

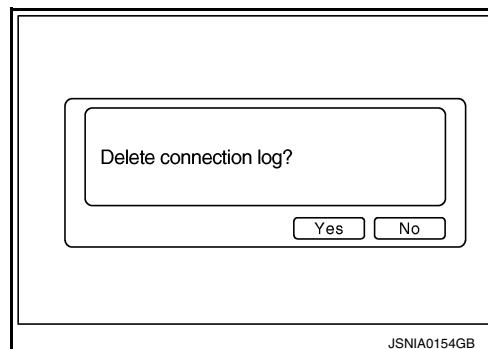
- Displays the communication status between AV control unit (master unit) and each unit.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- If it resets, the error counter is erased.

| Items               | Status (Current) | Counter (Past) |
|---------------------|------------------|----------------|
| C Tx(ITM-SW)        | OK / UNKWN       | OK / 0 - 39    |
| C Rx(PrimarySW-ITM) | OK / UNKWN       | OK / 0 - 39    |
| C Rx(BTHF-ITM)      | OK / UNKWN       | OK / 0 - 39    |



### Delete Unit Connection Log

Deletes any unit connection records and error records from the AV control unit memory. (Clear the records of the unit that has been removed.)



### Initialize Settings

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# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

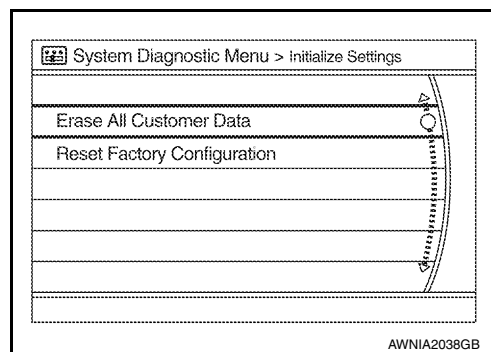
< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

“Erase All Customer Data” and “Reset Factory Configuration” are possible.

**CAUTION:**

- Never perform Reset Factory Configuration except when configuration is unsuccessful.
- Factory Configuration Initialize requires configuration. For details, refer to [AV-193. "Diagnosis Description"](#).



## CONSULT Function (MULTI AV)

INFOID:0000000110064830

### APPLICATION ITEMS

CONSULT performs the following functions via the communication with the AV control unit.

| Diagnosis mode         | Description   |
|------------------------|---|
| Ecu Identification     | The part number of AV control unit can be checked.  |
| Self Diagnostic Result | Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively. |
| Data Monitor           | The diagnosis of vehicle signal that is input to the AV control unit can be performed.  |
| Configuration          | <ul style="list-style-type: none"> <li>• Read and save the vehicle specification.</li> <li>• Write the vehicle specification when replacing AV control unit.</li> </ul>                   |

### AV Communication

When “AV communication” of “CAN Diag Support Monitor” is selected, the following function will be performed.

|                  |             |   |
|------------------|-------------|---|
| AV communication | AV&NAVI C/U | Displays the communication status from AV control unit to each unit as well as the error counter. |
|                  | AUDIO       | Displays the AV control unit communication status and the error counter.                          |

### ECU IDENTIFICATION

The part number of AV control unit is displayed.

### SELF DIAGNOSIS RESULT

- In CONSULT self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates “CRNT”. The past malfunction indicates “PAST”.
- The timing is displayed as “0” if any of the error codes [U1000], [U1010], [U1300] and [U1310] is detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

### Self-diagnosis Results Display Item

| Error item                  | Description   | Possible malfunction factor/Action to take  |
|-----------------------------|---|---|
| CAN COMM CIRCUIT [U1000]    | CAN communication malfunction is detected.                          | Perform diagnosis with CONSULT, and then repair the malfunctioning parts according to the diagnosis results. Refer to <a href="#">AV-206. "Diagnosis Procedure"</a> . |
| CONTROL UNIT (CAN) [U1010]  | CAN initial diagnosis malfunction is detected.                      | Replace the AV control unit if the malfunction occurs constantly.   |
| CONTROL UNIT (AV) [U1310]   | AV communication circuit initial diagnosis malfunction is detected. |   |
| Cont Unit [U1200]           | AV control unit malfunction is detected.                            |   |
| CAN CONT [U1216]            |   |   |
| SUB CPU CONN [U1228]        |   |   |
| iPod CERTIFICATION [U1229]  |   |   |
| Built-in AUDIO CONN [U122E] |   |   |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

| Error item   | Description  | Possible malfunction factor/Action to take  |
|--|--|---|
| HDD CONN [U1218]   | AV control unit malfunction is detected.   | <ul style="list-style-type: none"> <li>If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li> <li>Replace the AV control unit if the malfunction occurs constantly.</li> </ul> |
| HDD READ [U1219]   |  |   |
| HDD WRITE [U121A]  |  |   |
| HDD COMM [U121B]   |  |   |
| HDD ACCESS [U121C]   |  |   |
| USB CONTROLLER [U1225]   | USB connection malfunction is detected.  | Check that the connection to the USB connector is normal.   |
| DSP CONN [U121D]   | AV control unit malfunction is detected.   | <ul style="list-style-type: none"> <li>If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li> <li>Replace the AV control unit if the malfunction occurs constantly.</li> </ul>        |
| DSP COMM [U121E]   |  |   |
| DVD COMM [U1227]   | AV control unit malfunction is detected.   | <ul style="list-style-type: none"> <li>If DVD can be played, then there is a possibility of the detection of a temporary malfunction.</li> <li>Replace the AV control unit if the malfunction occurs constantly.</li> </ul>           |
| CONFIG UNFINISH [U122A]  | The writing of configuration data is incomplete.   | Write configuration data with CONSULT.  |
| ST ANGLE SEN CALIB [U1232]   | Predictive course line center position adjustment of the steering angle sensor is incomplete.  | Adjust the predictive course line center position of the steering angle sensor.   |
| FRONT DISP CONN [U1243]  | When either one of the following items are detected: <ul style="list-style-type: none"> <li>Display unit power supply and ground circuits malfunction is detected.</li> <li>Communication circuits between AV control unit and display unit.</li> </ul>                                  | <ul style="list-style-type: none"> <li>Display unit power supply and ground circuits.</li> <li>Communication circuits between AV control unit and AV display unit.</li> </ul>   |
| SAT CONN [U1255]   | Satellite radio tuner malfunction is detected.   | Replace the satellite radio tuner if the malfunction occurs constantly.   |
| USB OVERCURRENT [U1263]  | Detection of over current in USB connector.  | Check USB harness between the AV control unit and USB connector.  |
| <ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SWITCH CONN [U1240]</li> </ul> | When either one of the following items are detected: <ul style="list-style-type: none"> <li>Multifunction switch power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li> </ul> | <ul style="list-style-type: none"> <li>Multifunction switch power supply and ground circuits.</li> <li>AV communication circuits between AV control unit and multifunction switch.</li> </ul>   |

## DATA MONITOR

### ALL SIGNALS

- Displays the status of the following vehicle signals inputted into the AV control unit.
- For each signal, actual signal can be compared with the condition recognized on the system.

| Display Item | Display | Vehicle status                | Remarks   |
|--------------|---------|-------------------------------|---|
| VHCL SPD SIG | On      | Vehicle speed >0 km/h (0 MPH) | Changes in indication may be delayed. This is normal. |
|              | Off     | Vehicle speed =0 km/h (0 MPH) |   |
| PKB SIG      | On      | Parking brake is applied.     |   |
|              | Off     | Parking brake is released.    |   |

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

| Display Item | Display | Vehicle status   | Remarks   |
|--------------|---------|--|---|
| ILLUM SIG    | On      | Block the light beam from the auto light optical sensor when the light SW is ON. | —   |
|              | Off     | Expose the auto light optical sensor to light when the light SW is OFF or ON.    |   |
| IGN SIG      | On      | Ignition switch ON   |   |
|              | Off     | Ignition switch in ACC position  |   |
| REV SIG      | On      | Selector lever in R position   | Changes in indication may be delayed. This is normal. |
|              | Off     | Selector lever in any position other than R                                      |   |

### SELECTION FROM MENU

Allows the technician to select which vehicle signals should be displayed and displays the status of the selected vehicle signals.

| Item to be selected | Description                                 |
|---------------------|---|
| VHCL SPD SIG        | The same as when "ALL SIGNALS" is selected. |
| PKB SIG             |   |
| ILLUM SIG           |   |
| IGN SIG             |   |
| REV SIG             |   |

### WORK SUPPORT

| Conditions                 | Description  |
|----------------------------|--|
| ST ANGLE SENSOR ADJUSTMENT | Steering angle sensor neutral position adjustment can be performed. Refer to <a href="#">BRC-6, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Description"</a> . |

### CONFIGURATION

Configuration has three functions as follows.

| Function                             | Description  |
|--------------------------------------|--|
| READ CONFIGURATION                   | <ul style="list-style-type: none"> <li>• Reads the vehicle configuration of current AV control unit.</li> <li>• Saves the read vehicle configuration.</li> </ul> |
| WRITE CONFIGURATION-Manual selection | Writes the vehicle configuration with manual selection.  |
| WRITE CONFIGURATION-Config file      | Writes the vehicle configuration with saved data.  |

# DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/O BOSE]

## DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

### Diagnosis Description

INFOID:000000010064831

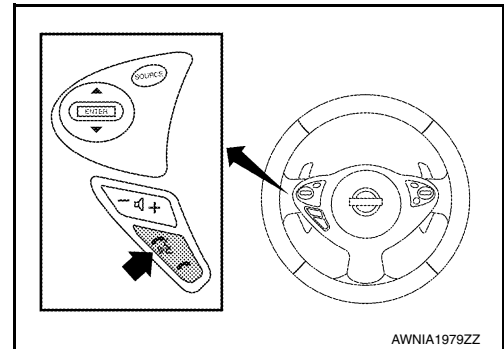
The Bluetooth® control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

### BLUETOOTH® CONTROL UNIT INITIALIZATION CHECKS

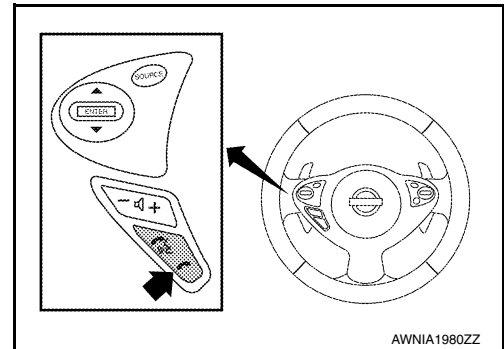
- Internal control unit failure
- Bluetooth® antenna connection open or shorted
- Steering wheel audio control switches [☞ (PHONE/SEND), ☜ (PHONE/END)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth® inquiry check

### OPERATION PROCEDURE

1. Turn ignition switch to ACC or ON.
2. Wait for the Bluetooth® system to complete initialization. This may take up to 20 seconds.
3. Press and hold the steering wheel audio control switch ☞ (PHONE/SEND) button for at least 5 seconds. The Bluetooth® system will begin to play a verbal prompt.



4. While the prompt is playing, press and hold the steering wheel audio control switch ☜ (PHONE/END) button until you hear the “Diagnostics mode” prompt. The Bluetooth® system will sound a 5-second beep.
5. While the beep is sounding, press and hold the steering wheel audio control switch ☜ (PHONE/END) button again until you hear prompts.
6. The Bluetooth® system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician. Refer to [AV-205, "Work Flow"](#).
7. After the failure records are reported, an interactive microphone test will be performed. Follow the voice prompt. If the microphone test fails, refer to [AV-205, "Work Flow"](#).



### Work Flow

INFOID:000000010064832

| Failure Message                                | Action   |
|--|--|
| “Internal failure”                             | Replace Bluetooth® control unit. Refer to <a href="#">AV-333, "Removal and Installation"</a> .   |
| “Bluetooth® antenna open”                      | 1. Inspect harness connection.<br>2. Replace Bluetooth® antenna. Refer to <a href="#">AV-332, "Removal and Installation"</a> .                             |
| “Bluetooth® antenna shorted”                   |  |
| “Phone/Send for Hands Free System is stuck”    | Check steering wheel audio control switches. Refer to <a href="#">AV-326, "Removal and Installation"</a> .   |
| “Phone/End for the Hands Free System is stuck” |  |
| “Microphone test” (failed interactive test)    | 1. Inspect harness between Bluetooth® control unit and microphone.<br>2. Replace microphone. Refer to <a href="#">AV-331, "Removal and Installation"</a> . |

## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:0000000010064833

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped on a vehicle and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

#### DTC Logic

INFOID:0000000010064834

#### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | Diagnostic item is detected when ...  | Probable malfunction location |
|-------|-----------------------------|---|-------------------------------|
| U1000 | CAN COMM CIRCUIT            | When AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more. | CAN communication system.     |

#### Diagnosis Procedure

INFOID:0000000010064835

#### 1. PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result" of "AV Control Unit".

#### Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to "LAN system". Refer to [LAN-15, "Trouble Diagnosis Flow Chart"](#).
- NO >> Refer to GI section. Refer to [GI-41, "Intermittent Incident"](#).

# U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1010 CONTROL UNIT (CAN)

### Description

INFOID:0000000010064836

Initial diagnosis of AV control unit.

### DTC Logic

INFOID:0000000010064837

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | Diagnostic item is detected when ...           | Probable malfunction location |
|-------|-----------------------------|--|-------------------------------|
| U1010 | CONTROL UNIT (CAN)          | CAN initial diagnosis malfunction is detected. | AV control unit.              |

### Diagnosis Procedure

INFOID:0000000010064838

#### 1. REPLACE AV CONTROL UNIT

When DTC U1010 is detected, replace AV control unit. Refer to [AV-311. "Removal and Installation"](#).

>> Inspection End.

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# U1200 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1200 AV CONTROL UNIT

### Description

INFOID:000000010064839

Replace the AV control unit if this DTC is displayed. Refer to [AV-311. "Removal and Installation"](#).

| Part name       | Description  |
|-----------------|--|
| AV CONTROL UNIT | <ul style="list-style-type: none"><li>• It is the master unit of the MULTI AV system and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit.</li><li>• AV control unit includes audio function and vehicle information function.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the automatic brightness ON/OFF signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul> |

### DTC Logic

INFOID:000000010064840

| DTC   | Display contents of CONSULT           | DTC Detection Condition   | Action to take   |
|-------|---------------------------------------|---|--|
| U1200 | Control Unit<br>FLASH- ROM<br>[U1200] | An internal malfunction is detected in AV control unit (FLASH-ROM). | Replace AV control unit. Refer to <a href="#">AV-311. "Removal and Installation"</a> . |



# U1216 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1216 AV CONTROL UNIT

### Description

INFOID:0000000110064841

Replace the AV control unit if this DTC is displayed. Refer to [AV-311. "Removal and Installation"](#).

| Part name       | Description  |
|-----------------|--|
| AV CONTROL UNIT | <ul style="list-style-type: none"><li>• It is the master unit of the MULTI AV system and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit.</li><li>• AV control unit includes audio function and vehicle information function.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the automatic brightness ON/OFF signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul> |

### DTC Logic

INFOID:0000000110064842

| DTC   | Display contents of CONSULT | DTC Detection Condition   | Action to take  |
|-------|-----------------------------|---|---|
| U1216 | CAN CONT<br>[U1216]         | Internal malfunction of AV control unit (CAN controller) is detected. | Replace AV control unit.<br>Refer to <a href="#">AV-311. "Removal and Installation"</a> . |

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# U1218 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1218 AV CONTROL UNIT

### DTC Logic

INFOID:000000010064843

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1218 | HDD CONN<br>[U1218]         | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-311, "Removal and Installation"</a>.</li></ul> |

# U1219 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1219 AV CONTROL UNIT

### DTC Logic

INFOID:0000000110064844

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1219 | HDD READ [U1219]            | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-311, "Removal and Installation"</a>.</li></ul> |

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# U121A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U121A AV CONTROL UNIT

### DTC Logic

INFOID:000000010064845

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U121A | HDD WRITE<br>[U121A]        | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-311, "Removal and Installation"</a>.</li></ul> |

# U121B AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U121B AV CONTROL UNIT

### DTC Logic

INFOID:0000000110064846

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor  |
|-------|-----------------------------|--|--|
| U121B | HDD COMM [U121B]            | AV control unit malfunction is detected. | <ul style="list-style-type: none"> <li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li> <li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-311, "Removal and Installation"</a>.</li> </ul> |

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# U121C AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U121C AV CONTROL UNIT

### DTC Logic

INFOID:000000010064847

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U121C | HDD ACCESS [U121C]          | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-311, "Removal and Installation"</a>.</li></ul> |

# U121D AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U121D AV CONTROL UNIT

### DTC Logic

INFOID:0000000110064848

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor  |
|-------|-----------------------------|--|--|
| U121D | DSP CONN [U121D]            | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-311, "Removal and Installation"</a>.</li></ul> |

### Diagnosis Procedure

INFOID:0000000110064849

#### 1. CHECK PLAYBACK OF A DISK (CD)

##### Can a disk (CD) be played?

YES >> Malfunction may be detected intermittently.

NO >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).

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# U121E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U121E AV CONTROL UNIT

### DTC Logic

INFOID:000000010064850

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor  |
|-------|-----------------------------|--|--|
| U121E | DSP COMM [U121E]            | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-311. "Removal and Installation"</a>.</li></ul> |

### Diagnosis Procedure

INFOID:000000010064851

#### 1. CHECK PLAYBACK OF A DISK (CD)

##### Can a disk (CD) be played?

- YES >> Malfunction may be detected intermittently.  
NO >> Replace AV control unit. Refer to [AV-311. "Removal and Installation"](#).



# U1225 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1225 AV CONTROL UNIT

### DTC Logic

INFOID:000000010064852

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | DTC detection condition                 | Possible malfunction factor                               |
|-------|-----------------------------|---|---|
| U1225 | USB CONTROLLER [U1225]      | USB connection malfunction is detected. | Check that the connection to the USB connector is normal. |

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# U1227 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1227 AV CONTROL UNIT

### DTC Logic

INFOID:000000010064853

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1227 | DVD COMM [U1227]            | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If DVD can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-311. "Removal and Installation"</a>.</li></ul> |

### Diagnosis Procedure

INFOID:000000010064854

#### 1. CHECK PLAYBACK OF A DISK (DVD)

##### Can a disc (DVD) be played?

- YES >> Malfunction may be detected intermittently.  
NO >> Replace AV control unit. Refer to [AV-311. "Removal and Installation"](#).

# U1228 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1228 AV CONTROL UNIT

### DTC Logic

INFOID:000000010064855

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1228 | SUB CPU CONN [U1228]        | AV control unit malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-311, "Removal and Installation"</a> . |

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# U1229 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1229 AV CONTROL UNIT

### DTC Logic

INFOID:000000010064856

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1229 | iPod CERTIFICATION [U1229]  | AV control unit malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-311, "Removal and Installation"</a> . |

# U122A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U122A AV CONTROL UNIT

### DTC Logic

INFOID:000000010064857

| DTC   | Display contents of CONSULT | DTC detection condition                          | Action to take                                       |
|-------|-----------------------------|--|--|
| U122A | CONFIG UNFINISH [U122A]     | The writing of configuration data is incomplete. | Write configuration data with "MULTI AV" of CONSULT. |

### Diagnosis Procedure

INFOID:000000010064858

#### 1.PERFORM THE SELF-DIAGNOSIS

When U122A is detected, write configuration data with "MULTI AV" of CONSULT.

>> Write configuration data with "MULTI AV" of CONSULT. Refer to [AV-181, "CONFIGURATION \(AV CONTROL UNIT\) : Special Repair Requirement"](#).

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# U122E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U122E AV CONTROL UNIT

### DTC Logic

INFOID:000000010064859

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U122E | Built-in AUDIO CONN [U122E] | AV control unit malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-311, "Removal and Installation"</a> . |

# U1232 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1232 STEERING ANGLE SENSOR

### DTC Logic

INFOID:000000010064860

| DTC   | Display contents of CONSULT | DTC detection condition   | Possible malfunction factor   |
|-------|-----------------------------|---|---|
| U1232 | ST ANGLE SEN CALIB [1232]   | Predictive course line center position adjustment of the steering angle sensor is incomplete. | Adjust the predictive course line center position of the steering angle sensor. |

### Diagnosis Procedure

INFOID:000000010064861

#### 1. ADJUST THE PREDICTIVE COURSE LINE CENTER POSITION OF THE STEERING ANGLE SENSOR

When U1232 is detected, adjust the predictive course line center position of the steering angle sensor.

>> Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to [BRC-6, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"](#).

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# U1243 DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1243 DISPLAY UNIT

### Description

INFOID:0000000110064862

| Part name    | Description   |
|--------------|---|
| DISPLAY UNIT | <ul style="list-style-type: none"> <li>• Display image is controlled by the serial communication from AV control unit.</li> <li>• Inputs the RGB image signal (RGB, RGB area and RGB synchronizing) from AV control unit and the auxiliary image signal from the auxiliary input jacks.</li> <li>• Outputs the synchronizing signals (HP and VP) to the AV control unit.</li> </ul> |

### DTC Logic

INFOID:0000000110064863

| DTC   | Display contents of CONSULT | DTC Detection Condition  | Possible causes  |
|-------|-----------------------------|--|--|
| U1243 | FRONT DISP CONN [U1243]     | <ul style="list-style-type: none"> <li>• Display unit power supply and ground circuit malfunction is detected.</li> <li>• Malfunction is detected on communication circuit between display unit and AV control unit.</li> <li>• Malfunction is detected on communication signal between display unit and AV control unit.</li> </ul> | <ul style="list-style-type: none"> <li>• Display unit power supply and ground circuit.</li> <li>• Communication circuit between display unit and AV control unit.</li> </ul> |

### Diagnosis Procedure

INFOID:0000000110064864

Regarding Wiring Diagram information, refer to [AV-282. "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

#### 1. CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to [AV-232. "DISPLAY UNIT : Diagnosis Procedure"](#).

Is inspection result OK?

YES >> GO TO 2.

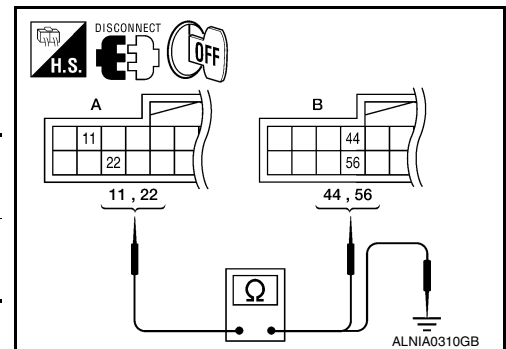
NO >> Repair malfunctioning parts.

#### 2. CHECK CONTINUITY OF COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector M141 (A) terminals 11, 22 and AV control unit harness connector M117 (B) terminals 56, 44.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 11       | M117      | 56       | Yes        |
|           | 22       |           | 44       |            |

4. Check continuity between display unit harness connector M141 (A) terminals 11, 22 and ground.



| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 11       | Ground | No         |
|           | 22       |        |            |

Are continuity results as specified?



# U1243 DISPLAY UNIT

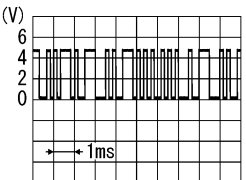
[COLOR DISPLAY - W/O BOSE]

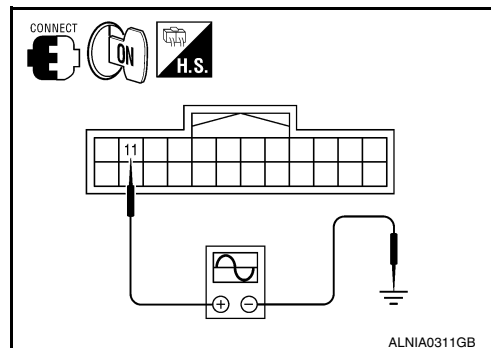
## < DTC/CIRCUIT DIAGNOSIS >

- YES >> GO TO 3.
- NO >> Repair harness or connector.

### 3. CHECK COMMUNICATION SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 11 and ground with an oscilloscope or CONSULT.

| (+)       |          | (-)    | Reference signal   |
|-----------|----------|--------|--|
| Connector | Terminal |        |  |
| M141      | 11       | Ground |  <p style="text-align: center;">PK1B5039J</p> |

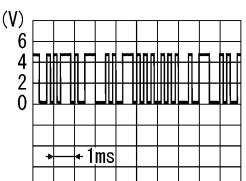


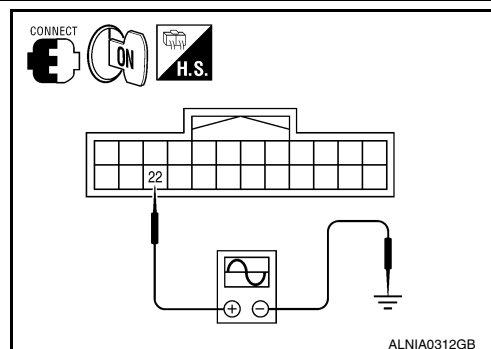
Are voltage readings as specified?

- YES >> GO TO 4.
- NO >> Replace AV control unit. Refer to [AV-311. "Removal and Installation"](#).

### 4. CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector M141 terminal 22 and ground with an oscilloscope or CONSULT.

| (+)       |          | (-)    | Reference signal   |
|-----------|----------|--------|--|
| Connector | Terminal |        |  |
| M141      | 22       | Ground |  <p style="text-align: center;">PK1B5039J</p> |



Are voltage readings as specified?

- YES >> Inspection End.
- NO >> Replace display unit. Refer to [AV-314. "Removal and Installation"](#).

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# U1263 USB

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1263 USB

### DTC Logic

INFOID:000000010064865

| DTC   | Display contents of CONSULT | DTC detection condition                     | Possible malfunction factor                                      |
|-------|-----------------------------|---|--|
| U1263 | USB OVERCURRENT<br>[U1263]  | Detection of over current in USB interface. | Check USB harness between the AV control unit and USB interface. |

### Diagnosis Procedure

INFOID:000000010064866

#### 1. CHECK USB HARNESS

Visually check USB harness.

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).
- NO >> Replace USB harness.

# U1255 SATELLITE RADIO TUNER

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1255 SATELLITE RADIO TUNER

### Description

INFOID:0000000110064867

| Part name             | Description  |
|-----------------------|--|
| SATELLITE RADIO TUNER | <ul style="list-style-type: none"> <li>Inputs the satellite radio signal from satellite radio antenna and outputs the sound signal to the AV control unit.</li> <li>It is controlled with the AV control unit and serial communication (communication signal and request signal).</li> </ul> |

### DTC Logic

INFOID:0000000110064868

| DTC   | Display contents of CONSULT | DTC Detection Condition  | Possible causes  |
|-------|-----------------------------|--|--|
| U1255 | SAT CONN [U1255]            | When either one of the following items are detected: <ul style="list-style-type: none"> <li>satellite radio tuner power supply and ground circuits are malfunctioning.</li> <li>serial communication circuits between AV control unit and satellite radio tuner are malfunctioning.</li> <li>serial communication or request signal between AV control unit and satellite radio tuner is malfunctioning.</li> <li>request signal circuit between AV control unit and satellite radio tuner is malfunctioning.</li> </ul> | <ul style="list-style-type: none"> <li>Satellite radio tuner power supply and ground circuits.</li> <li>Serial communication circuits between AV control unit and satellite radio tuner.</li> <li>Request signal circuit between AV control unit and satellite radio tuner.</li> </ul> |

### Diagnosis Procedure

INFOID:0000000110064869

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

#### 1. CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT

Check satellite radio tuner power supply and ground circuit. Refer to [AV-234, "SATELLITE RADIO TUNER : Diagnosis Procedure"](#).

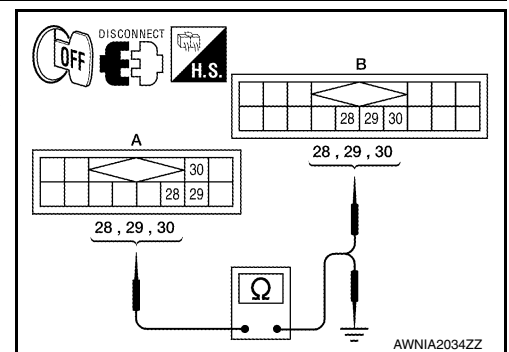
Is the inspection result normal?

- YES >> GO TO 2.  
 NO >> Repair malfunctioning parts.

#### 2. CHECK CONTINUITY COMMUNICATION CIRCUIT AND REQUEST SIGNAL CIRCUIT

- Turn ignition switch OFF.
- Disconnect AV control unit connector M116 and satellite radio tuner connector B111.
- Check continuity between AV control unit harness connector M116 (A) and satellite radio tuner harness connector B111 (B).

| A         |           | B         |           | Continuity |
|-----------|-----------|-----------|-----------|------------|
| Connector | Terminals | Connector | Terminals |            |
| M116      | 28        | B111      | 28        | Yes        |
|           | 29        |           | 29        |            |
|           | 30        |           | 30        |            |



- Check continuity between AV control unit harness connector M116 (A) and ground.

| A         |           | — | Continuity |
|-----------|-----------|---|------------|
| Connector | Terminals |   |            |
|           |           |   |            |

# U1255 SATELLITE RADIO TUNER

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

|      |    |        |    |
|------|----|--------|----|
| M116 | 28 | Ground | No |
|      | 29 |        |    |
|      | 30 |        |    |

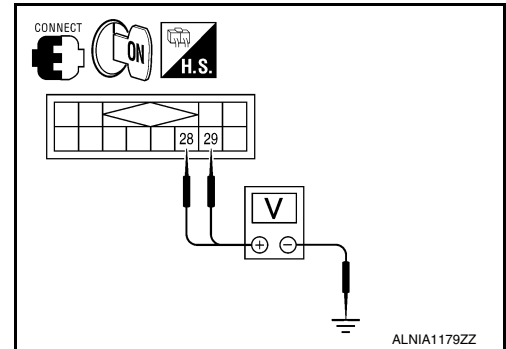
Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair harness or connector.

### 3. CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector M116 and ground.

| (+)       |           | (-)    | Voltage (Approx.) |
|-----------|-----------|--------|-------------------|
| Connector | Terminals |        |                   |
| M116      | 28        | Ground | 7.0V              |
|           | 29        |        |                   |



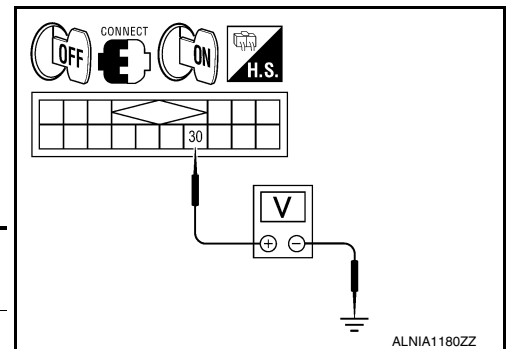
Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).

### 4. CHECK SATELLITE RADIO TUNER

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector.
3. Connect satellite radio tuner.
4. Turn ignition switch ON.
5. Check voltage between satellite radio tuner harness connector terminal ground.

| (+)       |          | (-)    | Voltage (Approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| B111      | 30       | Ground | 7.0V              |



Is the inspection result normal?

- YES >> Inspection End.
- NO >> Replace satellite radio tuner. Refer to [AV-324, "Removal and Installation"](#).

# U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1300 AV COMM CIRCUIT

### Description

INFOID:000000010064870

U1300 is indicated when a communication signal malfunction occurs. U1300 is indicated along with DTCs that identify components connected to the AV control unit through communication lines. Determine the possible malfunction cause from the table below.

### SELF-DIAGNOSIS RESULTS DISPLAY ITEM

| DTC            | Display contents of CONSULT   | DTC Detection Condition   | Possible causes  |
|----------------|---|---|--|
| U1300<br>U1240 | <ul style="list-style-type: none"><li>• AV COMM CIRCUIT [U1300]</li><li>• SWITCH CONN [U1240]</li></ul> | When either one of the following items are detected: <ul style="list-style-type: none"><li>• A/C and AV switch assembly power supply and ground circuits are malfunctioning.</li><li>• AV communication circuits between AV control unit and A/C and AV switch assembly are malfunctioning.</li><li>• AV communication signal between AV control unit and A/C and AV switch assembly is malfunctioning.</li></ul> | <ul style="list-style-type: none"><li>• A/C and AV switch assembly power supply and ground circuits.</li><li>• AV communication circuits between AV control unit and A/C and AV switch assembly.</li></ul> |

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# U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## U1310 AV CONTROL UNIT

### Description

INFOID:000000010064871

Replace the AV control unit if this DTC is displayed. Refer to [AV-311, "Removal and Installation"](#).

| Part name       | Description  |
|-----------------|--|
| AV CONTROL UNIT | <ul style="list-style-type: none"><li>• It is the master unit of the MULTI AV system and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit.</li><li>• AV control unit includes audio function and vehicle information function.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the automatic brightness ON/OFF signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul> |

### DTC Logic

INFOID:000000010064872

| DTC   | Display contents of CONSULT  | DTC Detection Condition   | Action to take   |
|-------|------------------------------|---|--|
| U1310 | CONTROL UNIT (AV)<br>[U1310] | An initial diagnosis error is detected in AV communication circuit. | Replace AV control unit. Refer to <a href="#">AV-311, "Removal and Installation"</a> . |

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## POWER SUPPLY AND GROUND CIRCUIT

### AV CONTROL UNIT

#### AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000010064873

Regarding Wiring Diagram information, refer to [AV-282. "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

### 1. CHECK FUSES

Check that the following fuses of the AV control unit are not blown.

| Unit            | Terminals | Signal name                 | Fuse No. |
|-----------------|-----------|-----------------------------|----------|
| AV control unit | 19        | Battery power               | 24       |
|                 | 7         | Ignition switch ACC or ON   | 17       |
|                 | 104       | Ignition switch ON or START | 3        |

Are the fuses OK?

YES >> GO TO 2.

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

### 2. POWER SUPPLY CIRCUIT CHECK

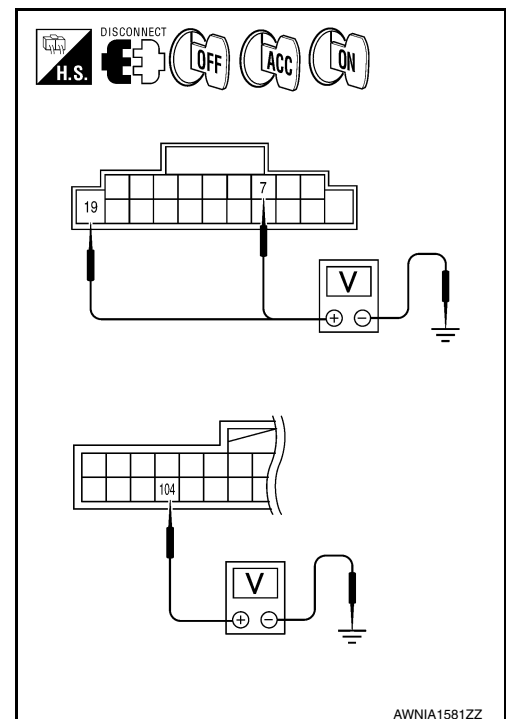
1. Disconnect AV control unit connectors M115 and M119.
2. Check voltage between the AV control unit connectors M115 and M119 and ground.

| (+) Connector |     | Terminal | (-)    | OFF             | ACC             | ON              |
|---------------|-----|----------|--------|-----------------|-----------------|-----------------|
| Terminal      |     |          |        |                 |                 |                 |
| M115          | 7   | 7        | Ground | 0V              | Battery voltage | Battery voltage |
|               | 19  | 19       | Ground | Battery voltage | Battery voltage | Battery voltage |
| M119          | 104 | 104      | Ground | 0V              | 0V              | Battery voltage |

Are the voltage results as specified?

YES >> GO TO 3.

- NO >>
- Check connector housings for disconnected or loose terminals.
  - Repair harness or connector.



### 3. GROUND CIRCUIT CHECK

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# POWER SUPPLY AND GROUND CIRCUIT

[COLOR DISPLAY - W/O BOSE]

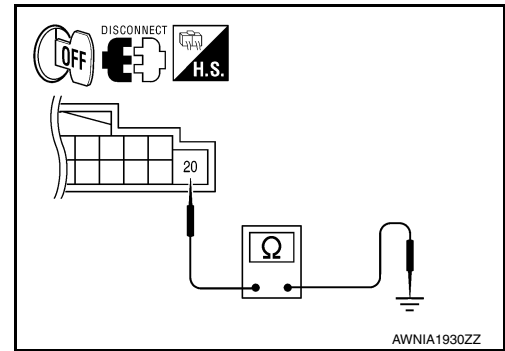
## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Check continuity between AV control unit harness connector and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| M115      | 20       | Ground | Yes        |

### Are the inspection results OK?

- YES >> Inspection End.  
 NO >> Repair AV control unit ground.



## DISPLAY UNIT

### DISPLAY UNIT : Diagnosis Procedure

INFOID:000000010064874

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

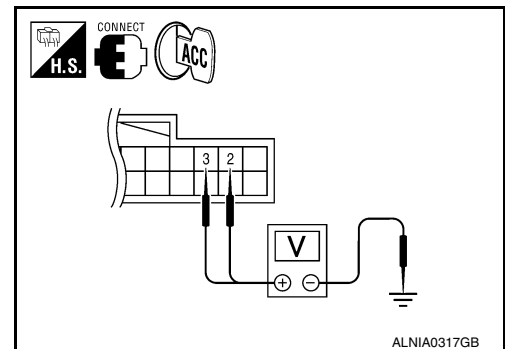
## 1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch to ACC.
2. Check voltage between display unit harness connector M141 and ground.

| (+)       |          | (-)    | Value (Approx.) |
|-----------|----------|--------|-----------------|
| Connector | Terminal |        |                 |
| M141      | 2        | Ground | 9V              |
|           | 3        |        |                 |

### Does specified voltage exist?

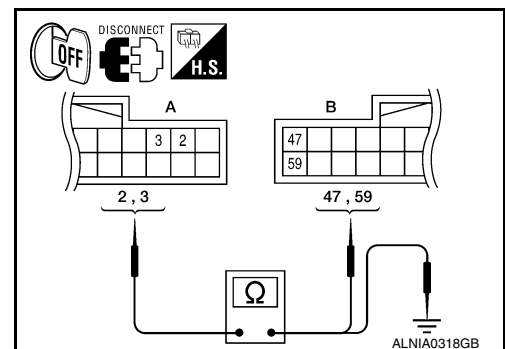
- YES >> GO TO 3.  
 NO >> GO TO 2.



## 2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the display unit connector M141 and the AV control unit connector M117.
3. Check continuity between the display unit harness connector M141 (A) and the AV control unit connector M117 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 2        | M117      | 59       | Yes        |
|           | 3        |           | 47       |            |



4. Check continuity between the display unit harness connector M141 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 2        | Ground | No         |
|           | 3        |        |            |

### Are continuity results as specified?

- YES >> Check AV control unit power and ground supply. Refer to [AV-231, "AV CONTROL UNIT : Diagnosis Procedure"](#).  
 NO >> Repair harness or connector.



# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## 3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector.
3. Check continuity between display unit harness connector and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| M141      | 1        | Ground | Yes        |

Does continuity exist?

- YES >> Inspection End.  
 NO >> Repair harness or connector.

## A/C AND AV SWITCH ASSEMBLY

### A/C AND AV SWITCH ASSEMBLY : Diagnosis Procedure

INFOID:0000000010064875

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

## 1. CHECK FUSE

Check that the fuse of the AC and AV switch assembly is not blown.

| Unit                       | Terminal | Signal name               | Fuse No. |
|----------------------------|----------|---------------------------|----------|
| A/C and AV switch assembly | 3        | Ignition switch ACC or ON | 17       |

Is the fuse OK?

- YES >> GO TO 2.  
 NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

## 2. POWER SUPPLY CIRCUIT CHECK

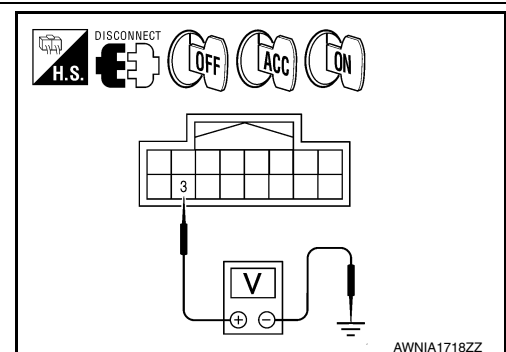
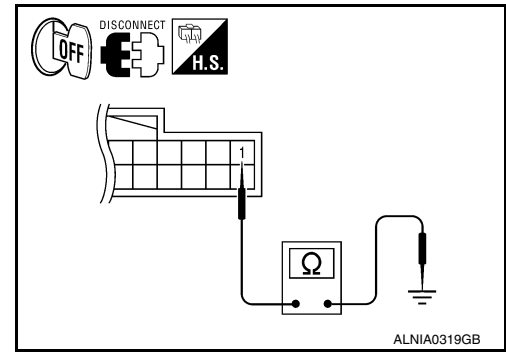
1. Disconnect A/C and AV switch assembly connector M98.
2. Check voltage between the A/C and AV switch assembly connector M98 and ground.

| (+)       |          | (-)    | OFF | ACC             | ON              |
|-----------|----------|--------|-----|-----------------|-----------------|
| Connector | Terminal |        |     |                 |                 |
| M98       | 3        | Ground | 0V  | Battery voltage | Battery voltage |

Are the voltage results as specified?

- YES >> GO TO 3.  
 NO >> • Check connector housings for disconnected or loose terminals.  
 • Repair harness or connector.

## 3. GROUND CIRCUIT CHECK



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# POWER SUPPLY AND GROUND CIRCUIT

[COLOR DISPLAY - W/O BOSE]

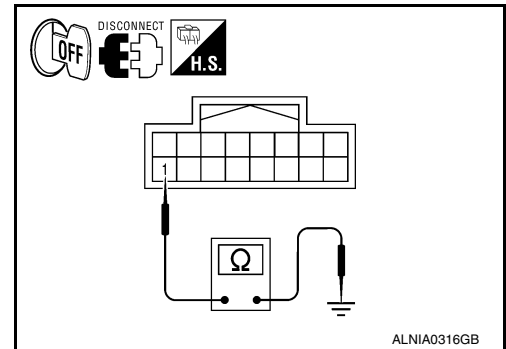
## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Check continuity between A/C and AV switch assembly harness connector M98 and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| M98       | 1        | Ground | Yes        |

Are the continuity results as specified?

- YES >> Inspection End.  
 NO >> Repair harness or ground.



## SATELLITE RADIO TUNER

### SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000010064877

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

## 1.CHECK FUSES

Check that the following fuses of the satellite radio tuner (factory installed) are not blown.

| Unit                                      | Terminals | Signal name               | Fuse No. |
|---|-----------|---------------------------|----------|
| Satellite radio tuner (factory installed) | 32        | Battery power             | 24       |
|   | 36        | Ignition switch ACC or ON | 17       |

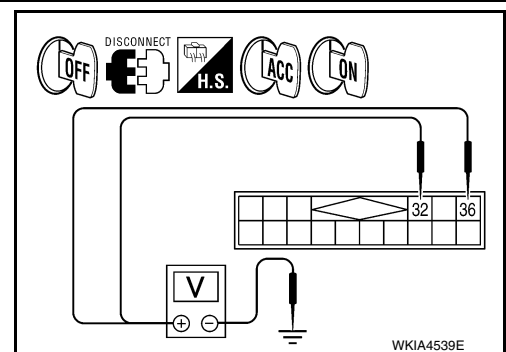
Are the fuses OK?

- YES >> GO TO 2.  
 NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

## 2.POWER SUPPLY CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector B111.
3. Check voltage between the satellite radio tuner (factory installed) and ground.

| (+) Connector |    | Terminal | (-)             | OFF    | ACC             | ON              |
|---------------|----|----------|-----------------|--------|-----------------|-----------------|
| B111          | 32 |          |                 | Ground | Battery voltage | Battery voltage |
|               | 36 | 0V       | Battery voltage |        | Battery voltage |                 |



Are the voltage readings as specified?

- YES >> GO TO 3.  
 NO >> • Check connector housings for disconnected or loose terminals.  
 • Repair harness or connector.

## 3.GROUND CIRCUIT CHECK

# POWER SUPPLY AND GROUND CIRCUIT

[COLOR DISPLAY - W/O BOSE]

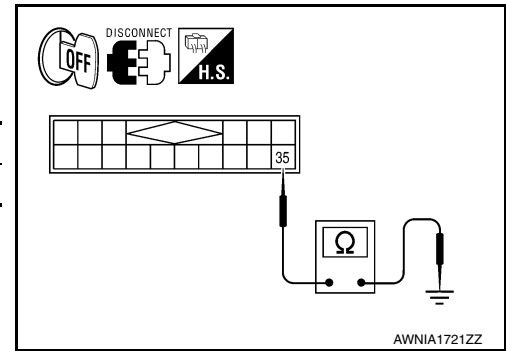
## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Check continuity between satellite radio tuner (factory installed) harness connector and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| B111      | 35       | Ground | Yes        |

### Does continuity exist?

- YES >> Inspection End.  
 NO >> Repair satellite radio tuner (factory installed) harness or connector.



## REAR VIEW CAMERA

### REAR VIEW CAMERA : Diagnosis Procedure

INFOID:000000010064878

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

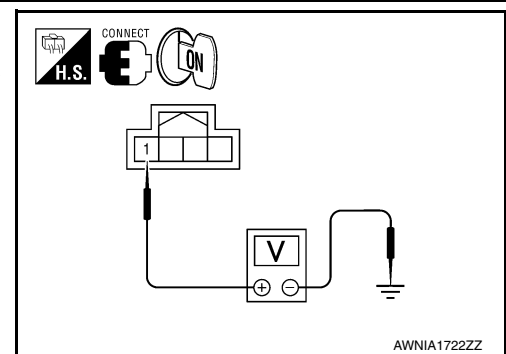
## 1. CHECK POWER SUPPLY CIRCUIT (REAR VIEW CAMERA SIDE)

1. Turn ignition switch ON.
2. Shift transmission into Reverse.
3. Check voltage between rear view camera harness connector T101 and ground.

| (+)       |          | (-)    | Transmission position | Value (Approx.) |
|-----------|----------|--------|-----------------------|-----------------|
| Connector | Terminal |        |                       |                 |
| T101      | 1        | Ground | Reverse               | 6V              |

### Is voltage reading approximately 6 volts?

- YES >> GO TO 4.  
 NO >> GO TO 2.

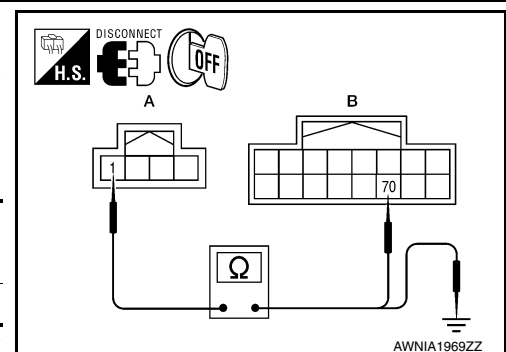


## 2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect rear view camera and AV control unit connectors.
3. Check continuity between rear view camera harness connector T101 (A) terminal 1 and AV control unit harness connector M118 (B) terminal 70.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| T101      | 1        | M118      | 70       | Yes        |

4. Check continuity between rear view camera harness connector T101 (A) terminal 1 and ground.



| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| T101      | 1        | Ground | No         |

### Are continuity test results as specified?

- YES >> GO TO 3.  
 NO >> Repair harness or connector.

## 3. CHECK REVERSE POSITION INPUT SIGNAL

1. Connect AV control unit connector.

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AV

# POWER SUPPLY AND GROUND CIRCUIT

[COLOR DISPLAY - W/O BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

2. Turn ignition switch ON.
3. Shift transmission into reverse.
4. Check voltage between AV control unit harness connector M119 terminal 105 and ground.

| (+)       |          | (-)    | Transmission position | Value (Approx.) |
|-----------|----------|--------|-----------------------|-----------------|
| Connector | Terminal |        |                       |                 |
| M119      | 105      | Ground | Reverse               | 12V             |

Is voltage reading approximately 12 volts?

- YES >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).  
 NO >> Check harness for open or short between AV control unit and back-up lamp relay.

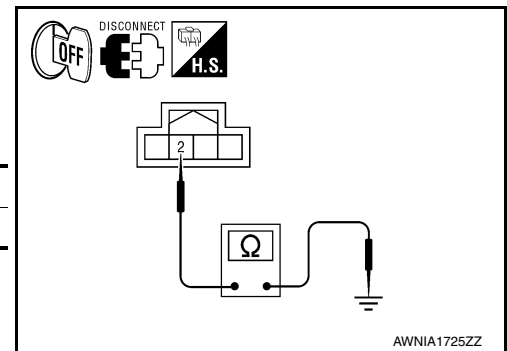
## 4.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear view camera harness connector.
3. Check continuity between rear view camera harness connector T101 terminal 2 and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| T101      | 2        | Ground | Yes        |

Does continuity exist?

- YES >> Inspection End.  
 NO >> Repair harness or connector.



## BLUETOOTH® CONTROL UNIT

### BLUETOOTH® CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010064879

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

## 1.CHECK FUSE

Check that the following fuses of the Bluetooth® control unit are not blown.

| Power source                | Fuse No. |
|-----------------------------|----------|
| Battery                     | 24       |
| Ignition switch ACC or ON   | 17       |
| Ignition switch ON or START | 3        |

Is inspection result OK?

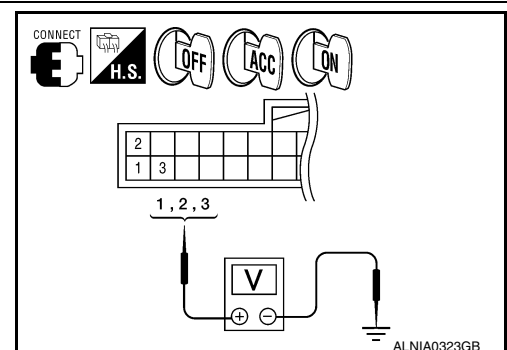
- YES >> GO TO 2.  
 NO >> Be sure to eliminate cause of malfunction before installing new fuse.

## 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between Bluetooth® control unit harness connector B131 and ground.

| (+)       |          | (-)    | Ignition switch position | Value (Approx.) |
|-----------|----------|--------|--------------------------|-----------------|
| Connector | Terminal |        |                          |                 |
| B131      | 1        | Ground | OFF                      | Battery voltage |
|           | 2        |        | ACC                      |                 |
|           | 3        |        | ON                       |                 |

Is battery voltage present as specified?



# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

- YES >> GO TO 3.
- NO >> Check harness between Bluetooth® control unit and fuse.

## 3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector.
3. Check continuity between Bluetooth® control unit harness connector B131 and ground.

| Connector. | Terminal | —      | Continuity |
|------------|----------|--------|------------|
| B131       | 4        | Ground | Yes        |
|            | 20       |        |            |
|            | 21       |        |            |
|            | 24       |        |            |

Are continuity results as specified?

- YES >> Inspection End.
- NO >> Repair harness or connector.

## MICROPHONE

### MICROPHONE : Diagnosis Procedure

INFOID:000000010064880

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

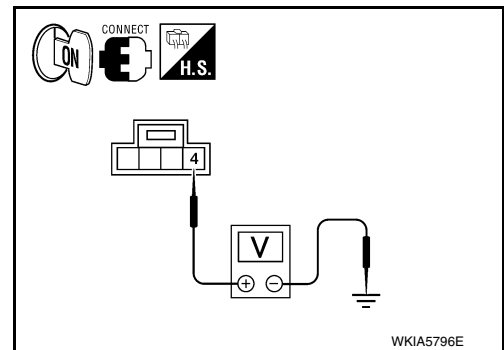
## 1. CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

1. Turn ignition switch ON.
2. Check voltage between microphone harness connector R7 terminal 4 and ground.

| (+)       |          | (-)    | Value (Approx.) |
|-----------|----------|--------|-----------------|
| Connector | Terminal |        |                 |
| R7        | 4        | Ground | 5V              |

Is approximately 5V present?

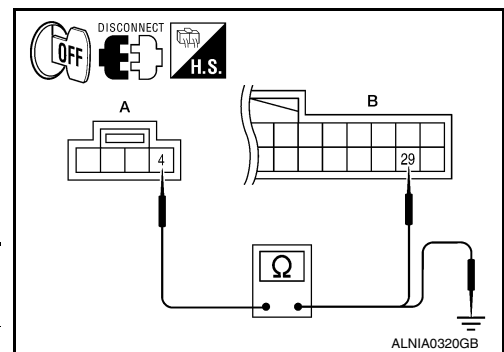
- YES >> GO TO 4.
- NO >> GO TO 2.



## 2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect microphone and Bluetooth® control unit harness connectors.
3. Check continuity between microphone harness connector R7 (A) terminal 4 and Bluetooth® control unit harness connector B131 (B) terminal 29.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| R7        | 4        | B131      | 29       | Yes        |



4. Check continuity between microphone harness connector R7 (A) terminal 4 and ground.

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| R7        | 4        | Ground | No         |

Are the continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

## 3. CHECK POWER SUPPLY CIRCUIT (BLUETOOTH® CONTROL UNIT SIDE)

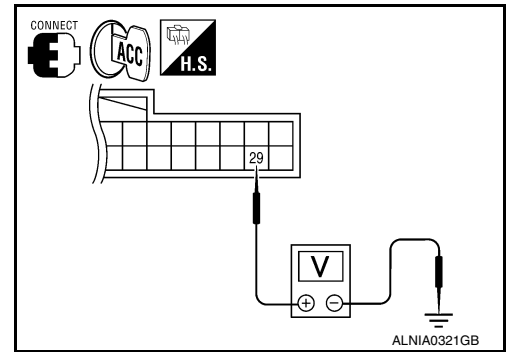
1. Connect Bluetooth® control unit harness connector.
2. Turn ignition switch to ACC.
3. Check voltage between Bluetooth® control unit harness connector B131 terminal 29 and ground.

| (+)       |          | (-)    | Value (Approx.) |
|-----------|----------|--------|-----------------|
| Connector | Terminal |        |                 |
| B131      | 29       | Ground | 5V              |

Is approximately 5V present?

YES >> Go to 4.

NO >> Replace Bluetooth® control unit. Refer to [AV-333](#), "Removal and Installation".



## 4. CHECK GROUND CIRCUIT

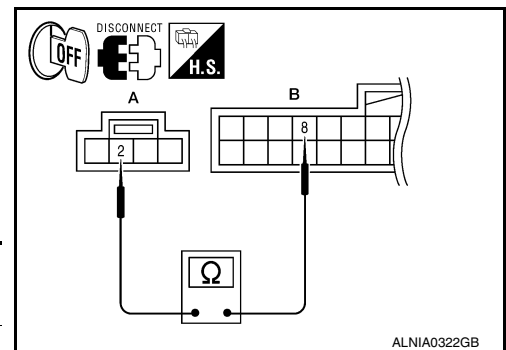
1. Turn ignition switch OFF.
2. Disconnect microphone harness connector R7 and Bluetooth® control unit harness connector B131.
3. Check continuity between microphone harness connector R7 (A) terminal 2 and Bluetooth® control unit harness connector B131 (B) terminal 8.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| R7        | 2        | B131      | 8        | Yes        |

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.



# RGB (R: RED) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## RGB (R: RED) SIGNAL CIRCUIT

### Description

INFOID:0000000110064881

Transmit the image displayed with AV control unit with RGB signal to the display unit.

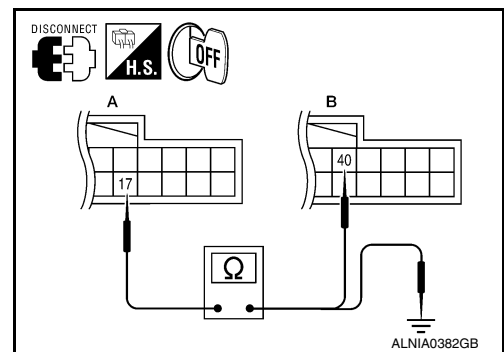
### Diagnosis Procedure

INFOID:0000000110064882

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

### 1. CHECK CONTINUITY RGB (R: RED) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M141 and AV control unit connector M117.
3. Check continuity between display unit harness connector M141 (A) terminal 17 and AV control unit harness connector M117 (B) terminal 40.



| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 17       | M117      | 40       | Yes        |

4. Check continuity between display unit harness connector M141 (A) terminal 17 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 17       | Ground | No         |

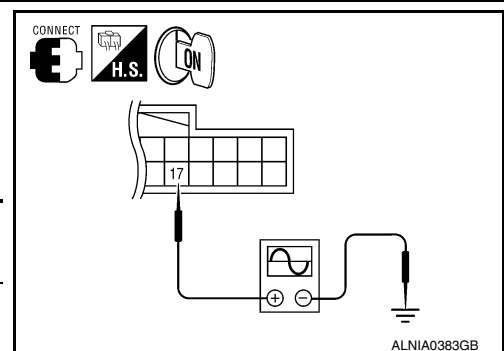
Are the continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

### 2. CHECK RGB (R: RED) SIGNAL

1. Connect display unit connector M141 and AV control unit connector M117.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 17 and ground.



| (+) Connector |          | (-)    | Condition            | Reference signal |
|---------------|----------|--------|----------------------|------------------|
| Connector     | Terminal |        |                      |                  |
| M141          | 17       | Ground | Receive audio signal |                  |

Are the voltage readings as specified?

YES >> Replace display unit. Refer to [AV-314, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).

# RGB (G: GREEN) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## RGB (G: GREEN) SIGNAL CIRCUIT

### Description

INFOID:000000010064883

Transmit the image displayed with AV control unit with RGB signal to the display unit.

### Diagnosis Procedure

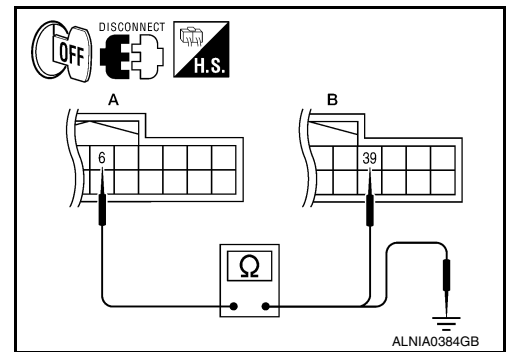
INFOID:000000010064884

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

### 1. CHECK CONTINUITY RGB (G: GREEN) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M141 and AV control unit connector M117.
3. Check continuity between display unit harness connector M141 (A) terminal 6 and AV control unit harness connector M117 (B) terminal 39.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 6        | M117      | 39       | Yes        |



4. Check continuity between display unit harness connector M141 (A) terminal 6 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 6        | Ground | No         |

Are the continuity results as specified?

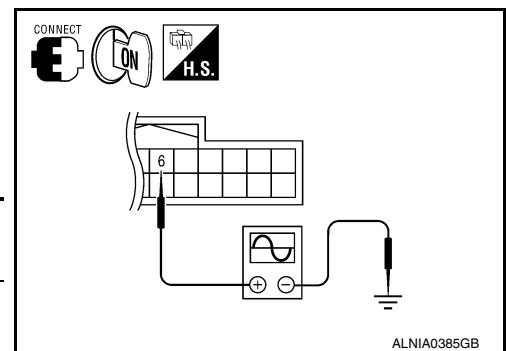
YES >> GO TO 2.

NO >> Repair harness or connector.

### 2. CHECK RGB (G: GREEN) SIGNAL

1. Connect display unit connector M141 and AV control unit connector M117.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 6 and ground.

| (+)       |          | (-)    | Condition            | Reference signal |
|-----------|----------|--------|----------------------|------------------|
| Connector | Terminal |        |                      |                  |
| M141      | 6        | Ground | Receive audio signal |                  |



Are voltage readings as specified?

YES >> Replace display unit. Refer to [AV-314, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).



# RGB (B: BLUE) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## RGB (B: BLUE) SIGNAL CIRCUIT

### Description

INFOID:000000010064885

Transmit the image displayed with AV control unit with RGB signal to the display unit.

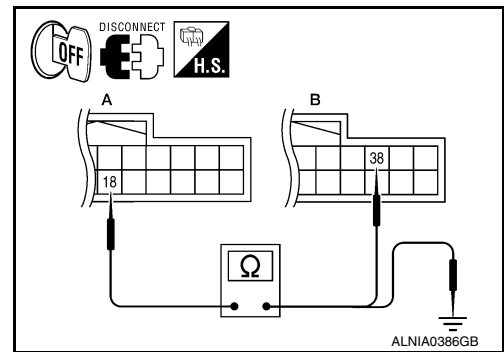
### Diagnosis Procedure

INFOID:000000010064886

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

### 1. CHECK CONTINUITY RGB (B: BLUE) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M141 and AV control unit connector M117.
3. Check continuity between display unit harness connector M141 (A) terminal 18 and AV control unit harness connector M117 (B) terminal 38.



| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 18       | M117      | 38       | Yes        |

4. Check continuity between display unit harness connector M141 (A) terminal 18 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 18       | Ground | No         |

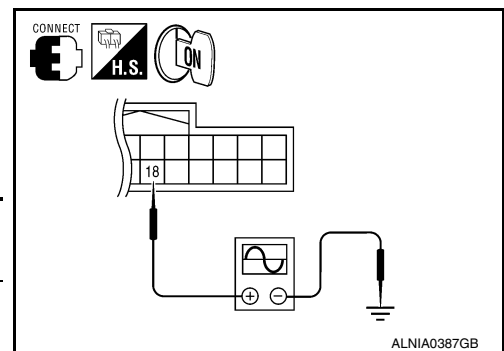
Are continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

### 2. CHECK RGB (B: BLUE) SIGNAL

1. Connect display unit connector M141 and AV control unit connector M117.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 18 and ground.



| (+)       |          | (-)    | Condition            | Reference signal |
|-----------|----------|--------|----------------------|------------------|
| Connector | Terminal |        |                      |                  |
| M141      | 18       | Ground | Receive audio signal |                  |

Are voltage readings as specified?

YES >> Replace display unit. Refer to [AV-314, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).

# RGB SYNCHRONIZING SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## RGB SYNCHRONIZING SIGNAL CIRCUIT

### Description

INFOID:000000010064887

Transmit the RGB synchronizing signal to the display unit so as to synchronize the RGB image displayed with AV control unit.

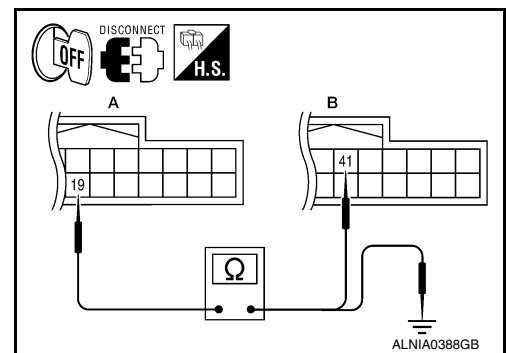
### Diagnosis Procedure

INFOID:000000010064888

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

### 1. CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M141 and AV control unit connector M117.
3. Check continuity between display unit harness connector M141 (A) terminal 19 and AV control unit harness connector M117 (B) terminal 41.



| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 19       | M117      | 41       | Yes        |

4. Check continuity between display unit harness connector M141 (A) terminal 19 and ground.

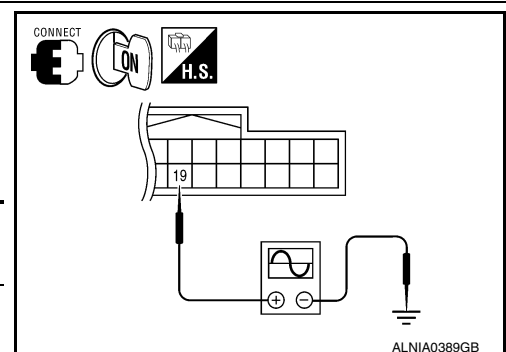
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 19       | Ground | No         |

Are continuity results as specified?

- YES >> GO TO 2.  
 NO >> Repair harness or connector.

### 2. CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector M141 and AV control unit connector M117.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 19 and ground.



| (+) Connector |    | (-) Terminal | Condition            | Reference signal |
|---------------|----|--------------|----------------------|------------------|
| M141          | 19 | Ground       | Receive audio signal |                  |

Are voltage readings as specified?

- YES >> Replace display unit. Refer to [AV-314, "Removal and Installation"](#).  
 NO >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).

# RGB AREA (YS) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## RGB AREA (YS) SIGNAL CIRCUIT

### Description

INFOID:0000000110064889

Transmits the display area of RGB image displayed by AV control unit with RGB area (YS) signal to display unit.

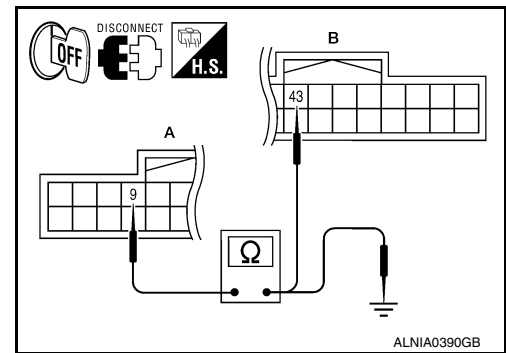
### Diagnosis Procedure

INFOID:0000000110064890

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

### 1. CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M141 and AV control unit connector M117.
3. Check continuity between display unit harness connector M141 (A) terminal 9 and AV control unit harness connector M117 (B) terminal 43.



| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 9        | M117      | 43       | Yes        |

4. Check continuity between display unit harness connector M141 (A) terminal 9 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 9        | Ground | No         |

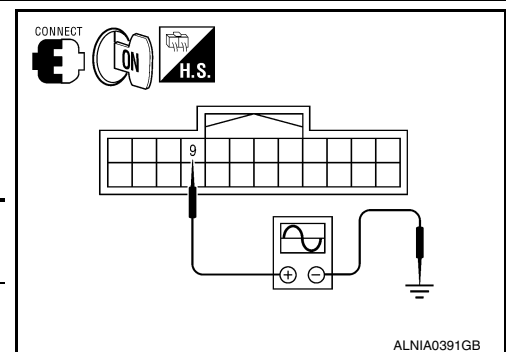
Are continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

### 2. CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector M141 and AV control unit connector M117.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 9 and ground.



| (+) Connector |          | (-)    | Condition            | Reference signal |
|---------------|----------|--------|----------------------|------------------|
| Connector     | Terminal |        |                      |                  |
| M141          | 9        | Ground | Receive audio signal |                  |

Are voltage readings as specified?

YES >> Replace display unit. Refer to [AV-314, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).

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AV

# HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

### Description

INFOID:000000010064891

In composite image (AUX image, camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to AV control unit so as to synchronize the RGB images displayed with AV control unit such as the image quality adjusting menu, etc.

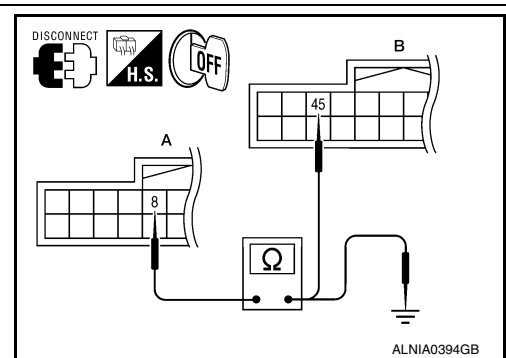
### Diagnosis Procedure

INFOID:000000010064892

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

### 1. CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M141 and AV control unit connector M117.
3. Check continuity between display unit harness connector M141 (A) terminal 8 and AV control unit harness connector M117 (B) terminal 45.



| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 8        | M117      | 45       | Yes        |

4. Check continuity between display unit harness connector M141 (A) terminal 8 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 8        | Ground | No         |

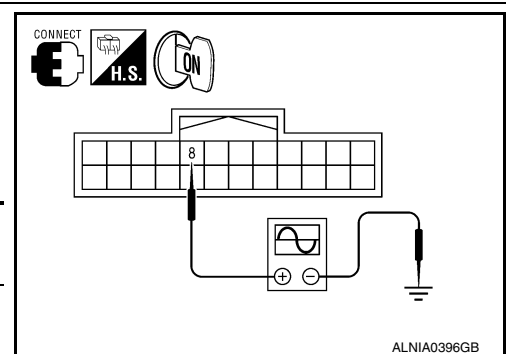
Are continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

### 2. CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

1. Connect display unit connector M141 and AV control unit connector M117.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 8 and ground.



| (+) Connector |   | (-) Terminal | Condition            | Reference signal |
|---------------|---|--------------|----------------------|------------------|
| M141          | 8 | Ground       | Receive audio signal | <p>SKIB3601E</p> |

Are voltage readings as specified?

YES >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).

# HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

NO >> Replace display unit. Refer to [AV-314. "Removal and Installation"](#).

A

B

C

D

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K

L

M

AV

O

P

# VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

### Description

INFOID:000000010064893

In composite image (AUX image, camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to AV control unit so as to synchronize the RGB images displayed with AV control unit, such as the image quality adjusting menu, etc.

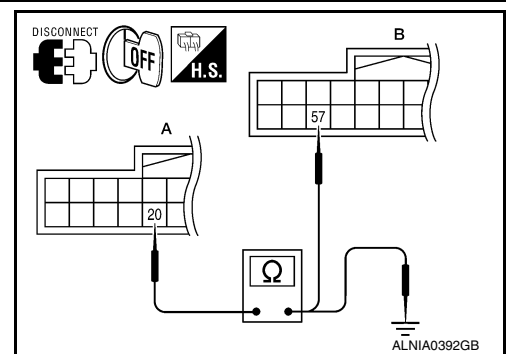
### Diagnosis Procedure

INFOID:000000010064894

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

## 1. CHECK CONTINUITY VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M141 and AV control unit connector M117.
3. Check continuity between display unit harness connector M141 (A) terminal 20 and AV control unit harness connector M117 (B) terminal 57.



| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 20       | M117      | 57       | Yes        |

4. Check continuity between display unit harness connector M141 (A) terminal 20 and ground.

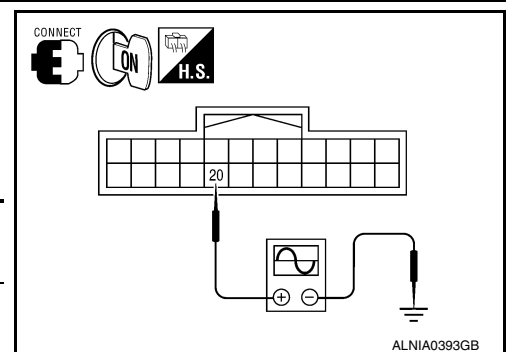
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 20       | Ground | No         |

Are continuity results as specified?

- YES >> GO TO 2.  
 NO >> Repair harness or connector.

## 2. CHECK VERTICAL SYNCHRONIZING (VP) SIGNAL

1. Connect display unit connector M141 and AV control unit connector M117.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 20 and ground.



| (+)       |          | (-)    | Condition            | Reference signal |
|-----------|----------|--------|----------------------|------------------|
| Connector | Terminal |        |                      |                  |
| M141      | 20       | Ground | Receive audio signal |                  |

Are voltage readings as specified?

- YES >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).

# VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

NO >> Replace display unit. Refer to [AV-314. "Removal and Installation"](#).

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# FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## FRONT DOOR SPEAKER

### Description

INFOID:000000010064895

The AV control unit sends audio signals to the front door speakers using the front door speaker circuits.

### Diagnosis Procedure

INFOID:000000010064896

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

### 1. CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

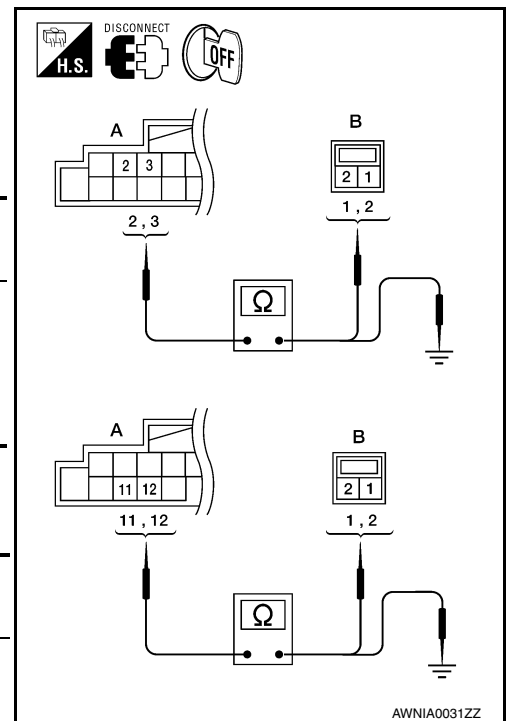
### 2. HARNESS CHECK

1. Disconnect AV control unit connector M115 (A) and suspect speaker connector (B).
2. Check continuity between AV control unit harness connector M115 (A) terminal and suspect speaker harness connector (B) terminal.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M115      | 2        | D3        | 1        | Yes        |
|           | 3        |           | 2        |            |
|           | 11       | D103      | 1        |            |
|           | 12       |           | 2        |            |

3. Check continuity between AV control unit harness connector M115 (A) terminal and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M115      | 2        | Ground | No         |
|           | 3        |        |            |
|           | 11       |        |            |
|           | 12       |        |            |



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Are continuity results as specified?

YES >> GO TO 3.

- NO >>
- Check connector housings for disconnected or loose terminals.
  - Repair harness or connector.

### 3. FRONT DOOR SPEAKER SIGNAL CHECK

1. Connect AV control unit connector and front speaker connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.



# FRONT DOOR SPEAKER

[COLOR DISPLAY - W/O BOSE]

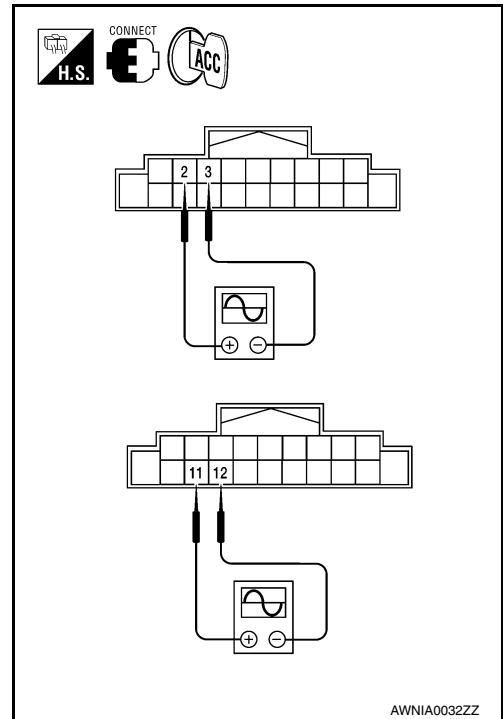
## < DTC/CIRCUIT DIAGNOSIS >

- Check the signal between AV control unit harness connector terminals with CONSULT or oscilloscope.

| (+) Connector |          | (-) Terminal |          | Condition            | Reference signal |
|---------------|----------|--------------|----------|----------------------|------------------|
| Terminal      | Terminal | Terminal     | Terminal |                      |                  |
| M115          | 2        | 11           | 3        | Receive audio signal |                  |

Is the inspection result normal?

- YES >> Replace speaker. Refer to [AV-319, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).



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TWEETER

Description

INFOID:000000010064897

The AV control unit sends audio signals to the tweeters using the front door speaker circuits.

Diagnosis Procedure

INFOID:000000010064898

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

1.CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

- YES >> GO TO 2
- NO >> Repair the terminal and connector.

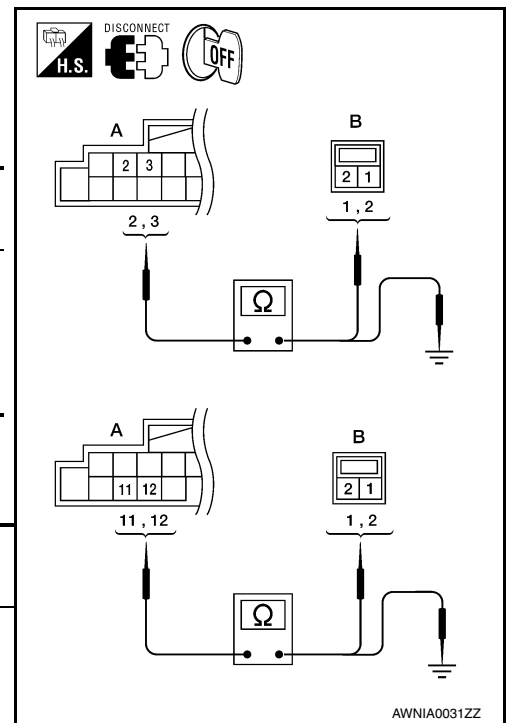
2.HARNES CHECK

1. Disconnect AV control unit connector M115 (A) and suspect tweeter connector (B).
2. Check continuity between AV control unit harness connector M115 (A) and suspect tweeter harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M115      | 2        | M143      | 1        | Yes        |
|           | 3        |           | 2        |            |
|           | 11       | M144      | 1        |            |
|           | 12       |           | 2        |            |

3. Check continuity between AV control unit harness connector M115 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M115      | 2        | Ground | No         |
|           | 3        |        |            |
|           | 11       |        |            |
|           | 12       |        |            |



Are the continuity results as specified?

- YES >> GO TO 3.
- NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

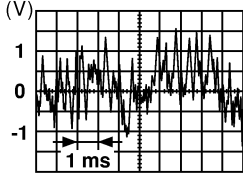
3.TWEETER SIGNAL CHECK

# TWEETER

## < DTC/CIRCUIT DIAGNOSIS >

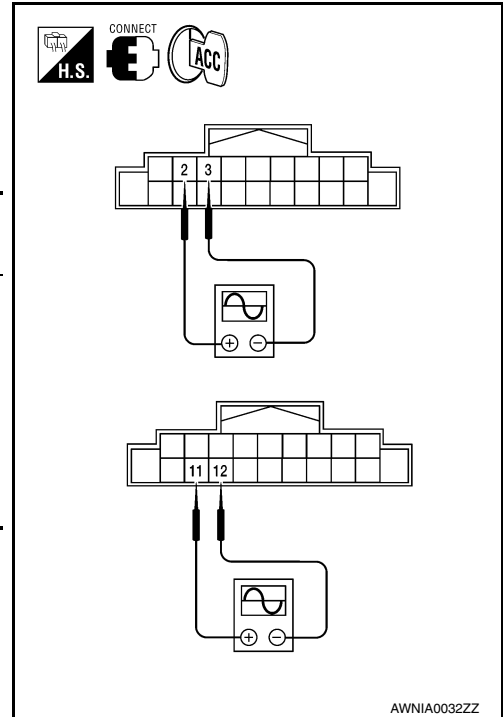
1. Connect AV control unit connector and tweeter connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between AV control unit harness connector terminals with CONSULT or oscilloscope.

[COLOR DISPLAY - W/O BOSE]

| (+)       |          | (-)      |                      | Condition  | Reference signal |
|-----------|----------|----------|----------------------|--|------------------|
| Connector | Terminal | Terminal | Terminal             |  |                  |
| M115      | 2        | 3        | Receive audio signal | <br>SKIA0177E |                  |
|           | 11       | 12       |                      |  |                  |

Is the audio signal voltage as specified?

- YES >> Replace tweeter. Refer to [AV-318. "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-314. "Removal and Installation"](#).



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AV

# REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## REAR DOOR SPEAKER

### Description

INFOID:000000010064901

The AV control unit sends audio signals to the rear door speakers using the rear door speaker circuits.

### Diagnosis Procedure

INFOID:000000010064902

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

### 1. CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

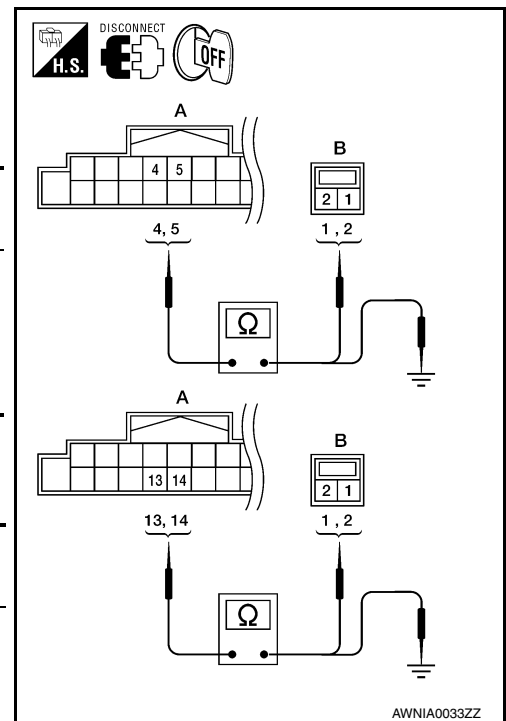
### 2. HARNESS CHECK

1. Disconnect AV control unit connector M115 (A) and suspect speaker connector.
2. Check continuity between AV control unit harness connector M115 (A) and suspect speaker harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M115      | 4        | D202      | 1        | Yes        |
|           | 5        |           | 2        |            |
|           | 13       | D302      | 1        |            |
|           | 14       |           | 2        |            |

3. Check continuity between AV control unit harness connector M115 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M115      | 4        | Ground | No         |
|           | 5        |        |            |
|           | 13       |        |            |
|           | 14       |        |            |



Are the continuity results as specified?

YES >> GO TO 3.

- NO >>
- Check connector housings for disconnected or loose terminals.
  - Repair harness or connector.

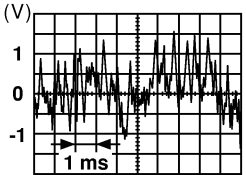
### 3. REAR DOOR SPEAKER SIGNAL CHECK

# REAR DOOR SPEAKER

[COLOR DISPLAY - W/O BOSE]

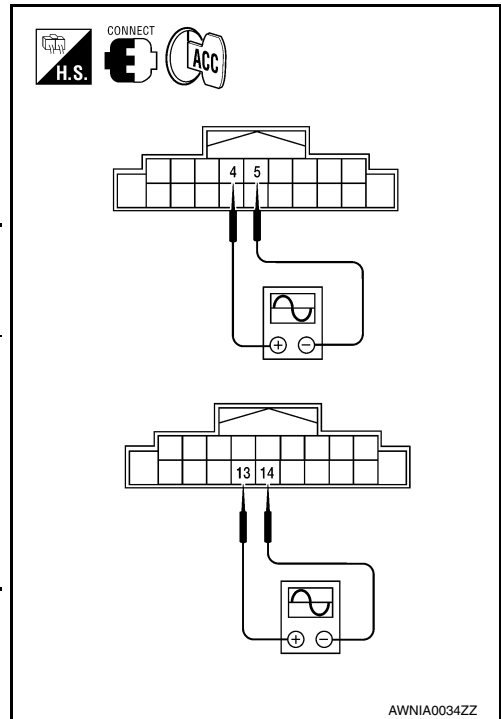
## < DTC/CIRCUIT DIAGNOSIS >

1. Connect AV control unit connector and rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between AV control unit harness connector terminals with CONSULT or oscilloscope.

| Connector | (+)      |          | (-)      |          | Condition            | Reference signal  |
|-----------|----------|----------|----------|----------|----------------------|---|
|           | Terminal | Terminal | Terminal | Terminal |                      |   |
| M115      | 4        | 5        | 13       | 14       | Receive audio signal | <br><small>SKIA0177E</small> |
|           |          |          |          |          |                      |   |

Is the audio signal voltage as specified?

- YES >> Replace rear door speaker. Refer to [AV-320, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).



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# SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## SUBWOOFER

### Description

INFOID:000000010064903

The AV control unit sends audio signals to the subwoofer amp. The subwoofer amp. amplifies the audio signals before sending them to the subwoofers using the audio signal circuits.

### Diagnosis Procedure

INFOID:000000010064904

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

## 1.CONNECTOR CHECK

Check the AV control unit, subwoofer amp. and subwoofer connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

- YES >> GO TO 2  
 NO >> Repair the terminal and connector.

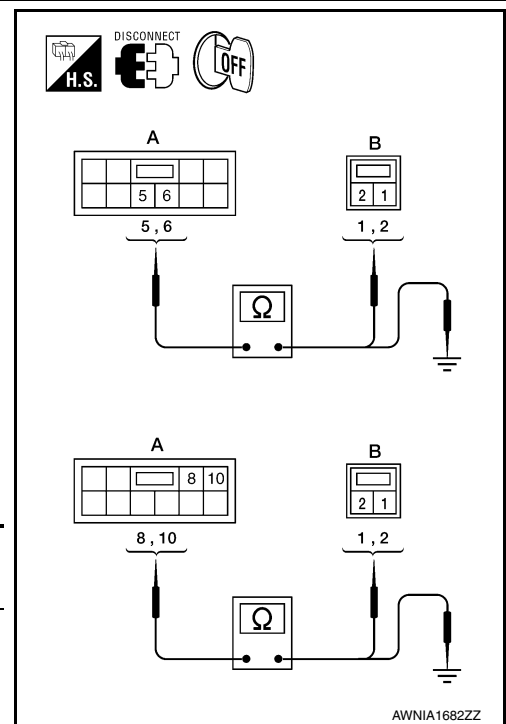
## 2.HARNES CHECK

1. Disconnect subwoofer amp. connector B21 and suspect subwoofer connector.
2. Check continuity between subwoofer amp. harness connector B21 (A) and suspect subwoofer harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B21       | 6        | B16       | 1        | Yes        |
|           | 5        |           | 2        |            |
|           | 10       | B17       | 1        |            |
|           | 8        |           | 2        |            |

3. Check continuity between subwoofer harness connector B21 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B21       | 6        | Ground | No         |
|           | 5        |        |            |
|           | 10       |        |            |
|           | 8        |        |            |



Are the continuity test results as specified?

- YES >> GO TO 3.  
 NO >> • Check connector housings for disconnected or loose terminals.  
 • Repair harness or connector.

## 3.REAR SUBWOOFER SIGNAL CHECK

# SUBWOOFER

## < DTC/CIRCUIT DIAGNOSIS >

1. Connect subwoofer amp. connector B21 and suspect subwoofer connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between subwoofer amp. harness connector B21 terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal |
|-----------|-----------|-----|----------------------|------------------|
|           | (+)       | (-) |                      |                  |
| B21       | 6         | 5   | Receive audio signal |                  |
|           | 10        | 8   |                      |                  |

SKIA0177E

Is the audio signal voltage as specified?

YES >> Replace suspect subwoofer. Refer to [AV-321, "Removal and Installation"](#).

NO >> GO TO 4.

## 4. HARNESS CHECK

1. Disconnect AV control unit connector M115 and subwoofer speaker amp. connector B21.
2. Check continuity between AV control unit harness connector M115 (A) and subwoofer amp. harness connector B21 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M115      | 4        | B21       | 2        | Yes        |
|           | 5        |           | 1        |            |
|           | 13       |           | 4        |            |
|           | 14       |           | 3        |            |

3. Check continuity between AV control unit harness connector M115 (A) terminal and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M115      | 4        | Ground | No         |
|           | 5        |        |            |
|           | 13       |        |            |
|           | 14       |        |            |

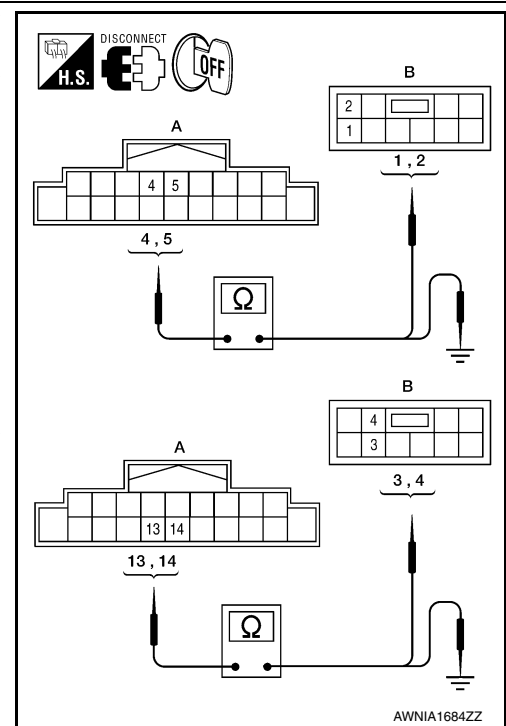
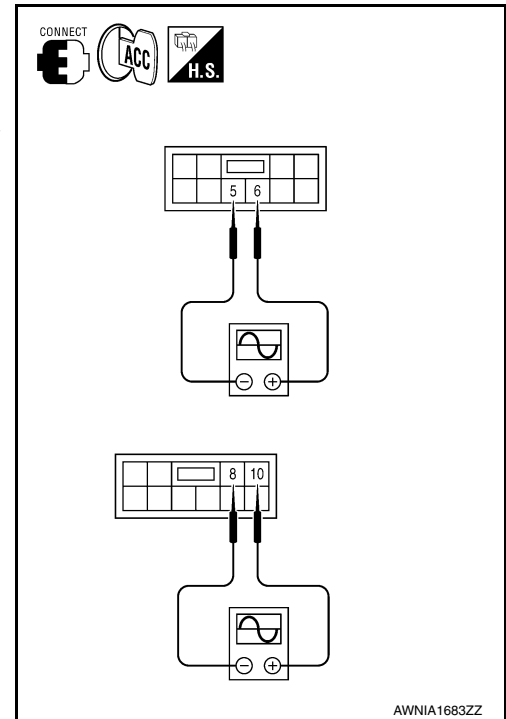
Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 5. SUBWOOFER SIGNAL CHECK

## [COLOR DISPLAY - W/O BOSE]

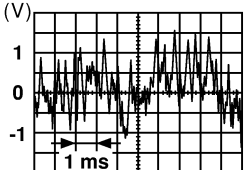


# SUBWOOFER

## < DTC/CIRCUIT DIAGNOSIS >

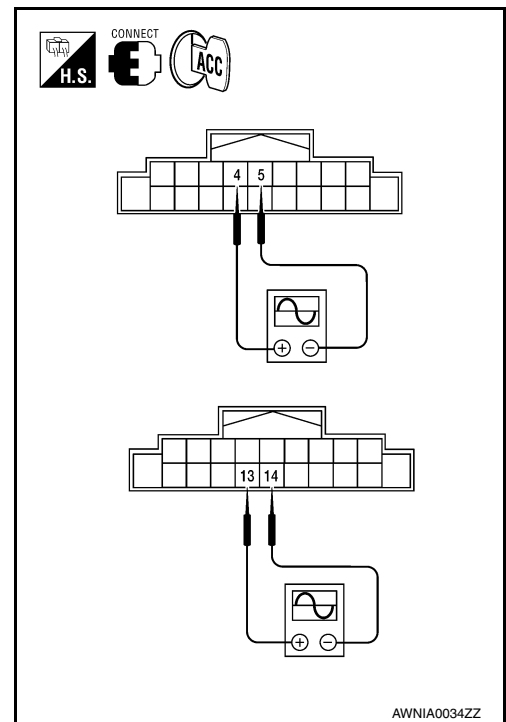
[COLOR DISPLAY - W/O BOSE]

1. Connect AV control unit connector M115 and subwoofer amp. connector B21.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between AV control unit harness connector M115 terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal   |
|-----------|-----------|-----|----------------------|--|
|           | (+)       | (-) |                      |  |
| M115      | 4         | 5   | Receive audio signal |  <p style="text-align: center;">SKIA0177E</p> |
|           | 13        | 14  |                      |  |

Is the audio signal voltage as specified?

- YES >> Replace subwoofer amp. Refer to [AV-322, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).





# STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## STEERING SWITCH

### Description

INFOID:000000010064907

When one of the steering wheel audio control switches is pushed, the resistance in the steering wheel audio control switch circuit changes, depending on which button is pushed.

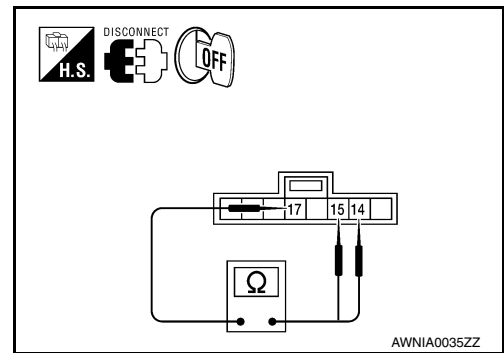
### Diagnosis Procedure

INFOID:000000010064908

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

### 1. CHECK STEERING SWITCH RESISTANCE

1. Disconnect steering switch connector M88.
2. Check resistance between steering switch connector terminals.



| Terminal | Signal name   | Condition                   | Resistance (Ω) (Approx.) |
|----------|---------------|-----------------------------|--------------------------|
| 14       | Volume (down) | Depress volume DOWN switch. | 0                        |
|          | Volume (up)   | Depress volume UP switch.   | 121                      |
|          | Phone/End     | Depress  switch.            | 321                      |
| 15       | Source        | Depress SOURCE switch.      | 0                        |
|          | Seek (up)     | Depress  switch.            | 121                      |
|          | Seek (down)   | Depress  switch.            | 321                      |
|          | Phone/Send    | Depress  switch.            | 723                      |

#### Do the steering switches check OK?

YES >> GO TO 2.

NO >> Replace steering switch. Refer to [AV-326, "Removal and Installation"](#).

### 2. CHECK HARNESS BETWEEN COMBINATION SWITCH (SPIRAL CABLE) AND AV CONTROL UNIT

1. Disconnect AV control unit connector M115.
2. Check continuity between AV control unit harness connector M115 and combination switch (spiral cable) harness connector M30.

| Connector | Terminal | Connector | Terminal | Continuity |
|-----------|----------|-----------|----------|------------|
| M115      | 6        | M30       | 24       | Yes        |
|           | 16       |           | 31       |            |
|           | 15       |           | 33       |            |

3. Check continuity between AV control unit connector M115 and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| M115      | 6        | Ground | No         |
|           | 16       |        |            |
|           | 15       |        |            |

#### Are the continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness.

# STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## 3.COMBINATION SWITCH (SPIRAL CABLE) CHECK

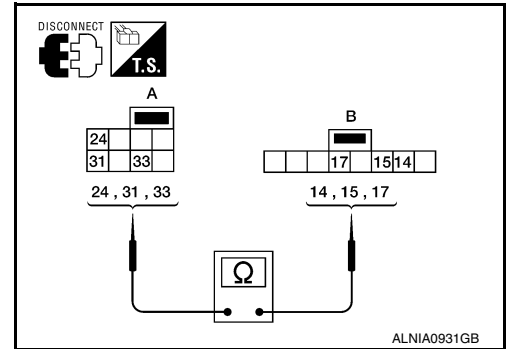
1. Disconnect combination switch (spiral cable) connector M88.
2. Check continuity between combination switch (spiral cable) harness connector M30 (A) and M88 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M30       | 24       | M88       | 14       | Yes        |
|           | 31       |           | 15       |            |
|           | 33       |           | 17       |            |

Does the combination switch (spiral cable) check OK?

YES >> Inspection End.

NO >> Replace combination switch (spiral cable). Refer to [SR-15, "Removal and Installation"](#).



# COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## COMMUNICATION SIGNAL CIRCUIT

### SATELLITE RADIO TUNER

#### SATELLITE RADIO TUNER : Description

INFOID:000000010064909

Communication signals are exchanged between the AV control unit and satellite radio tuner using the communication circuits.

#### SATELLITE RADIO TUNER : Diagnosis Procedure

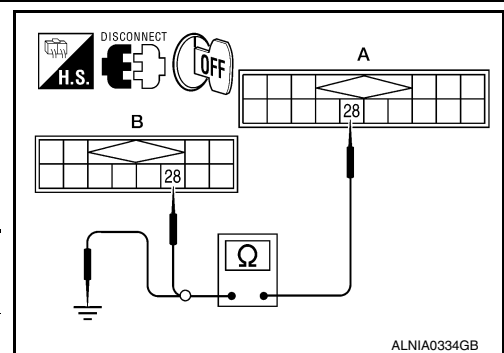
INFOID:000000010064910

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

### 1.CHECK HARNESS - 1

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector B111 and AV control unit connector M116.
3. Check continuity between satellite radio tuner (factory installed) harness connector B111 (A) terminal 28 and AV control unit harness connector M116 (B) terminal 28.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B111      | 28       | M116      | 28       | Yes        |



4. Check continuity between satellite radio tuner (factory installed) harness connector B111 (A) terminal 28 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B111      | 28       | Ground | No         |

Are continuity results as specified?

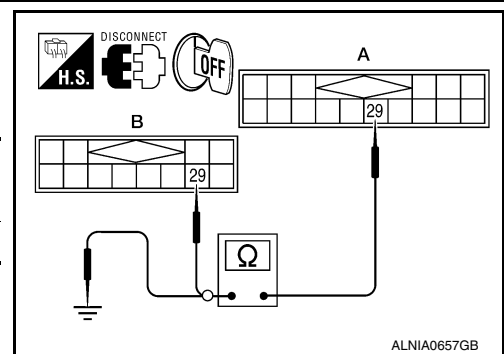
YES >> GO TO 2.

NO >> Repair harness or connector.

### 2.CHECK HARNESS - 2

1. Check continuity between satellite radio tuner (factory installed) harness connector B111 (A) terminal 29 and AV control unit harness connector M116 (B) terminal 29.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B111      | 29       | M116      | 29       | Yes        |



2. Check continuity between satellite radio tuner (factory installed) harness connector B111 (A) terminal 29 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B111      | 29       | Ground | No         |

Are continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

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# COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## 3. CHECK HARNESS - 3

1. Check continuity between satellite radio tuner (factory installed) harness connector B111 (A) terminal 30 and AV control unit harness connector M116 (B) terminal 30.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B111      | 30       | M116      | 30       | Yes        |

2. Check continuity between satellite radio tuner (factory installed) harness connector B111 (A) terminal 30 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B111      | 30       | Ground | No         |

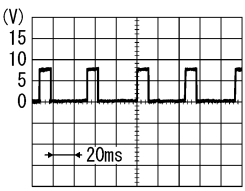
Are continuity results as specified?

YES >> GO TO 4.

NO >> Repair harness or connector.

## 4. CHECK REQ1 SIGNAL

1. Connect satellite radio tuner (factory installed) connector and AV control unit connector.
2. Turn ignition switch to ACC.
3. Check signal between satellite radio tuner (factory installed) harness connector B111 terminal 28 and ground with CONSULT or oscilloscope.

| (+)       |          | (-)    | Reference signal   |
|-----------|----------|--------|--|
| Connector | Terminal |        |  |
| B111      | 28       | Ground |  <p>SKIB3825E</p> |

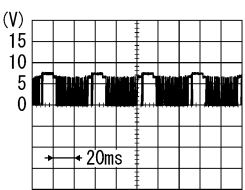
Are voltage readings as specified?

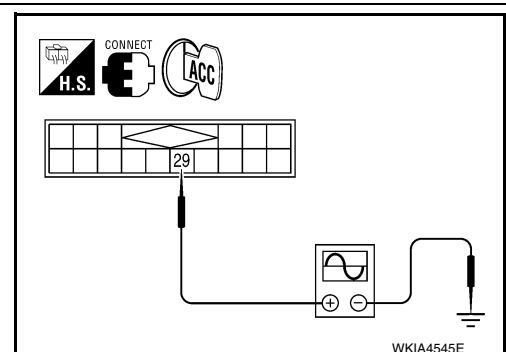
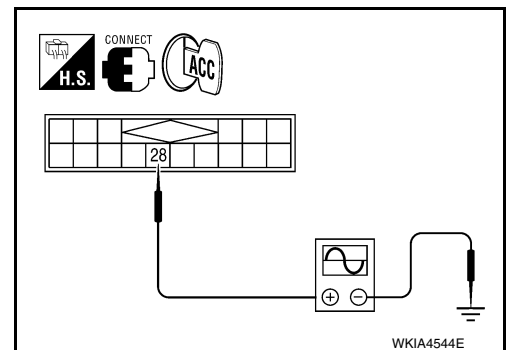
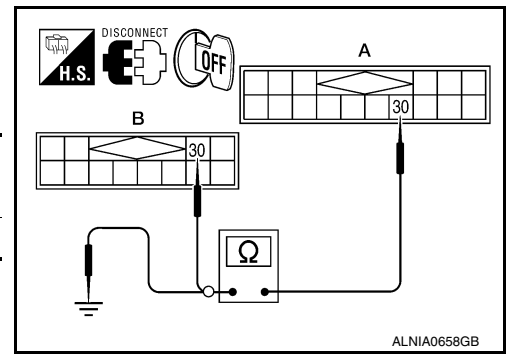
YES >> GO TO 5.

NO >> Replace AV control unit. Refer to [AV-311. "Removal and Installation"](#).

## 5. CHECK TXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector B111 terminal 29 and ground with CONSULT or oscilloscope.

| (+)       |          | (-)    | Reference signal   |
|-----------|----------|--------|--|
| Connector | Terminal |        |  |
| B111      | 29       | Ground |  <p>SKIB3824E</p> |



# COMMUNICATION SIGNAL CIRCUIT

[COLOR DISPLAY - W/O BOSE]

< DTC/CIRCUIT DIAGNOSIS >

Are the voltage readings as specified?

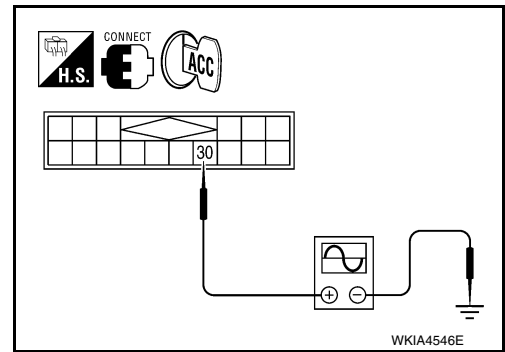
YES >> GO TO 6.

NO >> Replace satellite radio tuner. Refer to [AV-324. "Removal and Installation"](#).

## 6. CHECK RXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector B111 terminal 30 and ground with CONSULT or oscilloscope.

| (+)       |          | (-)    | Reference signal |
|-----------|----------|--------|------------------|
| Connector | Terminal |        |                  |
| B111      | 30       | Ground |                  |



Are the voltage readings as specified?

YES >> Replace satellite radio tuner. Refer to [AV-324. "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-311. "Removal and Installation"](#).

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# SOUND SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## SOUND SIGNAL CIRCUIT SATELLITE RADIO TUNER

### SATELLITE RADIO TUNER : Description

INFOID:000000010064911

Left and right channel audio signals are supplied from the satellite radio tuner to the AV control unit through the sound signal circuits.

### SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000010064912

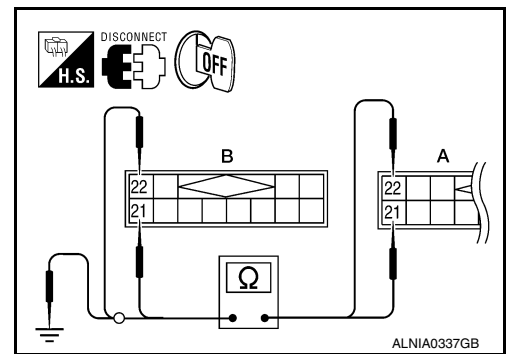
Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

#### LEFT CHANNEL

#### 1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector B111 and AV control unit connector M116.
3. Check continuity between satellite radio tuner (factory installed) connector B111 (A) and AV control unit connector M116 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B111      | 21       | M116      | 21       | Yes        |
|           | 22       |           | 22       |            |



4. Check continuity between satellite radio tuner (factory installed) connector B111 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B111      | 21       | Ground | No         |
|           | 22       |        |            |

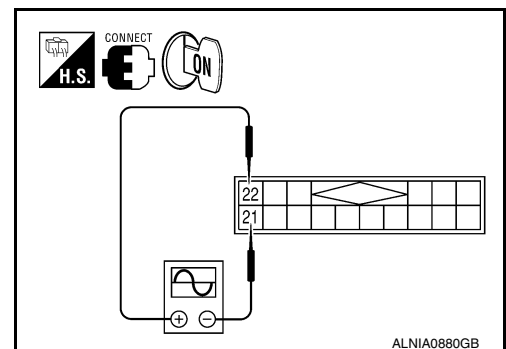
Are continuity results as specified?

- YES >> GO TO 2.  
NO >> Repair harness or connector.

#### 2. CHECK LEFT CHANNEL AUDIO SIGNAL

1. Connect satellite radio tuner (factory installed) and AV control unit.
2. Turn ignition switch ON.
3. Check signal between satellite radio tuner (factory installed) connector B111 terminals 21 and 22 with CONSULT or oscilloscope.

| (+) Terminal |          | (-) Terminal |          | Reference signal |
|--------------|----------|--------------|----------|------------------|
| Connector    | Terminal | Connector    | Terminal |                  |
| B111         | 22       | B111         | 21       |                  |



Are voltage readings as specified?

# SOUND SIGNAL CIRCUIT

[COLOR DISPLAY - W/O BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

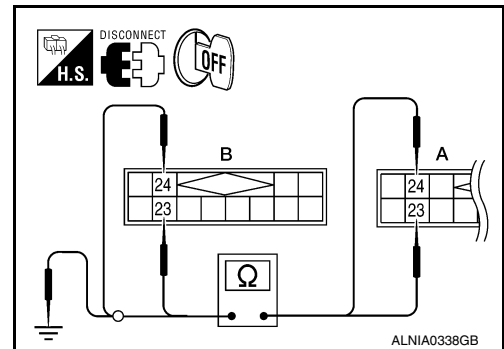
- YES >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).  
 NO >> Replace satellite radio tuner. Refer to [AV-324, "Removal and Installation"](#).

### RIGHT CHANNEL

#### 1. CHECK HARNESS

- Turn ignition switch OFF.
- Disconnect satellite radio tuner (factory installed) connector B111 and AV control unit connector M116.
- Check continuity between satellite radio tuner (factory installed) B111 (A) and AV control unit M116 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B111      | 23       | M116      | 23       | Yes        |
|           | 24       |           | 24       |            |



- Check continuity between satellite radio tuner (factory installed) connector B111 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B111      | 23       | Ground | No         |
|           | 24       |        |            |

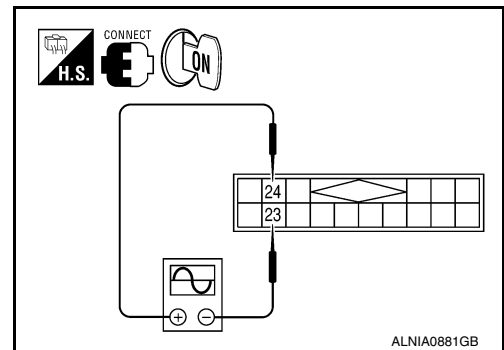
#### Are continuity results as specified?

- YES >> GO TO 2.  
 NO >> Repair harness or connector.

#### 2. CHECK RIGHT CHANNEL AUDIO SIGNAL

- Connect satellite radio tuner (factory installed) and AV control unit.
- Turn ignition switch ON.
- Check signal between satellite radio tuner (factory installed) connector B111 terminals 23 and 24 with CONSULT or oscilloscope.

| (+)       |          | (-) |  | Reference signal |
|-----------|----------|-----|--|------------------|
| Connector | Terminal |     |  |                  |
| B111      | 24       | 23  |  | <p>SKIB3609E</p> |



#### Are voltage readings as specified?

- YES >> Replace AV control unit. Refer to [AV-311, "Removal and Installation"](#).  
 NO >> Replace satellite radio tuner. Refer to [AV-324, "Removal and Installation"](#).

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# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## MICROPHONE SIGNAL CIRCUIT

### Description

INFOID:000000010064913

Voice signals are transmitted from the microphone to the Bluetooth® control unit using the microphone signal circuits.

### Diagnosis Procedure

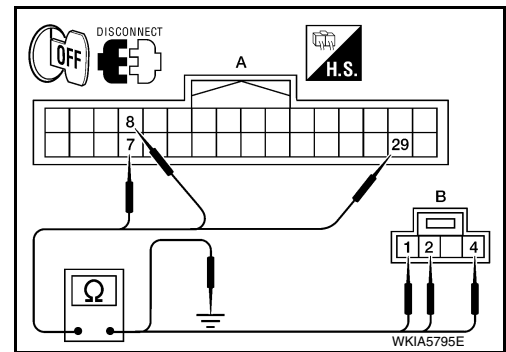
INFOID:000000010064914

Regarding Wiring Diagram information, refer to [AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"](#).

### 1. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector and microphone connector.
3. Check continuity between Bluetooth® control unit harness connector B131 (A) and microphone harness connector R7 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B131      | 7        | R7        | 1        | Yes        |
|           | 8        |           | 2        |            |
|           | 29       |           | 4        |            |



4. Check continuity between Bluetooth® control unit harness connector B131 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B131      | 7        | Ground | No         |
|           | 8        |        |            |
|           | 29       |        |            |

Are the continuity test results as specified?

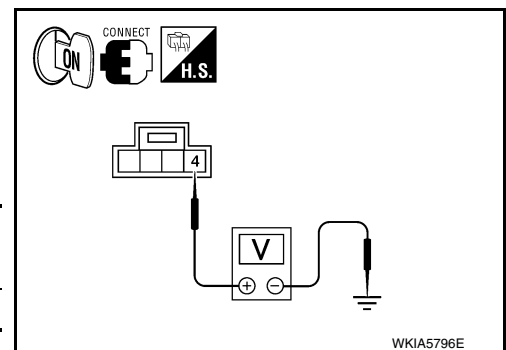
YES >> GO TO 2.

NO >> Repair harness or connector.

### 2. CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth® control unit connector and microphone connector.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector R7 terminal 4 and ground.

| (+)       |          | (-)    | Voltage (Approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| R7        | 4        | Ground | 5V                |



Is voltage reading approx. 5 volts?

YES >> GO TO 3.

NO >> Replace Bluetooth® control unit. Refer to [AV-333, "Removal and Installation"](#).

### 3. CHECK MICROPHONE SIGNAL

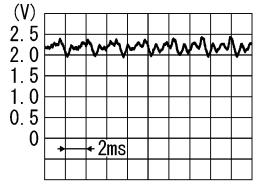


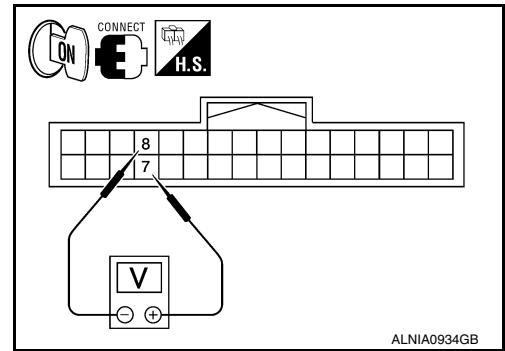
# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

Check signal between Bluetooth® control unit harness connector B131 terminals 7 and 8.

| Connector | (+)      | (-)      | Reference signal   |
|-----------|----------|----------|--|
|           | Terminal | Terminal |  |
| B131      | 7        | 8        | While talking into microphone<br><br><small>PKIB5037J</small> |



Are voltage readings as specified?

- YES >> Replace Bluetooth® control unit. Refer to [AV-333, "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-331, "Removal and Installation"](#).

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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/O BOSE]

## ECU DIAGNOSIS INFORMATION

### AV CONTROL UNIT

#### Reference Value

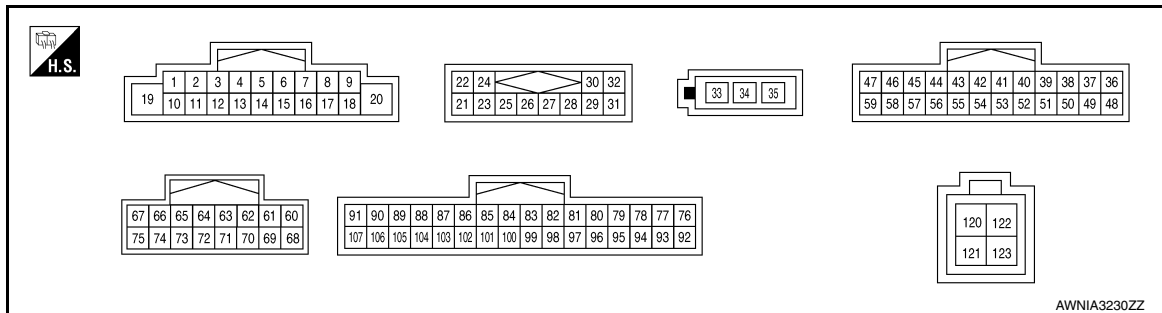
INFOID:000000010064915

#### VALUES ON THE DIAGNOSIS TOOL

CONSULT data monitor item

| Display Item | Display | Vehicle status  | Remarks   |
|--------------|---------|---|---|
| VHCL SPD SIG | ON      | Vehicle speed >0 km/h (0 MPH)   | Changes in indication may be delayed. This is normal. |
|              | OFF     | Vehicle speed =0 km/h (0 MPH)   |   |
| PKB SIG      | ON      | Parking brake is applied.   | Changes in indication may be delayed. This is normal. |
|              | OFF     | Parking brake is released.  |   |
| ILLUM SIG    | ON      | Block the light beam from the auto light optical sensor when the light SW is ON . | —   |
|              | OFF     | Expose the auto light optical sensor to light when the light SW is OFF or ON.     |   |
| IGN SIG      | ON      | Ignition switch ON  | —   |
|              | OFF     | Ignition switch in ACC position   |   |
| REV SIG      | ON      | Selector lever in R position  | Changes in indication may be delayed. This is normal. |
|              | OFF     | Selector lever in any position other than R                                       |   |

#### TERMINAL LAYOUT

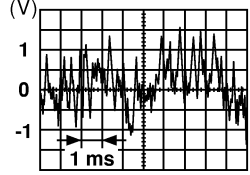
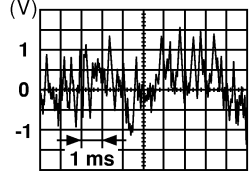

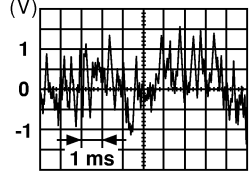
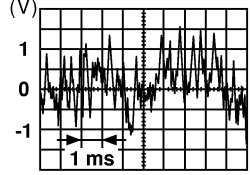






#### PHYSICAL VALUES

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/O BOSE]

| Terminal<br>(Wire color) |             | Description                 |                  | Condition           |   | Reference value<br>(Approx.)  |
|--------------------------|-------------|-----------------------------|------------------|---------------------|---|---|
| +                        | -           | Signal name                 | Input/<br>Output |                     |   |   |
| 2<br>(L)                 | 3<br>(B/W)  | Audio sound signal front LH | Output           | ON                  | Receive audio signal  |  <p style="text-align: right; font-size: small;">SKIA0177E</p>   |
| 4<br>(LG)                | 5<br>(B/Y)  | Audio sound signal rear LH  | Output           | ON                  | Receive audio signal  |  <p style="text-align: right; font-size: small;">SKIA0177E</p>   |
| 6<br>(W/G)               | 15<br>(L/B) | Steering switch signal A    | Input            | ON                  | Depress volume DOWN switch.   | 0.7V  |
|                          |             |                             |                  |                     | Depress volume UP switch.   | 1.3V  |
|                          |             |                             |                  |                     | Depress  switch.   | 2.0V  |
|                          |             |                             |                  |                     | Except for above.   | 3.3V  |
| 7<br>(V/Y)               | Ground      | ACC power supply            | Input            | Ignition switch ACC | —   | Battery voltage   |
| 9<br>(R/L)               | Ground      | Illumination signal         | Input            | OFF                 | Lighting switch is OFF.   | 0V  |
|                          |             |                             |                  |                     | Lighting switch is ON.  | Battery voltage   |
| 11<br>(BR)               | 12<br>(B/R) | Audio sound signal front RH | Output           | ON                  | Receive audio signal  |  <p style="text-align: right; font-size: small;">SKIA0177E</p> |
| 13<br>(LG)               | 14<br>(O)   | Audio sound signal rear RH  | Output           | ON                  | Receive audio signal  |  <p style="text-align: right; font-size: small;">SKIA0177E</p> |
| 16<br>(GR/L)             | 15<br>(L/B) | Steering switch signal B    | Input            | ON                  | Depress SOURCE switch.  | 0V  |
|                          |             |                             |                  |                     | Depress  switch.   | 0.7V  |
|                          |             |                             |                  |                     | Depress  switch.   | 1.3V  |
|                          |             |                             |                  |                     | Depress   switch. | 2.0V  |
|                          |             |                             |                  |                     | Except for above.   | 3.3V  |
| 19<br>(Y/R)              | Ground      | Battery power supply        | Input            | Ignition switch OFF | —   | Battery voltage   |

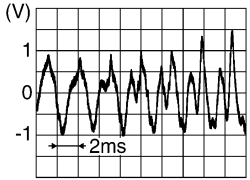
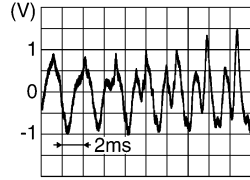
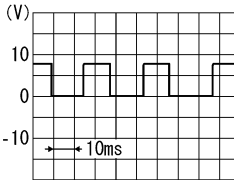
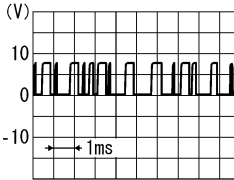
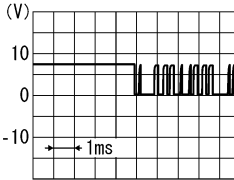
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AV

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/O BOSE]

| Terminal<br>(Wire color) |             | Description                        |                  | Condition                |  | Reference value<br>(Approx.)  |
|--------------------------|-------------|------------------------------------|------------------|--------------------------|--|---|
| +                        | -           | Signal name                        | Input/<br>Output |                          |  |   |
| 20<br>(B)                | Ground      | Ground                             | —                | Ignition<br>switch<br>ON | —  | 0V  |
| 22<br>(Y/L)              | 21<br>(W/L) | Satellite radio sound signal<br>LH | Input            | Ignition<br>switch<br>ON | When satellite radio mode<br>is selected | <br><small>SKIB3609E</small>   |
| 24<br>(BR/L)             | 23<br>(Y/G) | Satellite radio sound signal<br>RH | Input            | Ignition<br>switch<br>ON | When satellite radio mode<br>is selected | <br><small>SKIB3609E</small>   |
| 28<br>(R)                | Ground      | Request signal<br>(SAT→CONT)       | Input            | Ignition<br>switch<br>ON | When satellite radio mode<br>is selected | <br><small>SKIA9299J</small>  |
| 29<br>(B)                | Ground      | Communication signal<br>(SAT→CONT) | Input            | Ignition<br>switch<br>ON | When satellite radio mode<br>is selected | <br><small>SKIA9300J</small> |
| 30<br>(G)                | Ground      | Communication signal<br>(CONT→SAT) | Output           | Ignition<br>switch<br>ON | When satellite radio mode<br>is selected | <br><small>SKIA9301J</small> |
| 34<br>(B)                | —           | Antenna main                       | —                | —                        | —  | —   |
| 35<br>(B)                | —           | Antenna power                      | —                | —                        | —  | —   |

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/O BOSE]

| Terminal<br>(Wire color) |        | Description              |                  | Condition                |  | Reference value<br>(Approx.) |
|--------------------------|--------|--------------------------|------------------|--------------------------|--|------------------------------|
| +                        | -      | Signal name              | Input/<br>Output |                          |  |                              |
| 36<br>(W)                | Ground | AUX image signal         | Output           | Ignition<br>switch<br>ON | When AUX mode is select-<br>ed   |                              |
| 37<br>(B)                | Ground | AUX image ground         | —                | Ignition<br>switch<br>ON | —  | 0V                           |
| 38<br>(W)                | Ground | RGB signal (B: blue)     | Output           | Ignition<br>switch<br>ON | Start confirmation/adjust-<br>ment mode, and then dis-<br>play color bar by selecting<br>"Color Spectrum Bar" on<br>DISPLAY DIAGNOSIS<br>screen. |                              |
| 39<br>(R)                | Ground | RGB signal (G: green)    | Output           | Ignition<br>switch<br>ON | Start confirmation/adjust-<br>ment mode, and then dis-<br>play color bar by selecting<br>"Color Spectrum Bar" on<br>DISPLAY DIAGNOSIS<br>screen. |                              |
| 40<br>(B)                | Ground | RGB signal (R: red)      | Output           | Ignition<br>switch<br>ON | Start confirmation/adjust-<br>ment mode, and then dis-<br>play color bar by selecting<br>"Color Spectrum Bar" on<br>DISPLAY DIAGNOSIS<br>screen. |                              |
| 41<br>(G)                | Ground | RGB synchronizing signal | Output           | Ignition<br>switch<br>ON | —  |                              |
| 42                       | —      | RGB synchronizing ground | —                | Ignition<br>switch<br>ON | —  | 0V                           |

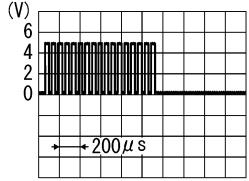
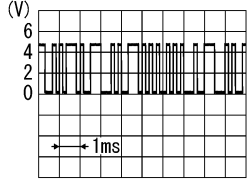
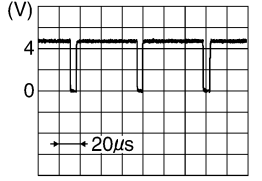
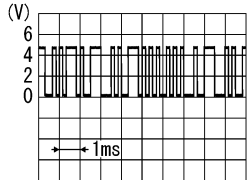
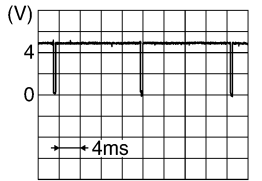
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AV

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

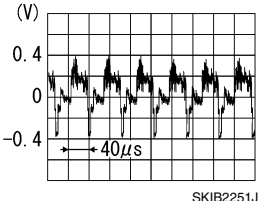
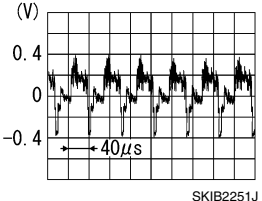
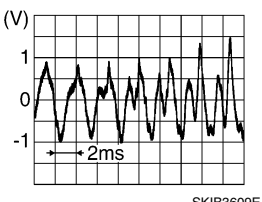
[COLOR DISPLAY - W/O BOSE]

| Terminal<br>(Wire color) |        | Description                             |                  | Condition           | Reference value<br>(Approx.)      |   |
|--------------------------|--------|---|------------------|---------------------|-----------------------------------|---|
| +                        | -      | Signal name                             | Input/<br>Output |                     |                                   |   |
| 43<br>(B)                | Ground | RGB area (YS) signal                    | Output           | Ignition switch ON  | 5V                                |   |
|                          |        |   |                  | RGB image           | AUX image                         |  <p style="text-align: right; font-size: small;">PKIB4948J</p>   |
| 44<br>(BR)               | Ground | Communication signal<br>(DISP→CONT)     | Input            | Ignition switch ON  | When adjusting display brightness |  <p style="text-align: right; font-size: small;">PKIB5039J</p>   |
| 45<br>(R)                | Ground | Horizontal synchronizing<br>(HP) signal | Input            | Ignition switch ON  | —                                 |  <p style="text-align: right; font-size: small;">SKIB3601E</p>  |
| 46<br>(LG)               | Ground | Signal ground                           | —                | Ignition switch     | —                                 | 0V  |
| 47<br>(O)                | Ground | Signal VCC                              | Output           | Ignition switch ACC | —                                 | 9V  |
| 49                       | —      | Shield                                  | —                | —                   | —                                 | —   |
| 50                       | —      | Shield                                  | —                | —                   | —                                 | —   |
| 55                       | —      | Shield                                  | —                | —                   | —                                 | —   |
| 56<br>(Y)                | Ground | Communication signal<br>(CONT→DISP)     | Output           | Ignition switch ON  | When adjusting display brightness |  <p style="text-align: right; font-size: small;">PKIB5039J</p> |
| 57<br>(W)                | Ground | Vertical synchronizing (VP)<br>signal   | Input            | Ignition switch On  | —                                 |  <p style="text-align: right; font-size: small;">SKIB3598E</p> |
| 58<br>(BR)               | Ground | Inverter ground                         | —                | Ignition switch ON  | —                                 | 0V  |

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/O BOSE]

| Terminal<br>(Wire color) |           | Description                      |                  | Condition                 |  | Reference value<br>(Approx.)   |
|--------------------------|-----------|----------------------------------|------------------|---------------------------|--|--|
| +                        | -         | Signal name                      | Input/<br>Output |                           |  |  |
| 59<br>(Y)                | Ground    | Inverter VCC                     | Output           | Ignition<br>switch<br>ACC | —  | 9V   |
| 65<br>(W)                | Ground    | Rear view camera video in<br>(+) | Input            | Ignition<br>switch<br>ON  | With rear view camera ON   | <br>SKIB2251J   |
| 66<br>(LG)               | 74<br>(V) | Aux image signal                 | Input            | Ignition<br>switch<br>ON  | When aux mode is selected  | <br>SKIB2251J   |
| 70<br>(L)                | Ground    | RV_CAM_SIG                       | Output           | Ignition<br>switch<br>ACC | Shift selector is in R posi-<br>tion   | 6V   |
| 71<br>(V/G)              | Ground    | RV_CAM_GND                       | —                | —                         | —  | —  |
| 72                       | —         | Shield                           | —                | —                         | —  | —  |
| 73                       | —         | Shield                           | —                | —                         | —  | —  |
| 80<br>(BR)               | 79<br>(Y) | TEL voice audio signal           | Input            | Ignition<br>switch<br>ON  | Start confirmation/adjust-<br>ment mode, and then Voice<br>Microphone Test by select-<br>ing "Voice Microphone<br>Test" on Handsfree Micro-<br>phone screen. | <br>SKIB3609E |
| 81                       | —         | Shield                           | —                | —                         | —  | —  |
| 85<br>(BR)               | Ground    | Ground                           | —                | Ignition<br>switch<br>ON  | —  | 0V   |
| 86<br>(L)                | —         | CAN-H                            | Input/<br>Output | —                         | —  | —  |
| 87<br>(P)                | —         | CAN-L                            | Input/<br>Output | —                         | —  | —  |
| 88<br>(L)                | —         | AV communication signal 1<br>(H) | Input/<br>Output | —                         | —  | —  |
| 89<br>(P)                | —         | AV communication signal 1<br>(L) | Input/<br>Output | —                         | —  | —  |
| 90<br>(R)                | —         | AV communication signal 2<br>(H) | Input/<br>Output | —                         | —  | —  |
| 91<br>(G)                | —         | AV communication signal 2<br>(L) | Input/<br>Output | —                         | —  | —  |

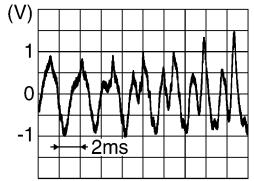
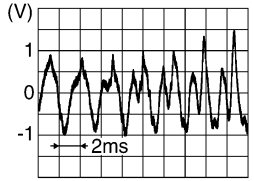
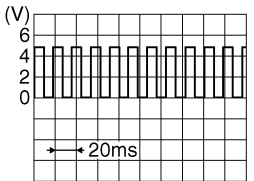
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AV

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/O BOSE]

| Terminal<br>(Wire color) |           | Description                       |                  | Condition                |   | Reference value<br>(Approx.)  |
|--------------------------|-----------|-----------------------------------|------------------|--------------------------|---|---|
| +                        | -         | Signal name                       | Input/<br>Output |                          |   |   |
| 95<br>(B)                | 97<br>(R) | AUX audio signal RH               | Input            | Ignition<br>switch<br>ON | When AUX mode is select-<br>ed                      | <br><small>SKIB3609E</small>   |
| 96<br>(W)                | 97<br>(R) | AUX audio signal LH               | Input            | Ignition<br>switch<br>ON | When AUX mode is select-<br>ed                      | <br><small>SKIB3609E</small>   |
| 103<br>(SB)              | Ground    | CD eject signal                   | Input            | —                        | Pressing the eject switch                           | 0V  |
|                          |           |                                   |                  |                          | Except for above                                    | 3.3V  |
| 104<br>(G)               | Ground    | Ignition signal                   | Input            | Ignition<br>switch<br>ON | —   | Battery voltage   |
| 105<br>(P/B)             | Ground    | Reverse signal                    | Input            | Ignition<br>switch<br>ON | R position  | Battery voltage   |
|                          |           |                                   |                  |                          | Other than R position                               | 0V  |
| 106<br>(G/R)             | Ground    | Parking brake signal              | Input            | Ignition<br>switch<br>ON | Parking brake ON                                    | 0V  |
|                          |           |                                   |                  |                          | Parking brake OFF                                   | Battery voltage   |
| 107<br>(V/W)             | Ground    | Vehicle speed signal<br>(8-pulse) | Input            | Ignition<br>switch<br>ON | When vehicle speed is ap-<br>prox. 25 MPH (40 km/h) | <br><small>SKIA6649J</small> |
| 120<br>(B)               | —         | USB ground                        | —                | —                        | —   | —   |
| 121<br>(W)               | —         | USB D-                            | —                | —                        | —   | —   |
| 122<br>(R)               | —         | V BUS signal                      | —                | —                        | —   | —   |
| 123<br>(G)               | —         | USB D+                            | —                | —                        | —   | —   |

## DTC Index

INFOID:000000010064916

### Self-diagnosis results display item

| DTC   | Display item              | Refer to                                      |
|-------|---------------------------|---|
| U1000 | CAN COMM CIRCUIT [U1000]  | <a href="#">AV-206, "Diagnosis Procedure"</a> |
| U1010 | CONTROL UNIT (CAN) [1010] | <a href="#">AV-207, "DTC Logic"</a>           |
| U1200 | Cont Unit [U1200]         | <a href="#">AV-208, "DTC Logic"</a>           |



# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/O BOSE]

| DTC            | Display item   | Refer to                                      |
|----------------|--|---|
| U1216          | CAN CONT [U1216]   | <a href="#">AV-209, "DTC Logic"</a>           |
| U1218          | HDD CONN [U1218]   | <a href="#">AV-210, "DTC Logic"</a>           |
| U1219          | HDD READ [U1219]   | <a href="#">AV-211, "DTC Logic"</a>           |
| U121A          | HDD WRITE [U121A]  | <a href="#">AV-212, "DTC Logic"</a>           |
| U121B          | HDD COMM [U121B]   | <a href="#">AV-213, "DTC Logic"</a>           |
| U121C          | HDD ACCESS [U121C]   | <a href="#">AV-214, "DTC Logic"</a>           |
| U121D          | DSP CONN [U121D]   | <a href="#">AV-215, "Diagnosis Procedure"</a> |
| U121E          | DSP COMM [U121E]   | <a href="#">AV-216, "Diagnosis Procedure"</a> |
| U1225          | USB CONTROLLER [U1225]   | <a href="#">AV-217, "DTC Logic"</a>           |
| U1227          | DVD COMM [U1227]   | <a href="#">AV-218, "Diagnosis Procedure"</a> |
| U1228          | SUB CPU CONN [U1228]   | <a href="#">AV-219, "DTC Logic"</a>           |
| U1229          | iPod CERTIFICATION [U1229]   | <a href="#">AV-220, "DTC Logic"</a>           |
| U122A          | CONFIG UNFINISH [U122A]  | <a href="#">AV-221, "Diagnosis Procedure"</a> |
| U122E          | Built-in AUDIO CONN [U122E]  | <a href="#">AV-222, "DTC Logic"</a>           |
| U1232          | ST ANGLE SEN CALIB [1232]  | <a href="#">AV-223, "Diagnosis Procedure"</a> |
| U1243          | FRONT DISP CONN [U1243]  | <a href="#">AV-224, "Diagnosis Procedure"</a> |
| U1255          | SATELLITE TUNER [U1255]  | <a href="#">AV-227, "Description"</a>         |
| U1263          | USB OVERCURRENT [U1263]  | <a href="#">AV-226, "Diagnosis Procedure"</a> |
| U1310          | CONTROL UNIT (AV) [U1310]  | <a href="#">AV-230, "DTC Logic"</a>           |
| U1300<br>U1240 | <ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• SWITCH CONN [U1240]</li> </ul> | <a href="#">AV-229, "Description"</a>         |

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# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

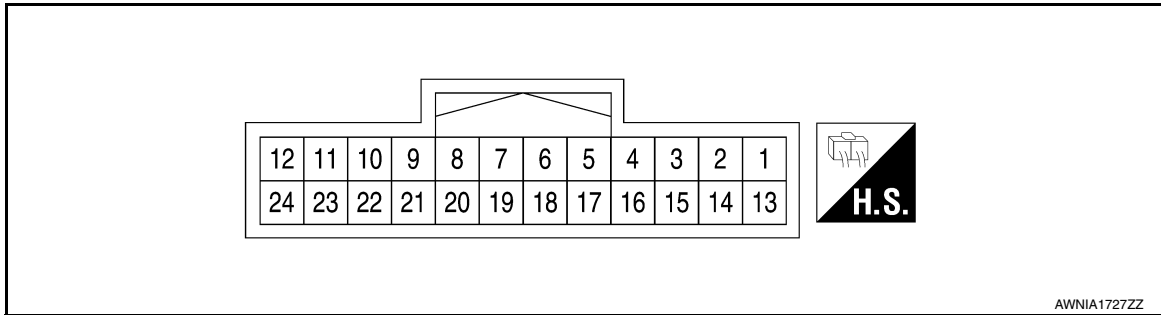
[COLOR DISPLAY - W/O BOSE]

## DISPLAY UNIT

Reference Value

INFOID:000000010064917

### TERMINAL LAYOUT



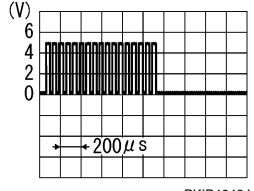
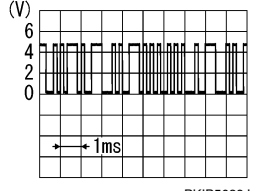
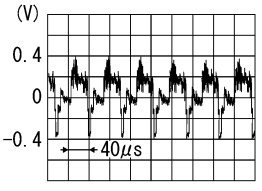
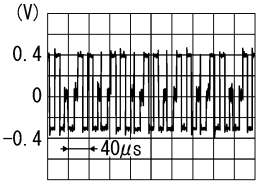
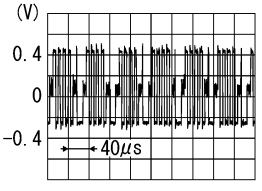
### PHYSICAL VALUES

| Terminal<br>(Wire color) |        | Description                             |                  | Condition                 |  | Reference value<br>(Approx.) |
|--------------------------|--------|---|------------------|---------------------------|--|------------------------------|
| +                        | -      | Signal name                             | Input/<br>Output |                           |  |                              |
| 1<br>(B)                 | Ground | Ground                                  | —                | Ignition<br>switch<br>ON  | —  | 0V                           |
| 2<br>(Y)                 | Ground | Inverter VCC                            | Input            | Ignition<br>switch<br>ACC | —  | 9V                           |
| 3<br>(O)                 | Ground | Signal VCC                              | Input            | Ignition<br>switch<br>ACC | —  | 9V                           |
| 4<br>(B)                 | Ground | AUX image ground                        | —                | Ignition<br>switch<br>ON  | —  | 0V                           |
| 5                        | —      | Shield                                  | —                | —                         | —  | —                            |
| 6<br>(R)                 | Ground | RGB signal (G: green)                   | Input            | Ignition<br>switch<br>ON  | Start confirmation/adjust-<br>ment mode, and then dis-<br>play color bar by selecting<br>“Color Spectrum Bar” on<br>DISPLAY DIAGNOSIS<br>screen. | <br>SKIB2236J                |
| 7                        | —      | Shield                                  | —                | —                         | —  | —                            |
| 8<br>(R)                 | Ground | Horizontal synchronizing<br>(HP) signal | Output           | Ignition<br>switch<br>ON  | —  | <br>SKIB3601E                |

# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/O BOSE]

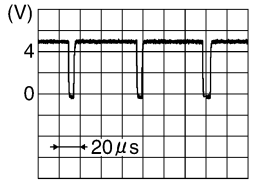
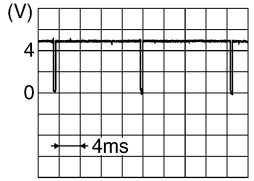
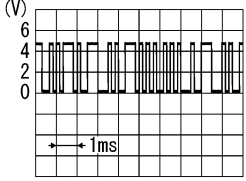
| Terminal<br>(Wire color) |        | Description                      |                  | Condition          | Reference value<br>(Approx.)  |
|--------------------------|--------|----------------------------------|------------------|--------------------|---|
| +                        | -      | Signal name                      | Input/<br>Output |                    |   |
| 9<br>(B)                 | Ground | RGB area (YS) signal             | Input            | Ignition switch ON | At RGB image displayed<br>5V  |
|                          |        |                                  |                  | Ignition switch ON | At rear view camera image displayed<br><br>PKIB4948J   |
| 11<br>(Y)                | Ground | Communication signal (CONT→DISP) | Input            | Ignition switch ON | When adjusting display brightness<br><br>PKIB5039J   |
| 13<br>(BR)               | Ground | Inverter ground                  | —                | Ignition switch ON | —<br>0V   |
| 14<br>(LG)               | Ground | Signal ground                    | —                | Ignition switch ON | —<br>0V   |
| 15<br>(W)                | Ground | AUX image signal                 | Input            | Ignition switch ON | When AUX mode is selected<br><br>SKIB2251J   |
| 17<br>(B)                | Ground | RGB signal (R: red)              | Input            | Ignition switch ON | Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.<br><br>SKIB2238J |
| 18<br>(W)                | Ground | RGB signal (B: blue)             | Input            | Ignition switch ON | Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.<br><br>SKIB2237J |

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# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/O BOSE]

| Terminal<br>(Wire color) |        | Description                         |                  | Condition                |                                      | Reference value<br>(Approx.)  |
|--------------------------|--------|-------------------------------------|------------------|--------------------------|--------------------------------------|---|
| +                        | -      | Signal name                         | Input/<br>Output |                          |                                      |   |
| 19<br>(G)                | Ground | RGB synchronizing signal            | Input            | Ignition<br>switch<br>ON | —                                    |  <p>SKIB3603E</p>  |
| 20<br>(W)                | Ground | Vertical synchronizing (VP) signal  | Output           | Ignition<br>switch<br>On | —                                    |  <p>SKIB3598E</p>  |
| 21                       | —      | Shield                              | —                | —                        | —                                    | —   |
| 22<br>(BR)               | Ground | Communication signal<br>(DISP→CONT) | Output           | Ignition<br>switch<br>ON | When adjusting display<br>brightness |  <p>PKIB5039J</p> |
| 23                       | —      | Shield                              | —                | —                        | —                                    | —   |

# SUBWOOFER AMP

< ECU DIAGNOSIS INFORMATION >

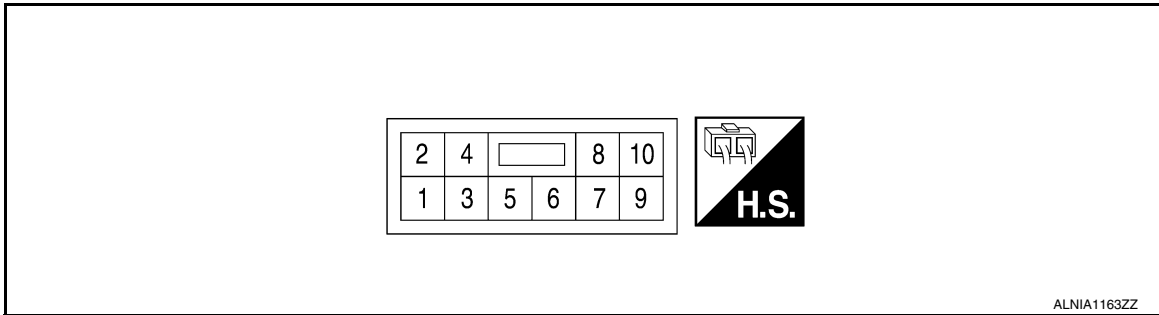
[COLOR DISPLAY - W/O BOSE]

## SUBWOOFER AMP

Reference Value

INFOID:000000010075687

### TERMINAL LAYOUT



### PHYSICAL VALUES

| Terminal<br>(Wire color) |           | Item                         | Signal<br>input/<br>output | Condition          |                       | Voltage<br>(approx.)         |
|--------------------------|-----------|------------------------------|----------------------------|--------------------|-----------------------|------------------------------|
| +                        | -         |                              |                            | Ignition<br>switch | Operation             |                              |
| 2<br>(LG)                | 1<br>(O)  | Audio signal LH              | Input                      | ON                 | Receive audio signal. | <br><small>SKIB3609E</small> |
| 4<br>(L)                 | 3<br>(P)  | Audio signal RH              | Input                      | ON                 | Receive audio signal. | <br><small>SKIB3609E</small> |
| 6<br>(L)                 | 5<br>(P)  | Subwoofer audio signal<br>LH | Output                     | ON                 | Receive audio signal. | <br><small>SKIB3609E</small> |
| 7<br>(B)                 | Ground    | Ground                       | Input                      | ON                 | —                     | —                            |
| 9<br>(G)                 | Ground    | ACC power supply             | Input                      | ACC                | —                     | Battery voltage              |
| 10<br>(R)                | 8<br>(BR) | Subwoofer audio signal<br>RH | Output                     | ON                 | Receive audio signal. | <br><small>SKIB3609E</small> |

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# SATELLITE RADIO TUNER

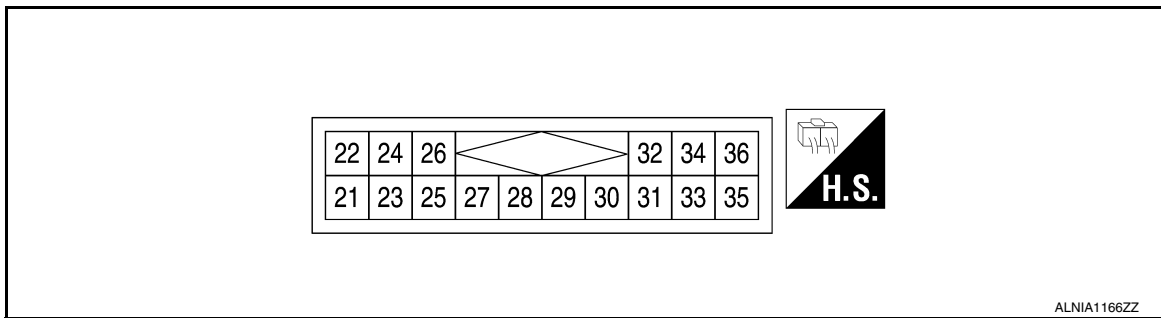
< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/O BOSE]

## SATELLITE RADIO TUNER

Reference Value

INFOID:000000010064919



### PHYSICAL VALUES

| Terminal |         | Description                     |              | Condition          |                                       | Reference value (Approx.) |
|----------|---------|---------------------------------|--------------|--------------------|---------------------------------------|---------------------------|
| +        | -       | Signal name                     | Input/Output |                    |                                       |                           |
| 22 (W)   | 21 (BR) | Satellite radio sound signal LH | Output       | Ignition switch ON | When satellite radio mode is selected | <p>SKIB3609E</p>          |
| 24 (B)   | 23 (Y)  | Satellite radio sound signal RH | Output       | Ignition switch ON | When satellite radio mode is selected | <p>SKIB3609E</p>          |
| 28 (R)   | Ground  | Request signal (SAT→CONT)       | Output       | Ignition switch ON | When satellite radio mode is selected | <p>SKIA9299J</p>          |
| 29 (V)   | Ground  | Communication signal (SAT→CONT) | Output       | Ignition switch ON | When satellite radio mode is selected | <p>SKIA9300J</p>          |

# SATELLITE RADIO TUNER

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/O BOSE]

| Terminal |        | Description                     |              | Condition           |                                       | Reference value (Approx.) |
|----------|--------|---------------------------------|--------------|---------------------|---------------------------------------|---------------------------|
| +        | -      | Signal name                     | Input/Output |                     |                                       |                           |
| 30 (L)   | Ground | Communication signal (CONT→SAT) | Input        | Ignition switch ON  | When satellite radio mode is selected |                           |
| 32 (P)   | Ground | Battery power supply            | Input        | Ignition switch OFF | —                                     | Battery voltage           |
| 35 (B)   | —      | Shield                          | —            | —                   | —                                     | —                         |
| 36 (GR)  | Ground | ACC power supply                | Input        | Ignition switch ACC | —                                     | Battery voltage           |

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# BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

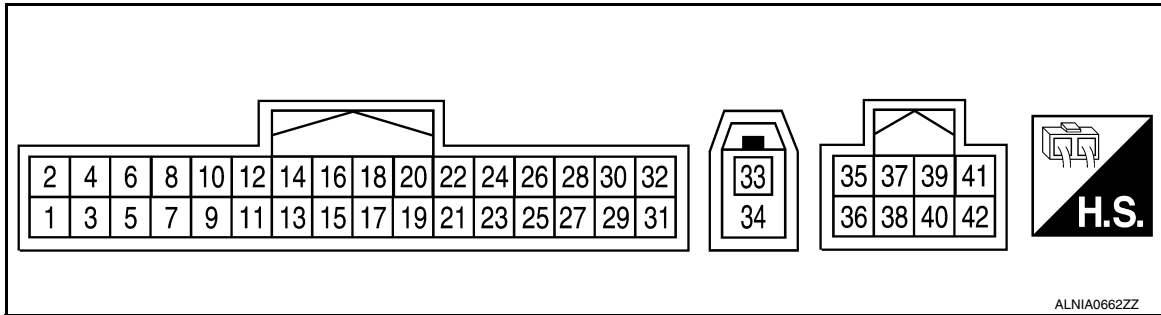
[COLOR DISPLAY - W/O BOSE]

## BLUETOOTH® CONTROL UNIT

Reference Value

INFOID:000000010064920

### TERMINAL LAYOUT



### PHYSICAL VALUES

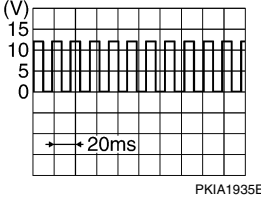
| Terminal<br>(wire color) |           | Description   |                  | Condition                          |  | Reference value<br>(Approx.) |
|--------------------------|-----------|---------------|------------------|------------------------------------|--|------------------------------|
| +                        | -         | Signal name   | Input/<br>output |                                    |  |                              |
| 1<br>(V)                 | Ground    | Battery power | Input            | -                                  | -  | Battery voltage              |
| 2<br>(GR)                | Ground    | ACC power     | Input            | Ignition<br>switch<br>ACC/ON       | -  | Battery voltage              |
| 3<br>(O)                 | Ground    | IGN power     | Input            | Ignition<br>switch<br>ON/<br>START | -  | Battery voltage              |
| 4<br>(B)                 | Ground    | Ground        | -                | Ignition<br>switch<br>ON           | -  | 0V                           |
| 7<br>(L)                 | 8         | MIC in signal | Input            | -                                  | -  | -                            |
| 9<br>(BR)                | 10<br>(Y) | Audio out     | Output           | Ignition<br>switch<br>ACC/ON       | Bluetooth® control<br>unit sends audio<br>signal |                              |
| 20<br>(B)                | Ground    | Ground        | -                | Ignition<br>switch<br>ON           | -  | 0V                           |
| 21<br>(B)                | Ground    | Ground        | -                | Ignition<br>switch<br>ON           | -  | 0V                           |
| 24<br>(B)                | Ground    | Ground        | -                | Ignition<br>switch<br>ON           | -  | 0V                           |



# BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/O BOSE]

| Terminal<br>(wire color) |        | Description                    |                  | Condition          |  | Reference value<br>(Approx.)  |
|--------------------------|--------|--------------------------------|------------------|--------------------|--|---|
| +                        | -      | Signal name                    | Input/<br>output |                    |  |   |
| 28<br>(BR)               | Ground | Vehicle speed signal (8-pulse) | Input            | Ignition switch ON | When vehicle speed is approx. 40 km/h (25 MPH) |  |
| 29<br>(R)                | Ground | Microphone power               | Output           | Ignition switch ON | -  | 5V  |
| 33<br>(B)                | -      | Bluetooth® antenna             | -                | -                  | -  | -   |
| 34<br>(B)                | -      | Bluetooth® antenna             | -                | -                  | -  | -   |
| 35<br>(L)                | -      | M-CAN1 (+)                     | -                | -                  | -  | -   |
| 36<br>(P)                | -      | M-CAN1 (-)                     | -                | -                  | -  | -   |
| 37                       | -      | Shield                         | -                | -                  | -  | -   |
| 40<br>(R)                | -      | M-CAN2 (-)                     | -                | -                  | -  | -   |
| 42<br>(G)                | -      | M-CAN2 (-)                     | -                | -                  | -  | -   |

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# COLOR DISPLAY

< WIRING DIAGRAM >

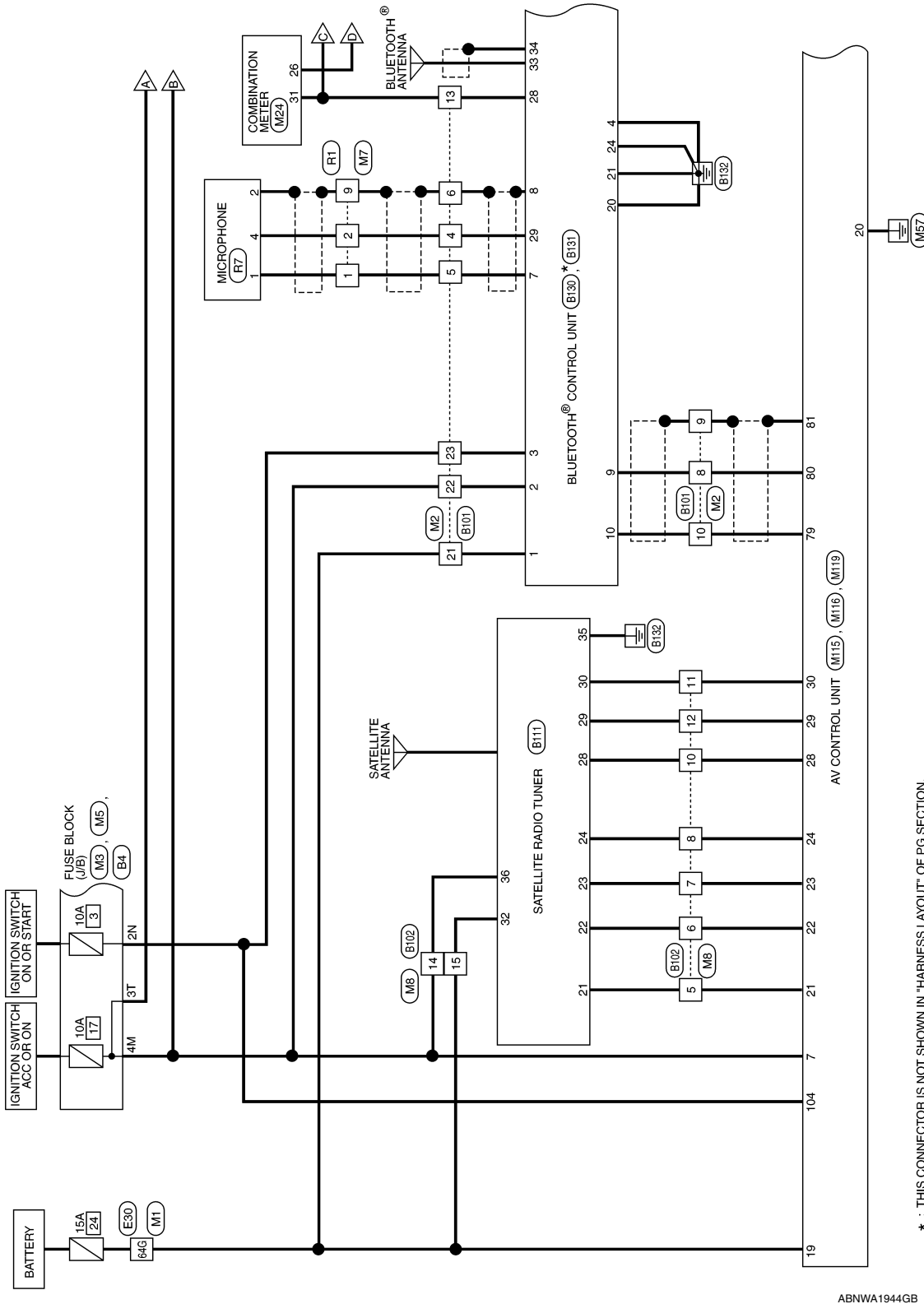
[COLOR DISPLAY - W/O BOSE]

## WIRING DIAGRAM

### COLOR DISPLAY

Wiring Diagram - Without BOSE Audio System Without Navigation System INFOID:000000010064921

#### COLOR DISPLAY - WITHOUT BOSE AUDIO SYSTEM OR NAVIGATION SYSTEM



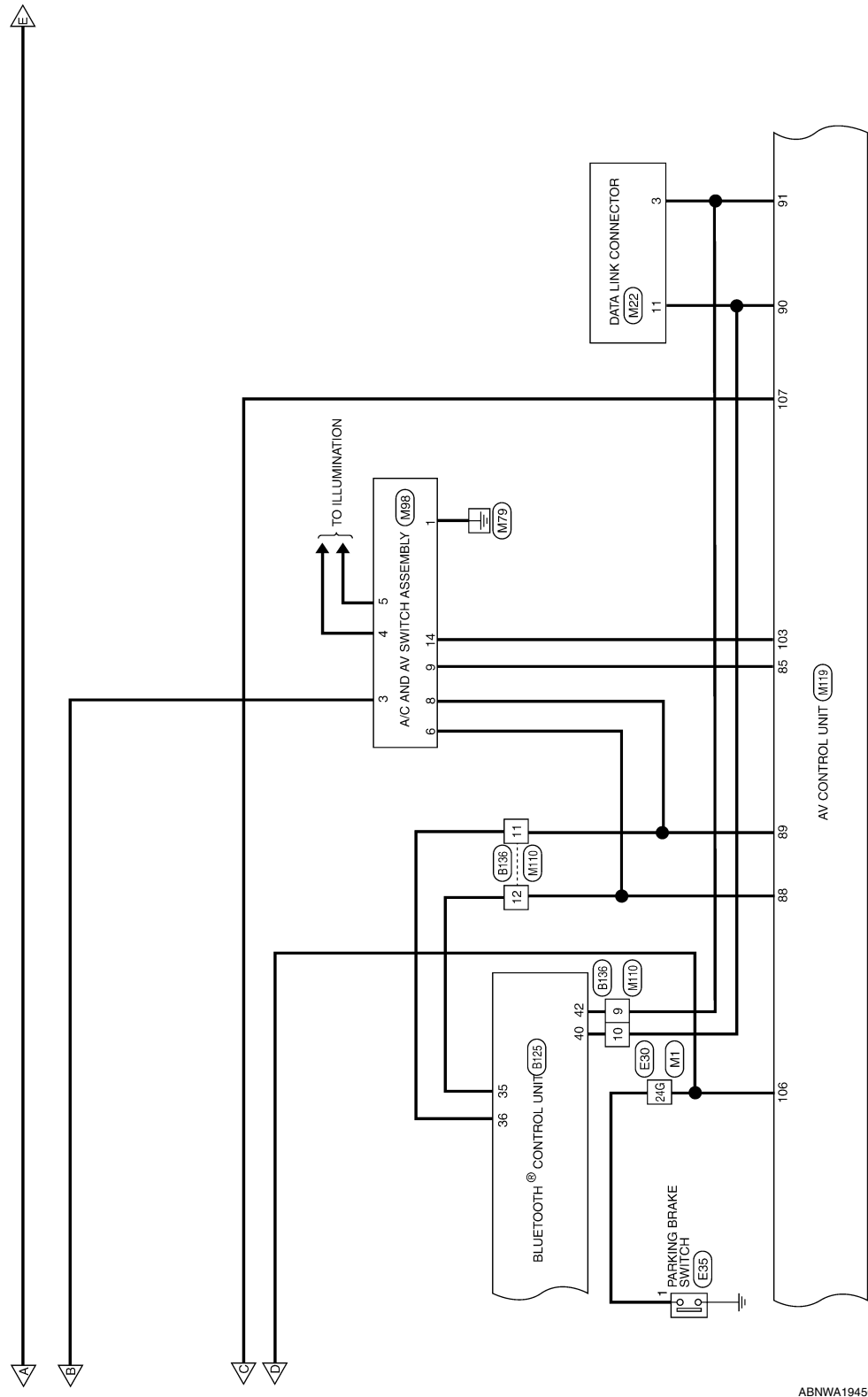
\* : THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

ABNWA1944GB

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/O BOSE]



ABNWA1945GB

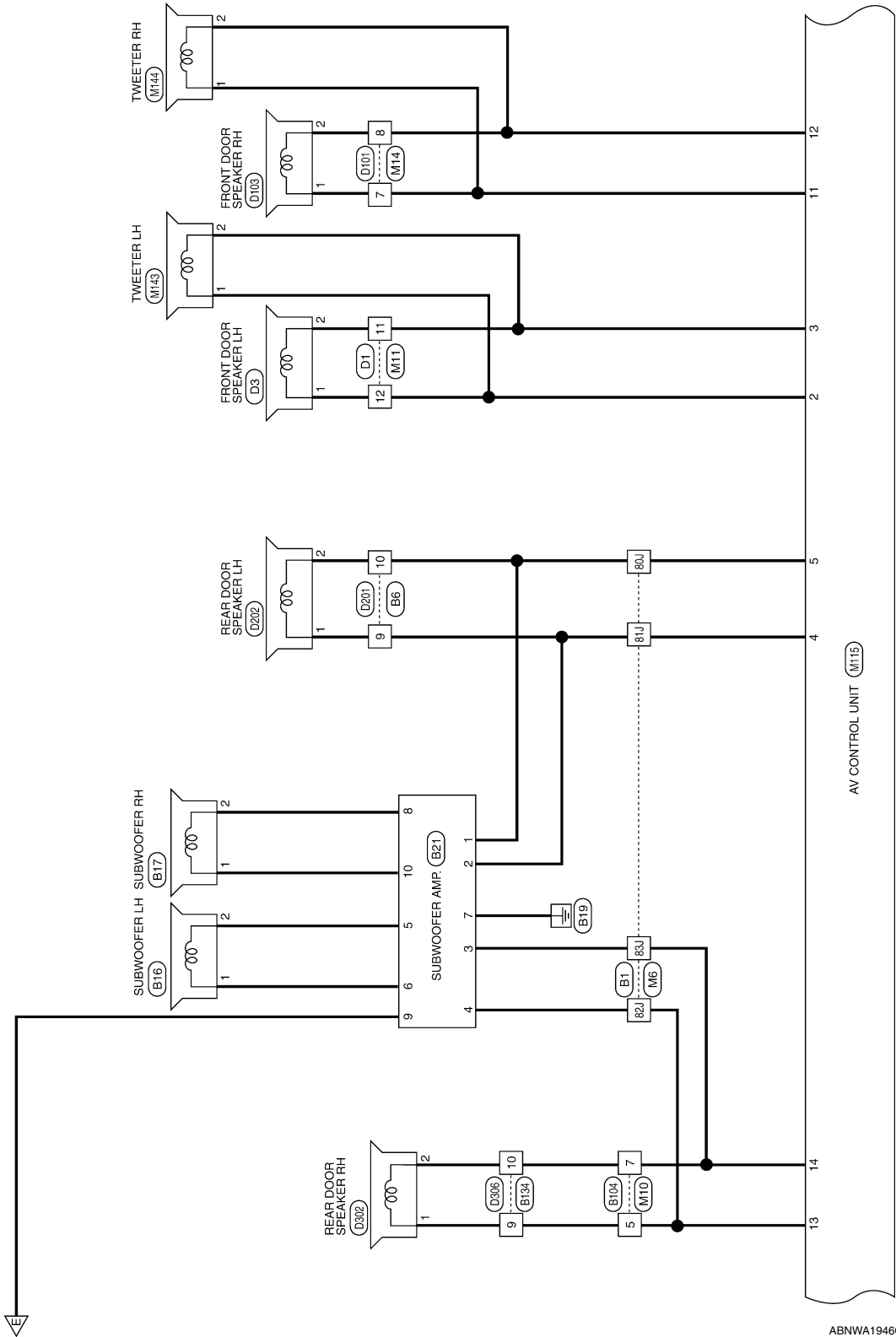
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# COLOR DISPLAY

< WIRING DIAGRAM >

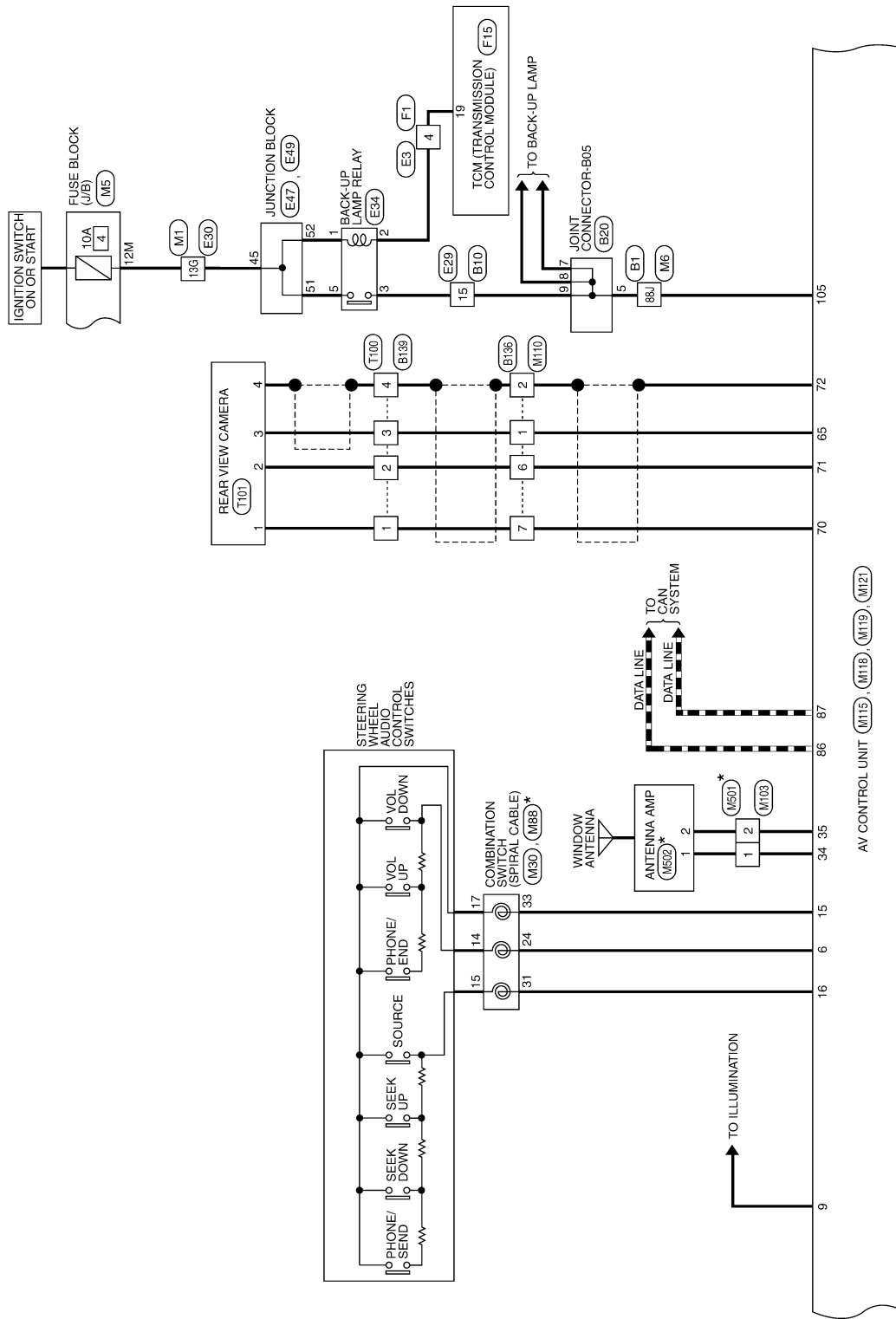
[COLOR DISPLAY - W/O BOSE]



# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/O BOSE]



\* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

ABNWA1947GB

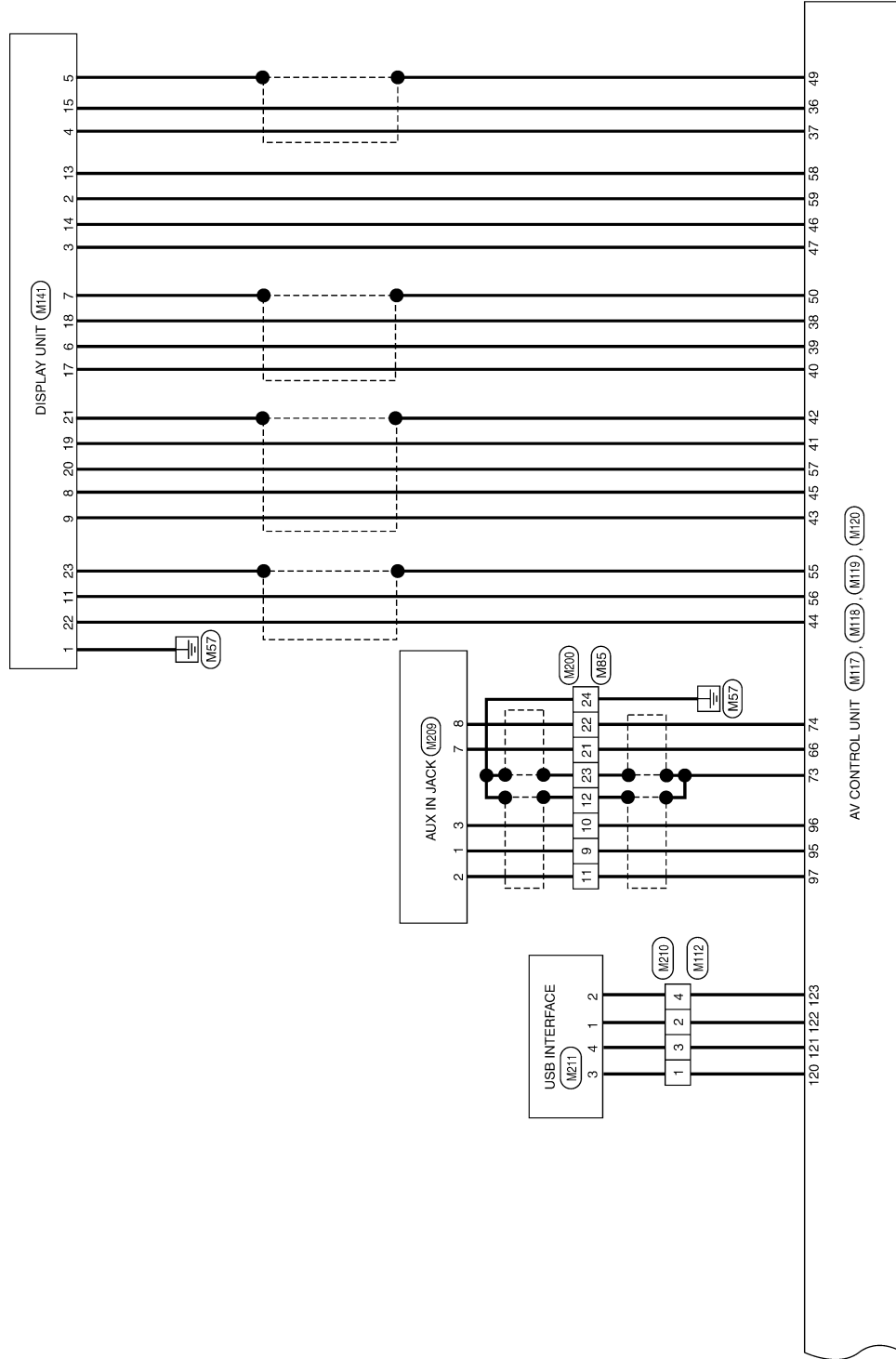
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# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/O BOSE]



ABNWA1948GB

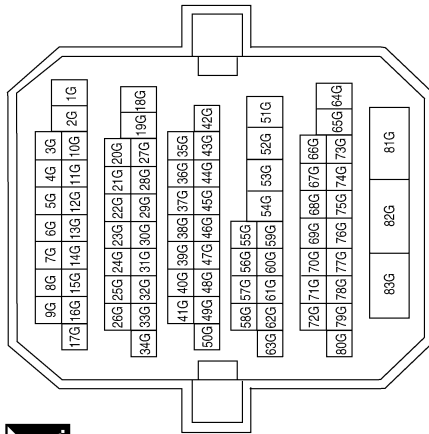
# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/O BOSE]

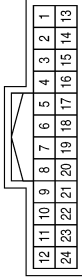
## COLOR DISPLAY CONNECTORS - WITHOUT BOSE AUDIO SYSTEM OR NAVIGATION SYSTEM

|                 |              |
|-----------------|--------------|
| Connector No.   | M1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



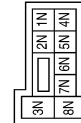
|              |               |             |
|--------------|---------------|-------------|
| Terminal No. | Color of Wire | Signal Name |
| 13G          | O             | -           |
| 24G          | G/R           | -           |
| 64G          | Y/R           | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M2           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



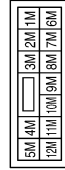
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4            | R             | -           |
| 5            | L             | -           |
| 6            | SHIELD        | -           |
| 8            | BR            | -           |
| 9            | SHIELD        | -           |
| 10           | Y             | -           |
| 13           | V/W           | -           |
| 21           | Y/R           | -           |
| 22           | V/Y           | -           |
| 23           | G             | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | M3               |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | WHITE            |



|              |               |             |
|--------------|---------------|-------------|
| Terminal No. | Color of Wire | Signal Name |
| 2N           | G             | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | M5               |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | WHITE            |



|              |               |             |
|--------------|---------------|-------------|
| Terminal No. | Color of Wire | Signal Name |
| 4M           | V/Y           | -           |
| 12M          | O             | -           |

ABNIA5150GB

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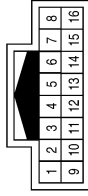
AV

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/O BOSE]

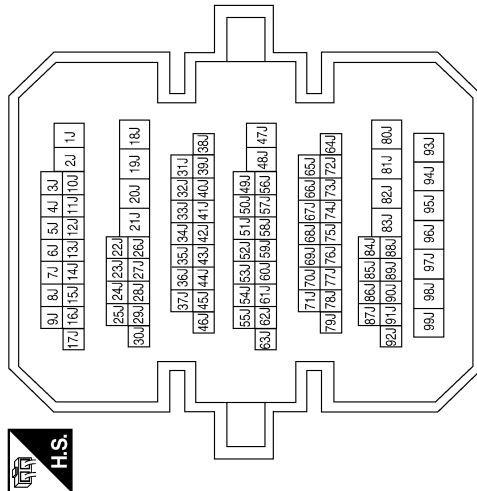
|                 |              |
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| Connector No.   | M7           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | R             | -           |
| 9            | SHIELD        | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 80J          | B/Y           | -           |
| 81J          | LG            | -           |
| 82J          | L             | -           |
| 83J          | P             | -           |
| 88J          | P/B           | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M6           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



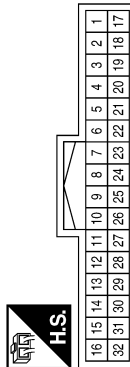
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| Connector No.   | M10          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | O             | -           |
| 7            | B/P           | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10           | R             | -           |
| 11           | W             | -           |
| 12           | B             | -           |
| 14           | V/Y           | -           |
| 15           | Y/R           | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M8           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | V             | -           |
| 6            | P             | -           |
| 7            | W/R           | -           |
| 8            | B/R           | -           |

ABNIA5151GB

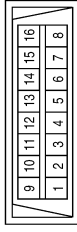


# COLOR DISPLAY

< WIRING DIAGRAM >

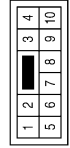
[COLOR DISPLAY - W/O BOSE]

|                 |                     |
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| Connector No.   | M22                 |
| Connector Name  | DATA LINK CONNECTOR |
| Connector Color | WHITE               |



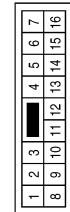
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3            | G             | -           |
| 11           | R             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M14          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



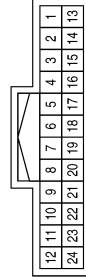
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | BR            | -           |
| 8            | B/R           | -           |

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| Connector No.   | M11          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



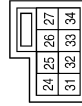
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11           | B/W           | -           |
| 12           | L             | -           |

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|-----------------|--------------|
| Connector No.   | M85          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



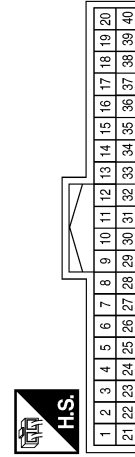
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | B             | -           |
| 10           | W             | -           |
| 11           | R             | -           |
| 12           | SHIELD        | -           |
| 21           | LG            | -           |
| 22           | V             | -           |
| 23           | SHIELD        | -           |
| 24           | B             | -           |

|                 |                                   |
|-----------------|-----------------------------------|
| Connector No.   | M30                               |
| Connector Name  | COMBINATION SWITCH (SPIRAL CABLE) |
| Connector Color | GRAY                              |



| Terminal No. | Color of Wire | Signal Name           |
|--------------|---------------|-----------------------|
| 24           | W/G           | -(WITH COLOR DISPLAY) |
| 31           | GR/L          | -(WITH COLOR DISPLAY) |
| 33           | L/B           | -(WITH COLOR DISPLAY) |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | M24               |
| Connector Name  | COMBINATION METER |
| Connector Color | WHITE             |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 26           | G/R           | PKB         |
| 31           | V/W           | 8P/R OUT    |

ABNIA5152GB

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# COLOR DISPLAY

< WIRING DIAGRAM >

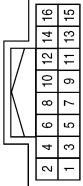
[COLOR DISPLAY - W/O BOSE]

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|-----------------|--------------|
| Connector No.   | M103         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



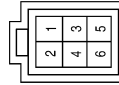
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

|                 |                            |
|-----------------|----------------------------|
| Connector No.   | M98                        |
| Connector Name  | A/C AND AV SWITCH ASSEMBLY |
| Connector Color | WHITE                      |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 3            | V/Y           | -           |
| 4            | R/L           | -           |
| 5            | R/Y           | -           |
| 6            | L             | -           |
| 8            | P             | -           |
| 9            | BR            | -           |
| 14           | SB            | -           |

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|-----------------|--------------|
| Connector No.   | M112         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



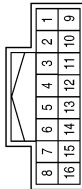
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | R             | -           |
| 3            | W             | -           |
| 4            | G             | -           |

|                 |                                   |
|-----------------|-----------------------------------|
| Connector No.   | M88                               |
| Connector Name  | COMBINATION SWITCH (SPIRAL CABLE) |
| Connector Color | GRAY                              |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 14           | W             | -           |
| 15           | L             | -           |
| 17           | BR            | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M110         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | -           |
| 2            | SHIELD        | -           |
| 6            | V/G           | -           |
| 7            | L             | -           |
| 9            | G             | -           |
| 10           | R             | -           |
| 11           | P             | -           |
| 12           | L             | -           |

ABNIA5153GB

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/O BOSE]

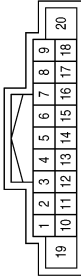
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| Connector No.   | M116   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITHOUT BOSE AUDIO SYSTEM OR NAVIGATION SYSTEM) |
| Connector Color | WHITE  |



| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 21           | W/L           | NBUS LH-     |
| 22           | Y/L           | NBUS LH+     |
| 23           | Y/G           | NBUS RH-     |
| 24           | BR/L          | NBUS RH+     |
| 25           | -             | -            |
| 26           | -             | -            |
| 27           | -             | -            |
| 28           | R             | REQI (TO HU) |
| 29           | B             | RX (TO HU)   |
| 30           | G             | TX (FROM HU) |
| 31           | -             | -            |
| 32           | -             | -            |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11           | BR            | FR DOOR RH+ |
| 12           | B/R           | FR DOOR RH- |
| 13           | LG            | RR DOOR RH+ |
| 14           | O             | RR DOOR RH- |
| 15           | L/B           | STRG SW GND |
| 16           | GR/L          | STRG SW B   |
| 17           | -             | -           |
| 18           | -             | -           |
| 19           | Y/R           | BAT         |
| 20           | B             | GND         |

|                 |  |
|-----------------|--|
| Connector No.   | M115   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITHOUT BOSE AUDIO SYSTEM OR NAVIGATION SYSTEM) |
| Connector Color | WHITE  |

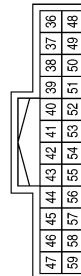


| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | L             | FR DOOR LH+ |
| 3            | B/W           | FR DOOR LH- |
| 4            | LG            | RR DOOR LH+ |
| 5            | B/Y           | RR DOOR LH- |
| 6            | W/G           | STRG SW A   |
| 7            | V/Y           | ACC         |
| 8            | -             | -           |
| 9            | R/L           | ILL         |
| 10           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 51           | -             | -           |
| 52           | -             | -           |
| 53           | -             | -           |
| 54           | -             | -           |
| 55           | SHIELD        | SHIELD      |
| 56           | Y             | IT DISP     |
| 57           | W             | VP          |
| 58           | BR            | INV GND     |
| 59           | Y             | INV VCC     |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 40           | B             | R               |
| 41           | G             | RGB SYNC        |
| 42           | SHIELD        | RGB SYNC GND    |
| 43           | B             | YS              |
| 44           | BR            | DISP IT         |
| 45           | R             | HP              |
| 46           | LG            | SIG GND         |
| 47           | O             | SIG VCC         |
| 48           | -             | -               |
| 49           | SHIELD        | COMP OUT SHIELD |
| 50           | SHIELD        | RGB GND         |

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| Connector No.   | M117   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITHOUT BOSE AUDIO SYSTEM OR NAVIGATION SYSTEM) |
| Connector Color | WHITE  |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 36           | W             | COMP OUT+   |
| 37           | B             | COMP OUT-   |
| 38           | W             | B           |
| 39           | R             | G           |

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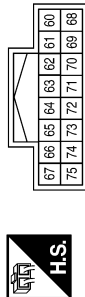


# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/O BOSE]

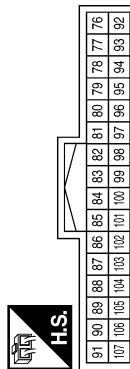
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| Connector No.   | M118   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITHOUT BOSE AUDIO SYSTEM OR NAVIGATION SYSTEM) |
| Connector Color | WHITE  |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 60           | -             | -           |
| 61           | -             | -           |
| 62           | -             | -           |
| 63           | -             | -           |
| 64           | -             | -           |
| 65           | W             | COMP2 IN+   |
| 66           | LG            | COMP1 IN+   |
| 67           | -             | -           |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 68           | -             | -               |
| 69           | -             | -               |
| 70           | L             | RV CAM SIG      |
| 71           | V/G           | CAM GND         |
| 72           | SHIELD        | COMP2 GND       |
| 73           | SHIELD        | COMP1 IN SHIELD |
| 74           | V             | COMP1 IN-       |
| 75           | -             | -               |

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| Connector No.   | M119   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITHOUT BOSE AUDIO SYSTEM OR NAVIGATION SYSTEM) |
| Connector Color | WHITE  |



| Terminal No. | Color of Wire | Signal Name        |
|--------------|---------------|--------------------|
| 76           | -             | -                  |
| 77           | -             | -                  |
| 78           | -             | -                  |
| 79           | Y             | TEL VOICE (TO IT)- |
| 80           | BR            | TEL VOICE (TO IT)+ |

| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 81           | SHIELD        | VOICE SHIELD |
| 82           | -             | -            |
| 83           | -             | -            |
| 84           | -             | -            |
| 85           | BR            | SW GND       |
| 86           | L             | CAN-H        |
| 87           | P             | CAN-L        |
| 88           | L             | M-CAN1 H     |
| 89           | P             | M-CAN1 L     |
| 90           | R             | M-CAN2 H TRM |
| 91           | G             | M-CAN2 L TRM |
| 92           | -             | -            |
| 93           | -             | -            |

| Terminal No. | Color of Wire | Signal Name    |
|--------------|---------------|----------------|
| 94           | -             | -              |
| 95           | B             | AUX AUDIO RH+  |
| 96           | W             | AUX AUDIO LH+  |
| 97           | R             | AUX GND        |
| 98           | -             | -              |
| 99           | -             | -              |
| 100          | -             | -              |
| 101          | -             | -              |
| 102          | -             | -              |
| 103          | SB            | CN (DVD) EJECT |
| 104          | G             | IGN            |
| 105          | P/B           | REVERSE SIG    |
| 106          | G/R           | PKB SIG        |
| 107          | V/W           | SPEED 8P       |

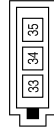
ABNIA5155GB

# COLOR DISPLAY

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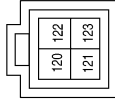
[COLOR DISPLAY - W/O BOSE]

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| Connector No.   | M121   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITHOUT BOSE AUDIO SYSTEM OR NAVIGATION SYSTEM) |
| Connector Color | GRAY   |



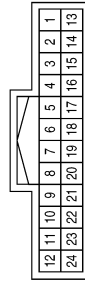
| Terminal No. | Color of Wire | Signal Name |
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| 33           | -             | -           |
| 34           | B             | ANT MAIN    |
| 35           | B             | ANT +B      |

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| Connector No.   | M120   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITHOUT BOSE AUDIO SYSTEM OR NAVIGATION SYSTEM) |
| Connector Color | GREEN  |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 120          | B             | USB GND     |
| 121          | W             | USB D-      |
| 122          | R             | VBUS        |
| 123          | G             | USB D+      |

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|-----------------|---|
| Connector No.   | M141  |
| Connector Name  | DISPLAY UNIT (WITH COLOR DISPLAY WITHOUT NAVIGATION SYSTEM) |
| Connector Color | WHITE   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | GND         |
| 2            | Y             | INV VCC     |
| 3            | O             | SIG VCC     |
| 4            | B             | COMP IN-    |

| Terminal No. | Color of Wire | Signal Name    |
|--------------|---------------|----------------|
| 5            | SHIELD        | COMP IN SHIELD |
| 6            | R             | G              |
| 7            | SHIELD        | RGB GND        |
| 8            | R             | HP             |
| 9            | B             | YS             |
| 10           | -             | -              |
| 11           | Y             | IT DISP        |
| 12           | -             | -              |
| 13           | BR            | INV GND        |
| 14           | LG            | SIG GND        |
| 15           | W             | COMP IN+       |
| 16           | -             | -              |
| 17           | B             | R              |

| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 18           | W             | B            |
| 19           | G             | RGB SYNC     |
| 20           | W             | VP           |
| 21           | SHIELD        | RGB SYNC GND |
| 22           | BR            | DISP ITM     |
| 23           | SHIELD        | BUS GND      |
| 24           | -             | -            |

ABNIA5156GB

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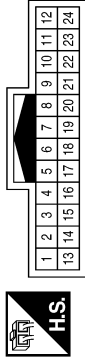
AV

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/O BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | M200         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | B             | -           |
| 10           | W             | -           |
| 11           | R             | -           |
| 12           | SHIELD        | -           |
| 21           | LG            | -           |
| 22           | V             | -           |
| 23           | SHIELD        | -           |
| 24           | GR            | -           |

|                 |  |
|-----------------|--|
| Connector No.   | M144                                   |
| Connector Name  | TWEETER RH (WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | BROWN                                  |



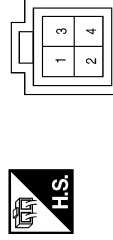
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | BR            | -           |
| 2            | B/R           | -           |

|                 |  |
|-----------------|--|
| Connector No.   | M143                                   |
| Connector Name  | TWEETER LH (WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | BROWN                                  |



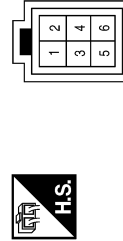
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | B/W           | -           |

|                 |               |
|-----------------|---------------|
| Connector No.   | M211          |
| Connector Name  | USB INTERFACE |
| Connector Color | GREEN         |



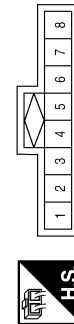
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | G             | -           |
| 3            | B             | -           |
| 4            | W             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M210         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | R             | -           |
| 3            | W             | -           |
| 4            | G             | -           |

|                 |             |
|-----------------|-------------|
| Connector No.   | M209        |
| Connector Name  | AUX IN JACK |
| Connector Color | WHITE       |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | R             | -           |
| 3            | W             | -           |
| 7            | LG            | -           |
| 8            | V             | -           |

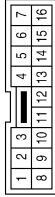
ABNIA5157GB

# COLOR DISPLAY

< WIRING DIAGRAM >

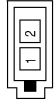
[COLOR DISPLAY - W/O BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | E3           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4            | R             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M502         |
| Connector Name  | ANTENNA AMP. |
| Connector Color | GRAY         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

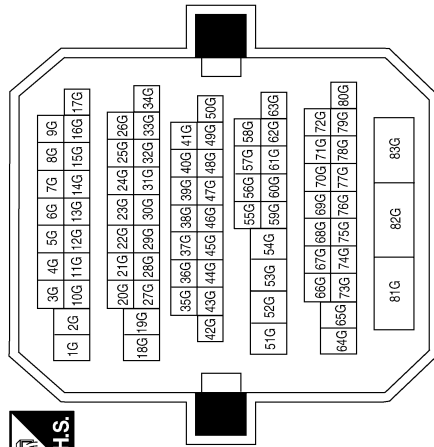
|                 |              |
|-----------------|--------------|
| Connector No.   | M501         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



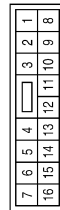
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13G          | BR            | -           |
| 24G          | P             | -           |
| 64G          | V             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | E30          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|                 |              |
|-----------------|--------------|
| Connector No.   | E29          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 15           | W             | -           |

ABNIA5158GB

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# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/O BOSE]

|                 |                |
|-----------------|----------------|
| Connector No.   | E47            |
| Connector Name  | JUNCTION BLOCK |
| Connector Color | WHITE          |



|              |    |               |    |             |   |
|--------------|----|---------------|----|-------------|---|
| Terminal No. | 45 | Color of Wire | BR | Signal Name | - |
|--------------|----|---------------|----|-------------|---|

|                 |                      |
|-----------------|----------------------|
| Connector No.   | E35                  |
| Connector Name  | PARKING BRAKE SWITCH |
| Connector Color | BLACK                |



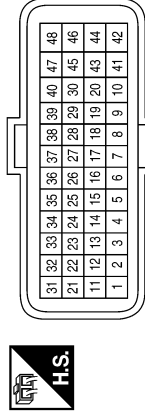
|              |   |               |   |             |   |
|--------------|---|---------------|---|-------------|---|
| Terminal No. | 1 | Color of Wire | P | Signal Name | - |
|--------------|---|---------------|---|-------------|---|

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|-----------------|--------------------|
| Connector No.   | E34                |
| Connector Name  | BACK-UP LAMP RELAY |
| Connector Color | BLUE               |



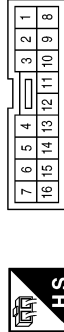
|              |               |             |
|--------------|---------------|-------------|
| Terminal No. | Color of Wire | Signal Name |
| 1            | O             | -           |
| 2            | R             | -           |
| 3            | W             | -           |
| 5            | LG            | -           |

|                 |                                   |
|-----------------|-----------------------------------|
| Connector No.   | F15                               |
| Connector Name  | TCM (TRANSMISSION CONTROL MODULE) |
| Connector Color | BLACK                             |



|              |    |               |     |             |              |
|--------------|----|---------------|-----|-------------|--------------|
| Terminal No. | 19 | Color of Wire | G/B | Signal Name | REV LAMP RLY |
|--------------|----|---------------|-----|-------------|--------------|

|                 |              |
|-----------------|--------------|
| Connector No.   | F1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|              |   |               |     |             |   |
|--------------|---|---------------|-----|-------------|---|
| Terminal No. | 4 | Color of Wire | G/B | Signal Name | - |
|--------------|---|---------------|-----|-------------|---|

|                 |                |
|-----------------|----------------|
| Connector No.   | E49            |
| Connector Name  | JUNCTION BLOCK |
| Connector Color | BROWN          |



|              |               |             |
|--------------|---------------|-------------|
| Terminal No. | Color of Wire | Signal Name |
| 51           | LG            | -           |
| 52           | O             | -           |

ABNIA5159GB

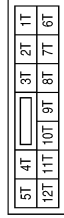


# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/O BOSE]

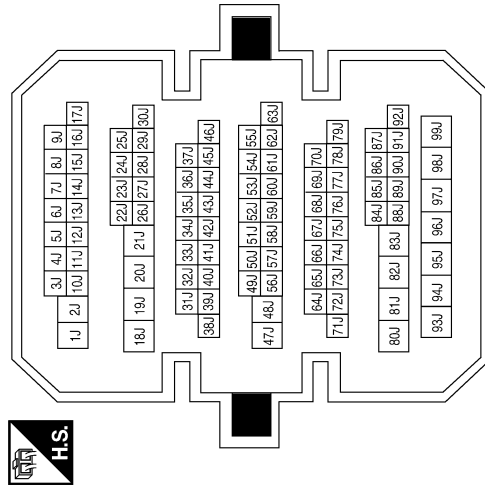
|                 |                  |
|-----------------|------------------|
| Connector No.   | B4               |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | BROWN            |



|              |    |               |   |             |   |
|--------------|----|---------------|---|-------------|---|
| Terminal No. | 3T | Color of Wire | G | Signal Name | - |
|--------------|----|---------------|---|-------------|---|

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 80J          | O             | -           |
| 81J          | LG            | -           |
| 82J          | L             | -           |
| 83J          | P             | -           |
| 88J          | V             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|                 |              |
|-----------------|--------------|
| Connector No.   | B16          |
| Connector Name  | SUBWOOFER LH |
| Connector Color | WHITE        |



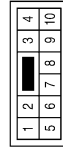
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|--------------|---|-----------------------|---|-------------|-----------------------|
| Terminal No. | 1 | Color of Wire         | L | Signal Name | -(WITH COLOR DISPLAY) |
| 2            | P | -(WITH COLOR DISPLAY) |   |             |                       |

|                 |              |
|-----------------|--------------|
| Connector No.   | B10          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|              |    |               |   |             |   |
|--------------|----|---------------|---|-------------|---|
| Terminal No. | 15 | Color of Wire | V | Signal Name | - |
|--------------|----|---------------|---|-------------|---|

|                 |              |
|-----------------|--------------|
| Connector No.   | B6           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|              |   |               |    |             |   |
|--------------|---|---------------|----|-------------|---|
| Terminal No. | 9 | Color of Wire | LG | Signal Name | - |
| 10           | O | -             |    |             |   |

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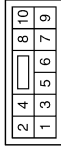
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# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/O BOSE]

|                 |                |
|-----------------|----------------|
| Connector No.   | B21            |
| Connector Name  | SUBWOOFER AMP. |
| Connector Color | WHITE          |



| Terminal No. | Color of Wire | Signal Name                           |
|--------------|---------------|---------------------------------------|
| 1            | O             | SP LH (-) IN                          |
| 2            | LG            | SP LH (+) IN                          |
| 3            | P             | SP RH (-) IN                          |
| 4            | L             | SP RH (+) IN                          |
| 5            | P             | WOOFER LH (-)<br>(WITH COLOR DISPLAY) |
| 6            | L             | WOOFER LH (+)<br>(WITH COLOR DISPLAY) |
| 7            | B             | GND                                   |
| 8            | BR            | WOOFER RH (-)                         |
| 9            | G             | ACC                                   |
| 10           | R             | WOOFER RH (+)                         |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | B20                 |
| Connector Name  | JOINT CONNECTOR-B05 |
| Connector Color | BLUE                |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | V             | -           |
| 7            | V             | -           |
| 8            | V             | -           |
| 9            | V             | -           |

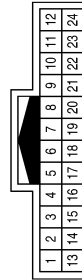
|                 |              |
|-----------------|--------------|
| Connector No.   | B17          |
| Connector Name  | SUBWOOFER RH |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | BR            | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | SHIELD        | -           |
| 10           | Y             | -           |
| 13           | BR            | -           |
| 21           | V             | -           |
| 22           | GR            | -           |
| 23           | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B101         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4            | R             | -           |
| 5            | L             | -           |
| 6            | SHIELD        | -           |
| 8            | BR            | -           |

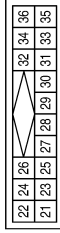
ABNIA5161GB

# COLOR DISPLAY

< WIRING DIAGRAM >

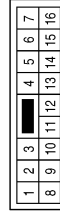
[COLOR DISPLAY - W/O BOSE]

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|-----------------|-----------------------|
| Connector No.   | B111                  |
| Connector Name  | SATELLITE RADIO TUNER |
| Connector Color | WHITE                 |



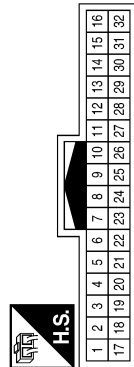
| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 21           | BR            | SAT LCH (-)      |
| 22           | W             | SAT LCH (+)      |
| 23           | Y             | SAT RCH (-)      |
| 24           | B             | SAT RCH (+)      |
| 25           | -             | -                |
| 26           | -             | -                |
| 27           | -             | -                |
| 28           | R             | REQ1 (SAT->COMB) |
| 29           | V             | TXD (SAT->COMB)  |
| 30           | L             | RXD (COMB->SAT)  |
| 31           | -             | -                |
| 32           | P             | BAT              |
| 33           | -             | -                |
| 34           | -             | -                |
| 35           | B             | HARN EARTH       |
| 36           | GR            | ACC              |

|                 |              |
|-----------------|--------------|
| Connector No.   | B104         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | LG            | -           |
| 7            | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B102         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | BR            | -           |
| 6            | W             | -           |
| 7            | Y             | -           |
| 8            | B             | -           |
| 10           | R             | -           |
| 11           | L             | -           |
| 12           | V             | -           |
| 14           | GR            | -           |
| 15           | P             | -           |

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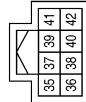
ABNIA5162GB

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/O BOSE]

|                 |                         |
|-----------------|-------------------------|
| Connector No.   | B125                    |
| Connector Name  | BLUETOOTH® CONTROL UNIT |
| Connector Color | WHITE                   |



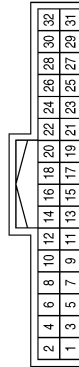
| Terminal No. | Color of Wire | Signal Name                    |
|--------------|---------------|--------------------------------|
| 35           | L             | CAN H1                         |
| 36           | P             | CAN L1                         |
| 37           | -             | -                              |
| 38           | -             | -                              |
| 39           | -             | -                              |
| 40           | R             | CAN H2<br>(WITH COLOR DISPLAY) |
| 41           | -             | -                              |
| 42           | G             | CAN L2<br>(WITH COLOR DISPLAY) |

|                 |                         |
|-----------------|-------------------------|
| Connector No.   | B130                    |
| Connector Name  | BLUETOOTH® CONTROL UNIT |
| Connector Color | BLACK                   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33           | B             | -           |
| 34           | B             | -           |

|                 |  |
|-----------------|--|
| Connector No.   | B131   |
| Connector Name  | BLUETOOTH® CONTROL UNIT<br>(EXCEPT MONOCHROME<br>DISPLAY WITHOUT BOSE<br>AUDIO SYSTEM) |
| Connector Color | WHITE  |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | V             | (+B)        |
| 2            | GR            | ACC         |
| 3            | O             | IGN         |
| 4            | B             | GND         |
| 5            | -             | -           |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 6            | -             | -             |
| 7            | L             | MIC IN +      |
| 8            | SHIELD        | MIC IN -      |
| 9            | BR            | AUDIO OUT (+) |
| 10           | Y             | AUDIO OUT (-) |
| 11           | -             | -             |
| 12           | -             | -             |
| 13           | -             | -             |
| 14           | -             | -             |
| 15           | -             | -             |
| 16           | -             | -             |
| 17           | -             | -             |
| 18           | -             | -             |
| 19           | -             | -             |
| 20           | B             | GND           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 21           | B             | GND         |
| 22           | -             | -           |
| 23           | -             | -           |
| 24           | B             | GND         |
| 25           | -             | -           |
| 26           | -             | -           |
| 27           | -             | -           |
| 28           | BR            | SPEED       |
| 29           | R             | MIC POWER   |
| 30           | -             | -           |
| 31           | -             | -           |
| 32           | -             | -           |

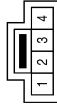
ABNIA5163GB

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/O BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | B139         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 1            | R             | -(WITHOUT NAVI) |
| 2            | W             | -(WITHOUT NAVI) |
| 3            | B             | -(WITHOUT NAVI) |
| 4            | SHIELD        | -               |

|                 |              |
|-----------------|--------------|
| Connector No.   | B136         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



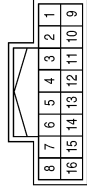
| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 1            | B             | -(WITHOUT NAVI) |
| 2            | SHIELD        | -               |
| 6            | W             | -(WITHOUT NAVI) |
| 7            | R             | -(WITHOUT NAVI) |
| 9            | G             | -               |
| 10           | R             | -               |
| 11           | P             | -               |
| 12           | L             | -               |

|                 |              |
|-----------------|--------------|
| Connector No.   | B134         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | R1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



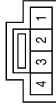
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | R             | -           |
| 9            | SHIELD        | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | T101             |
| Connector Name  | REAR VIEW CAMERA |
| Connector Color | WHITE            |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | W             | -           |
| 3            | B             | -           |
| 4            | GR            | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | T100         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | W             | -           |
| 3            | B             | -           |
| 4            | SHIELD        | -           |

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# COLOR DISPLAY

< WIRING DIAGRAM >

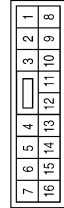
[COLOR DISPLAY - W/O BOSE]

|                 |                       |
|-----------------|-----------------------|
| Connector No.   | D3                    |
| Connector Name  | FRONT DOOR SPEAKER LH |
| Connector Color | WHITE                 |



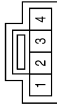
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



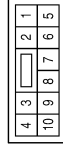
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11           | O             | -           |
| 12           | LG            | -           |

|                 |            |
|-----------------|------------|
| Connector No.   | R7         |
| Connector Name  | MICROPHONE |
| Connector Color | WHITE      |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | SHIELD        | -           |
| 4            | R             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D201         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



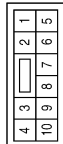
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

|                 |                       |
|-----------------|-----------------------|
| Connector No.   | D103                  |
| Connector Name  | FRONT DOOR SPEAKER RH |
| Connector Color | WHITE                 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D101         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | LG            | -           |
| 8            | O             | -           |

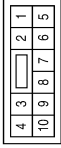
ABNIA5165GB

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/O BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | D306         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

|                 |   |
|-----------------|---|
| Connector No.   | D302  |
| Connector Name  | REAR DOOR SPEAKER RH<br>(EXCEPT MONOCHROME<br>DISPLAY WITHOUT BOSE<br>AUDIO SYSTEM) |
| Connector Color | BROWN   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |   |
|-----------------|---|
| Connector No.   | D202  |
| Connector Name  | REAR DOOR SPEAKER LH<br>(EXCEPT MONOCHROME<br>DISPLAY WITHOUT BOSE<br>AUDIO SYSTEM) |
| Connector Color | BROWN   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

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ABNIA5166GB

## SYMPTOM DIAGNOSIS

### AUDIO SYSTEM

#### Symptom Table

INFOID:0000000010064922

#### AUDIO SYSTEM

| Symptoms   | Check items  | Probable malfunction location   |
|--|--|---|
| The disk cannot be removed.                          | AV control unit  | Malfunction in AV control unit.<br>Refer to <a href="#">AV-311, "Removal and Installation"</a> .  |
| No sound comes out or the level of the sound is low. | No sound from all speakers.  | <ul style="list-style-type: none"> <li>• Speaker circuit shorted to ground.<br/>Refer to <a href="#">AV-282, "Wiring Diagram - Without BOSE Audio System Without Navigation System"</a>.</li> <li>• AV control unit power supply and ground circuits malfunction.<br/>Refer to <a href="#">AV-231, "AV CONTROL UNIT : Diagnosis Procedure"</a>.</li> </ul>  |
|  | Only a certain speaker (front door speaker LH, front door speaker RH, tweeter LH, tweeter RH, rear door speaker LH, rear door speaker RH, rear subwoofer LH, rear subwoofer RH) does not output sound. | <ul style="list-style-type: none"> <li>• Poor connector connection of speaker.</li> <li>• Sound signal circuit malfunction between AV control unit and speaker.<br/>Refer to <a href="#">AV-248, "Diagnosis Procedure"</a> (front door speaker).<br/>Refer to <a href="#">AV-250, "Diagnosis Procedure"</a> (tweeter).<br/>Refer to <a href="#">AV-252, "Diagnosis Procedure"</a> (rear door speaker).</li> <li>• Sound signal circuit malfunction between subwoofer amp. and subwoofer.<br/>Refer to <a href="#">AV-254, "Diagnosis Procedure"</a> (subwoofer).</li> <li>• Malfunction in speaker.<br/>Refer to <a href="#">AV-319, "Removal and Installation"</a> (front door speaker).<br/>Refer to <a href="#">AV-318, "Removal and Installation"</a> (tweeter).<br/>Refer to <a href="#">AV-320, "Removal and Installation"</a> (rear door speaker).<br/>Refer to <a href="#">AV-321, "Removal and Installation"</a> (subwoofer).</li> <li>• Malfunction in AV control unit.<br/>Refer to <a href="#">AV-311, "Removal and Installation"</a>.</li> </ul> |



# AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

| Symptoms                              | Check items  | Probable malfunction location   |
|---------------------------------------|--|---|
| Noise is mixed with audio.            | Noise comes out from all speakers.   | <ul style="list-style-type: none"> <li>Malfunction in AV control unit. Refer to <a href="#">AV-311, "Removal and Installation"</a>.</li> </ul>  |
|                                       | Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, tweeter LH, tweeter RH, rear door speaker LH, rear door speaker RH, rear subwoofer LH, rear subwoofer RH).  | <ul style="list-style-type: none"> <li>Poor connector connection of speaker.</li> <li>Sound signal circuit malfunction between AV control unit and speaker. Refer to <a href="#">AV-248, "Diagnosis Procedure"</a> (front door speaker). Refer to <a href="#">AV-250, "Diagnosis Procedure"</a> (tweeter). Refer to <a href="#">AV-252, "Diagnosis Procedure"</a> (rear door speaker).</li> <li>Sound signal circuit malfunction between subwoofer amp. and subwoofer. Refer to <a href="#">AV-254, "Diagnosis Procedure"</a> (subwoofer).</li> <li>Malfunction in speaker. Refer to <a href="#">AV-319, "Removal and Installation"</a> (front door speaker). Refer to <a href="#">AV-318, "Removal and Installation"</a> (tweeter). Refer to <a href="#">AV-320, "Removal and Installation"</a> (rear door speaker). Refer to <a href="#">AV-321, "Removal and Installation"</a> (subwoofer).</li> <li>Malfunction in AV control unit. Refer to <a href="#">AV-311, "Removal and Installation"</a>.</li> </ul> |
|                                       | Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)  | <ul style="list-style-type: none"> <li>Poor connector connection of antenna or antenna feeder. Refer to <a href="#">AV-327, "Location of Antenna"</a>.</li> </ul>   |
| No radio reception or poor reception. | <ul style="list-style-type: none"> <li>Other audio sounds are normal.</li> <li>Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).</li> </ul> | <ul style="list-style-type: none"> <li>Antenna amp. ON signal circuit malfunction. Refer to <a href="#">AV-266, "Reference Value"</a>.</li> <li>Poor connector connection of antenna or antenna feeder. Refer to <a href="#">AV-327, "Location of Antenna"</a>.</li> </ul>  |
| No satellite radio reception.         | There is malfunction in the CONSULT self diagnosis result. Refer to <a href="#">AV-202, "CONSULT Function (MULTI AV)"</a> .  | <ul style="list-style-type: none"> <li>Malfunction in antenna, antenna feeder or AV control unit.</li> <li>Poor continuity in antenna feeder.</li> <li>Poor connector connection of antenna or antenna feeder. Refer to <a href="#">AV-327, "Location of Antenna"</a>.</li> </ul>   |
|                                       | There is no malfunction in the CONSULT self diagnosis result. Refer to <a href="#">AV-202, "CONSULT Function (MULTI AV)"</a> .   | <ul style="list-style-type: none"> <li>Poor continuity in antenna feeder.</li> <li>Poor connector connection of antenna or antenna feeder.</li> <li>Loose satellite radio antenna mounting nut. Refer to <a href="#">AV-327, "Location of Antenna"</a>.</li> </ul>  |
| Buzz/rattle sound from speaker        | The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.   | Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.  |

## RELATED TO HANDS-FREE PHONE

- Before performing diagnosis, confirm that the cellular phone being used by the customer is compatible with the vehicle.
- It is possible that a malfunction is occurring due to a version change of the phone even though the phone is a compatible type. This can be confirmed by changing the cellular phone to another compatible type, and check that it operates normally. It is important to determine whether the cause of the malfunction is the vehicle or the cellular phone.

# AUDIO SYSTEM

[COLOR DISPLAY - W/O BOSE]

## < SYMPTOM DIAGNOSIS >

### Check Compatibility

1. Make sure the customer's Bluetooth® related concern is understood.
2. Verify the customer's concern.

**NOTE:**




The customer's phone may be required, depending upon their concern.

3. Write down the customer's phone brand, model and service provider.

**NOTE:**

It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.

4. Go to "www.nissanusa.com/bluetooth/".
  - a. Using the website's search engine, find out if the customer's phone is on the approved list.
  - b. If the customer's phone is NOT on the approved list:  
Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.
  - c. If the feature related to the customer's concern shows as "N" (not compatible):  
Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".
  - d. If the feature related to the customer's concern shows as "Y" (compatible):  
Perform diagnosis as per the following table.

| Symptoms   | Check items  | Probable malfunction location  |
|--|--|--|
| Does not recognize cellular phone connection (no connection is displayed on the display at the guide). | Repeat the registration of cellular phone.   |  |
| Hands-free phone cannot be established.  | <ul style="list-style-type: none"> <li>• Hands-free phone operation can be made, but the communication cannot be established.</li> <li>• Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.</li> </ul>  | <ul style="list-style-type: none"> <li>• Malfunction in Bluetooth® control unit. Replace Bluetooth® control unit. Refer to <a href="#">AV-333, "Removal and Installation"</a>.</li> <li>• Malfunction in AV control unit. Replace AV control unit. Refer to <a href="#">AV-311, "Removal and Installation"</a>.</li> </ul> |
| The other party's voice cannot be heard by hands-free phone.   | Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.  |  |
| Originating sound is not heard by the other party with hands-free phone communication.                 | Sound operation function is normal.  |  |
|  | Sound operation function does not work.  | Microphone signal circuit malfunction. Refer to <a href="#">AV-264, "Diagnosis Procedure"</a> .  |
| The system cannot be operated.   | <ul style="list-style-type: none"> <li>• The voice recognition can be controlled.</li> <li>• Steering switch's volume DOWN and volume UP switch works, but   does not work.</li> </ul> | Steering switch malfunction. Replace steering switch. Refer to <a href="#">AV-326, "Removal and Installation"</a> .  |
|  | Steering switch's  , volume DOWN and volume UP switches do not work.  | Steering switch signal circuit malfunction. Refer to <a href="#">AV-257, "Diagnosis Procedure"</a> .   |
|  | All steering switches do not work.   | Steering switch ground circuit malfunction. Refer to <a href="#">AV-257, "Diagnosis Procedure"</a> .   |

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

## NORMAL OPERATING CONDITION

### Description

INFOID:000000010064923

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).

### NOISE

The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction.

- Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
- Multi-path noise: This noise results from the waves sent directly from the broadcast station arriving at the antenna at a different time from the waves which reflect off mountains or buildings.

The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and determine the cause.

#### NOTE:

The source of the noise can be found easily by listening to the noise while removing the fuses of electrical components, one by one.

#### Type of Noise and Possible Cause

| Occurrence condition  |   | Possible cause   |
|---|---|--|
| Occurs only when engine is ON.  | A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed. | <ul style="list-style-type: none"> <li>• Ignition components</li> </ul>  |
| The occurrence of the noise is linked with the operation of the fuel pump.  |   | <ul style="list-style-type: none"> <li>• Fuel pump condenser</li> </ul>  |
| Noise only occurs when various electrical components are operating.   | A cracking or snapping sound occurs with the operation of various switches.                         | <ul style="list-style-type: none"> <li>• Relay malfunction, AV control unit malfunction</li> </ul>   |
|   | The noise occurs when various motors are operating.   | <ul style="list-style-type: none"> <li>• Motor case ground</li> <li>• Motor</li> </ul>   |
| The noise occurs constantly, not just under certain conditions.   |   | <ul style="list-style-type: none"> <li>• Rear defogger coil malfunction</li> <li>• Open circuit in printed heater</li> <li>• Poor ground of antenna feeder line</li> </ul>         |
| A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively. |   | <ul style="list-style-type: none"> <li>• Ground wire of body parts</li> <li>• Ground due to improper part installation</li> <li>• Wiring connections or a short circuit</li> </ul> |

### RELATED TO HANDS-FREE PHONE

| Symptom  | Cause and Counter measure   |
|--|---|
| Does not recognize cellular phone connection (No connection is displayed on the display at the guide). | Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in <a href="#">AV-304, "Symptom Table"</a> .   |
| Cannot use hands-free phone.   | <p>Customer will not be able to use a hands-free phone under the following conditions:</p> <ul style="list-style-type: none"> <li>• The vehicle is outside of the telephone service area.</li> <li>• The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area.</li> <li>• The cellular phone is locked to prevent it from being dialed.</li> </ul> <p><b>NOTE:</b></p> <p>While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.</p> |

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/O BOSE]

| Symptom  | Cause and Counter measure   |
|--|---|
| The other party's voice cannot be heard by hands-free phone. | When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.  |
| Poor sound quality.  | Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption. |

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000010136144

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

**WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

**WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.

Precaution for Work

INFOID:000000010064925

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
  - Water soluble dirt:
    - Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
    - Then rub with a soft, dry cloth.
  - Oily dirt:
    - Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
    - Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
    - Then rub with a soft, dry cloth.
  - Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
  - For genuine leather seats, use a genuine leather seat cleaner.

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AV

# PREPARATION

< PREPARATION >

[COLOR DISPLAY - W/O BOSE]

## PREPARATION

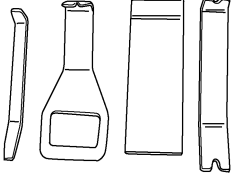
### PREPARATION

#### Special Service Tool

INFOID:000000010064926

The actual shape of the tools may differ from those illustrated here.

| Tool number<br>(TechMate No.)<br>Tool name | Description              |
|--|--------------------------|
| —<br>(J-46534)<br>Trim Tool Set            | Removing trim components |




AWJIA0483ZZ

#### Commercial Service Tools

INFOID:000000010064927

| Tool name  | Description                      |
|------------|----------------------------------|
| Power tool | Loosening nuts, screws and bolts |



PIIB1407E

# AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

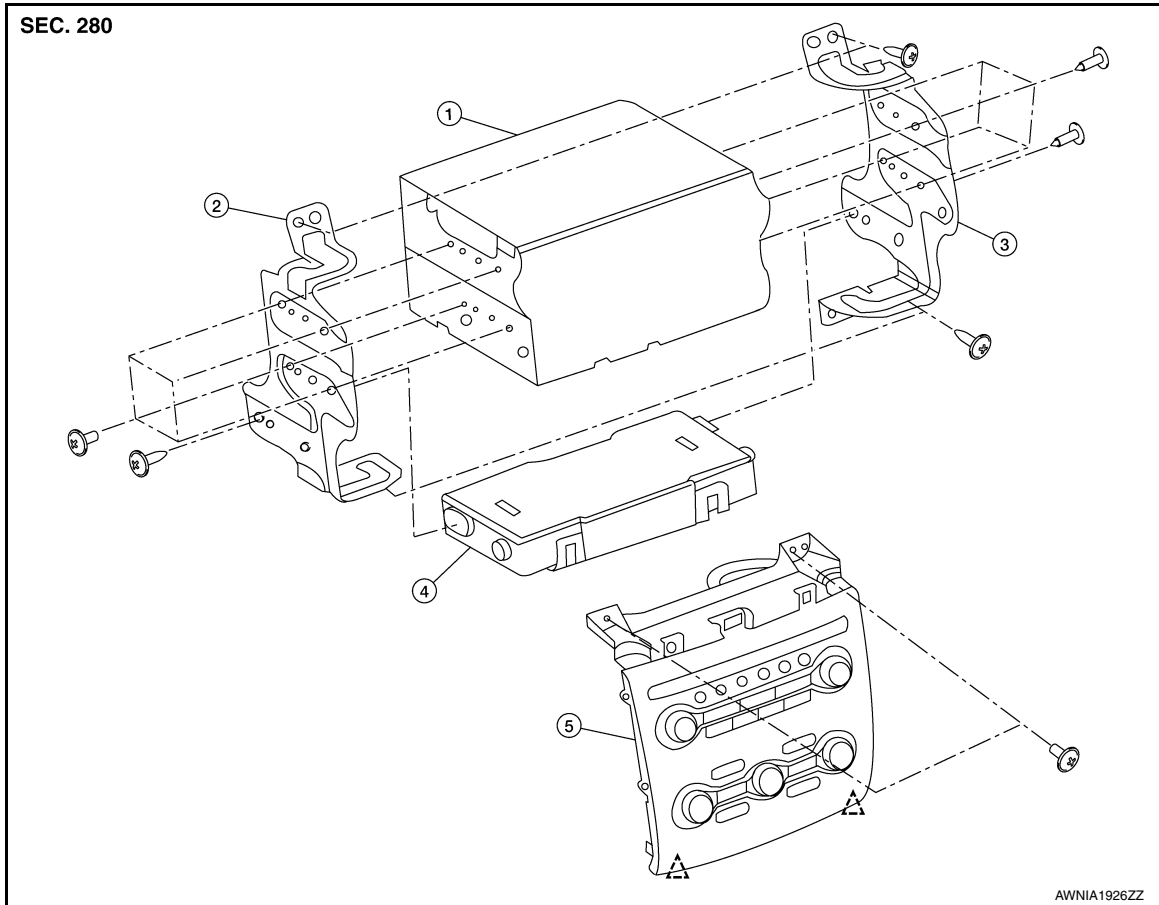
[COLOR DISPLAY - W/O BOSE]

## REMOVAL AND INSTALLATION

### AV CONTROL UNIT

#### Removal and Installation

INFOID:000000010064928



- |                    |   |                               |
|--------------------|---|-------------------------------|
| 1. AV control unit | 2. AV control unit bracket LH                               | 3. AV control unit bracket RH |
| 4. A/C auto amp.   | 5. Cluster lid C (with A/C and AV switch assembly attached) | △ Clip                        |

### AV CONTROL UNIT

#### Removal

#### **CAUTION:**

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to [AV-180, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

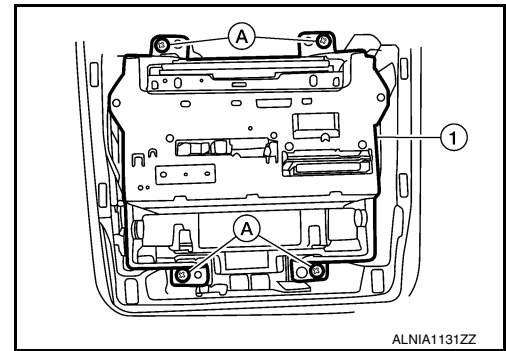
1. Disconnect the battery negative terminal.
2. Remove the cluster lid D. Refer to [IP-11, "Removal and Installation"](#).
3. Remove the cluster lid C. Refer to [IP-10, "Exploded View"](#).

## AV CONTROL UNIT

### < REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

4. Remove the av control unit screws (A), then pull out the av control unit (1), disconnect the av control unit connectors and remove the av control unit (1).



#### Installation

Installation is in the reverse order of removal.

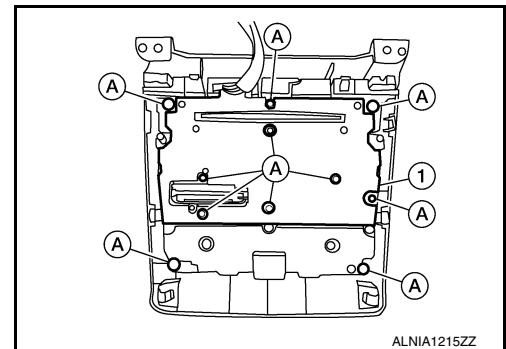
#### CAUTION:

- When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to [AV-180, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

### A/C AND AV SWITCH ASSEMBLY

#### Removal

1. Remove the cluster lid D. Refer to [IP-11, "Removal and Installation"](#).
2. Remove the cluster lid C. Refer to [IP-10, "Exploded View"](#).
3. Remove the A/C and AV switch assembly screws (A), then pull out the A/C and AV switch assembly (1) from cluster lid C.



#### Installation

Installation is in the reverse order of removal.



# MULTIFUNCTION SWITCH

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

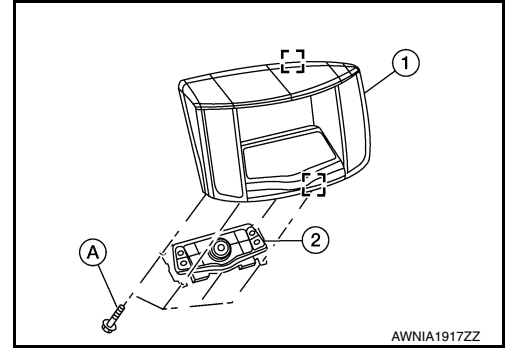
## MULTIFUNCTION SWITCH

### Removal and Installation

INFOID:000000010064929

#### REMOVAL

1. Remove cluster lid D. Refer to [IP-10. "Exploded View"](#).
2. Remove the four multifunction switch screws (A) and remove the multifunction switch (2) from cluster lid D (1).  
[ ]: Metal clip



#### INSTALLATION

Installation is in the reverse order of removal.

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# AUDIO DISPLAY UNIT

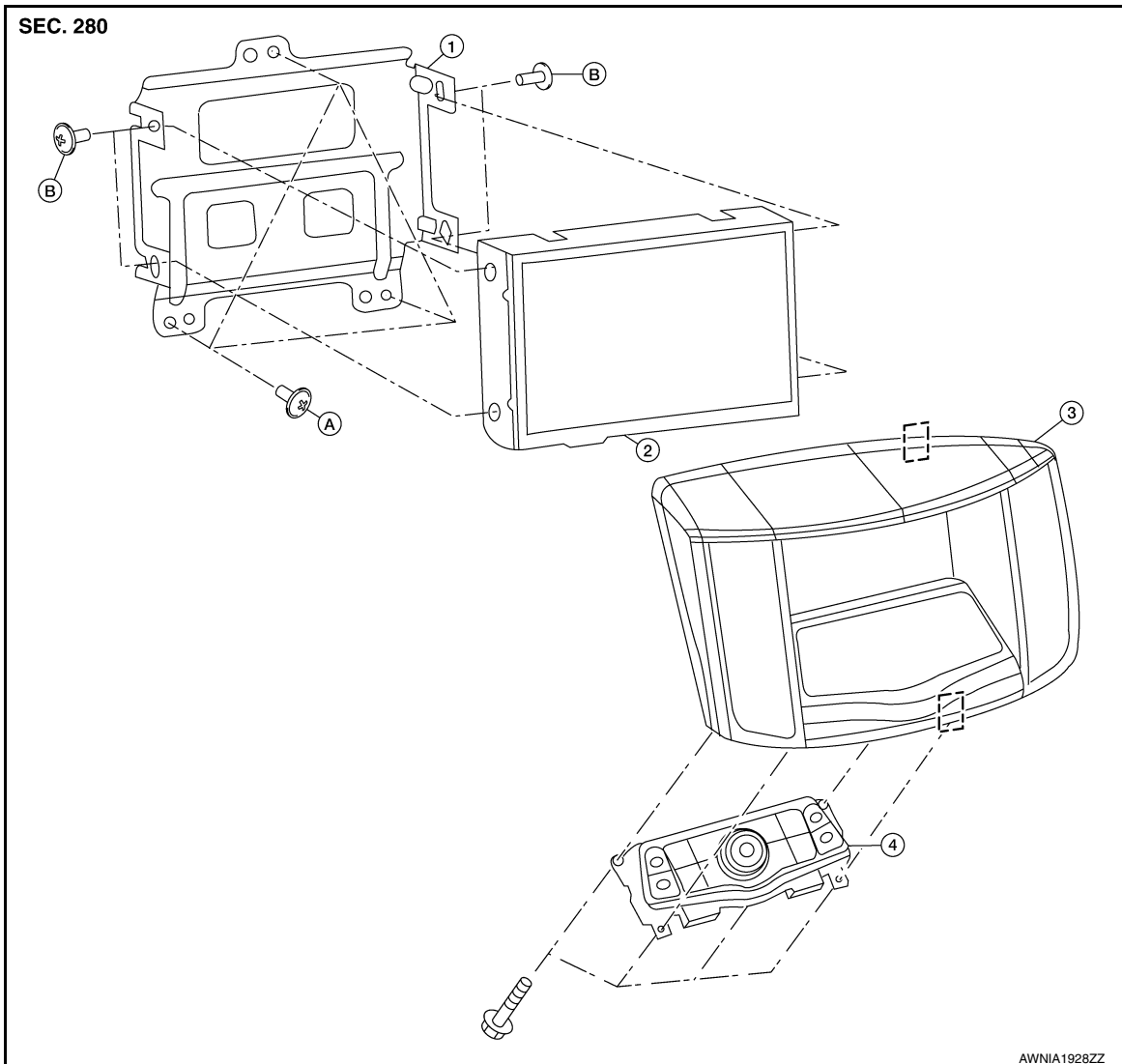
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

## AUDIO DISPLAY UNIT

### Removal and Installation

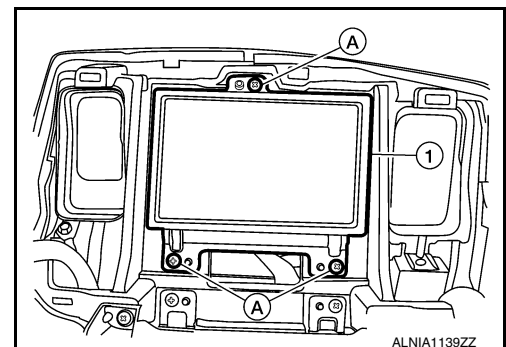
INFOID:000000010064930



- |                               |                                      |                              |
|-------------------------------|--------------------------------------|------------------------------|
| 1. Audio display unit bracket | 2. Audio display unit                | 3. Cluster lid D             |
| 4. Multifunction switch       | A. Audio display unit bracket screws | B. Audio display unit screws |
- [ ] Metal Clip

### REMOVAL

1. Remove the cluster lid D. Refer to [IP-11, "Removal and Installation"](#).
2. Remove the audio display unit bracket screws (A).
3. Pull out the audio display unit and bracket assembly (1).
4. Disconnect the harness connectors from the audio display unit and bracket assembly (1) and remove.



# AUDIO DISPLAY UNIT

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

5. Remove the audio display unit screws on the sides and remove the audio display unit from the audio display unit brackets.

## INSTALLATION

Installation is in the reverse order of removal.

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# USB CONNECTOR

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

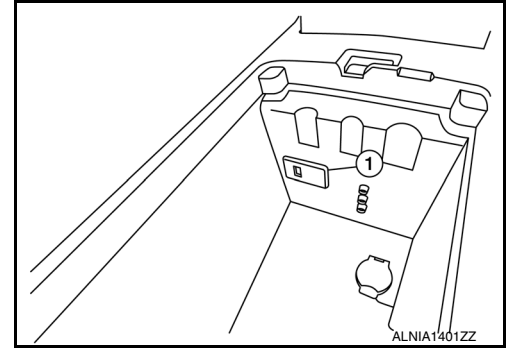
## USB CONNECTOR

### Removal and Installation

INFOID:000000010064931

#### REMOVAL

1. Remove the center console assembly. Refer to [IP-14. "Removal and Installation"](#).
2. Release the pawl from the back of the center console to remove the USB interface (1).



#### INSTALLATION

Installation is in the reverse order of removal.

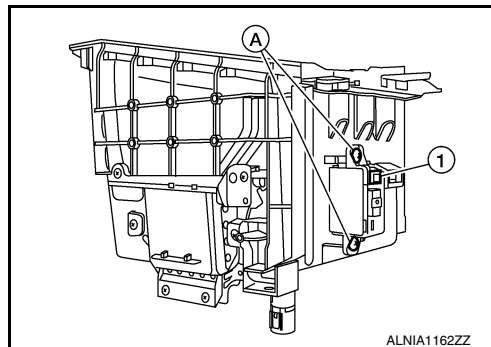
## AUX IN JACK

### Removal and Installation

INFOID:000000010064932

#### REMOVAL

1. Remove the center console. Refer to [IP-14, "Removal and Installation"](#).
2. Remove the center console bin box.
3. Remove the auxiliary input jacks screws (A), then remove the auxiliary input jacks (1).



#### INSTALLATION

Installation is in the reverse order of removal.

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# FRONT TWEETER

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

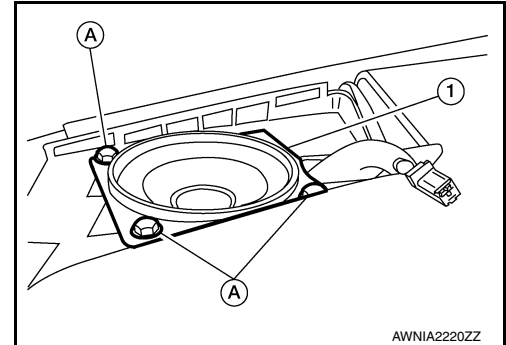
## FRONT TWEETER

### Removal and Installation

INFOID:000000010064933

#### REMOVAL

1. Remove the front pillar finisher. Refer to [INT-24, "Removal and Installation"](#).
2. Remove the front tweeter speaker grille. Refer to [IP-10, "Exploded View"](#).
3. Remove the front tweeter speaker screws (A).
4. Pull out front tweeter speaker (1), disconnect the harness connector from the front tweeter speaker and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

# FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

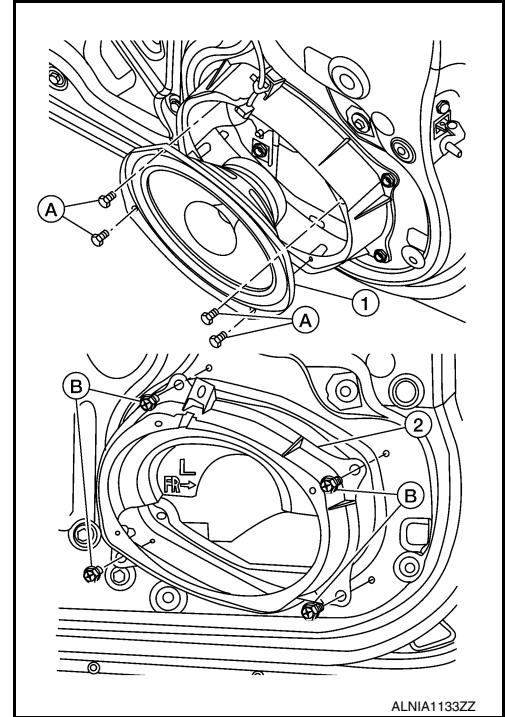
## FRONT DOOR SPEAKER

### Removal and Installation

INFOID:000000010064935

#### REMOVAL

1. Remove the front door finisher. Refer to [INT-18, "Removal and Installation"](#).
2. Remove the front door speaker screws (A).
3. Disconnect the harness connector from the front door speaker (1) and remove.
4. Remove the front door speaker spacer screws (B) and remove the front door speaker spacer (2).



#### INSTALLATION

Installation is in the reverse order of removal.

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## REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

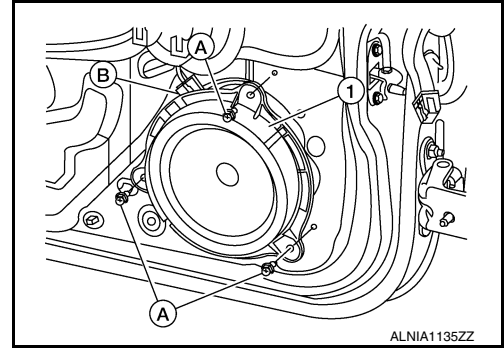
### REAR DOOR SPEAKER

#### Removal and Installation

INFOID:000000010064936

#### REMOVAL

1. Remove the rear door finisher. Refer to [INT-21. "Removal and Installation"](#).
2. Remove the rear door speaker screws (A).
3. Disconnect the harness connector (B) from the rear door speaker (1) and remove.



#### INSTALLATION

Installation is in the reverse order of removal.



# SUBWOOFER

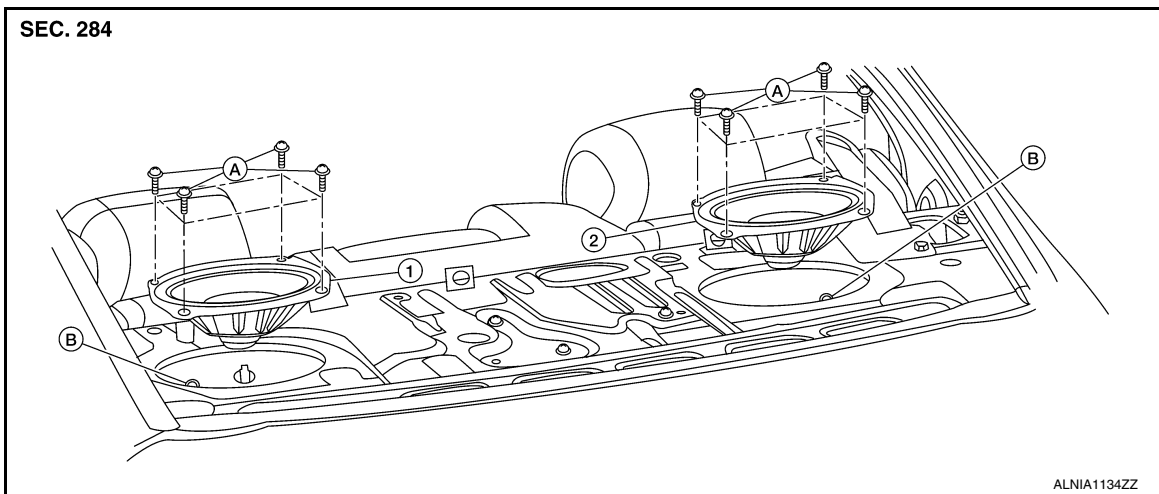
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

## SUBWOOFER

### Removal and Installation

INFOID:000000010064937



- 1. Subwoofer LH
- 2. Subwoofer RH
- A. Subwoofer screws
- B. Subwoofer connectors

### REMOVAL

1. Remove the rear parcel shelf finisher. Refer to [INT-36. "Removal and Installation"](#).
2. Remove the subwoofer screws.
3. Pull out the subwoofer, disconnect the harness connector from the subwoofer and remove.

### INSTALLATION

Installation is in the reverse order of removal.

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# SUBWOOFER AMP

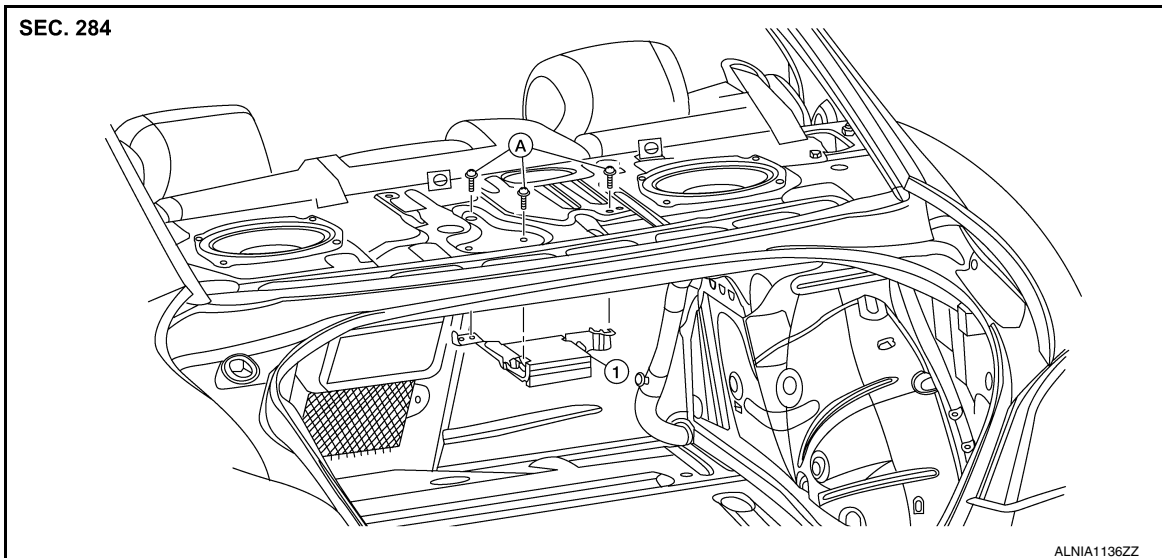
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

## SUBWOOFER AMP

### Removal and Installation

INFOID:000000010075142



1. Subwoofer amp. and bracket

A. Subwoofer amp. bracket screws

### REMOVAL

1. Disconnect the battery negative terminal. Refer to [PG-67, "Removal and Installation \(Battery\)"](#).
2. Remove the parcel shelf finisher. Refer to [INT-28, "Removal and Installation"](#).

#### NOTE:

The subwoofer amp. can be removed without removing the parcel amp finisher. If moving the subwoofer amp. and bracket, it is necessary to remove the parcel shelf finisher.

3. Remove the trunk upper finisher. Refer to [INT-36, "Exploded View"](#).
4. Remove the subwoofer amp. screws.
5. Disconnect the harness connectors from the subwoofer amp. and remove.

### INSTALLATION

Installation is in the reverse order of removal.

# BOSE SPEAKER AMP

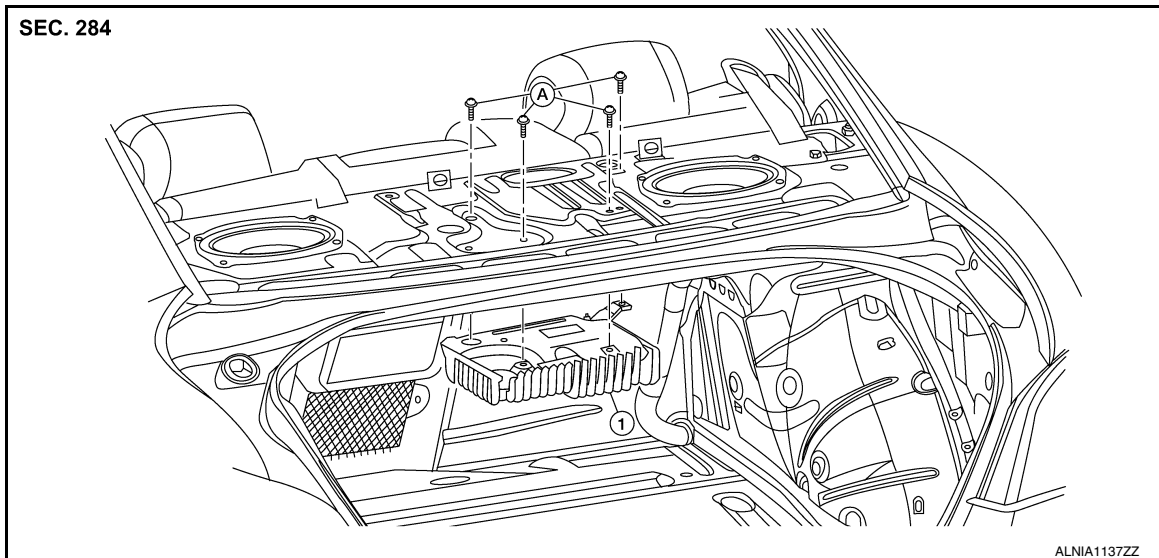
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

## BOSE SPEAKER AMP

### Removal and Installation

INFOID:000000010064938



1. Bose speaker amp.

A. Screws

#### REMOVAL

##### NOTE:

If removing the BOSE speaker amp. bracket, it is necessary to remove the parcel shelf finisher. The BOSE speaker amp. can be removed without removing the BOSE speaker amp. bracket.

1. Disconnect the battery negative terminal.
2. Remove the trunk upper finisher. Refer to [INT-36, "Exploded View"](#).
3. Remove the Bose speaker amp. screws.
4. Disconnect the Bose speaker amp. connectors and remove the Bose speaker amp.

#### INSTALLATION

Installation is in the reverse order of removal.

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# SATELLITE RADIO TUNER

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

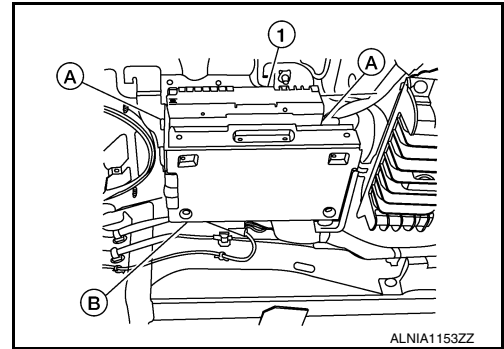
## SATELLITE RADIO TUNER

### Removal and Installation

INFOID:000000010064939

#### REMOVAL

1. Disconnect the battery negative terminal.
2. Remove the trunk upper finisher. Refer to [INT-36, "Exploded View"](#).
3. Remove the parcel shelf finisher. Refer to [INT-28, "Removal and Installation"](#).
4. From inside the passenger compartment, remove the bracket screws and lower the assembly for access.
5. Remove the satellite radio tuner unit screws (A), disconnect the harness connectors (B) from the satellite radio tuner (1) and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

# SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

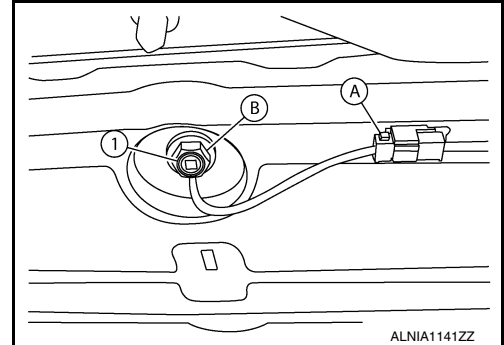
## SATELLITE RADIO ANTENNA

### Removal and Installation

INFOID:000000010064940

#### REMOVAL

1. Lower the headlining at the rear. Refer to [INT-33, "Exploded View"](#).
2. Disconnect the harness connector (A) from satellite radio antenna.
3. Remove the satellite radio antenna nut (B) and the satellite radio antenna (1).



#### INSTALLATION

Installation is in the reverse order of removal.

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# STEERING SWITCH

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

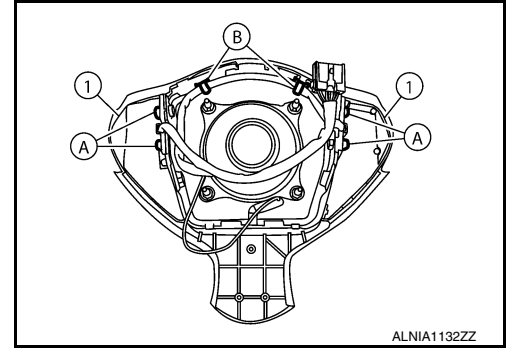
## STEERING SWITCH

### Removal and Installation

INFOID:000000010064941

#### REMOVAL

1. Remove the driver airbag module. Refer to [SR-12. "Removal and Installation"](#).
2. Remove the steering wheel audio control switch screws (A).
3. Release the steering wheel audio control switch harness clips (B).
4. Remove the steering wheel audio control switches (1).



#### INSTALLATION

Installation is in the reverse order of removal.

# AUDIO ANTENNA

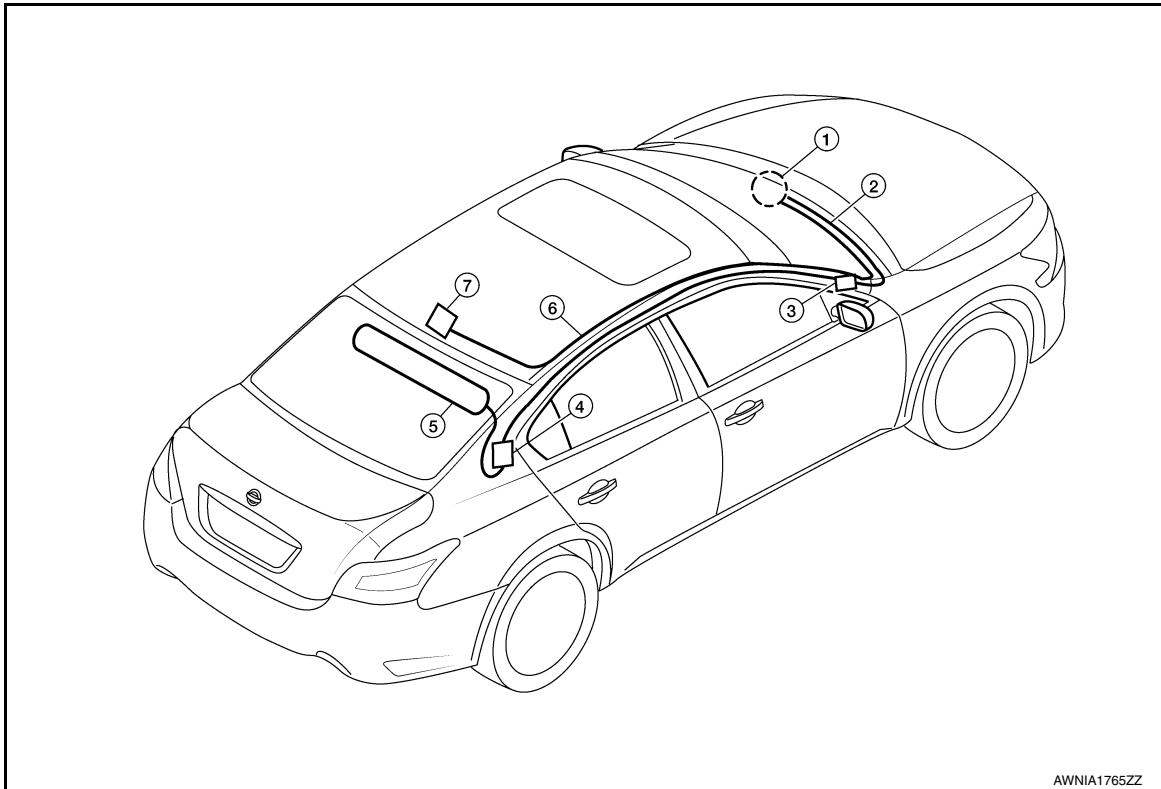
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

## AUDIO ANTENNA

### Location of Antenna

INFOID:000000010064942



AWNIA1765ZZ

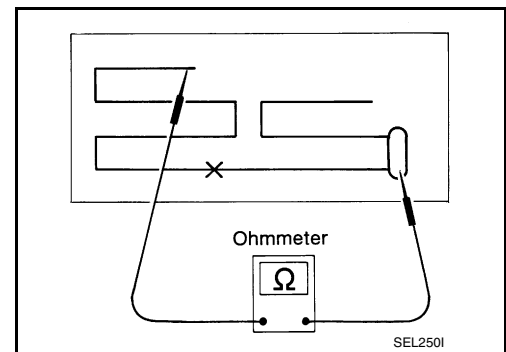
- |                            |                                   |                                   |
|----------------------------|-----------------------------------|-----------------------------------|
| 1. AV control unit         | 2. AV control unit antenna feeder | 3. In-line connectors M103, M501  |
| 4. Antenna amp.            | 5. Window antenna                 | 6. Satellite radio antenna feeder |
| 7. Satellite radio antenna |                                   |                                   |

### Window Antenna Repair

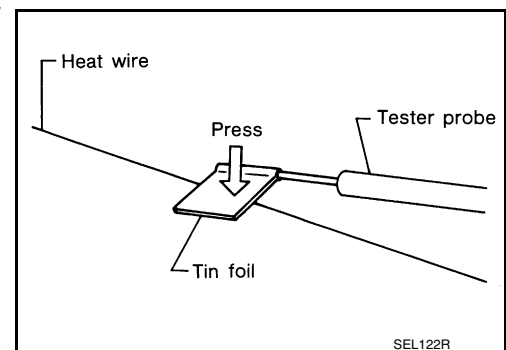
INFOID:000000010064943

#### ELEMENT CHECK

1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



- When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



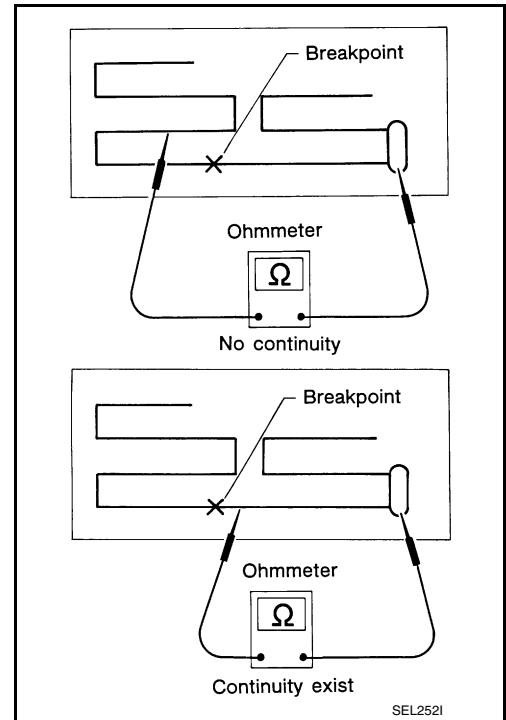
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# AUDIO ANTENNA

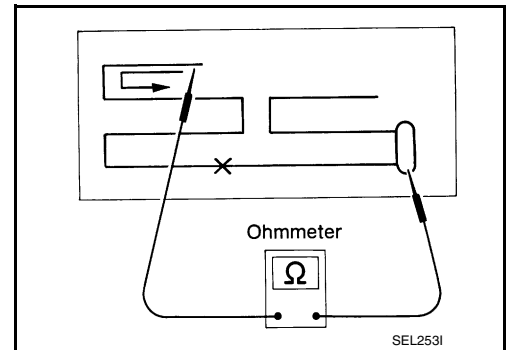
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

- If an element is broken, no continuity will exist.



- To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.



## REPAIR EQUIPMENT

- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

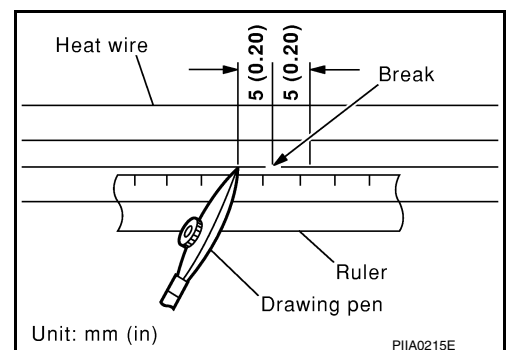
## REPAIRING PROCEDURE

- Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
- Apply a small amount of conductive silver composition to tip of drawing pen.

**NOTE:**

Shake silver composition container before use.

- Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.



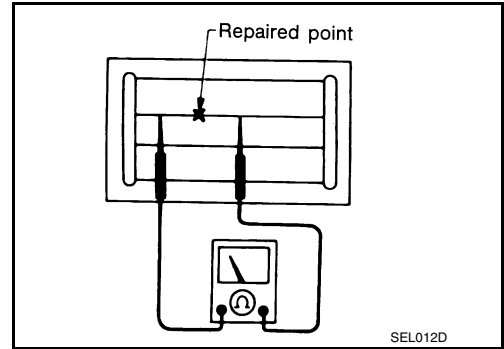


# AUDIO ANTENNA

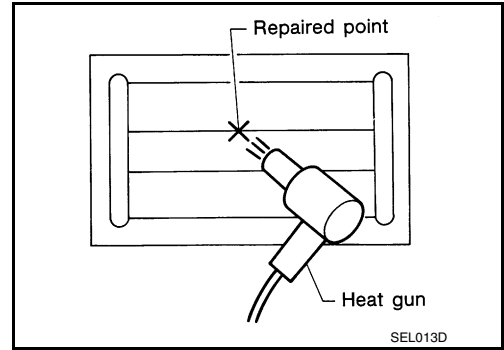
## < REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited. Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.



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## ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

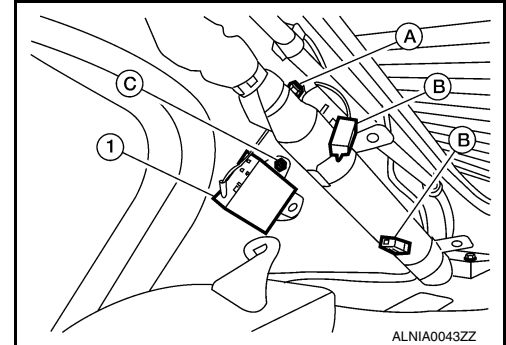
### ANTENNA AMP.

#### Removal and Installation

INFOID:000000010064944

#### REMOVAL

1. Remove the rear pillar finisher RH. Refer to [INT-23. "Exploded View"](#).
2. Detach the antenna amp. harness clip (A).
3. Disconnect the harness connectors (B) from the antenna amp. (1).
4. Remove the antenna amp. screw (C) and the antenna amp. (1).



#### INSTALLATION

Installation is in the reverse order of removal.

# MICROPHONE

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

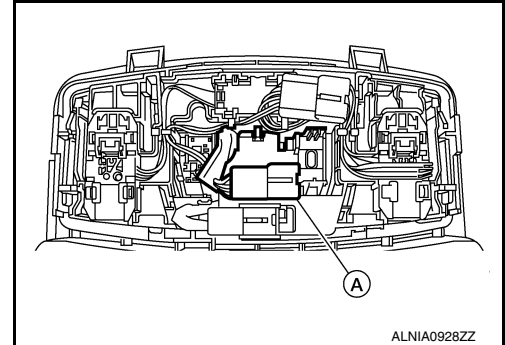
## MICROPHONE

### Removal and Installation

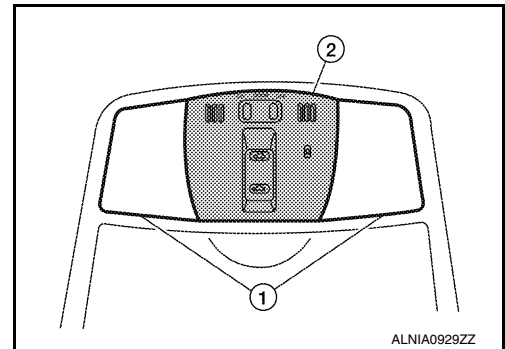
INFOID:000000010064945

#### REMOVAL

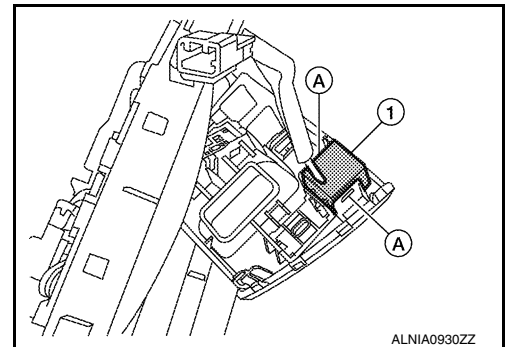
1. Remove the map lamp assembly. Refer to [INL-84, "Removal and Installation"](#).
2. Detach the microphone connector (A).



3. Remove the map lamp covers (1), then remove the map lamp assembly cover (2).



4. Release the microphone tabs (A), then remove the microphone (1).



#### INSTALLATION

Installation is in the reverse order of removal.

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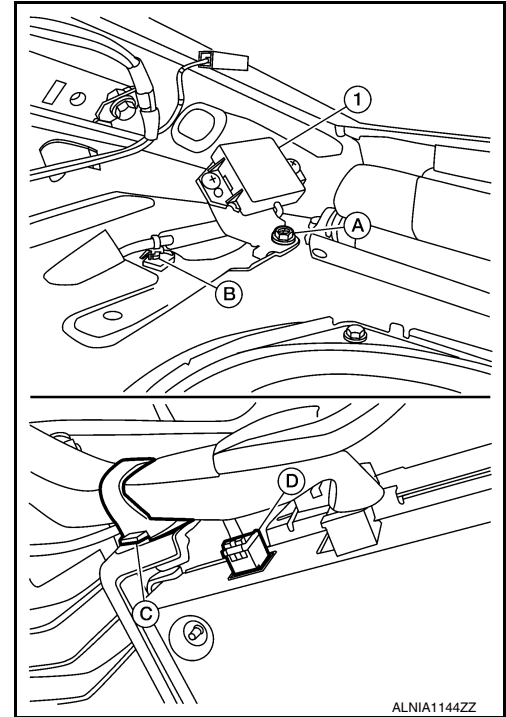
## TEL ANTENNA

## Removal and Installation

INFOID:000000010064946

## REMOVAL

1. Disconnect the battery negative terminal. Refer to [PG-68, "Removal and Installation \(Battery Tray\)"](#).
2. Remove the rear parcel shelf finisher. Refer to [INT-28, "Removal and Installation"](#).
3. Remove the Bluetooth antenna screw (A).
4. Detach the Bluetooth antenna harness clip (B).
5. Fold down the rear seat (if equipped) or open the trunk lid, then detach the Bluetooth antenna harness clip (C).
6. Disconnect the harness connector (D) from the Bluetooth antenna (1) and remove.



## INSTALLATION

Installation is in the reverse order of removal.

# BLUETOOTH CONTROL UNIT

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

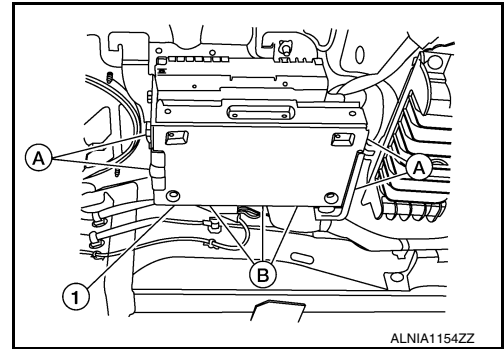
## BLUETOOTH CONTROL UNIT

### Removal and Installation

INFOID:000000010064947

#### REMOVAL

1. Disconnect the battery negative terminal.
2. Remove the trunk upper finisher. Refer to [INT-36, "Exploded View"](#).
3. Remove the parcel shelf finisher. Refer to [INT-28, "Removal and Installation"](#).
4. From inside the passenger compartment, remove the bracket screws and lower the assembly for access.
5. Remove the Bluetooth control unit screws (A).
6. Disconnect the Bluetooth control unit connectors (B) and remove the Bluetooth control unit (1).



#### INSTALLATION

Installation is in the reverse order of removal.

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# REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/O BOSE]

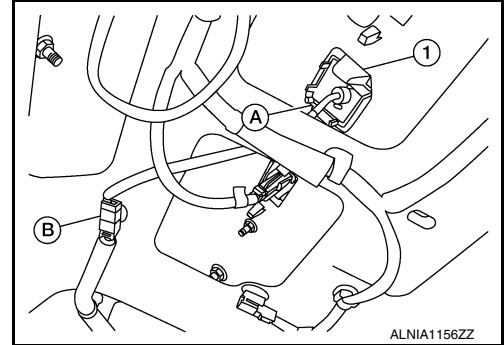
## REAR VIEW CAMERA

### Removal and Installation

INFOID:000000010064948

#### REMOVAL

1. Remove the license plate finisher. Refer to [EXL-166. "Removal and Installation"](#).
2. Remove trunk lid finisher. Refer to [INT-36. "Exploded View"](#).
3. Disconnect the rear view camera connector (B), press the rear view camera tab (A) and remove the rear view camera (1).



#### INSTALLATION

Installation is in the reverse order of removal.

#### Adjustment

INFOID:000000010064949

#### REAR VIEW CAMERA

For adjustment on the rear view camera, refer to [DLK-12. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[COLOR DISPLAY - W/ BOSE]

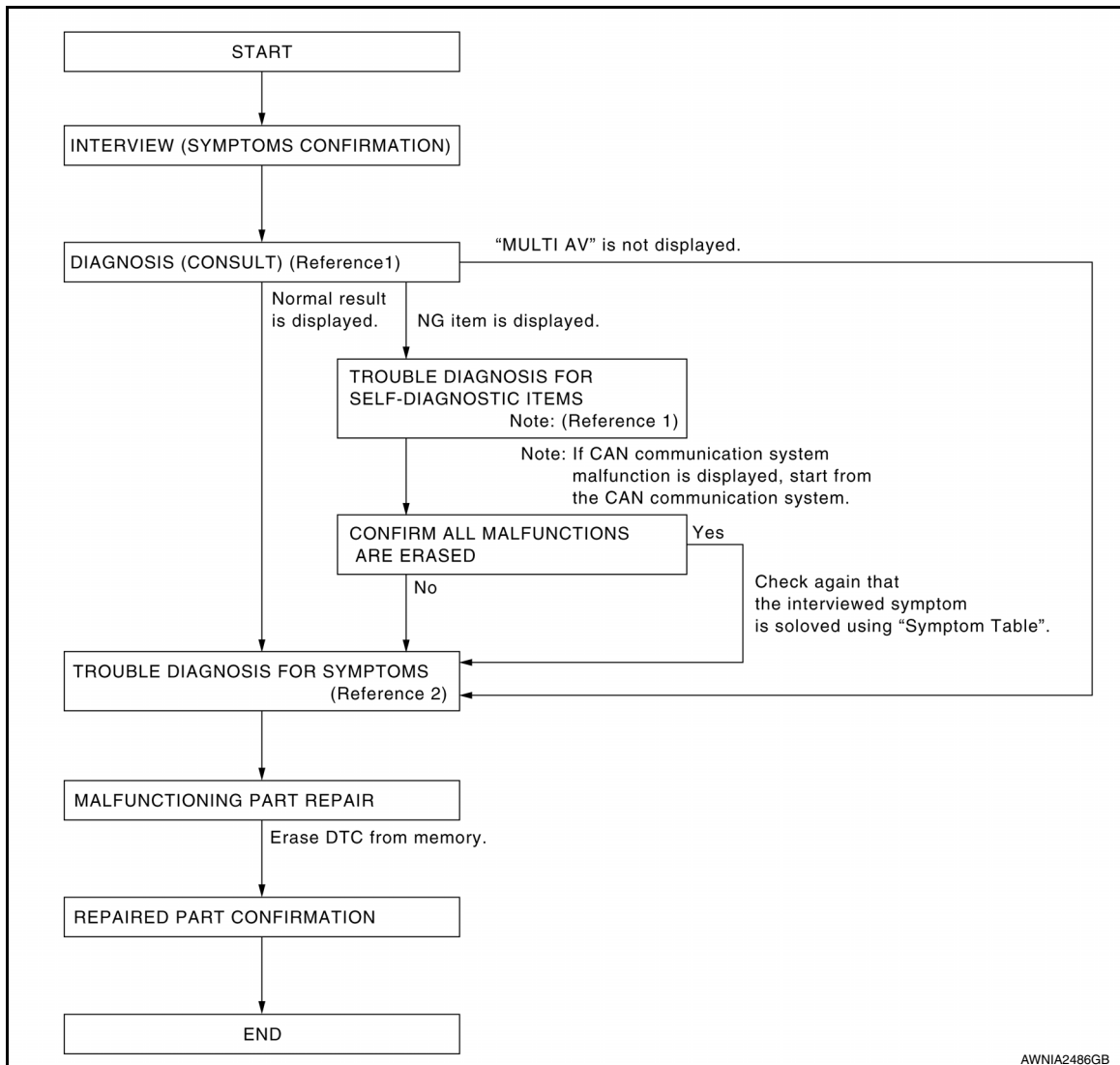
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000009471278

#### OVERALL SEQUENCE



- Reference 1... Refer to [AV-359, "CONSULT Function \(MULTI AV\)".](#)
- Reference 2... Refer to [AV-472, "Symptom Table".](#)

#### DETAILED FLOW

##### 1. CHECK SYMPTOM

Check the malfunction symptoms by performing the following items.

- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

>> GO TO 2

##### 2. SELF-DIAGNOSIS (CONSULT)

1. Connect CONSULT and perform "SELF-DIAGNOSIS" for "MULTI AV".

**NOTE:**

Skip to step 4 of the diagnosis procedure if "MULTI AV" is not displayed.

2. Check if any DTC No. is displayed in the self-diagnosis results.

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# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[COLOR DISPLAY - W/ BOSE]

Is any DTC No. displayed?

- YES >> GO TO 3
- NO >> GO TO 4

## 3. CHECK SELF-DIAGNOSIS RESULTS (CONSULT)

1. Check the DTC No. indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC No. list. Refer to [AV-437, "DTC Index"](#).

**NOTE:**

Start with the diagnosis for the CAN communication system if "CAN COMM CIRCUIT [U1000] or CONTROL UNIT (CAN) [U1010]" is displayed.

>> GO TO 5

## 4. PERFORM DIAGNOSIS BY SYMPTOM

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-472, "Symptom Table"](#).

>> GO TO 5

## 5. REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace the identified malfunctioning parts.

**NOTE:**

Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC No. has been indicated in the self-diagnosis results.

>> GO TO 6

## 6. CHECK AFTER REPAIR

1. Perform self-diagnosis for "MULTI AV" with CONSULT after repairing or replacing the malfunctioning parts.
2. Check if any DTC No. is displayed in the self-diagnosis results.

Is any DTC No. displayed?

- YES >> GO TO 3
- NO >> GO TO 7

## 7. FINAL CHECK

Perform the operation check to confirm that the malfunction symptom is solved or that any other symptoms are present.

Are any symptoms present?

- YES >> GO TO 4
- NO >> Inspection End.



# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[COLOR DISPLAY - W/ BOSE]

## INSPECTION AND ADJUSTMENT

### REAR VIEW MONITOR POSSIBLE ROUTE LINE CENTER POSITION ADJUSTMENT

#### REAR VIEW MONITOR POSSIBLE ROUTE LINE CENTER POSITION ADJUSTMENT : Description

INFOID:000000009471279

Adjust the center position of the possible route line of the rear view monitor if it is shifted.

#### REAR VIEW MONITOR POSSIBLE ROUTE LINE CENTER POSITION ADJUSTMENT : Special Repair Requirement

INFOID:000000009471280

#### 1. STEERING OPERATION

Steer the steering wheel to the leftmost and rightmost positions.

>> GO TO 2

#### 2. DRIVING

Drive the vehicle straight ahead 100 m (328.1 ft) or more at a speed of 30 km/h (18.6 MPH) or more.

>> END

## ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:000000009471281

#### BEFORE REPLACEMENT

When replacing AV control unit, save current vehicle specification with CONSULT configuration before replacement.

#### AFTER REPLACEMENT

##### **CAUTION:**

**When replacing AV control unit, you must perform "WRITE CONFIGURATION" with CONSULT.**

- Complete the procedure of "WRITE CONFIGURATION" in order.
- If you set incorrect "WRITE CONFIGURATION", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:000000009471282

#### 1. SAVING VEHICLE SPECIFICATION

##### -CONSULT Configuration

Perform "READ CONFIGURATION" to save current vehicle specification. Refer to [AV-338. "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

##### **NOTE:**

If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection".

>> GO TO 2.

#### 2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to [AV-481. "Removal and Installation"](#).

>> GO TO 3.

#### 3. WRITING VEHICLE SPECIFICATION

##### -CONSULT Configuration

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# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[COLOR DISPLAY - W/ BOSE]

Perform "WRITE CONFIGURATION - Config file" or "WRITE CONFIGURATION - Manual selection" to write vehicle specification. Refer to [AV-338, "CONFIGURATION \(AV CONTROL UNIT\) : Special Repair Requirement"](#).

>> GO TO 4.

## 4. OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

## CONFIGURATION (AV CONTROL UNIT)

### CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:000000009471283

- Since vehicle specifications are not included in the AV control unit after replacement, it is required to write vehicle specifications with CONSULT.
- Configuration has three functions as follows.

| Function                             | Description   |
|--------------------------------------|---|
| READ CONFIGURATION                   | <ul style="list-style-type: none"><li>• Reads the vehicle configuration of current AV control unit.</li><li>• Saves the read vehicle configuration.</li></ul> |
| WRITE CONFIGURATION-Manual selection | Writes the vehicle configuration with manual selection.   |
| WRITE CONFIGURATION-Config file      | Writes the vehicle configuration with saved data.   |

### CONFIGURATION (AV CONTROL UNIT) : Special Repair Requirement

INFOID:000000009471284

#### 1. WRITING MODE SELECTION

 CONSULT Configuration

Select "CONFIGURATION" of AV control unit.

When writing saved data>>GO TO 2.

When writing manually>>GO TO 3.

#### 2. PERFORM "WRITE CONFIGURATION-CONFIG FILE"

 CONSULT Configuration

Perform "WRITE CONFIGURATION-Config file".

>> WORK END

#### 3. PERFORM "WRITE CONFIGURATION-MANUAL SELECTION"

 CONSULT Configuration

Select "WRITE CONFIGURATION-Manual selection" to write vehicle specifications into the AV control unit. For data to write, refer to [AV-338, "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

>> GO TO 4.

#### 4. OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

## CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:000000009471285

**CAUTION:**

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[COLOR DISPLAY - W/ BOSE]

**Check vehicle specifications before servicing.**

| MANUAL SETTING ITEM |                       | Note                    |
|---------------------|-----------------------|-------------------------|
| Items               | Setting value         |                         |
| STEERING            | LHD                   | —                       |
|                     | RHD                   | —                       |
| GRADE               | MODE 1                | BASE                    |
|                     | MODE 2                | OTHER                   |
| ENGINE TYPE         | NORMAL                | —                       |
|                     | HYBRID                | —                       |
| BODY TYPE           | NORMAL                | NORMAL                  |
|                     | CONV                  | CONVERTIBLE             |
| CAMERA SYSTEM       | NONE/AVM              | NONE or AVM             |
|                     | REAR                  | REAR CAMERA             |
|                     | REAR + SIDE           | REAR + SIDE CAMERA      |
| 4WAS                | WITHOUT               | —                       |
|                     | WITH                  | —                       |
| SOUND SYSTEM        | BASE                  | —                       |
|                     | BOSE                  | —                       |
| ANTENNA TYPE        | ROD TYPE              | —                       |
|                     | LONG TYPE             | —                       |
| DUAL-ZONE AUTO TEMP | WITHOUT               | —                       |
|                     | WITH                  | —                       |
| DVD PLAY FUNCTION   | WITHOUT               | —                       |
|                     | WITH                  | —                       |
| BODY TYPE           | SED 2DR               | SEDAN 2 DOOR            |
|                     | SED 4DR 1             | SEDAN 4 DOOR            |
|                     | SED 4DR 2             | SEDAN 4 DOOR (WIDE)     |
|                     | H/B 2DR               | H/B 2 DOOR              |
|                     | H/B 4DR               | H/B 4 DOOR              |
|                     | COUPE 2DR             | COUPE 2 DOOR            |
|                     | COUPE T               | COUPE T BAR             |
|                     | WGN 4DR 2             | 49H WAGON 4 DOOR (WIDE) |
|                     | H/T 2DR 1             | H/T 2 DOOR              |
|                     | H/T 2DR 2             | H/T 2 DOOR (HIGHROOF)   |
|                     | H/T 4DR 1             | H/T 4 DOOR              |
|                     | H/T 4DR 2             | H/T 4 DOOR (WIDE)       |
|                     | WGN 2DR               | WAGON 2 DOOR            |
|                     | WGN 4DR 1             | WAGON 4 DOOR            |
|                     | WGN 4DR 3             | WAGON 4 DOOR (HIGHROOF) |
|                     | WGN 4DR 4             | 56H WAGON 4 DOOR (WIDE) |
|                     | VAN 2DR               | VAN 2 DOOR              |
|                     | VAN 4DR 1             | VAN 4 DOOR              |
| VAN 4DR 2           | VAN 4 DOOR (HIGHROOF) |                         |
| CONV                | CONVERTIBLE           |                         |

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# AUDIO SYSTEM

< SYSTEM DESCRIPTION >

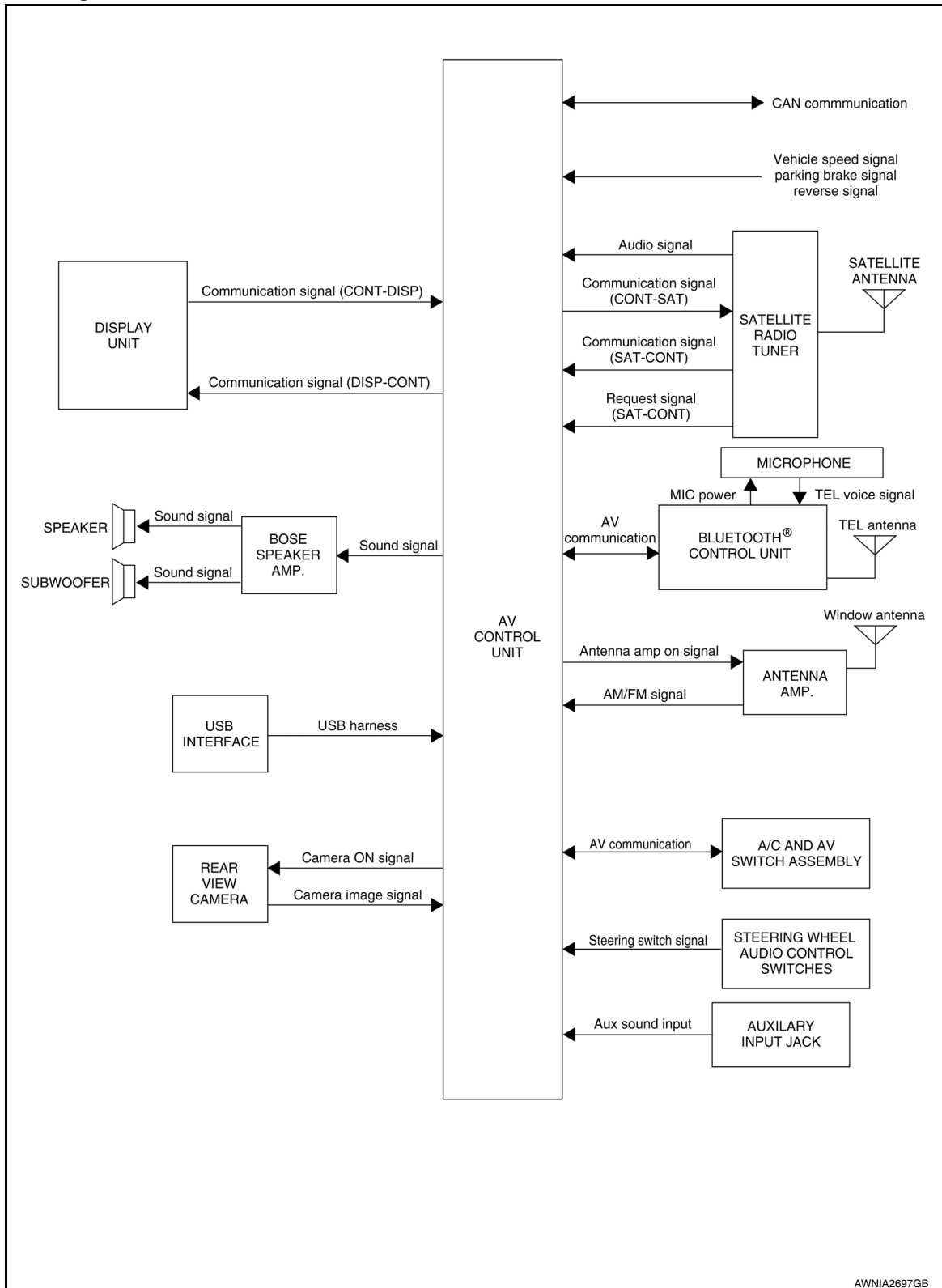
[COLOR DISPLAY - W/ BOSE]

## SYSTEM DESCRIPTION

### AUDIO SYSTEM

#### System Diagram

INFOID:000000009471286



## System Description

INFOID:000000009471287

### AUDIO SYSTEM

The audio system consists of the following components

- AV control unit
- Display unit
- BOSE speaker amp.
- Window antenna
- Steering wheel audio control switches
- A/C and AV switch assembly
- Front door speakers
- Tweeters
- Center speaker
- Rear door speakers
- Rear subwoofer

When the audio system is on, radio signals are received by the window antenna. The AV control unit then sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the front door speakers, tweeters, center speaker, rear door speakers and rear subwoofers. Refer to Owner's Manual for audio system operating instructions.

### SATELLITE RADIO SYSTEM (IF EQUIPPED)

The satellite radio system consists of the following components

- Satellite antenna
- Satellite radio tuner

When the satellite radio system is on, radio signals are supplied to the satellite radio tuner from the satellite antenna. The satellite radio tuner then sends audio signals to the AV control unit. Refer to Owner's Manual for satellite radio system operating instructions.

### SPEED SENSITIVE VOLUME SYSTEM

Volume level of this system goes up and down automatically in proportion to the vehicle speed. The control level can be selected by the customer. Refer to Owner's Manual for operating instructions.

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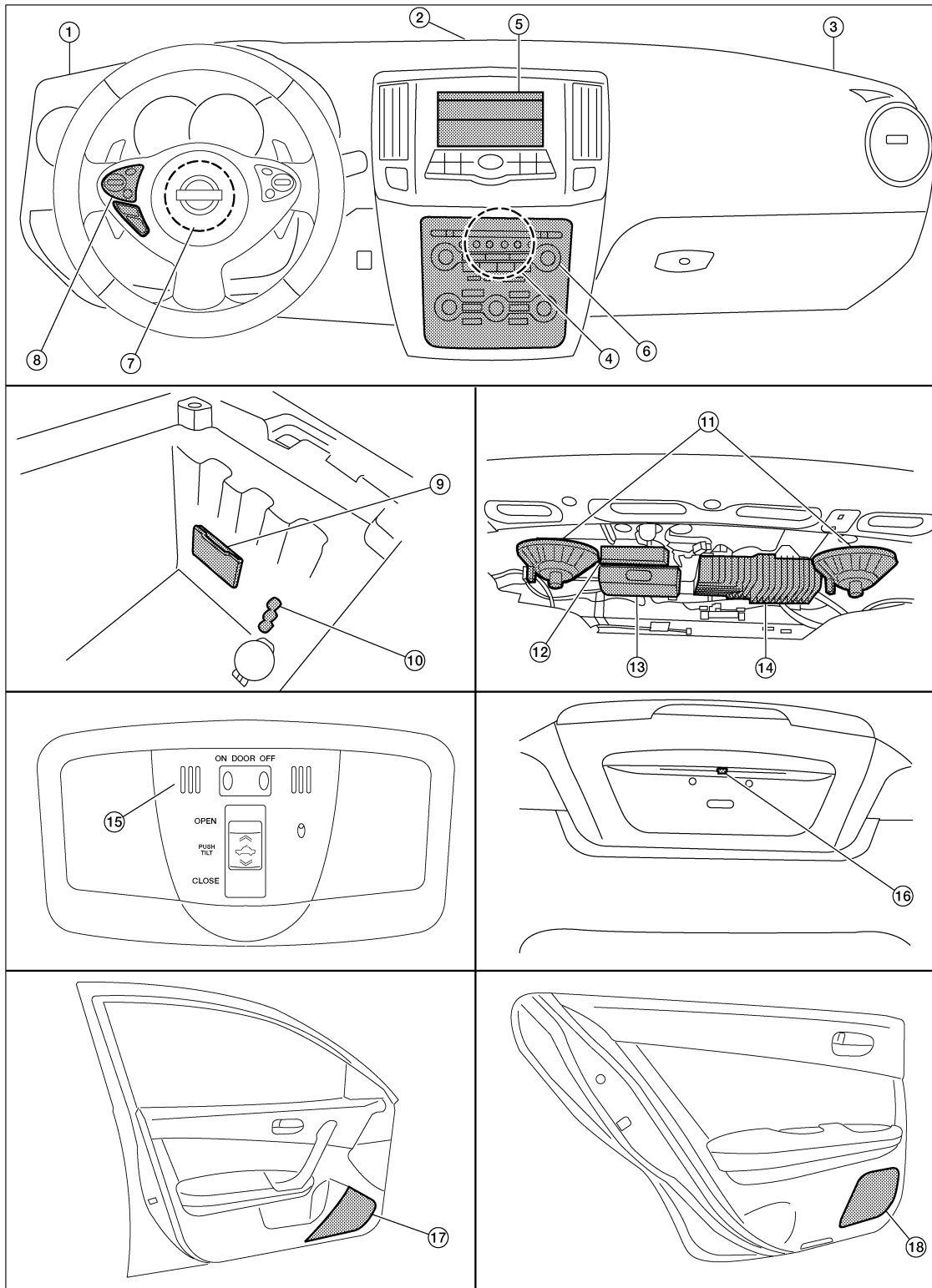
# AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

## Component Parts Location

INFOID:00000009471288



AWNIA3231ZZ

- |   |                        |                                   |
|---|------------------------|-----------------------------------|
| 1. Tweeter LH M51   | 2. Center speaker M130 | 3. Tweeter RH M52                 |
| 4. AV control unit M152, M153, M154, M155, M156, M157, M158, M159 (located behind A/C and AV switch assembly) | 5. Display unit M141   | 6. A/C and AV switch assembly M98 |

# AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

- |   |  |  |
|---|--|--|
| 7. Steering angle sensor M53 [located in steering column behind combination switch(spiral cable)] | 8. Steering wheel audio control switches                                 | 9. USB interface M211 (view in center console) |
| 10. Aux jack M209   | 11. Rear subwoofers (view under rear parcel shelf)<br>LH B106<br>RH B107 | 12. Satellite radio tuner (if equipped) B111   |
| 13. Bluetooth® control unit B128, B130, B131  | 14. BOSE speaker amp B109, B110  | 15. Microphone R7                              |
| 16. Rear view camera T101   | 17. Front door speaker<br>LH D3<br>RH D103                               | 18. Rear door speaker<br>LH D202<br>RH D302    |

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## Component Description

INFOID:000000009471289

| Part name                             | Description   |
|---------------------------------------|---|
| AV control unit                       | Controls audio system, USB connection,AUX IN connection and satellite radio system functions  |
| Display unit                          | Displays all audio and climate control related information  |
| BOSE speaker amp.                     | Receives power (amp ON) and audio signals from AV control unit and outputs audio signals to each speaker.   |
| Steering wheel audio control switches | <ul style="list-style-type: none"> <li>• Audio operation can be operated</li> <li>• Steering switch signal is output to AV control unit</li> </ul>  |
| Front door speakers                   | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs high, mid and low range sounds</li> </ul>   |
| Tweeters                              | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs high range sounds</li> </ul>                |
| Center speaker                        | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs high range sounds</li> </ul>                |
| Rear door speakers                    | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs high, mid and low range sounds</li> </ul>   |
| Rear subwoofer                        | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs low range sounds</li> </ul>                 |
| Satellite radio tuner (if equipped)   | <ul style="list-style-type: none"> <li>• Receives radio signals from satellite antenna</li> <li>• Sends audio signals to AV control unit</li> </ul> |
| Satellite antenna (if equipped)       | Audio signal (satellite radio) is received and output to AV control unit.   |

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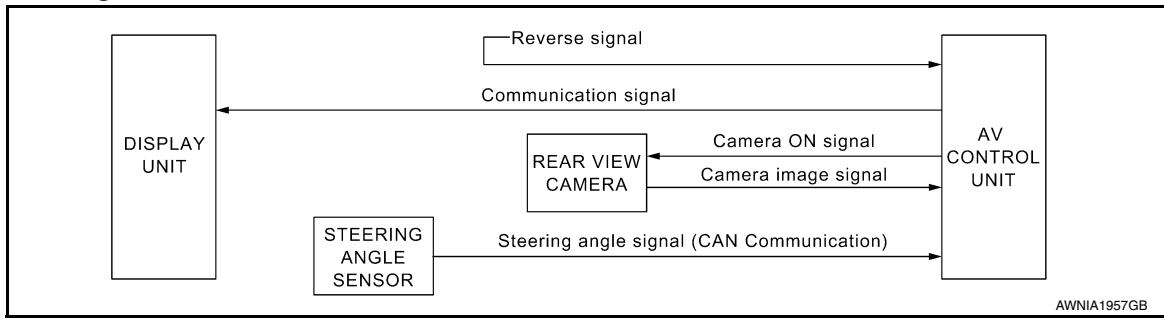
# REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

## REAR VIEW MONITOR SYSTEM

### System Diagram



### System Description

INFOID:000000009471291

When the shift selector is in the R position, the display shows a view to the rear of the vehicle. Lines which indicate the vehicle clearance and distances are also displayed.



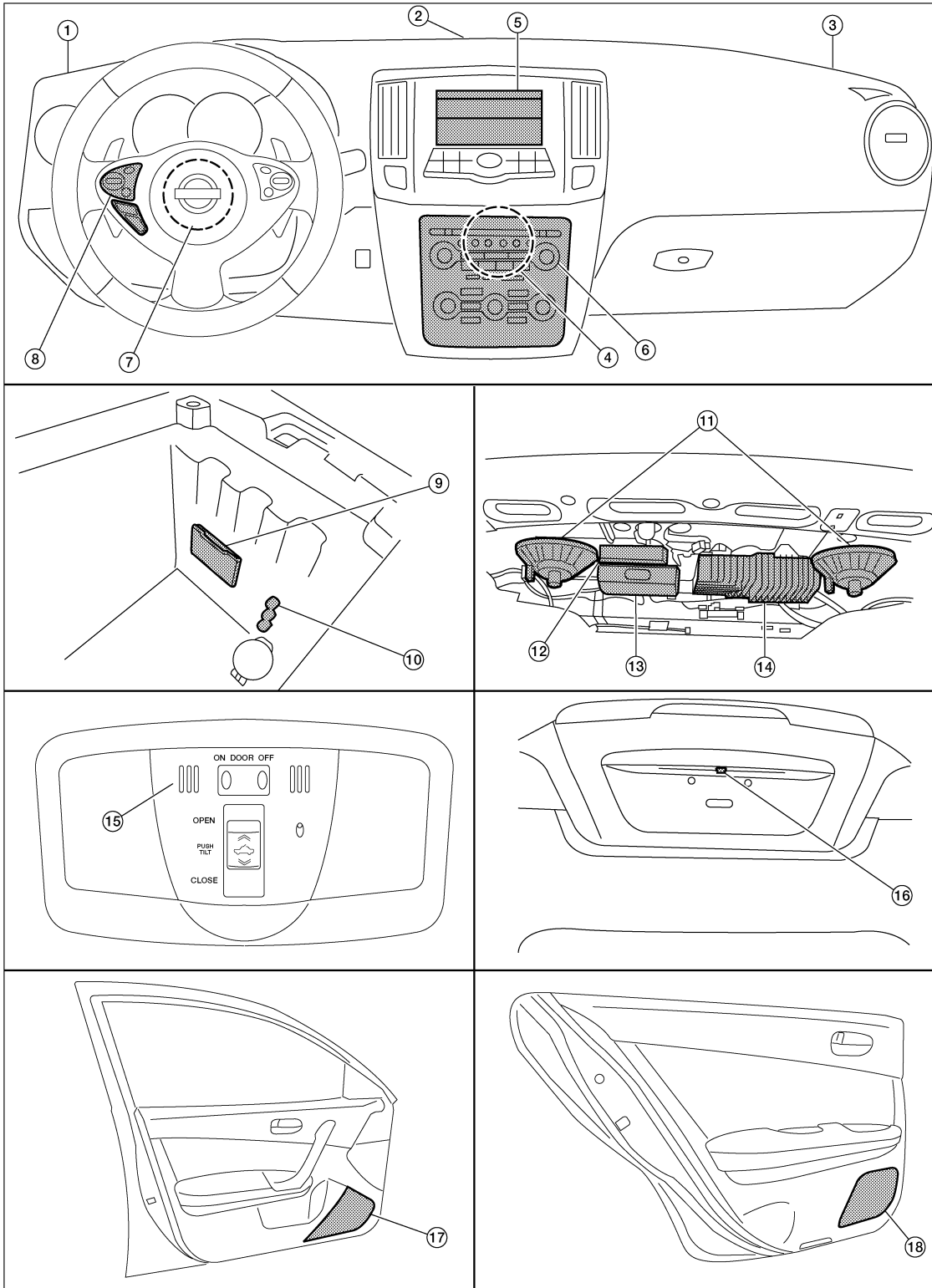
# REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

## Component Parts Location

INFOID:000000009471292



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AV

- |   |                        |                                   |
|---|------------------------|-----------------------------------|
| 1. Tweeter LH M51   | 2. Center speaker M130 | 3. Tweeter RH M52                 |
| 4. AV control unit M152, M153, M154, M155, M156, M157, M158, M159 (located behind A/C and AV switch assembly) | 5. Display unit M141   | 6. A/C and AV switch assembly M98 |

AWNIA3231ZZ

## REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

- |   |  |  |
|---|--|--|
| 7. Steering angle sensor M53 [located in steering column behind combination switch(spiral cable)] | 8. Steering wheel audio control switches                                 | 9. USB interface M211 (view in center console) |
| 10. Aux jack M209   | 11. Rear subwoofers (view under rear parcel shelf)<br>LH B106<br>RH B107 | 12. Satellite radio tuner (if equipped) B111   |
| 13. Bluetooth® control unit B128, B130, B131  | 14. BOSE speaker amp B109, B110  | 15. Microphone R7                              |
| 16. Rear view camera T101   | 17. Front door speaker<br>LH D3<br>RH D103                               | 18. Rear door speaker<br>LH D202<br>RH D302    |

### Component Description

INFOID:000000009471293

| Part name             | Description  |
|-----------------------|--|
| AV control unit       | <ul style="list-style-type: none"> <li>Sends camera ON signal to the rear view camera</li> <li>Receives camera image signal from the rear view camera</li> <li>Sends image signal to the display unit</li> </ul> |
| Rear view camera      | <ul style="list-style-type: none"> <li>Receives camera ON signal from the AV control unit</li> <li>Sends image signal to the AV control unit</li> </ul>  |
| Steering angle sensor | Sends steering angle information to the AV control unit via CAN communication  |

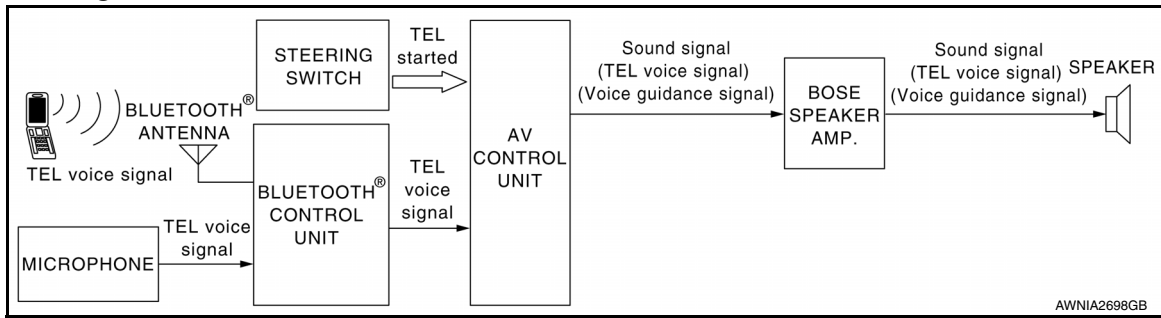
# HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

## HANDS-FREE PHONE SYSTEM

### System Diagram



### System Description

INFOID:000000009471295

Refer to the Owner's Manual for Bluetooth® telephone system operating instructions.

#### NOTE:

Cellular telephones must have their wireless connection set up (paired) before using the Bluetooth® telephone system.

Bluetooth® telephone system allows users who have a Bluetooth® cellular telephone to make a wireless connection between their cellular telephone and the Bluetooth® control unit. Hands-free cellular telephone calls can be sent and received. Some Bluetooth® cellular telephones may not be recognized by the Bluetooth® control unit. When a cellular telephone or the Bluetooth® control unit is replaced, the telephone must be paired with the Bluetooth® control unit. Different cellular telephones may have different pairing procedures. Refer to the cellular telephone operating manual.

#### BLUETOOTH® CONTROL UNIT

When the ignition switch is turned to ACC or ON, the Bluetooth® control unit will power up. During power up, the Bluetooth® control unit is initialized and performs various self-checks. Initialization may take up to 20 seconds. If a phone is present in the vehicle and paired with the Bluetooth® control unit, Nissan Voice Recognition will then become active. Bluetooth® telephone functions can be turned off using the Nissan Voice Recognition system.

#### STEERING WHEEL AUDIO CONTROL SWITCHES

When buttons on the steering wheel audio control switch are pushed, the resistance in steering wheel audio control switch circuit changes, depending on which button is pushed. The Bluetooth® control unit uses this signal to perform various functions while navigating through the voice recognition system.

The following functions can be performed using the steering wheel audio control switch:

- Initiate self-diagnosis of the Bluetooth® telephone system
- Start a voice recognition session
- Answer and end telephone calls
- Adjust the volume of calls

#### MICROPHONE

The microphone is located in the roof console assembly. The microphone sends a signal to the Bluetooth® control unit. The microphone can be actively tested during self-diagnosis.

#### AV CONTROL UNIT

The AV control unit receives signals from the Bluetooth® control unit and sends audio signals to the BOSE speaker amp. then on to the speakers.

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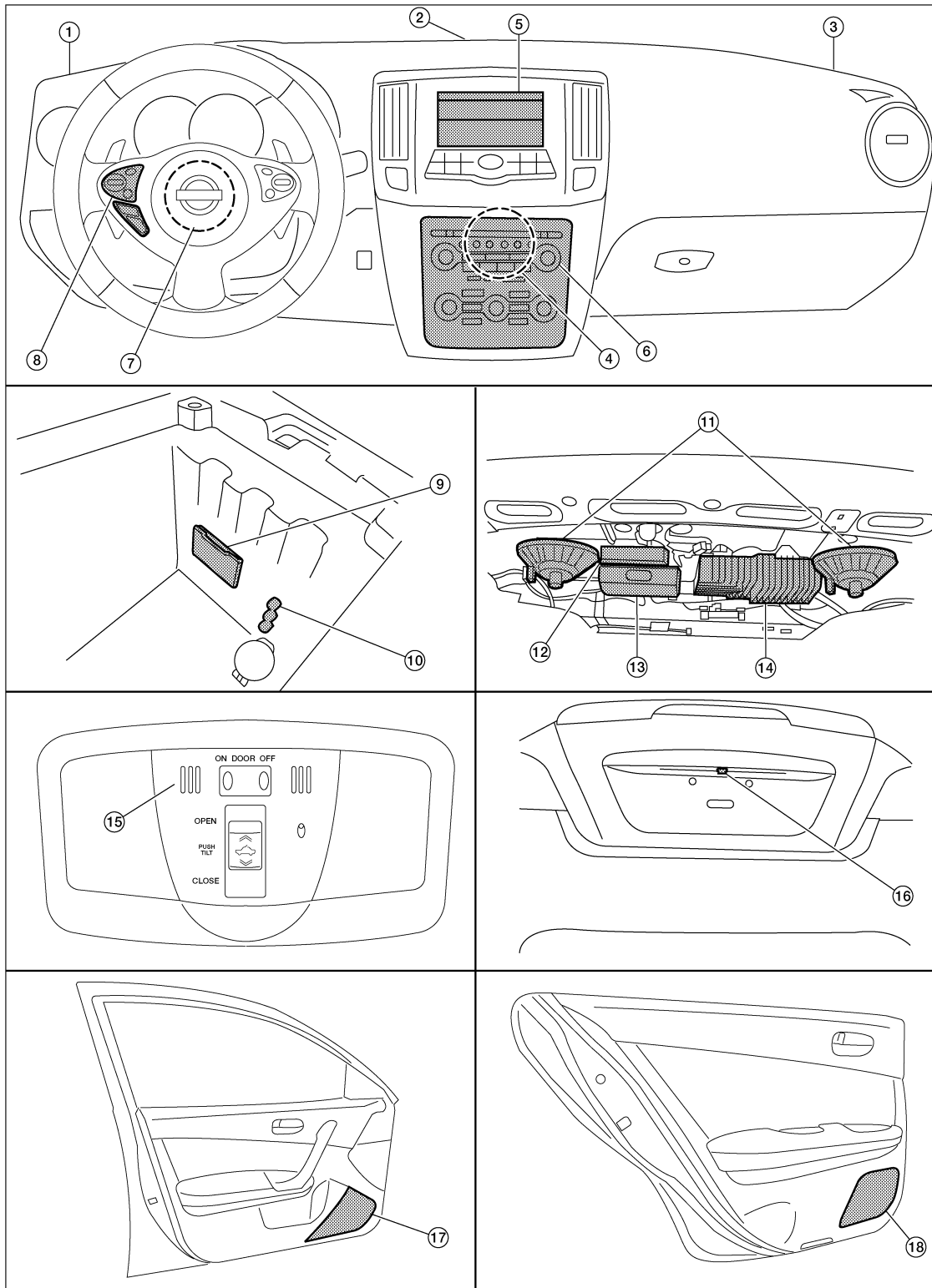
# HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

## Component Parts Location

INFOID:00000009471296



AWNIA3231ZZ

- |   |                        |                                   |
|---|------------------------|-----------------------------------|
| 1. Tweeter LH M51   | 2. Center speaker M130 | 3. Tweeter RH M52                 |
| 4. AV control unit M152, M153, M154, M155, M156, M157, M158, M159 (located behind A/C and AV switch assembly) | 5. Display unit M141   | 6. A/C and AV switch assembly M98 |

# HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

- |   |  |  |
|---|--|--|
| 7. Steering angle sensor M53 [located in steering column behind combination switch(spiral cable)] | 8. Steering wheel audio control switches                                 | 9. USB interface M211 (view in center console) |
| 10. Aux jack M209   | 11. Rear subwoofers (view under rear parcel shelf)<br>LH B106<br>RH B107 | 12. Satellite radio tuner (if equipped) B111   |
| 13. Bluetooth® control unit B128, B130, B131  | 14. BOSE speaker amp B109, B110  | 15. Microphone R7                              |
| 16. Rear view camera T101   | 17. Front door speaker<br>LH D3<br>RH D103                               | 18. Rear door speaker<br>LH D202<br>RH D302    |

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## Component Description

INFOID:000000009471297

| Part name                             | Description  |
|---------------------------------------|--|
| AV control unit                       | <ul style="list-style-type: none"> <li>Receives telephone voice signal from Bluetooth® control unit</li> <li>Sends telephone voice and voice guidance signals to the speakers</li> </ul> |
| BOSE speaker amp.                     | <ul style="list-style-type: none"> <li>Receives audio signals from the AV control unit</li> <li>Outputs amplified audio signals to the speakers.</li> </ul>                              |
| Front door speaker                    | Receives telephone voice and voice guidance signals from the AV control unit through the BOSE speaker amp.   |
| Front tweeter                         |  |
| Center speaker                        |  |
| Steering wheel audio control switches | <ul style="list-style-type: none"> <li>Start a voice recognition session</li> <li>Answer and end telephone calls</li> <li>Adjust the volume level</li> </ul>                             |
| Microphone                            | Sends voice signals to Bluetooth® control unit   |
| Bluetooth® control unit               | Controls hands-free phone functions  |
| Bluetooth® antenna                    | Sends telephone voice signal to Bluetooth® control unit  |

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# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)


### Diagnosis Description

INFOID:000000009471298

#### MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

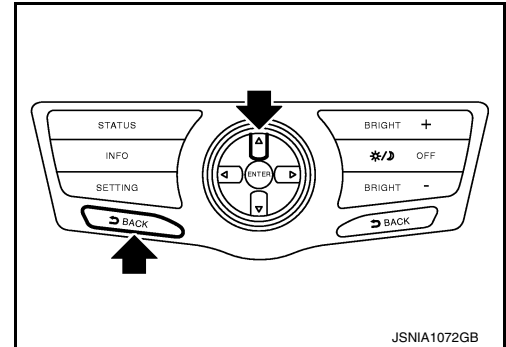
The ON/OFF operation (continuity) of each switch in the multifunction switch and preset switch can be checked.

##### Self-Diagnosis Mode

- Press the BACK switch and the  switch of the 8-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. Then the buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.
- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.

**NOTE:**

The disk eject switch cannot be checked.



##### Finishing Self-diagnosis Mode

Self-diagnosis mode is canceled when the ignition switch is turned OFF.

#### MULTI AV SYSTEM ON BOARD DIAGNOSIS FUNCTION

- The AV control unit diagnosis function starts up with multifunction switch operation and the AV control unit performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT diagnosis if the on board diagnosis does not start, e.g., if the screen does not display anything, the multifunction switch does not function, etc.

#### ON BOARD DIAGNOSIS

##### Description

- The trouble diagnosis function has a self-diagnosis mode for conducting trouble diagnosis automatically and a confirmation/adjustment mode for operating manually.
- Self-diagnosis mode performs the AV control unit diagnosis and the connection diagnosis between each of the units that make up the system, and it indicates the results to the display.
- The confirmation/adjustment mode allows the technician to check, modify or adjust the vehicle signals and set values, as well as to monitor the system error records and system communication status. The checking, modifying or adjusting generally requires human intervention and judgment (the system cannot make judgment automatically).

##### On Board Diagnosis Item

| Mode           | Description   |
|----------------|---|
| Self-Diagnosis | <ul style="list-style-type: none"><li>• AV control unit diagnosis</li><li>• Perform the connection diagnosis between each of the units.</li></ul> |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

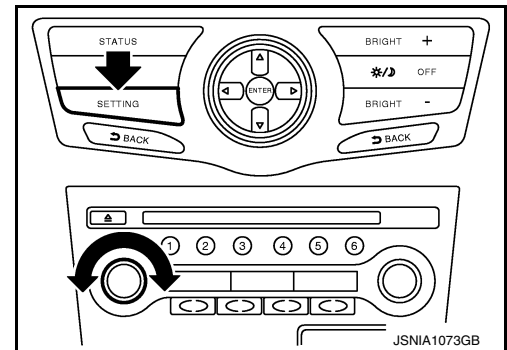
< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

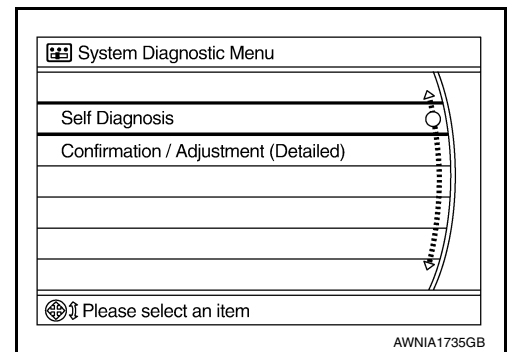
| Mode                       | Description   |
|----------------------------|---|
| Display Diagnosis          | The confirmation of the tint with the color spectrum bar display and shading of color with the gradation bar display can be performed.  |
| Vehicle Signals            | Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition switch, and reverse.   |
| Speaker Test               | The connection of a speaker can be confirmed by test tone.  |
| Error History (Detailed)   | System malfunctions and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed. |
| Camera Cont.               | The signal connected to camera control unit can be checked and the guiding line position that overlaps rear view camera image can be adjusted.  |
| Vehicle CAN Diagnosis      | The transmitting/receiving of CAN communication can be monitored.   |
| AV COMM Diagnosis          | The communication condition of each unit of MULTI AV system can be monitored.   |
| Delete Unit Connection Log | Erase the connection history of unit and error history  |
| Initialize Settings        | Initializes the AV control unit memory.   |

## STARTING PROCEDURE

1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the SETTING button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
  - Shifting from current screen to previous screen is performed by pressing the BACK button.



4. The trouble diagnosis initial screen is displayed, and then the items of "Self Diagnosis" and "Confirmation/Adjustment" can be selected.



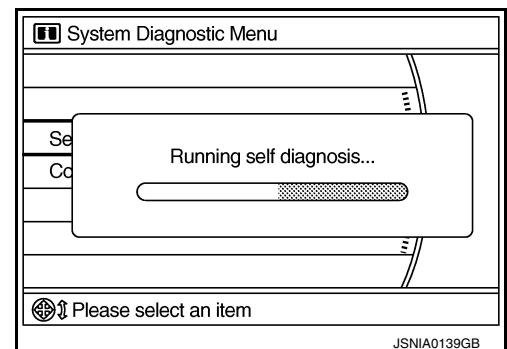
## SELF-DIAGNOSIS MODE

1. Start the self-diagnosis function and select "Self-diagnosis".

### NOTE:

Because the start condition of diagnosis function is a switch operation, the on board diagnosis function cannot start up if any malfunction is detected in the AV communication circuit between AV control unit and multifunction switch.

- Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
- The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.



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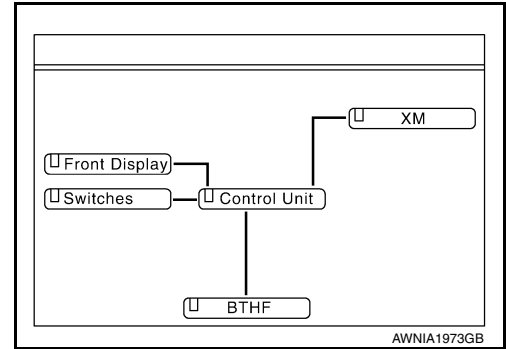
# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

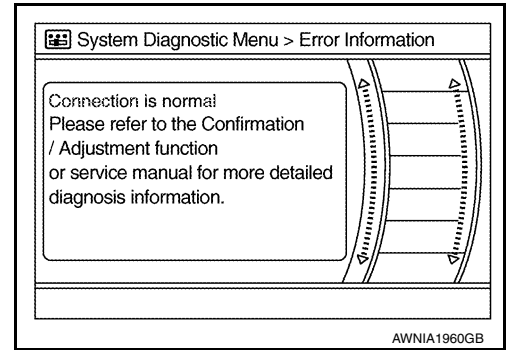
2. Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

| Diagnosis results                | Unit  | Con-<br>nection<br>line |
|----------------------------------|-------|-------------------------|
| Normal                           | Green | Green                   |
| Connection malfunction           | Gray  | Yellow                  |
| Unit malfunction <sup>Note</sup> | Red   | Green                   |



**NOTE:**

- Only the control unit (AV control unit) is displayed in red.
- Replace AV control unit if “Self-Diagnosis did not run because of a control unit malfunction” is indicated. The symptom is AV control unit internal error.
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.
- The comments of the self-diagnosis results can be viewed with a component in the diagnosis result screen.



## SELF-DIAGNOSIS RESULTS

Check the applicable display at the following table, and then repair the malfunctioning parts.

**NOTE:**

Because the start condition of diagnosis function is a switch operation, the on board diagnosis function cannot be started up if any malfunction is detected in the AV communication circuit between AV control unit and multi-function switch.

Self-diagnosis Result Chart

| Diagnosis results  | Detection logic   | Possible malfunction location / Action to take   |
|--|---|--|
| <p>The diagram is identical to the one in the first section, but the 'Control Unit' box is highlighted in red. The diagram is labeled 'AWNIA1974GB'.</p> | <p>Malfunction is detected in AV control unit power supply and ground circuits.</p> | <p>Check AV control unit power supply and ground circuits. When detecting no malfunction in those components, replace AV control unit.</p> |

**NOTE:**

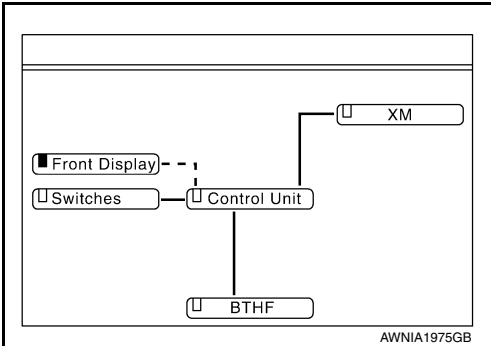
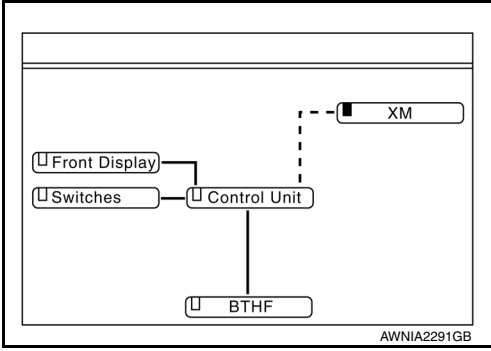
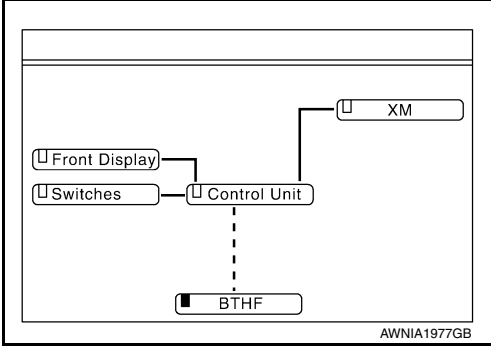
When a control unit malfunction is detected (red in unit display), connection malfunctions with other connection unit may be displayed. “Self-Diagnosis did not run because of a control unit malfunction”



# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

| Diagnosis results  | Detection logic  | Possible malfunction location / Action to take   |
|--|--|--|
|  <p>AWNIA1975GB</p>   | <p>When either one of the following items are detected:</p> <ul style="list-style-type: none"> <li>serial communication circuits between AV control unit and front display unit are malfunctioning.</li> <li>serial communication signal between AV control unit and front display unit is malfunctioning.</li> </ul>  | <p>Serial communication circuits between AV control unit and front display unit.</p>   |
|  <p>AWNIA2291GB</p>   | <p>When any one of the following items is detected:</p> <ul style="list-style-type: none"> <li>satellite radio tuner power supply and ground circuits are malfunctioning.</li> <li>serial communication circuits between AV control unit and satellite radio tuner are malfunctioning.</li> <li>serial communication or request signal between AV control unit and satellite radio tuner is malfunctioning.</li> <li>request signal circuit between AV control unit and satellite radio tuner is malfunctioning.</li> </ul>  | <ul style="list-style-type: none"> <li>Satellite radio tuner power supply and ground circuits.</li> <li>Serial communication circuits between AV control unit and satellite radio tuner.</li> <li>Request signal circuit between AV control unit and satellite radio tuner.</li> </ul>   |
|  <p>AWNIA1977GB</p> | <p>When any one of the following items is detected:</p> <ul style="list-style-type: none"> <li>Bluetooth® control unit power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between camera control unit and Bluetooth® control unit are malfunctioning.</li> <li>AV communication circuits between multifunction switch and camera control unit are malfunctioning. (without DVD player models)</li> <li>AV communication circuits between DVD player and camera control unit are malfunctioning. (with DVD player models)</li> <li>AV communication signal between AV control unit and Bluetooth® control unit is malfunctioning.</li> </ul> | <ul style="list-style-type: none"> <li>Bluetooth® control unit power supply and ground circuits.</li> <li>AV communication circuits between camera control unit and Bluetooth® control unit.</li> <li>AV communication circuits between multifunction switch and camera control unit. (without DVD player models)</li> <li>AV communication circuits between DVD player and camera control unit. (with DVD player models)</li> <li>AV communication circuits between multifunction switch and Bluetooth® control unit. (without rear view camera)</li> </ul> |

**NOTE:**

The number of units that are displayed on the on board self-diagnosis display according to equipment.

**CONFIRMATION/ADJUSTMENT MODE**

1. Start the diagnosis function and select "Confirmation/Adjustment". The confirmation/adjustment mode indicates where each item can be checked or adjusted.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
O  
P

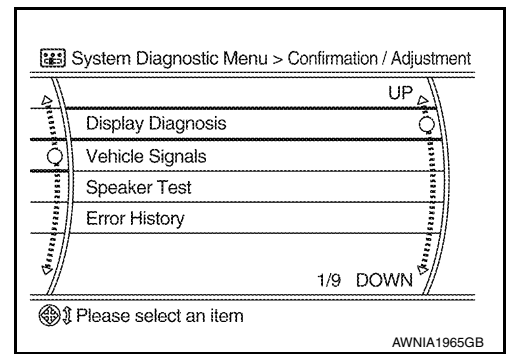
AV

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

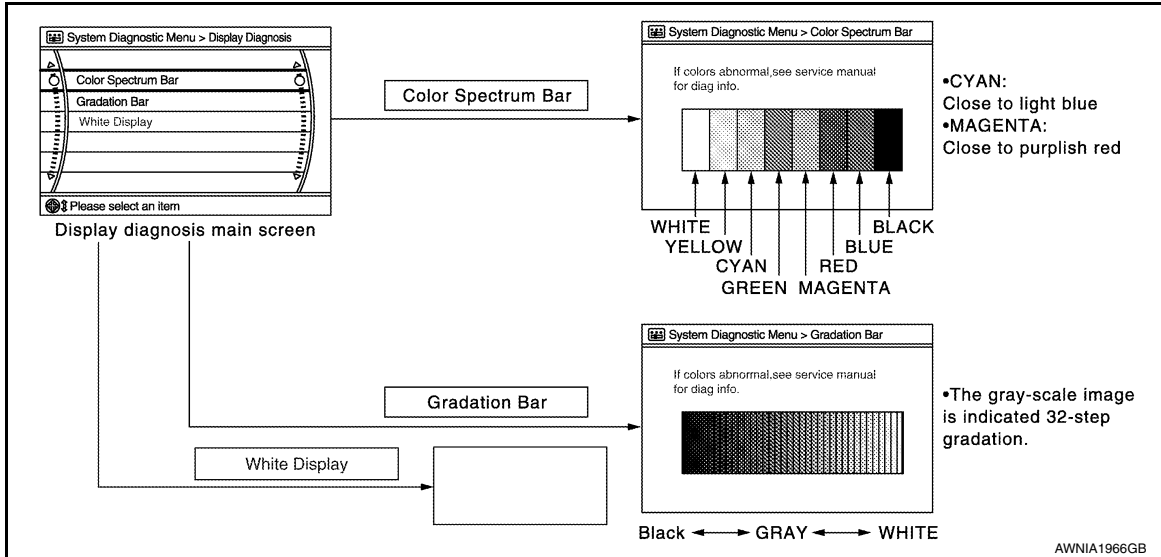
< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

2. Select each switch on the "Confirmation/Adjustment Mode" screen to display the relevant trouble diagnosis screen. Press the RETURN switch to return to the initial Confirmation/Adjustment Mode screen.



## Display Diagnosis

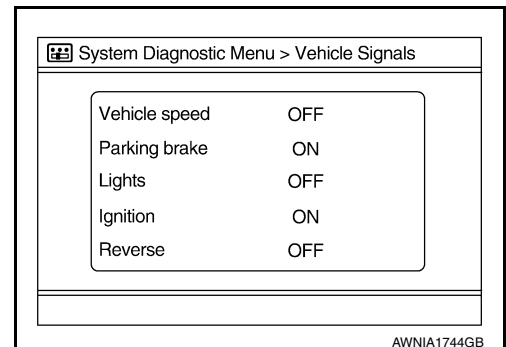


The tint of the color bar indication is as per the following list if RGB image signal error is detected.

- R (red) signal error** : Light blue (Cyan) tint
- G (green) signal error** : Purple (Magenta) tint
- B (blue) signal error** : Yellow tint

## Vehicle Signals

A comparison check can be made of each actual vehicle signal and the signals recognized by the system.



| Diagnosis item | Display | Vehicle status                 | Remarks   |
|----------------|---------|--------------------------------|---|
| Vehicle speed  | ON      | Vehicle speed > 0 km/h (0 MPH) | Changes in indication may be delayed. This is normal. |
|                |         | Vehicle speed = 0 km/h (0 MPH) |   |
| Parking brake  | ON      | Parking brake is applied.      |   |
|                | OFF     | Parking brake is released.     |   |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

| Diagnosis item | Display | Vehicle status   | Remarks   |
|----------------|---------|--|---|
| Lights         | ON      | Light switch ON  | —   |
|                | OFF     | Light switch OFF   |   |
| Ignition       | ON      | Ignition switch ON   | —   |
|                | OFF     | Ignition switch in the ACC position                                |   |
| Reverse        | ON      | Shift the selector lever to the "R" position                       | Changes in indication may be delayed. This is normal. |
|                | OFF     | Shift the selector lever to a position other than the "R" position |   |

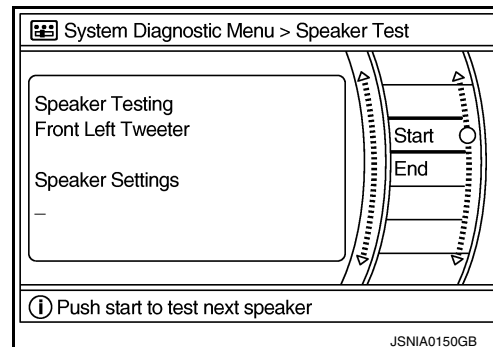
## Speaker Test

Select "SPEAKER DIAGNOSIS" to display the Speaker Diagnosis screen. Press "START and NEXT" to generate a test tone in a speaker. Press "Start" to generate a test tone in the next speaker. Press "End" to stop the test tones.

### NOTE:

The frequency of test tone emitted from each speaker is as follows.

|                      |                 |
|----------------------|-----------------|
| <b>Tweeter</b>       | <b>: 3 kHz</b>  |
| <b>Front speaker</b> | <b>: 300 Hz</b> |
| <b>Rear speaker</b>  | <b>: 1 kHz</b>  |



## Climate Control

On-board self-diagnosis is not supported. Only CONSULT is supported.

Refer to [AV-359, "CONSULT Function \(MULTI AV\)"](#).

## Error History

The self-diagnosis results are judged depending on whether any error occurs from when "Self-diagnosis" is selected until the self-diagnosis results are displayed.

However, the diagnosis results are judged normal if an error has occurred before the ignition switch is turned ON and then no error has occurred until the self-diagnosis start. Check the "Error Record" to detect any error that may have occurred before the self-diagnosis start because of this situation.

### Count up method A

- The counter resets to 0 if an error occurs when IGN switch is turned ON. The counter increases by 1 if the condition is normal at the next IGN ON cycle.
- The counter upper limit is 39. Any counts exceeding 39 are ignored. The counter can be reset (no error record display) with the "Delete log" switch or CONSULT.

### Count up method B

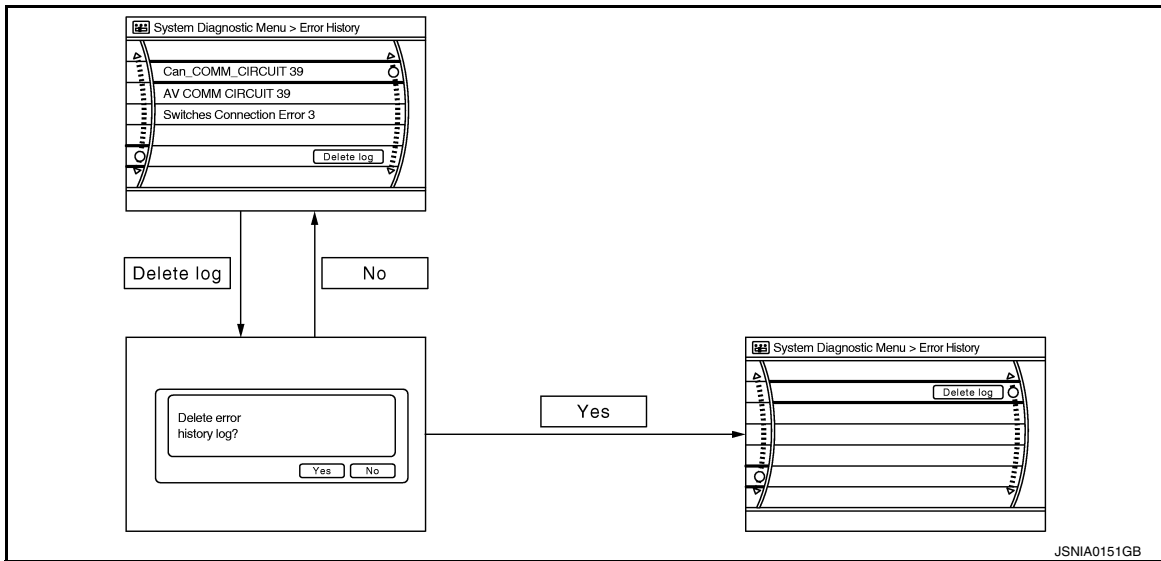
- The counter increases by 1 if an error occurs when IGN switch is ON. The counter will not decrease even if the condition is normal at the next IGN ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. The counter can be reset (no error record display) with the "Delete log" switch or CONSULT.

| Display type of occurrence frequency | Error history display item   |
|--------------------------------------|--|
| Count up method A                    | CAN communication line, control unit (CAN), AV communication line, control unit (AV communication) |
| Count up method B                    | Other than the above   |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]



## Error Item

Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items.

| Error item   | Description   | Possible malfunction factor/Action to take  |
|--|---|---|
| CAN COMM CIRCUIT   | CAN communication malfunction is detected.  | Perform diagnosis with CONSULT, and then repair the malfunctioning parts according to the diagnosis results.<br>Refer to <a href="#">AV-359, "CONSULT Function (MULTI AV)"</a> .              |
| CONTROL UNIT (CAN)   | CAN initial diagnosis malfunction is detected.  | Replace the AV control unit.  |
| CONTROL UNIT (AV)  | AV communication circuit initial diagnosis malfunction is detected.   |   |
| FLASH-ROM Error Of Control Unit<br>CAN Controller Memory Error | AV control unit malfunction is detected.  |   |
| Front Display Connection Error                                 | When any one of the following items is detected: <ul style="list-style-type: none"> <li>front display unit power supply and ground circuits are malfunctioning.</li> <li>serial communication circuits between AV control unit and front display unit are malfunctioning.</li> <li>serial communication signal between AV control unit and front display unit is malfunctioning.</li> </ul> | <ul style="list-style-type: none"> <li>Front display unit power supply and ground circuits.</li> <li>Serial communication circuits between AV control unit and front display unit.</li> </ul> |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

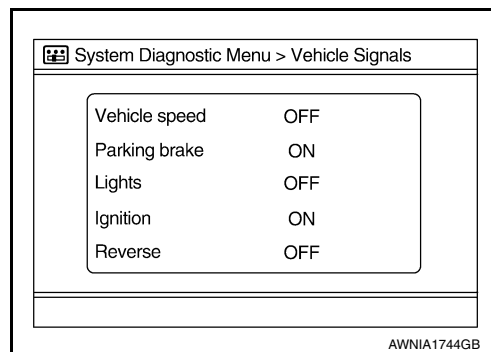
| Error item   | Description  | Possible malfunction factor/Action to take   |
|--|--|--|
| SAT Connection Error   | When any one of the following items is detected: <ul style="list-style-type: none"> <li>• satellite radio tuner power supply and ground circuits are malfunctioning.</li> <li>• serial communication circuits between AV control unit and satellite radio tuner are malfunctioning.</li> <li>• serial communication or request signal between AV control unit and satellite radio tuner is malfunctioning.</li> <li>• request signal circuit between AV control unit and satellite radio tuner is malfunctioning.</li> </ul> | <ul style="list-style-type: none"> <li>• Satellite radio tuner power supply and ground circuits.</li> <li>• Serial communication circuits between AV control unit and satellite radio tuner.</li> <li>• Request signal circuit between AV control unit and satellite radio tuner.</li> </ul> |
| <ul style="list-style-type: none"> <li>• AV COMM CIRCUIT</li> <li>• Switches Connection Error</li> </ul> | When any one of the following items is detected: <ul style="list-style-type: none"> <li>• multifunction switch power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li> <li>• AV communication signal between AV control unit and multifunction switch is malfunctioning.</li> </ul>  | <ul style="list-style-type: none"> <li>• Multifunction switch power supply and ground circuits.</li> <li>• AV communication circuits between AV control unit and multifunction switch.</li> </ul>  |

Camera Cont.

The two functions of “Connection Confirmation” and “Adjust Offset of Rear View Camera” are available.

### CONNECTION CONFIRMATION

The vehicle speed sensor, parking brake, park lights, ignition switch and reverse sensor can be inspected.



| Diagnosis item       | Display | Vehicle status   |
|----------------------|---------|--|
| Steer. Angle Sensor  | ON      | When steering the vehicle with ignition switch ON (remains ON until connection mode is stopped when it is turned ON).  |
|                      | OFF     | <ul style="list-style-type: none"> <li>• Ignition switch at ACC.</li> <li>• No steering with ignition switch ON.</li> </ul>                                  |
|                      | —       | Malfunction detected in camera connection recognition signal.  |
| Reverse Sensor       | ON      | Selector lever is in “R” with ignition switch ON.  |
|                      | OFF     | <ul style="list-style-type: none"> <li>• Ignition switch at ACC.</li> <li>• Selector lever is in position other than “R” with ignition switch ON.</li> </ul> |
|                      | —       | Malfunction detected in camera-connection recognition signal.  |
| Vehicle Speed Sensor | ON      | Vehicle speed is more than 0 km/h (0 MPH) with ignition switch ON.   |
|                      | OFF     | <ul style="list-style-type: none"> <li>• Ignition switch at ACC.</li> <li>• Vehicle speed is 0 km/h (0 MPH) with ignition switch ON.</li> </ul>              |
|                      | —       | Malfunction detected in camera connection recognition signal.  |
| Side view Switch     | —       | Not used.  |

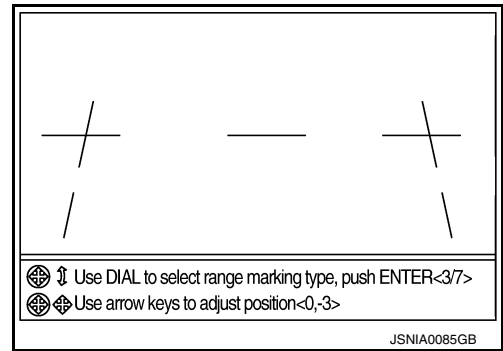
### ADJUST OFFSET OF REAR VIEW CAMERA

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

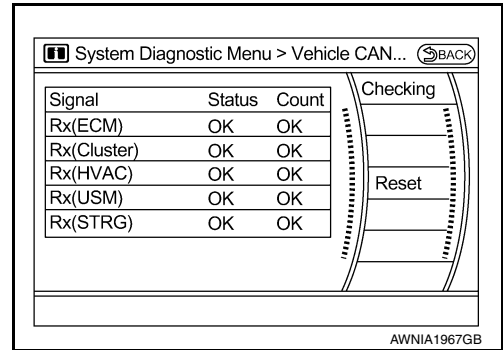
Use this mode to adjust the guide line display position of the rear-view monitor if necessary after removing the rear view monitor camera.



## Vehicle CAN Diagnosis

- CAN communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the status is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if reset.

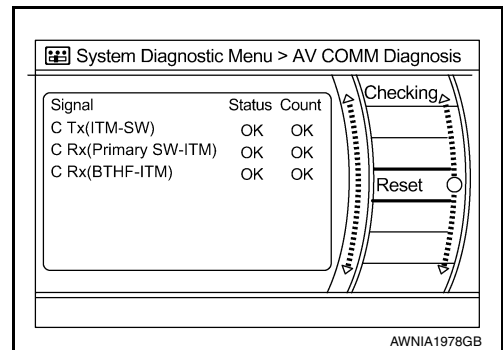
| Items        | Display (Current) | Malfunction counter (Past) |
|--------------|-------------------|----------------------------|
| Tx (HVAC)    | OK / UNKWN        | OK / 0 - 39                |
| Rx (ECM)     | OK / UNKWN        | OK / 0 - 39                |
| Rx (Cluster) | OK / UNKWN        | OK / 0 - 39                |
| Rx (HVAC)    | OK / UNKWN        | OK / 0 - 39                |
| Rx (USM)     | OK / UNKWN        | OK / 0 - 39                |
| Rx (STRG)    | OK / UNKWN        | OK / 0 - 39                |



## AV COMM Diagnosis

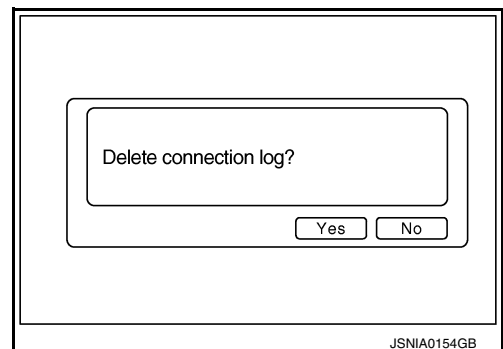
- Displays the communication status between AV control unit (master unit) and each unit.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- If it resets, the error counter is erased.

| Items               | Status (Current) | Counter (Past) |
|---------------------|------------------|----------------|
| C Tx(ITM-SW)        | OK / UNKWN       | OK / 0 - 39    |
| C Rx(PrimarySW-ITM) | OK / UNKWN       | OK / 0 - 39    |
| C Rx(BTHF-ITM)      | OK / UNKWN       | OK / 0 - 39    |



## Delete Unit Connection Log

Deletes any unit connection records and error records from the AV control unit memory. (Clear the records of the unit that has been removed.)



## Initialize Settings

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

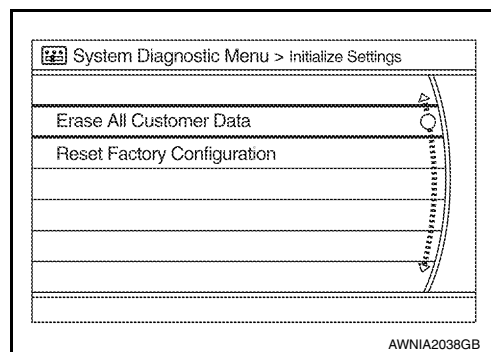
< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

“Erase All Customer Data” and “Reset Factory Configuration” are possible.

**CAUTION:**

- **Never perform Reset Factory Configuration except when configuration is unsuccessful.**
- **Factory Configuration Initialize requires configuration. For details, refer to [AV-350, "Diagnosis Description"](#).**



## CONSULT Function (MULTI AV)

INFOID:000000009471299

### APPLICATION ITEMS

CONSULT performs the following functions via the communication with the AV control unit.

| Diagnosis mode         | Description   |
|------------------------|---|
| Ecu Identification     | The part number of AV control unit can be checked.  |
| Self Diagnostic Result | Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively. |
| Data Monitor           | The diagnosis of vehicle signal that is input to the AV control unit can be performed.  |
| Configuration          | <ul style="list-style-type: none"> <li>• Read and save the vehicle specification.</li> <li>• Write the vehicle specification when replacing AV control unit.</li> </ul>                   |

### AV Communication

When “AV communication” of “CAN Diag Support Monitor” is selected, the following function will be performed.

|                  |             |   |
|------------------|-------------|---|
| AV communication | AV&NAVI C/U | Displays the communication status from AV control unit to each unit as well as the error counter. |
|                  | AUDIO       | Displays the AV control unit communication status and the error counter.                          |

### ECU IDENTIFICATION

The part number of AV control unit is displayed.

### SELF DIAGNOSIS RESULT

- In CONSULT self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates “CRNT”. The past malfunction indicates “PAST”.
- The timing is displayed as “0” if any of the error codes [U1000], [U1010], [U1300] and [U1310] is detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

### Self-diagnosis Results Display Item

| Error item                  | Description   | Possible malfunction factor/Action to take  |
|-----------------------------|---|---|
| CAN COMM CIRCUIT [U1000]    | CAN communication malfunction is detected.                          | Perform diagnosis with CONSULT, and then repair the malfunctioning parts according to the diagnosis results. Refer to <a href="#">AV-363, "Diagnosis Procedure"</a> . |
| CONTROL UNIT (CAN) [U1010]  | CAN initial diagnosis malfunction is detected.                      | Replace the AV control unit if the malfunction occurs constantly.   |
| CONTROL UNIT (AV) [U1310]   | AV communication circuit initial diagnosis malfunction is detected. |   |
| Cont Unit [U1200]           | AV control unit malfunction is detected.                            |   |
| CAN CONT [U1216]            |   |   |
| SUB CPU CONN [U1228]        |   |   |
| iPod CERTIFICATION [U1229]  |   |   |
| Built-in AUDIO CONN [U122E] |   |   |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

| Error item   | Description  | Possible malfunction factor/Action to take  |
|--|--|---|
| HDD CONN [U1218]   | AV control unit malfunction is detected.   | <ul style="list-style-type: none"> <li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li> <li>• Replace the AV control unit if the malfunction occurs constantly.</li> </ul> |
| HDD READ [U1219]   |  |   |
| HDD WRITE [U121A]  |  |   |
| HDD COMM [U121B]   |  |   |
| HDD ACCESS [U121C]   |  |   |
| USB CONTROLLER [U1225]   | USB connection malfunction is detected.  | Check that the connection to the USB connector is normal.   |
| DSP CONN [U121D]   | AV control unit malfunction is detected.   | <ul style="list-style-type: none"> <li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li> <li>• Replace the AV control unit if the malfunction occurs constantly.</li> </ul>        |
| DSP COMM [U121E]   |  |   |
| DVD COMM [U1227]   | AV control unit malfunction is detected.   | <ul style="list-style-type: none"> <li>• If DVD can be played, then there is a possibility of the detection of a temporary malfunction.</li> <li>• Replace the AV control unit if the malfunction occurs constantly.</li> </ul>           |
| CONFIG UNFINISH [U122A]  | The writing of configuration data is incomplete.   | Write configuration data with CONSULT.  |
| ST ANGLE SEN CALIB [U1232]   | Predictive course line center position adjustment of the steering angle sensor is incomplete.  | Adjust the predictive course line center position of the steering angle sensor.   |
| FRONT DISP CONN [U1243]  | When either one of the following items are detected: <ul style="list-style-type: none"> <li>• Display unit power supply and ground circuits malfunction is detected.</li> <li>• Communication circuits between AV control unit and display unit.</li> </ul>                                  | <ul style="list-style-type: none"> <li>• Display unit power supply and ground circuits.</li> <li>• Communication circuits between AV control unit and AV display unit.</li> </ul>   |
| SAT CONN [U1255]   | Satellite radio tuner malfunction is detected.   | Replace the satellite radio tuner if the malfunction occurs constantly.   |
| USB OVERCURRENT [U1263]  | Detection of over current in USB connector.  | Check USB harness between the AV control unit and USB connector.  |
| <ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• SWITCH CONN [U1240]</li> </ul> | When either one of the following items are detected: <ul style="list-style-type: none"> <li>• Multifunction switch power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li> </ul> | <ul style="list-style-type: none"> <li>• Multifunction switch power supply and ground circuits.</li> <li>• AV communication circuits between AV control unit and multifunction switch.</li> </ul>   |

## DATA MONITOR

### ALL SIGNALS

- Displays the status of the following vehicle signals inputted into the AV control unit.
- For each signal, actual signal can be compared with the condition recognized on the system.

| Display Item | Display | Vehicle status                | Remarks   |
|--------------|---------|-------------------------------|---|
| VHCL SPD SIG | On      | Vehicle speed >0 km/h (0 MPH) | Changes in indication may be delayed. This is normal. |
|              | Off     | Vehicle speed =0 km/h (0 MPH) |   |
| PKB SIG      | On      | Parking brake is applied.     |   |
|              | Off     | Parking brake is released.    |   |



## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

| Display Item | Display | Vehicle status   | Remarks   |
|--------------|---------|--|---|
| ILLUM SIG    | On      | Block the light beam from the auto light optical sensor when the light SW is ON. | —   |
|              | Off     | Expose the auto light optical sensor to light when the light SW is OFF or ON.    |   |
| IGN SIG      | On      | Ignition switch ON   |   |
|              | Off     | Ignition switch in ACC position  |   |
| REV SIG      | On      | Selector lever in R position   | Changes in indication may be delayed. This is normal. |
|              | Off     | Selector lever in any position other than R                                      |   |

### SELECTION FROM MENU

Allows the technician to select which vehicle signals should be displayed and displays the status of the selected vehicle signals.

| Item to be selected | Description                                 |
|---------------------|---|
| VHCL SPD SIG        | The same as when "ALL SIGNALS" is selected. |
| PKB SIG             |   |
| ILLUM SIG           |   |
| IGN SIG             |   |
| REV SIG             |   |

### WORK SUPPORT

| Conditions                 | Description  |
|----------------------------|--|
| ST ANGLE SENSOR ADJUSTMENT | Steering angle sensor neutral position adjustment can be performed. Refer to <a href="#">BRC-6, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Description"</a> . |

### CONFIGURATION

Configuration has three functions as follows.

| Function                             | Description  |
|--------------------------------------|--|
| READ CONFIGURATION                   | <ul style="list-style-type: none"> <li>• Reads the vehicle configuration of current AV control unit.</li> <li>• Saves the read vehicle configuration.</li> </ul> |
| WRITE CONFIGURATION-Manual selection | Writes the vehicle configuration with manual selection.  |
| WRITE CONFIGURATION-Config file      | Writes the vehicle configuration with saved data.  |

AV

# DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/ BOSE]

## DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

### Diagnosis Description

INFOID:000000009471300

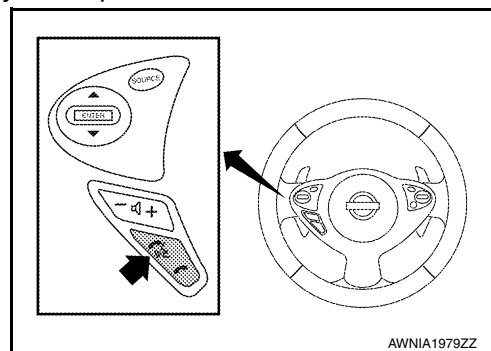
The Bluetooth® control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

### BLUETOOTH® CONTROL UNIT INITIALIZATION CHECKS

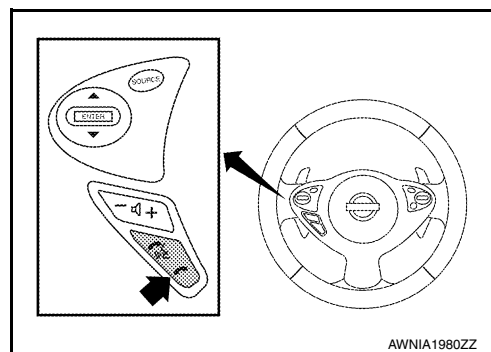
- Internal control unit failure
- Bluetooth® antenna connection open or shorted
- Steering wheel audio control switches [☞ (PHONE/SEND), ☜ (PHONE/END)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth® inquiry check

### OPERATION PROCEDURE

1. Turn ignition switch to ACC or ON.
2. Wait for the Bluetooth® system to complete initialization. This may take up to 20 seconds.
3. Press and hold the steering wheel audio control switch ☞ (PHONE/SEND) button for at least 5 seconds. The Bluetooth® system will begin to play a verbal prompt.



4. While the prompt is playing, press and hold the steering wheel audio control switch ☜ (PHONE/END) button until you hear the "Diagnostics mode" prompt. The Bluetooth® system will sound a 5-second beep.
5. While the beep is sounding, press and hold the steering wheel audio control switch ☜ (PHONE/END) button again until you hear prompts.
6. The Bluetooth® system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician. Refer to [AV-362, "Work Flow"](#).
7. After the failure records are reported, an interactive microphone test will be performed. Follow the voice prompt. If the microphone test fails, refer to [AV-362, "Work Flow"](#).



### Work Flow

INFOID:000000009471301

| Failure Message                                | Action  |
|--|---|
| "Internal failure"                             | Replace Bluetooth® control unit. Refer to <a href="#">AV-503, "Removal and Installation"</a> .  |
| "Bluetooth® antenna open"                      | <ol style="list-style-type: none"> <li>1. Inspect harness connection.</li> <li>2. Replace Bluetooth® antenna. Refer to <a href="#">AV-502, "Removal and Installation"</a>.</li> </ol>                             |
| "Bluetooth® antenna shorted"                   |   |
| "Phone/Send for Hands Free System is stuck"    | Check steering wheel audio control switches. Refer to <a href="#">AV-496, "Removal and Installation"</a> .  |
| "Phone/End for the Hands Free System is stuck" |   |
| "Microphone test" (failed interactive test)    | <ol style="list-style-type: none"> <li>1. Inspect harness between Bluetooth® control unit and microphone.</li> <li>2. Replace microphone. Refer to <a href="#">AV-501, "Removal and Installation"</a>.</li> </ol> |

# U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000009471302

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped on a vehicle and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

#### DTC Logic

INFOID:000000009471303

#### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | Diagnostic item is detected when ...  | Probable malfunction location |
|-------|-----------------------------|---|-------------------------------|
| U1000 | CAN COMM CIRCUIT            | When AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more. | CAN communication system.     |

#### Diagnosis Procedure

INFOID:000000009471304

##### 1. PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result" of "AV Control Unit".

##### Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to "LAN system". Refer to [LAN-15, "Trouble Diagnosis Flow Chart"](#).  
NO >> Refer to GI section. Refer to [GI-41, "Intermittent Incident"](#).

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AV

# U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1010 CONTROL UNIT (CAN)

### Description

INFOID:000000009471305

Initial diagnosis of AV control unit.

### DTC Logic

INFOID:000000009471306

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | Diagnostic item is detected when ...           | Probable malfunction location |
|-------|-----------------------------|--|-------------------------------|
| U1010 | CONTROL UNIT (CAN)          | CAN initial diagnosis malfunction is detected. | AV control unit.              |

### Diagnosis Procedure

INFOID:000000009471307

#### 1. REPLACE AV CONTROL UNIT

When DTC U1010 is detected, replace AV control unit. Refer to [AV-481. "Removal and Installation"](#).

>> Inspection End.

# U1200 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1200 AV CONTROL UNIT

### Description

INFOID:000000009471308

Replace the AV control unit if this DTC is displayed. Refer to [AV-481, "Removal and Installation"](#).

| Part name       | Description  |
|-----------------|--|
| AV CONTROL UNIT | <ul style="list-style-type: none"><li>• It is the master unit of the MULTI AV system and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit.</li><li>• AV control unit includes audio function and vehicle information function.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the automatic brightness ON/OFF signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul> |

### DTC Logic

INFOID:000000009471309

| DTC   | Display contents of CONSULT           | DTC Detection Condition   | Action to take   |
|-------|---------------------------------------|---|--|
| U1200 | Control Unit<br>FLASH- ROM<br>[U1200] | An internal malfunction is detected in AV control unit (FLASH-ROM). | Replace AV control unit. Refer to <a href="#">AV-481, "Removal and Installation"</a> . |

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# U1216 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1216 AV CONTROL UNIT

### Description

INFOID:000000009471310

Replace the AV control unit if this DTC is displayed. Refer to [AV-481, "Removal and Installation"](#).

| Part name       | Description  |
|-----------------|--|
| AV CONTROL UNIT | <ul style="list-style-type: none"><li>• It is the master unit of the MULTI AV system and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit.</li><li>• AV control unit includes audio function and vehicle information function.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the automatic brightness ON/OFF signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul> |

### DTC Logic

INFOID:000000009471311

| DTC   | Display contents of CONSULT | DTC Detection Condition   | Action to take  |
|-------|-----------------------------|---|---|
| U1216 | CAN CONT<br>[U1216]         | Internal malfunction of AV control unit (CAN controller) is detected. | Replace AV control unit.<br>Refer to <a href="#">AV-481, "Removal and Installation"</a> . |

# U1218 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1218 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471312

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1218 | HDD CONN<br>[U1218]         | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-481, "Removal and Installation"</a>.</li></ul> |

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AV

# U1219 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1219 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471313

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1219 | HDD READ<br>[U1219]         | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-481, "Removal and Installation"</a>.</li></ul> |



# U121A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U121A AV CONTROL UNIT

### DTC Logic

INFOID:000000009471314

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U121A | HDD WRITE [U121A]           | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-481, "Removal and Installation"</a>.</li></ul> |

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AV

# U121B AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U121B AV CONTROL UNIT

### DTC Logic

INFOID:000000009471315

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U121B | HDD COMM<br>[U121B]         | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-481, "Removal and Installation"</a>.</li></ul> |

# U121C AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U121C AV CONTROL UNIT

### DTC Logic

INFOID:000000009471316

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U121C | HDD ACCESS [U121C]          | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-481, "Removal and Installation"</a>.</li></ul> |

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AV

# U121D AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U121D AV CONTROL UNIT

### DTC Logic

INFOID:000000009471317

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor  |
|-------|-----------------------------|--|--|
| U121D | DSP CONN<br>[U121D]         | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-481, "Removal and Installation"</a>.</li></ul> |

### Diagnosis Procedure

INFOID:000000009471318

#### 1. CHECK PLAYBACK OF A DISK (CD)

##### Can a disk (CD) be played?

YES >> Malfunction may be detected intermittently.

NO >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).

# U121E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U121E AV CONTROL UNIT

### DTC Logic

INFOID:000000009471319

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor  |
|-------|-----------------------------|--|--|
| U121E | DSP COMM [U121E]            | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-481, "Removal and Installation"</a>.</li></ul> |

### Diagnosis Procedure

INFOID:000000009471320

#### 1. CHECK PLAYBACK OF A DISK (CD)

##### Can a disk (CD) be played?

- YES >> Malfunction may be detected intermittently.  
NO >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).

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AV

# U1225 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1225 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471321

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | DTC detection condition                 | Possible malfunction factor                               |
|-------|-----------------------------|---|---|
| U1225 | USB CONTROLLER<br>[U1225]   | USB connection malfunction is detected. | Check that the connection to the USB connector is normal. |

# U1227 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1227 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471322

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1227 | DVD COMM [U1227]            | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If DVD can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-481, "Removal and Installation"</a>.</li></ul> |

### Diagnosis Procedure

INFOID:000000009471323

#### 1. CHECK PLAYBACK OF A DISK (DVD)

##### Can a disc (DVD) be played?

- YES >> Malfunction may be detected intermittently.  
NO >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).

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# U1228 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1228 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471324

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1228 | SUB CPU CONN [U1228]        | AV control unit malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-481, "Removal and Installation"</a> . |



# U1229 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1229 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471325

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1229 | iPod CERTIFICATION [U1229]  | AV control unit malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-481, "Removal and Installation"</a> . |

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# U122A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U122A AV CONTROL UNIT

### DTC Logic

INFOID:000000009471326

| DTC   | Display contents of CONSULT | DTC detection condition                          | Action to take                                       |
|-------|-----------------------------|--|--|
| U122A | CONFIG UNFINISH [U122A]     | The writing of configuration data is incomplete. | Write configuration data with "MULTI AV" of CONSULT. |

### Diagnosis Procedure

INFOID:000000009471327

#### 1. PERFORM THE SELF-DIAGNOSIS

When U122A is detected, write configuration data with "MULTI AV" of CONSULT.

>> Write configuration data with "MULTI AV" of CONSULT. Refer to [AV-338. "CONFIGURATION \(AV CONTROL UNIT\) : Special Repair Requirement"](#).

# U122E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U122E AV CONTROL UNIT

### DTC Logic

INFOID:000000009471328

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U122E | Built-in AUDIO CONN [U122E] | AV control unit malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-481, "Removal and Installation"</a> . |

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AV

# U1232 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1232 STEERING ANGLE SENSOR

### DTC Logic

INFOID:000000009471329

| DTC   | Display contents of CONSULT | DTC detection condition   | Possible malfunction factor   |
|-------|-----------------------------|---|---|
| U1232 | ST ANGLE SEN CALIB [1232]   | Predictive course line center position adjustment of the steering angle sensor is incomplete. | Adjust the predictive course line center position of the steering angle sensor. |

### Diagnosis Procedure

INFOID:000000009471330

#### 1. ADJUST THE PREDICTIVE COURSE LINE CENTER POSITION OF THE STEERING ANGLE SENSOR

When U1232 is detected, adjust the predictive course line center position of the steering angle sensor.

>> Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to [BRC-6. "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"](#).

# U1243 DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1243 DISPLAY UNIT

### Description

INFOID:000000009471331

| Part name    | Description   |
|--------------|---|
| DISPLAY UNIT | <ul style="list-style-type: none"> <li>• Display image is controlled by the serial communication from AV control unit.</li> <li>• Inputs the RGB image signal (RGB, RGB area and RGB synchronizing) from AV control unit and the auxiliary image signal from the auxiliary input jacks.</li> <li>• Outputs the synchronizing signals (HP and VP) to the AV control unit.</li> </ul> |

### DTC Logic

INFOID:000000009471332

| DTC   | Display contents of CONSULT | DTC Detection Condition  | Possible causes  |
|-------|-----------------------------|--|--|
| U1243 | FRONT DISP CONN [U1243]     | <ul style="list-style-type: none"> <li>• Display unit power supply and ground circuit malfunction is detected.</li> <li>• Malfunction is detected on communication circuit between display unit and AV control unit.</li> <li>• Malfunction is detected on communication signal between display unit and AV control unit.</li> </ul> | <ul style="list-style-type: none"> <li>• Display unit power supply and ground circuit.</li> <li>• Communication circuit between display unit and AV control unit.</li> </ul> |

### Diagnosis Procedure

INFOID:000000009471333

Regarding Wiring Diagram information, refer to [AV-449. "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

#### 1. CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to [AV-389. "DISPLAY UNIT : Diagnosis Procedure"](#).

Is inspection result OK?

YES >> GO TO 2.

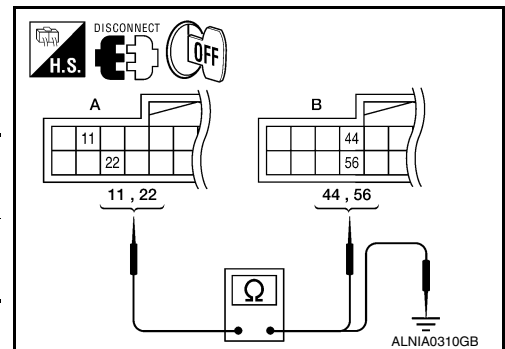
NO >> Repair malfunctioning parts.

#### 2. CHECK CONTINUITY OF COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector M141 (A) terminals 11, 22 and AV control unit harness connector M154 (B) terminals 56, 44.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 11       | M154      | 56       | Yes        |
|           | 22       |           | 44       |            |

4. Check continuity between display unit harness connector M141 (A) terminals 11, 22 and ground.



| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 11       | Ground | No         |
|           | 22       |        |            |

Are continuity results as specified?

# U1243 DISPLAY UNIT

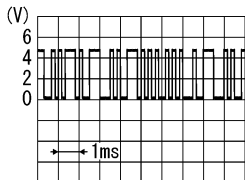
[COLOR DISPLAY - W/ BOSE]

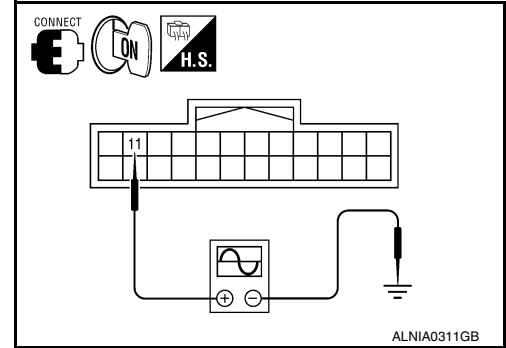
## < DTC/CIRCUIT DIAGNOSIS >

- YES >> GO TO 3.  
 NO >> Repair harness or connector.

### 3. CHECK COMMUNICATION SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 11 and ground with an oscilloscope or CONSULT.

| (+)       |          | (-)    | Reference signal   |
|-----------|----------|--------|--|
| Connector | Terminal |        |  |
| M141      | 11       | Ground |  <p>PKIB5039J</p> |

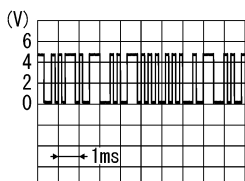


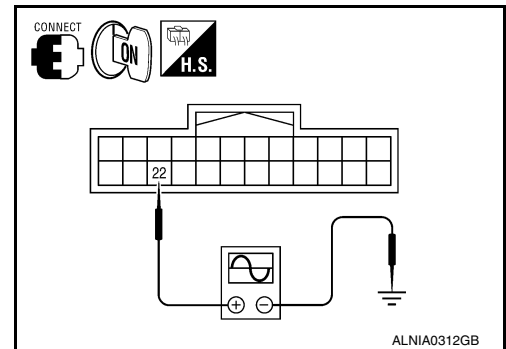
Are voltage readings as specified?

- YES >> GO TO 4.  
 NO >> Replace AV control unit. Refer to [AV-481. "Removal and Installation"](#).

### 4. CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector M141 terminal 22 and ground with an oscilloscope or CONSULT.

| (+)       |          | (-)    | Reference signal   |
|-----------|----------|--------|--|
| Connector | Terminal |        |  |
| M141      | 22       | Ground |  <p>PKIB5039J</p> |



Are voltage readings as specified?

- YES >> Inspection End.  
 NO >> Replace display unit. Refer to [AV-484. "Removal and Installation"](#).

# U1263 USB

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1263 USB

### DTC Logic

INFOID:000000009471334

| DTC   | Display contents of CONSULT | DTC detection condition                     | Possible malfunction factor                                      |
|-------|-----------------------------|---|--|
| U1263 | USB OVERCURRENT [U1263]     | Detection of over current in USB interface. | Check USB harness between the AV control unit and USB interface. |

### Diagnosis Procedure

INFOID:000000009471335

#### 1.CHECK USB HARNESS

Visually check USB harness.

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).
- NO >> Replace USB harness.

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# U1255 SATELLITE RADIO TUNER

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1255 SATELLITE RADIO TUNER

### Description

INFOID:000000009471336

| Part name             | Description  |
|-----------------------|--|
| SATELLITE RADIO TUNER | <ul style="list-style-type: none"> <li>Inputs the satellite radio signal from satellite radio antenna and outputs the sound signal to the AV control unit.</li> <li>It is controlled with the AV control unit and serial communication (communication signal and request signal).</li> </ul> |

### DTC Logic

INFOID:000000009471337

| DTC   | Display contents of CONSULT | DTC Detection Condition  | Possible causes  |
|-------|-----------------------------|--|--|
| U1255 | SAT CONN [U1255]            | When either one of the following items are detected: <ul style="list-style-type: none"> <li>satellite radio tuner power supply and ground circuits are malfunctioning.</li> <li>serial communication circuits between AV control unit and satellite radio tuner are malfunctioning.</li> <li>serial communication or request signal between AV control unit and satellite radio tuner is malfunctioning.</li> <li>request signal circuit between AV control unit and satellite radio tuner is malfunctioning.</li> </ul> | <ul style="list-style-type: none"> <li>Satellite radio tuner power supply and ground circuits.</li> <li>Serial communication circuits between AV control unit and satellite radio tuner.</li> <li>Request signal circuit between AV control unit and satellite radio tuner.</li> </ul> |

### Diagnosis Procedure

INFOID:000000009471338

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

#### 1. CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT

Check satellite radio tuner power supply and ground circuit. Refer to [AV-392, "SATELLITE RADIO TUNER : Diagnosis Procedure"](#).

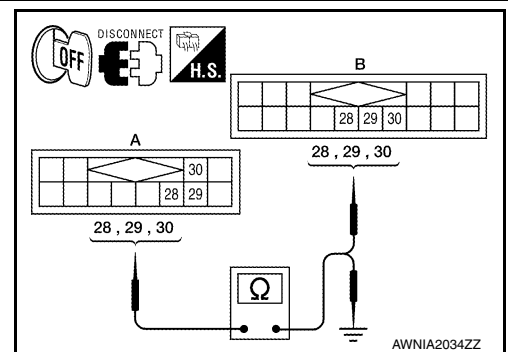
Is the inspection result normal?

- YES >> GO TO 2.  
 NO >> Repair malfunctioning parts.

#### 2. CHECK CONTINUITY COMMUNICATION CIRCUIT AND REQUEST SIGNAL CIRCUIT

- Turn ignition switch OFF.
- Disconnect AV control unit connector M153 and satellite radio tuner connector B111.
- Check continuity between AV control unit harness connector M153 (A) and satellite radio tuner harness connector B111 (B).

| A         |           | B         |           | Continuity |
|-----------|-----------|-----------|-----------|------------|
| Connector | Terminals | Connector | Terminals |            |
| M153      | 28        | B111      | 28        | Yes        |
|           | 29        |           | 29        |            |
|           | 30        |           | 30        |            |



- Check continuity between AV control unit harness connector M153 (A) and ground.

| A         |           | — | Continuity |
|-----------|-----------|---|------------|
| Connector | Terminals |   |            |
|           |           |   |            |



# U1255 SATELLITE RADIO TUNER

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

|      |    |        |    |
|------|----|--------|----|
| M153 | 28 | Ground | No |
|      | 29 |        |    |
|      | 30 |        |    |

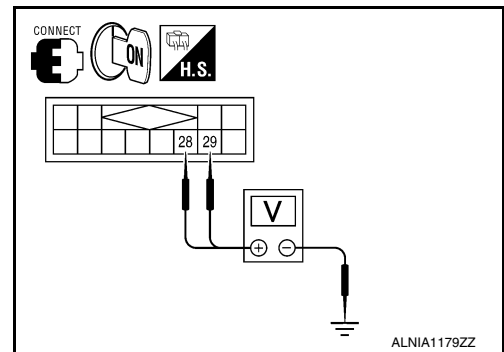
Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair harness or connector.

### 3. CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector M153 and ground.

| (+)       |           | (-)    | Voltage (Approx.) |
|-----------|-----------|--------|-------------------|
| Connector | Terminals |        |                   |
| M153      | 28        | Ground | 7.0V              |
|           | 29        |        |                   |



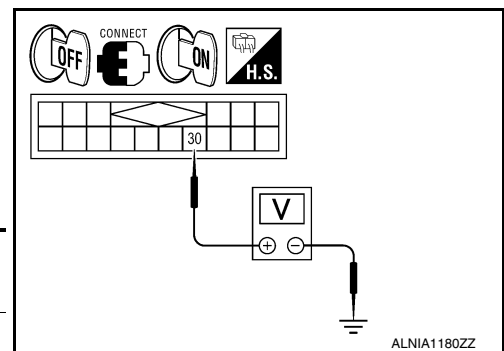
Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).

### 4. CHECK SATELLITE RADIO TUNER

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector.
3. Connect satellite radio tuner.
4. Turn ignition switch ON.
5. Check voltage between satellite radio tuner harness connector terminal ground.

| (+)       |          | (-)    | Voltage (Approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| B111      | 30       | Ground | 7.0V              |



Is the inspection result normal?

- YES >> Inspection End.
- NO >> Replace satellite radio tuner. Refer to [AV-494, "Removal and Installation"](#).

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AV

# U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1300 AV COMM CIRCUIT

### Description

INFOID:000000009471339

U1300 is indicated when a communication signal malfunction occurs. U1300 is indicated along with DTCs that identify components connected to the AV control unit through communication lines. Determine the possible malfunction cause from the table below.

### SELF-DIAGNOSIS RESULTS DISPLAY ITEM

| DTC            | Display contents of CONSULT   | DTC Detection Condition   | Possible causes  |
|----------------|---|---|--|
| U1300<br>U1240 | <ul style="list-style-type: none"><li>• AV COMM CIRCUIT [U1300]</li><li>• SWITCH CONN [U1240]</li></ul> | When either one of the following items are detected: <ul style="list-style-type: none"><li>• A/C and AV switch assembly power supply and ground circuits are malfunctioning.</li><li>• AV communication circuits between AV control unit and A/C and AV switch assembly are malfunctioning.</li><li>• AV communication signal between AV control unit and A/C and AV switch assembly is malfunctioning.</li></ul> | <ul style="list-style-type: none"><li>• A/C and AV switch assembly power supply and ground circuits.</li><li>• AV communication circuits between AV control unit and A/C and AV switch assembly.</li></ul> |

# U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## U1310 AV CONTROL UNIT

### Description

INFOID:000000009471340

Replace the AV control unit if this DTC is displayed. Refer to [AV-481, "Removal and Installation"](#).

| Part name       | Description  |
|-----------------|--|
| AV CONTROL UNIT | <ul style="list-style-type: none"><li>• It is the master unit of the MULTI AV system and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit.</li><li>• AV control unit includes audio function and vehicle information function.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the automatic brightness ON/OFF signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul> |

### DTC Logic

INFOID:000000009471341

| DTC   | Display contents of CONSULT  | DTC Detection Condition   | Action to take   |
|-------|------------------------------|---|--|
| U1310 | CONTROL UNIT (AV)<br>[U1310] | An initial diagnosis error is detected in AV communication circuit. | Replace AV control unit. Refer to <a href="#">AV-481, "Removal and Installation"</a> . |

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AV

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## POWER SUPPLY AND GROUND CIRCUIT

### AV CONTROL UNIT

#### AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000009471342

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1. CHECK FUSES

Check that the following fuses of the AV control unit are not blown.

| Unit            | Terminals | Signal name                 | Fuse No. |
|-----------------|-----------|-----------------------------|----------|
| AV control unit | 19        | Battery power               | 24       |
|                 | 7         | Ignition switch ACC or ON   | 17       |
|                 | 104       | Ignition switch ON or START | 3        |

Are the fuses OK?

YES >> GO TO 2.

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

### 2. POWER SUPPLY CIRCUIT CHECK

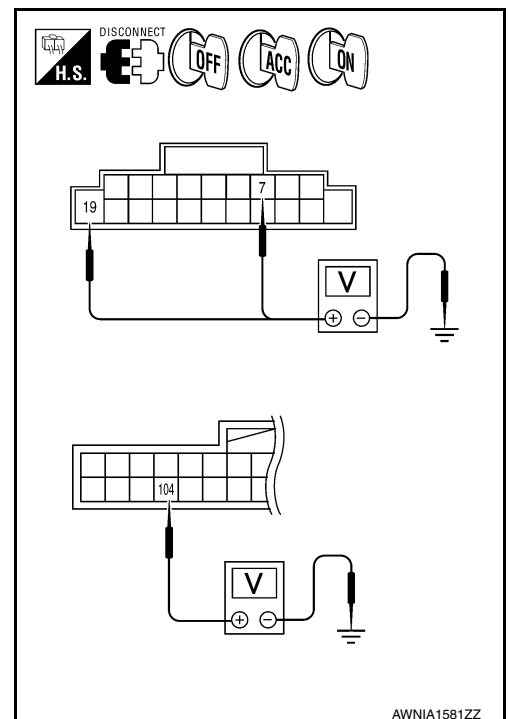
1. Disconnect AV control unit connectors M152 and M156.
2. Check voltage between the AV control unit connectors M152 and M156 and ground.

| (+)       |          | (-)    | OFF             | ACC             | ON              |
|-----------|----------|--------|-----------------|-----------------|-----------------|
| Connector | Terminal |        |                 |                 |                 |
| M152      | 7        | Ground | 0V              | Battery voltage | Battery voltage |
|           | 19       | Ground | Battery voltage | Battery voltage | Battery voltage |
| M156      | 104      | Ground | 0V              | 0V              | Battery voltage |

Are the voltage results as specified?

YES >> GO TO 3.

- NO >>
- Check connector housings for disconnected or loose terminals.
  - Repair harness or connector.



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### 3. GROUND CIRCUIT CHECK

# POWER SUPPLY AND GROUND CIRCUIT

[COLOR DISPLAY - W/ BOSE]

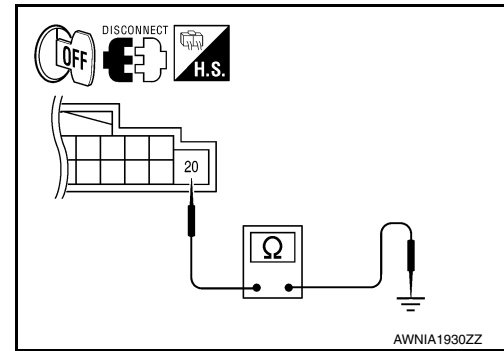
## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Check continuity between AV control unit harness connector and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| M152      | 20       | Ground | Yes        |

### Are the inspection results OK?

- YES >> Inspection End.  
 NO >> Repair AV control unit ground.



## DISPLAY UNIT

### DISPLAY UNIT : Diagnosis Procedure

INFOID:000000009471343

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

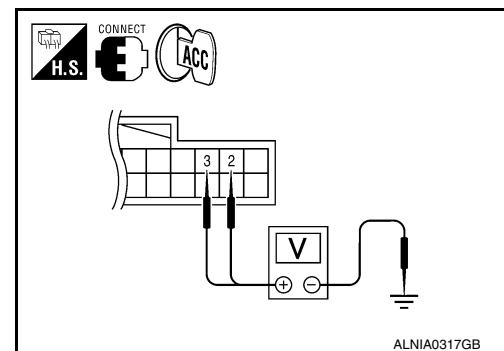
## 1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch to ACC.
2. Check voltage between display unit harness connector M141 and ground.

| (+)       |          | (-)    | Value (Approx.) |
|-----------|----------|--------|-----------------|
| Connector | Terminal |        |                 |
| M141      | 2        | Ground | 9V              |
|           | 3        |        |                 |

### Does specified voltage exist?

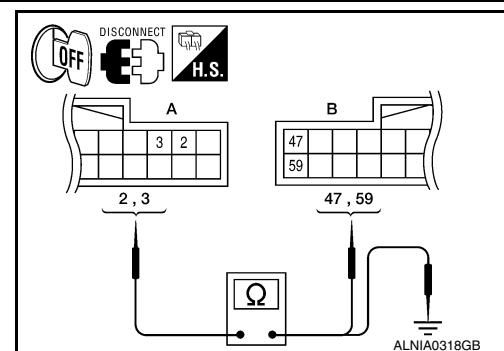
- YES >> GO TO 3.  
 NO >> GO TO 2.



## 2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the display unit connector M141 and the AV control unit connector M154.
3. Check continuity between the display unit harness connector M141 (A) and the AV control unit connector M154 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 2        | M154      | 59       | Yes        |
|           | 3        |           | 47       |            |



4. Check continuity between the display unit harness connector M141 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 2        | Ground | No         |
|           | 3        |        |            |

### Are continuity results as specified?

- YES >> Check AV control unit power and ground supply. Refer to [AV-388, "AV CONTROL UNIT : Diagnosis Procedure"](#).  
 NO >> Repair harness or connector.

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AV

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## 3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector.
3. Check continuity between display unit harness connector and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| M141      | 1        | Ground | Yes        |

Does continuity exist?

- YES >> Inspection End.  
 NO >> Repair harness or connector.

## A/C AND AV SWITCH ASSEMBLY

### A/C AND AV SWITCH ASSEMBLY : Diagnosis Procedure

INFOID:000000009471344

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

## 1. CHECK FUSE

Check that the fuse of the AC and AV switch assembly is not blown.

| Unit                       | Terminal | Signal name               | Fuse No. |
|----------------------------|----------|---------------------------|----------|
| A/C and AV switch assembly | 3        | Ignition switch ACC or ON | 17       |

Is the fuse OK?

- YES >> GO TO 2.  
 NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

## 2. POWER SUPPLY CIRCUIT CHECK

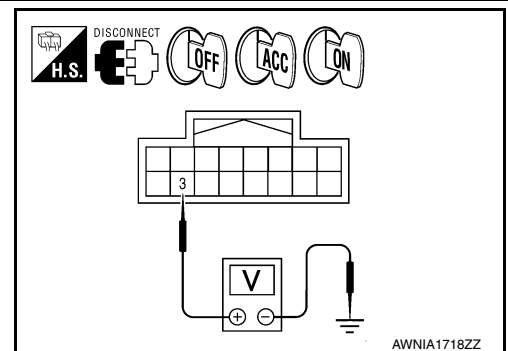
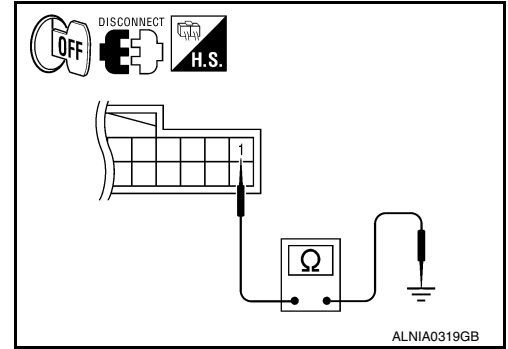
1. Disconnect A/C and AV switch assembly connector M98.
2. Check voltage between the A/C and AV switch assembly connector M98 and ground.

| (+)       |          | (-)    | OFF | ACC             | ON              |
|-----------|----------|--------|-----|-----------------|-----------------|
| Connector | Terminal |        |     |                 |                 |
| M98       | 3        | Ground | 0V  | Battery voltage | Battery voltage |

Are the voltage results as specified?

- YES >> GO TO 3.  
 NO >> • Check connector housings for disconnected or loose terminals.  
 • Repair harness or connector.

## 3. GROUND CIRCUIT CHECK



# POWER SUPPLY AND GROUND CIRCUIT

[COLOR DISPLAY - W/ BOSE]

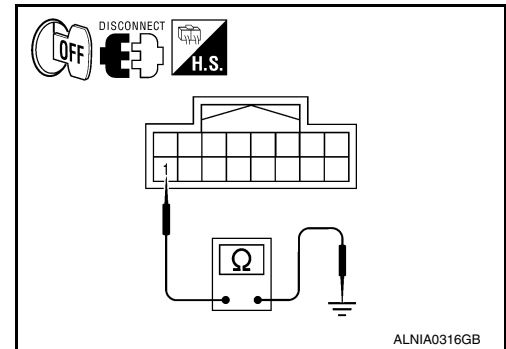
## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Check continuity between A/C and AV switch assembly harness connector M98 and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| M98       | 1        | Ground | Yes        |

Are the continuity results as specified?

- YES >> Inspection End.  
 NO >> Repair harness or ground.



## BOSE SPEAKER AMP

### BOSE SPEAKER AMP : Diagnosis Procedure

INFOID:000000009471345

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1.CHECK FUSE

Check that the BOSE speaker amp. fuse is not blown.

| Unit              | Terminal | Signal name   | Fuse No. |
|-------------------|----------|---------------|----------|
| BOSE speaker amp. | 11       | Battery power | 26       |
|                   | 10       |               | 25       |

Are the fuses OK?

- YES >> GO TO 2.  
 NO >> Be sure to eliminate cause of malfunction before installing new fuse.

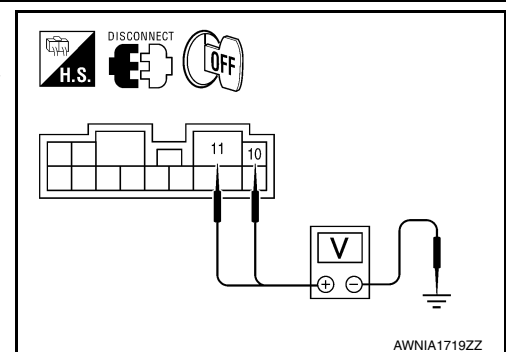
### 2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. connector.
3. Check voltage between BOSE speaker amp. harness connector B110 terminal 10, 11 and ground.

| (+)       |          | (-)    | Voltage (approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| B110      | 10       | Ground | Battery voltage   |
|           | 11       |        |                   |

Is battery voltage present?

- YES >> GO TO 3.  
 NO >> Check harness between BOSE speaker amp. and fuse.



### 3.CHECK GROUND CIRCUIT

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# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. connector.
3. Check continuity between BOSE speaker amp. harness connector B110 terminal 7,12 and ground.

| (+)       |          | (-)    | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B110      | 7        | Ground | Yes        |
|           | 12       |        |            |

Does continuity exist?

- YES >> Inspection End.  
 NO >> Repair harness or connector.

## SATELLITE RADIO TUNER

### SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000009471346

Regarding Wiring Diagram information, refer to [AV-449. "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

## 1.CHECK FUSES

Check that the following fuses of the satellite radio tuner (factory installed) are not blown.

| Unit                                      | Terminals | Signal name               | Fuse No. |
|---|-----------|---------------------------|----------|
| Satellite radio tuner (factory installed) | 32        | Battery power             | 24       |
|   | 36        | Ignition switch ACC or ON | 17       |

Are the fuses OK?

- YES >> GO TO 2.  
 NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

## 2.POWER SUPPLY CIRCUIT CHECK

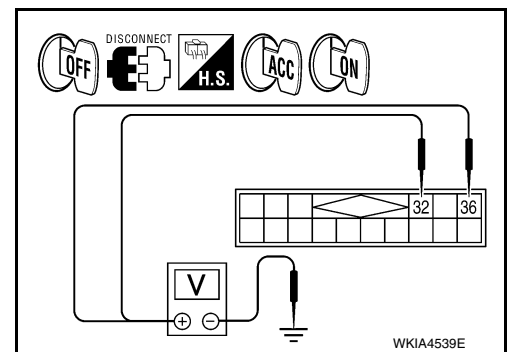
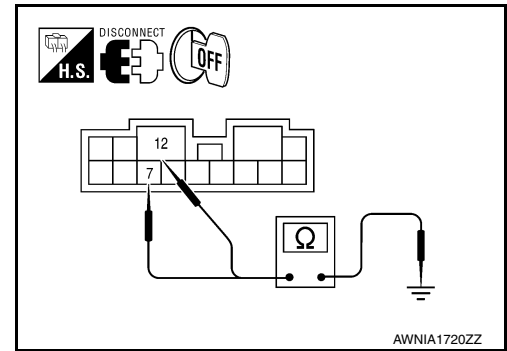
1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector B111.
3. Check voltage between the satellite radio tuner (factory installed) and ground.

| (+)       |          | (-)    | OFF             | ACC             | ON              |
|-----------|----------|--------|-----------------|-----------------|-----------------|
| Connector | Terminal |        | OFF             | ACC             | ON              |
| B111      | 32       | Ground | Battery voltage | Battery voltage | Battery voltage |
|           | 36       |        | 0V              | Battery voltage | Battery voltage |

Are the voltage readings as specified?

- YES >> GO TO 3.  
 NO >> • Check connector housings for disconnected or loose terminals.  
 • Repair harness or connector.

## 3.GROUND CIRCUIT CHECK





# POWER SUPPLY AND GROUND CIRCUIT

[COLOR DISPLAY - W/ BOSE]

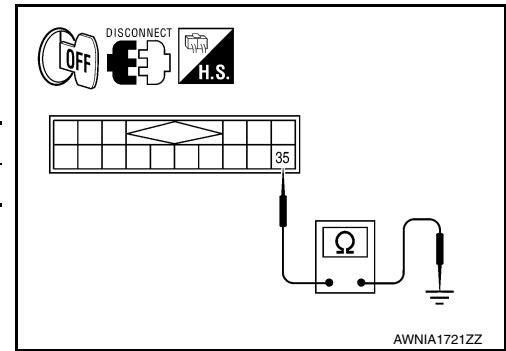
## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Check continuity between satellite radio tuner (factory installed) harness connector and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| B111      | 35       | Ground | Yes        |

### Does continuity exist?

- YES >> Inspection End.  
 NO >> Repair satellite radio tuner (factory installed) harness or connector.



## REAR VIEW CAMERA

### REAR VIEW CAMERA : Diagnosis Procedure

INFOID:000000009471347

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

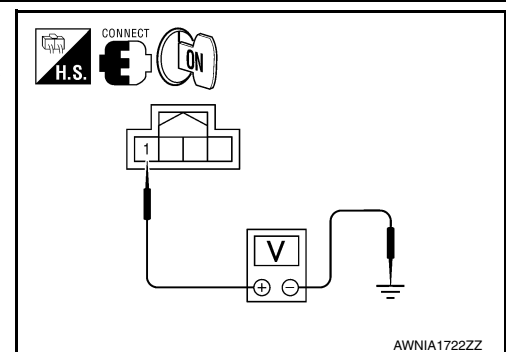
## 1. CHECK POWER SUPPLY CIRCUIT (REAR VIEW CAMERA SIDE)

1. Turn ignition switch ON.
2. Shift transmission into Reverse.
3. Check voltage between rear view camera harness connector T101 and ground.

| (+)       |          | (-)    | Transmission position | Value (Approx.) |
|-----------|----------|--------|-----------------------|-----------------|
| Connector | Terminal |        |                       |                 |
| T101      | 1        | Ground | Reverse               | 6V              |

### Is voltage reading approximately 6 volts?

- YES >> GO TO 4.  
 NO >> GO TO 2.

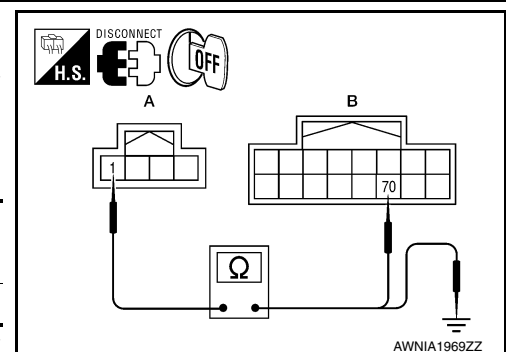


## 2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect rear view camera and AV control unit connectors.
3. Check continuity between rear view camera harness connector T101 (A) terminal 1 and AV control unit harness connector M155 (B) terminal 70.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| T101      | 1        | M155      | 70       | Yes        |

4. Check continuity between rear view camera harness connector T101 (A) terminal 1 and ground.



| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| T101      | 1        | Ground | No         |

### Are continuity test results as specified?

- YES >> GO TO 3.  
 NO >> Repair harness or connector.

## 3. CHECK REVERSE POSITION INPUT SIGNAL

1. Connect AV control unit connector.

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AV

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

- Turn ignition switch ON.
- Shift transmission into reverse.
- Check voltage between AV control unit harness connector M156 terminal 105 and ground.

| (+)       |          | (-)    | Transmission position | Value (Approx.) |
|-----------|----------|--------|-----------------------|-----------------|
| Connector | Terminal |        |                       |                 |
| M156      | 105      | Ground | Reverse               | 12V             |

Is voltage reading approximately 12 volts?

- YES >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).  
 NO >> Check harness for open or short between AV control unit and back-up lamp relay.

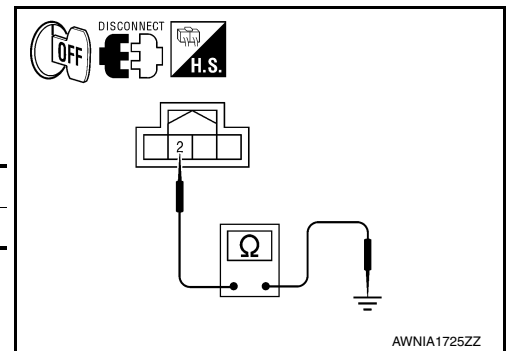
## 4.CHECK GROUND CIRCUIT

- Turn ignition switch OFF.
- Disconnect rear view camera harness connector.
- Check continuity between rear view camera harness connector T101 terminal 2 and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| T101      | 2        | Ground | Yes        |

Does continuity exist?

- YES >> Inspection End.  
 NO >> Repair harness or connector.



## BLUETOOTH® CONTROL UNIT

### BLUETOOTH® CONTROL UNIT : Diagnosis Procedure

INFOID:000000009471348

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

## 1.CHECK FUSE

Check that the following fuses of the Bluetooth® control unit are not blown.

| Power source                | Fuse No. |
|-----------------------------|----------|
| Battery                     | 24       |
| Ignition switch ACC or ON   | 17       |
| Ignition switch ON or START | 3        |

Is inspection result OK?

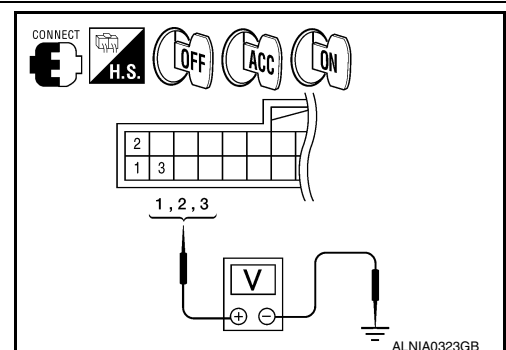
- YES >> GO TO 2.  
 NO >> Be sure to eliminate cause of malfunction before installing new fuse.

## 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between Bluetooth® control unit harness connector B131 and ground.

| (+)       |          | (-)    | Ignition switch position | Value (Approx.) |
|-----------|----------|--------|--------------------------|-----------------|
| Connector | Terminal |        |                          |                 |
| B131      | 1        | Ground | OFF                      | Battery voltage |
|           | 2        |        | ACC                      |                 |
|           | 3        |        | ON                       |                 |

Is battery voltage present as specified?



# POWER SUPPLY AND GROUND CIRCUIT

[COLOR DISPLAY - W/ BOSE]

< DTC/CIRCUIT DIAGNOSIS >

- YES >> GO TO 3.
- NO >> Check harness between Bluetooth® control unit and fuse.

## 3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector.
3. Check continuity between Bluetooth® control unit harness connector B131 and ground.

| Connector. | Terminal | —      | Continuity |
|------------|----------|--------|------------|
| B131       | 4        | Ground | Yes        |

Are continuity results as specified?

- YES >> Inspection End.
- NO >> Repair harness or connector.

## MICROPHONE

### MICROPHONE : Diagnosis Procedure

INFOID:000000009471349

Regarding Wiring Diagram information, refer to [AV-449. "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

## 1.CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

1. Turn ignition switch ON.
2. Check voltage between microphone harness connector R7 terminal 4 and ground.

| (+)       |          | (-)    | Value (Approx.) |
|-----------|----------|--------|-----------------|
| Connector | Terminal |        |                 |
| R7        | 4        | Ground | 5V              |

Is approximately 5V present?

- YES >> GO TO 4.
- NO >> GO TO 2.

## 2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect microphone and Bluetooth® control unit harness connectors.
3. Check continuity between microphone harness connector R7 (A) terminal 4 and Bluetooth® control unit harness connector B131 (B) terminal 29.

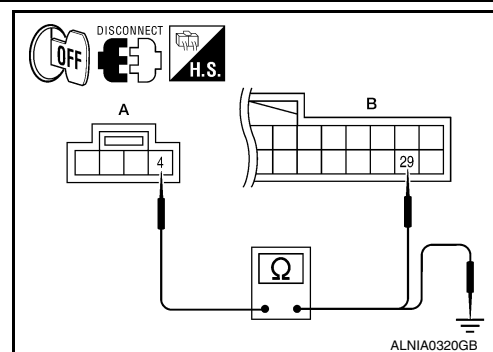
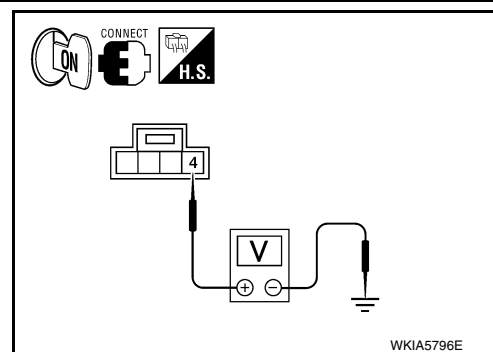
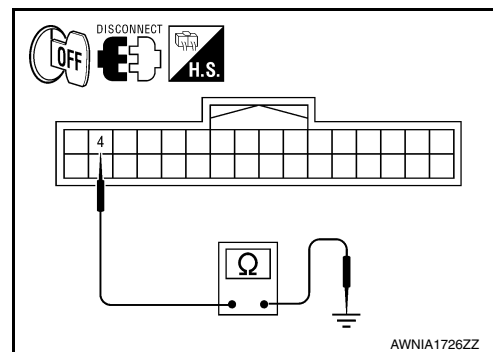
| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| R7        | 4        | B131      | 29       | Yes        |

4. Check continuity between microphone harness connector R7 (A) terminal 4 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| R7        | 4        | Ground | No         |

Are the continuity test results as specified?

- YES >> GO TO 3.



# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

NO >> Repair harness or connector.

## 3. CHECK POWER SUPPLY CIRCUIT (BLUETOOTH® CONTROL UNIT SIDE)

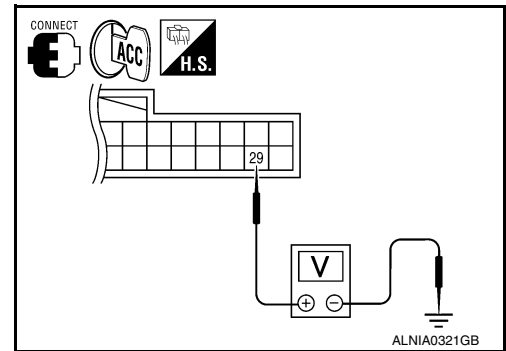
1. Connect Bluetooth® control unit harness connector.
2. Turn ignition switch to ACC.
3. Check voltage between Bluetooth® control unit harness connector B131 terminal 29 and ground.

| (+)       |          | (-)    | Value (Approx.) |
|-----------|----------|--------|-----------------|
| Connector | Terminal |        |                 |
| B131      | 29       | Ground | 5V              |

Is approximately 5V present?

YES >> Go to 4.

NO >> Replace Bluetooth® control unit. Refer to [AV-503](#), "Removal and Installation".



## 4. CHECK GROUND CIRCUIT

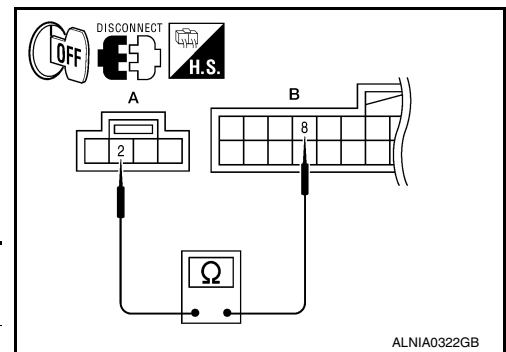
1. Turn ignition switch OFF.
2. Disconnect microphone harness connector R7 and Bluetooth® control unit harness connector B131.
3. Check continuity between microphone harness connector R7 (A) terminal 2 and Bluetooth® control unit harness connector B131 (B) terminal 8.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| R7        | 2        | B131      | 8        | Yes        |

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.



# RGB (R: RED) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## RGB (R: RED) SIGNAL CIRCUIT

### Description

INFOID:000000009471350

Transmit the image displayed with AV control unit with RGB signal to the display unit.

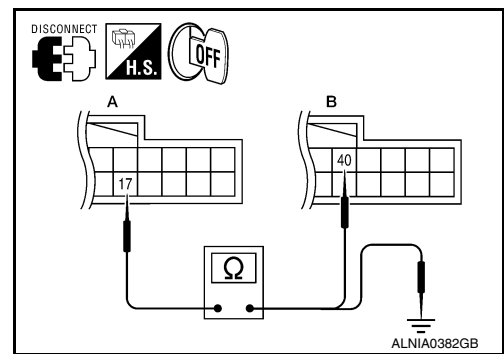
### Diagnosis Procedure

INFOID:000000009471351

Regarding Wiring Diagram information, refer to [AV-449. "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1. CHECK CONTINUITY RGB (R: RED) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M141 and AV control unit connector M154.
3. Check continuity between display unit harness connector M141 (A) terminal 17 and AV control unit harness connector M154 (B) terminal 40.



| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 17       | M154      | 40       | Yes        |

4. Check continuity between display unit harness connector M141 (A) terminal 17 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 17       | Ground | No         |

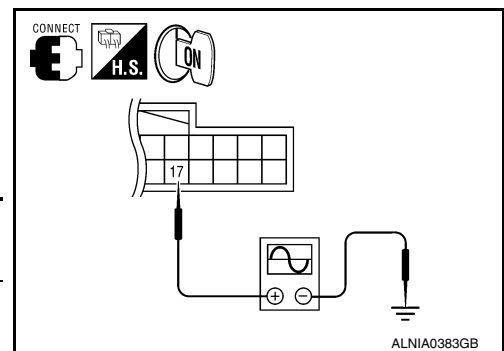
Are the continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

### 2. CHECK RGB (R: RED) SIGNAL

1. Connect display unit connector M141 and AV control unit connector M154.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 17 and ground.



| (+)       |          | (-)    | Condition            | Reference signal |
|-----------|----------|--------|----------------------|------------------|
| Connector | Terminal |        |                      |                  |
| M141      | 17       | Ground | Receive audio signal |                  |

Are the voltage readings as specified?

YES >> Replace display unit. Refer to [AV-484. "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-481. "Removal and Installation"](#).

# RGB (G: GREEN) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## RGB (G: GREEN) SIGNAL CIRCUIT

### Description

INFOID:000000009471352

Transmit the image displayed with AV control unit with RGB signal to the display unit.

### Diagnosis Procedure

INFOID:000000009471353

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1. CHECK CONTINUITY RGB (G: GREEN) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M141 and AV control unit connector M154.
3. Check continuity between display unit harness connector M141 (A) terminal 6 and AV control unit harness connector M154 (B) terminal 39.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 6        | M154      | 39       | Yes        |

4. Check continuity between display unit harness connector M141 (A) terminal 6 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 6        | Ground | No         |

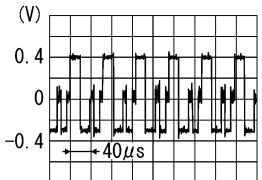
Are the continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

### 2. CHECK RGB (G: GREEN) SIGNAL

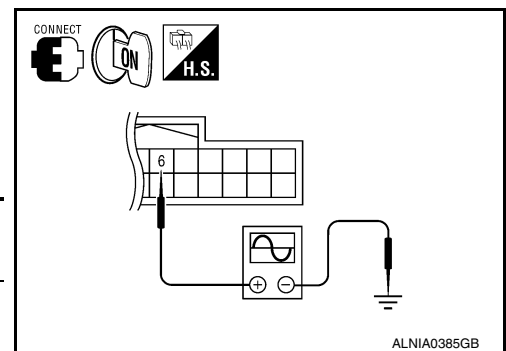
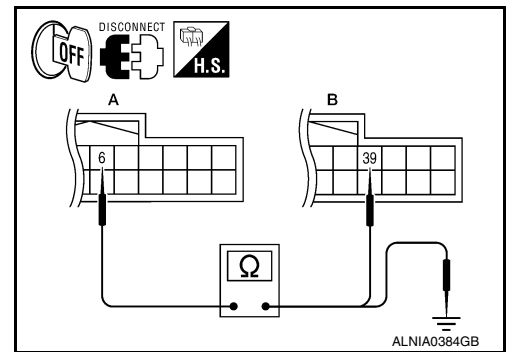
1. Connect display unit connector M141 and AV control unit connector M154.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 6 and ground.

| (+)       |          | (-)    | Condition            | Reference signal   |
|-----------|----------|--------|----------------------|--|
| Connector | Terminal |        |                      |  |
| M141      | 6        | Ground | Receive audio signal |  <p>SKIB2236J</p> |

Are voltage readings as specified?

YES >> Replace display unit. Refer to [AV-484, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).



# RGB (B: BLUE) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## RGB (B: BLUE) SIGNAL CIRCUIT

### Description

INFOID:000000009471354

Transmit the image displayed with AV control unit with RGB signal to the display unit.

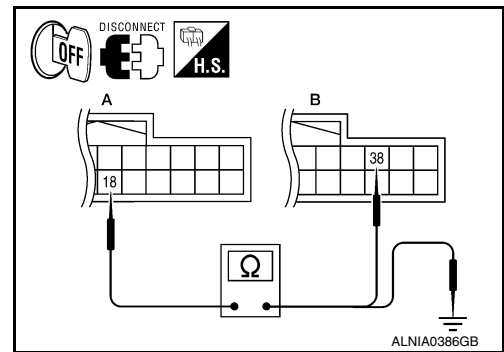
### Diagnosis Procedure

INFOID:000000009471355

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1. CHECK CONTINUITY RGB (B: BLUE) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M141 and AV control unit connector M154.
3. Check continuity between display unit harness connector M141 (A) terminal 18 and AV control unit harness connector M154 (B) terminal 38.



| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 18       | M154      | 38       | Yes        |

4. Check continuity between display unit harness connector M141 (A) terminal 18 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 18       | Ground | No         |

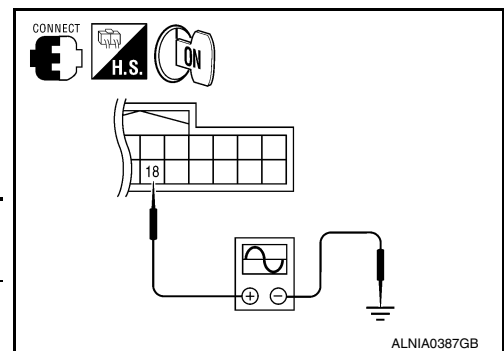
Are continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

### 2. CHECK RGB (B: BLUE) SIGNAL

1. Connect display unit connector M141 and AV control unit connector M154.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 18 and ground.



| (+) Connector |          | (-)    | Condition            | Reference signal |
|---------------|----------|--------|----------------------|------------------|
| Connector     | Terminal |        |                      |                  |
| M141          | 18       | Ground | Receive audio signal |                  |

Are voltage readings as specified?

YES >> Replace display unit. Refer to [AV-484, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).

# RGB SYNCHRONIZING SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## RGB SYNCHRONIZING SIGNAL CIRCUIT

### Description

INFOID:00000009471356

Transmit the RGB synchronizing signal to the display unit so as to synchronize the RGB image displayed with AV control unit.

### Diagnosis Procedure

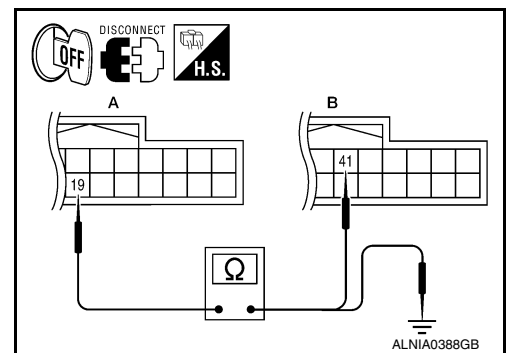
INFOID:00000009471357

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1. CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M141 and AV control unit connector M154.
3. Check continuity between display unit harness connector M141 (A) terminal 19 and AV control unit harness connector M154 (B) terminal 41.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 19       | M154      | 41       | Yes        |



4. Check continuity between display unit harness connector M141 (A) terminal 19 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 19       | Ground | No         |

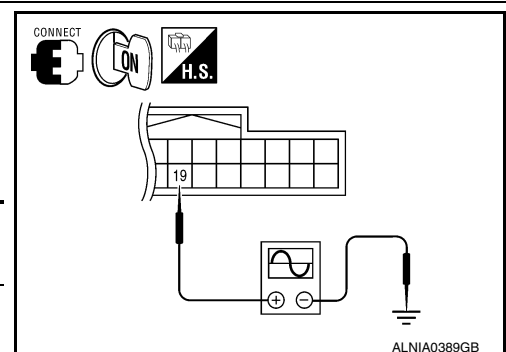
Are continuity results as specified?

- YES >> GO TO 2.  
 NO >> Repair harness or connector.

### 2. CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector M141 and AV control unit connector M154.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 19 and ground.

| (+) Connector |    | (-) Terminal | Condition            | Reference signal |
|---------------|----|--------------|----------------------|------------------|
| M141          | 19 | Ground       | Receive audio signal |                  |



Are voltage readings as specified?

- YES >> Replace display unit. Refer to [AV-484, "Removal and Installation"](#).  
 NO >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).



# RGB AREA (YS) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## RGB AREA (YS) SIGNAL CIRCUIT

### Description

INFOID:000000009471358

Transmits the display area of RGB image displayed by AV control unit with RGB area (YS) signal to display unit.

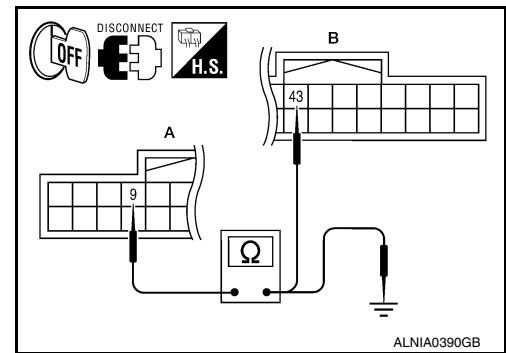
### Diagnosis Procedure

INFOID:000000009471359

Regarding Wiring Diagram information, refer to [AV-449. "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1. CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

- Turn ignition switch OFF.
- Disconnect display unit connector M141 and AV control unit connector M154.
- Check continuity between display unit harness connector M141 (A) terminal 9 and AV control unit harness connector M154 (B) terminal 43.



| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 9        | M154      | 43       | Yes        |

- Check continuity between display unit harness connector M141 (A) terminal 9 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 9        | Ground | No         |

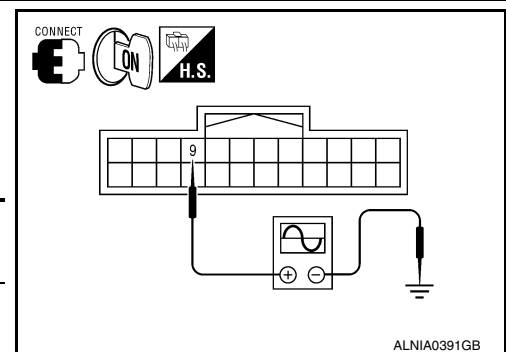
Are continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

### 2. CHECK RGB SYNCHRONIZING SIGNAL

- Connect display unit connector M141 and AV control unit connector M154.
- Turn ignition switch ON.
- Check signal between display unit harness connector M141 terminal 9 and ground.



| (+) Connector |          | (-)    | Condition            | Reference signal |
|---------------|----------|--------|----------------------|------------------|
| Connector     | Terminal |        |                      |                  |
| M141          | 9        | Ground | Receive audio signal |                  |

Are voltage readings as specified?

YES >> Replace display unit. Refer to [AV-484. "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-481. "Removal and Installation"](#).

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# HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

### Description

INFOID:000000009471360

In composite image (AUX image, camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to AV control unit so as to synchronize the RGB images displayed with AV control unit such as the image quality adjusting menu, etc.

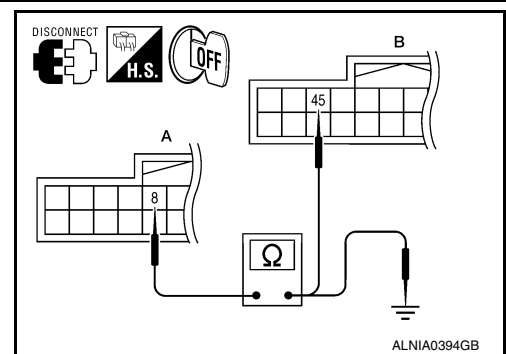
### Diagnosis Procedure

INFOID:000000009471361

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1. CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M141 and AV control unit connector M154.
3. Check continuity between display unit harness connector M141 (A) terminal 8 and AV control unit harness connector M154 (B) terminal 45.



| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 8        | M154      | 45       | Yes        |

4. Check continuity between display unit harness connector M141 (A) terminal 8 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 8        | Ground | No         |

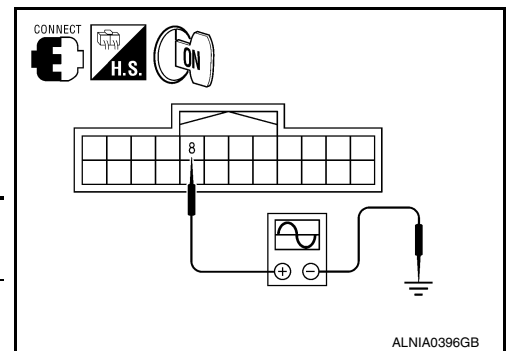
Are continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

### 2. CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

1. Connect display unit connector M141 and AV control unit connector M154.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 8 and ground.



| (+)       |          | (-)    | Condition            | Reference signal |
|-----------|----------|--------|----------------------|------------------|
| Connector | Terminal |        |                      |                  |
| M141      | 8        | Ground | Receive audio signal |                  |

Are voltage readings as specified?

YES >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).

# HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

NO >> Replace display unit. Refer to [AV-484. "Removal and Installation"](#).

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# VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

### Description

INFOID:000000009471362

In composite image (AUX image, camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to AV control unit so as to synchronize the RGB images displayed with AV control unit, such as the image quality adjusting menu, etc.

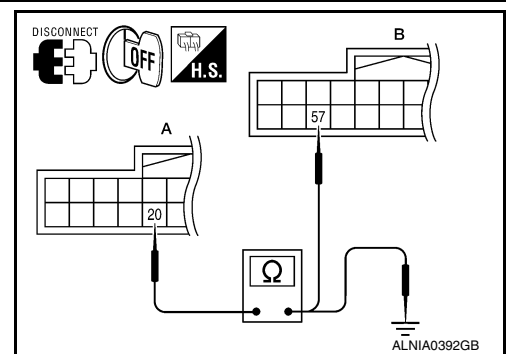
### Diagnosis Procedure

INFOID:000000009471363

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1. CHECK CONTINUITY VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M141 and AV control unit connector M154.
3. Check continuity between display unit harness connector M141 (A) terminal 20 and AV control unit harness connector M154 (B) terminal 57.



| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M141      | 20       | M154      | 57       | Yes        |

4. Check continuity between display unit harness connector M141 (A) terminal 20 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M141      | 20       | Ground | No         |

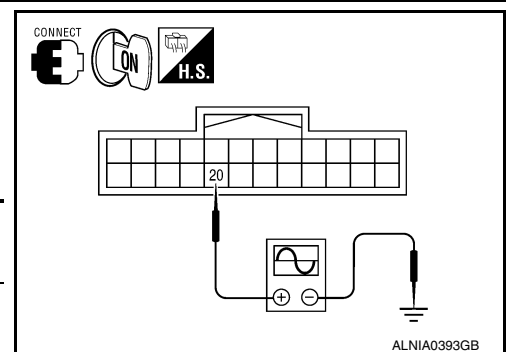
Are continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

### 2. CHECK VERTICAL SYNCHRONIZING (VP) SIGNAL

1. Connect display unit connector M141 and AV control unit connector M154.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M141 terminal 20 and ground.



| (+) Connector |    | (-) Terminal | Condition            | Reference signal |
|---------------|----|--------------|----------------------|------------------|
| M141          | 20 | Ground       | Receive audio signal |                  |

Are voltage readings as specified?

YES >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).

# VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

NO >> Replace display unit. Refer to [AV-484. "Removal and Installation"](#).

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# FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## FRONT DOOR SPEAKER

### Description

INFOID:000000009471364

The AV control unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the front door speakers using the audio signal circuits.

### Diagnosis Procedure

INFOID:000000009471365

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

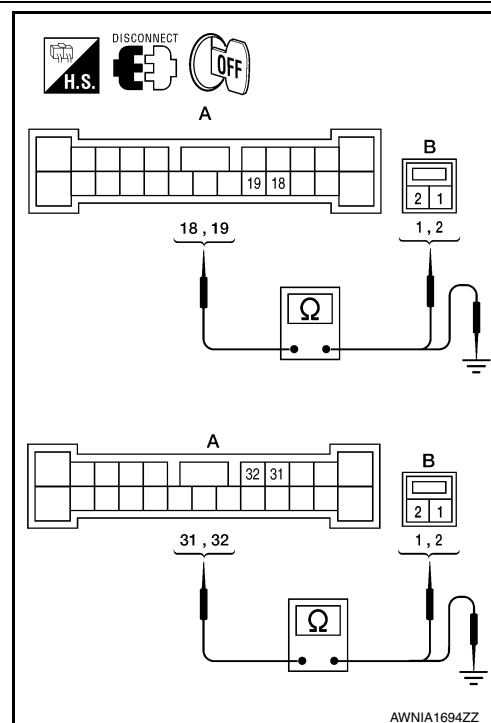
### 2.HARNESS CHECK

1. Disconnect BOSE speaker amp. connector B109 and suspect speaker connector.
2. Check continuity between BOSE speaker amp. harness connector B109 (A) and suspect speaker harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B109      | 18       | D3        | 1        | Yes        |
|           | 19       |           | 2        |            |
|           | 31       | D103      | 1        |            |
|           | 32       |           | 2        |            |

3. Check continuity between BOSE speaker amp. harness connector B109 (A) and ground.

| A         |          | B      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B109      | 18       | Ground | No         |
|           | 19       |        |            |
|           | 31       |        |            |
|           | 32       |        |            |



Are continuity test results as specified?

YES >> GO TO 3.

- NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

### 3.FRONT DOOR SPEAKER SIGNAL CHECK

# FRONT DOOR SPEAKER

[COLOR DISPLAY - W/ BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

1. Connect BOSE speaker amp. connector B109 and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connector B109 terminals with CONSULT or oscilloscope.

| Connector | Terminal |     | Condition            | Reference signal |
|-----------|----------|-----|----------------------|------------------|
|           | (+)      | (-) |                      |                  |
| B109      | 18       | 19  | Receive audio signal |                  |
|           | 31       | 32  |                      |                  |

Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to [AV-490. "Removal and Installation"](#).

NO >> GO TO 4.

## 4. HARNESS CHECK

1. Disconnect AV control unit connector M157 and BOSE speaker amp. connector B109.
2. Check continuity between AV control unit harness connector M157 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M157      | 113      | B109      | 35       | Yes        |
|           | 119      |           | 36       |            |
|           | 109      |           | 33       |            |
|           | 115      |           | 34       |            |

3. Check continuity between AV control unit harness connector M157 (A) and ground.

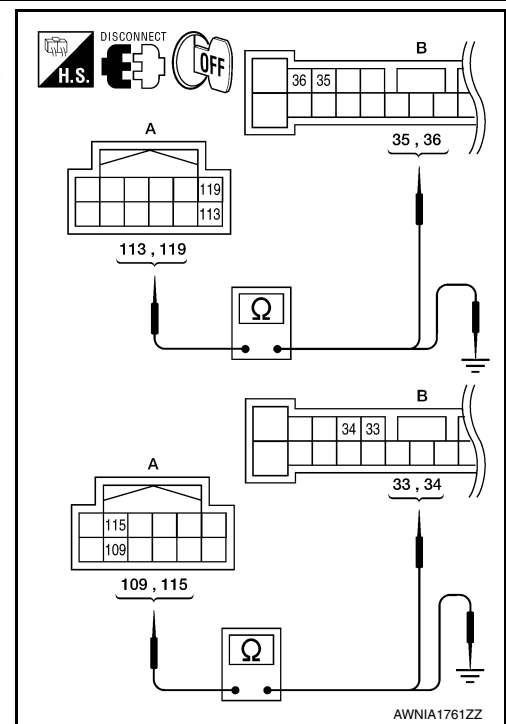
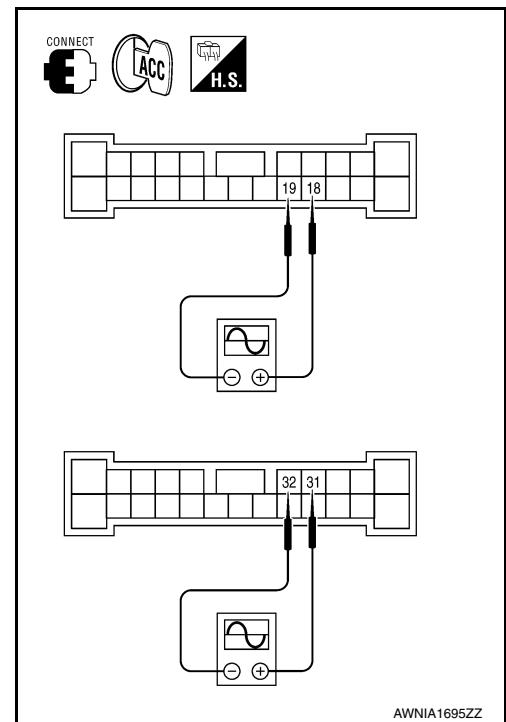
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M157      | 113      | Ground | No         |
|           | 119      |        |            |
|           | 109      |        |            |
|           | 115      |        |            |

Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 5. FRONT DOOR SPEAKER SIGNAL CHECK



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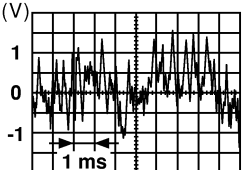
AV

# FRONT DOOR SPEAKER

[COLOR DISPLAY - W/ BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

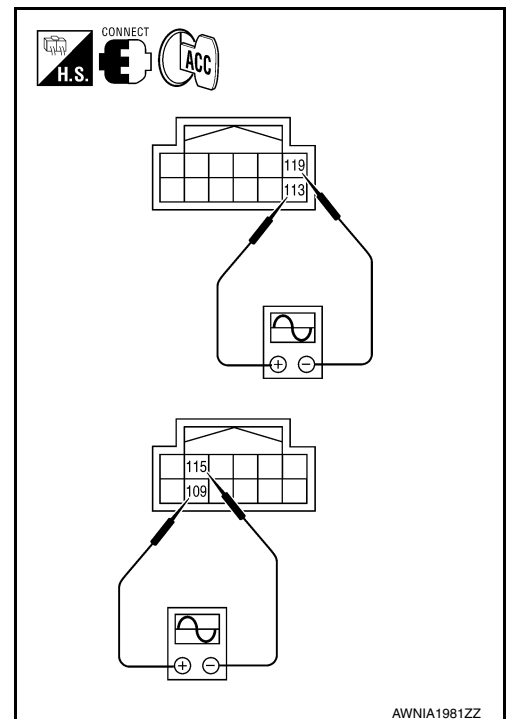
1. Connect AV control unit connector and BOSE speaker amp. connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between AV control unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal  |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| M157      | 113       | 119 | Receive audio signal |  |
|           | 109       | 115 |                      |   |

SKIA0177E

Are the audio signal voltage readings as specified?

- YES >> Replace BOSE speaker amp. Refer to [AV-493, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).





TWEETER

Description

INFOID:000000009471366

The AV control unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the tweeters using the audio signal circuits.

Diagnosis Procedure

INFOID:000000009471367

Regarding Wiring Diagram information, refer to [AV-449. "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

- YES >> GO TO 2
- NO >> Repair the terminal and connector.

2.HARNES CHECK

1. Disconnect BOSE speaker amp. connector B110 and suspect tweeter connector.
2. Check continuity between BOSE speaker amp. harness connector B110 (A) and suspect tweeter harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B110      | 1        | M51       | 1        | Yes        |
|           | 2        |           | 2        |            |
|           | 4        | M52       | 1        |            |
|           | 3        |           | 2        |            |

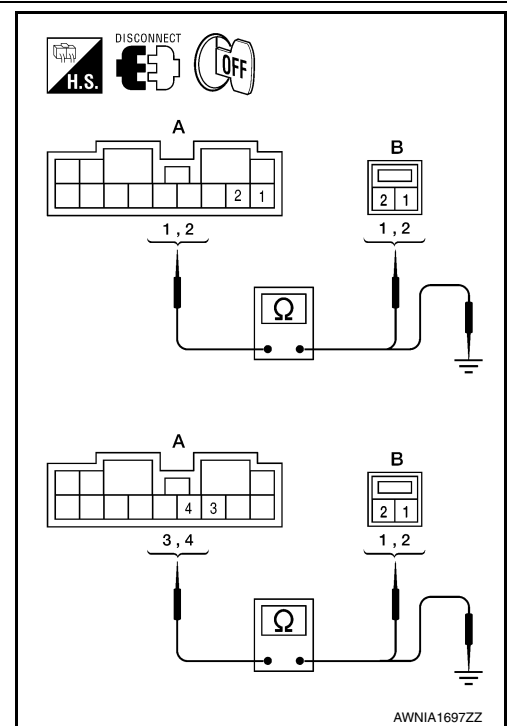
3. Check continuity between BOSE speaker amp. harness connector B110 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B110      | 1        | Ground | No         |
|           | 2        |        |            |
|           | 4        |        |            |
|           | 3        |        |            |

Are continuity test results as specified?

- YES >> GO TO 3.
- NO >> • Check connector housings for disconnected or loose terminals.
- Repair harness or connector.

3.TWEETER SIGNAL CHECK



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AV

# TWEETER

## < DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

1. Connect BOSE speaker amp. connector B110 and suspect tweeter connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connector B110 terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal |
|-----------|-----------|-----|----------------------|------------------|
|           | (+)       | (-) |                      |                  |
| B110      | 1         | 2   | Receive audio signal |                  |
|           | 4         | 3   |                      |                  |

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace suspect tweeter. Refer to [AV-488, "Removal and Installation"](#).

NO >> GO TO 4.

## 4. HARNESS CHECK

1. Disconnect AV control unit connector M157 and BOSE speaker amp. connector B109.
2. Check continuity between AV control unit harness connector M157 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M157      | 113      | B109      | 35       | Yes        |
|           | 119      |           | 36       |            |
|           | 109      |           | 33       |            |
|           | 115      |           | 34       |            |

3. Check continuity between AV control unit harness connector M157 (A) and ground.

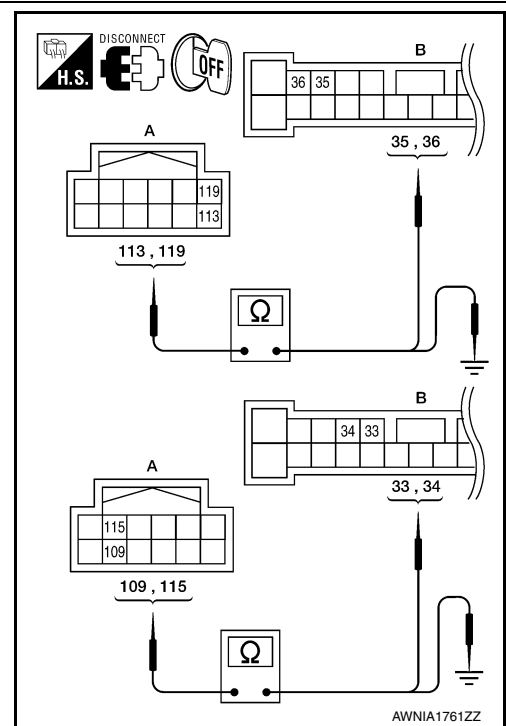
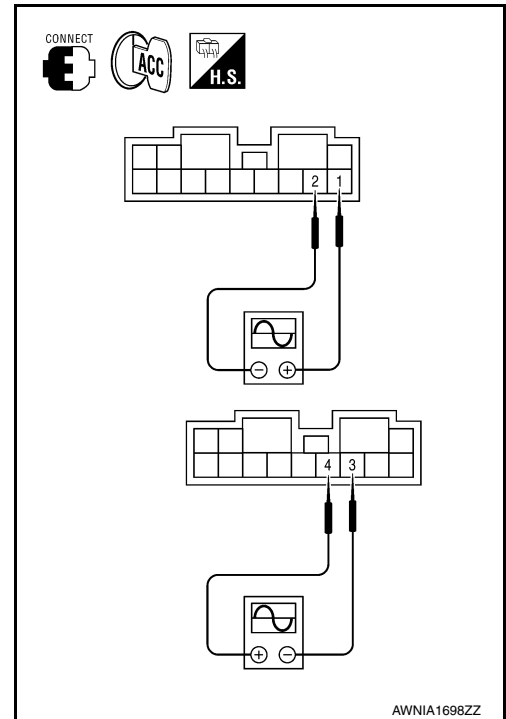
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M157      | 113      | Ground | No         |
|           | 119      |        |            |
|           | 109      |        |            |
|           | 115      |        |            |

Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 5. TWEETER SIGNAL CHECK

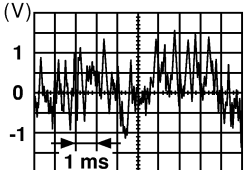


# TWEETER

## < DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

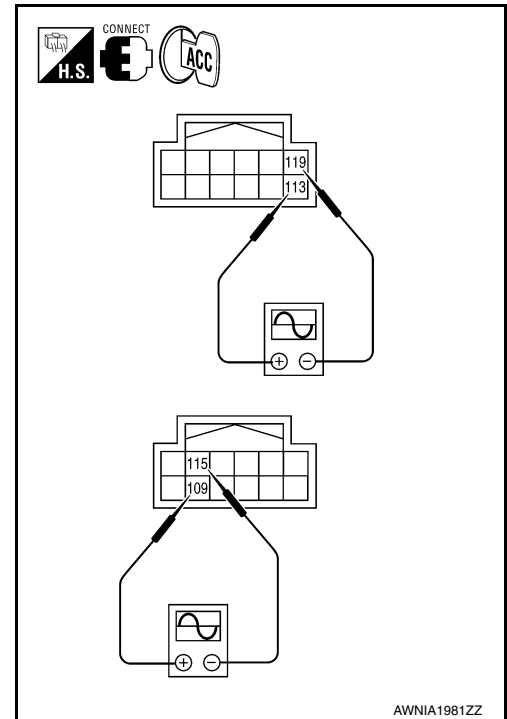
1. Connect AV control unit connector and BOSE speaker amp. connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between AV control unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal  |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| M157      | 113       | 119 | Receive audio signal |  |
|           | 109       | 115 |                      |   |

SKIA0177E

Are the audio signal voltage readings as specified?

- YES >> Replace BOSE speaker amp. Refer to [AV-493, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).



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# CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## CENTER SPEAKER

### Description

INFOID:000000009471368

The AV control unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the center speaker using the audio signal circuits.

### Diagnosis Procedure

INFOID:000000009471369

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

### 2.HARNES CHECK

1. Disconnect BOSE speaker amp. connector B109 and center speaker connector M130.
2. Check continuity between BOSE speaker amp. harness connector B109 (A) and center speaker harness connector M130 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B109      | 29       | M130      | 1        | Yes        |
|           | 30       |           | 2        |            |

3. Check continuity between BOSE speaker amp. harness connector B109 (A) and ground.

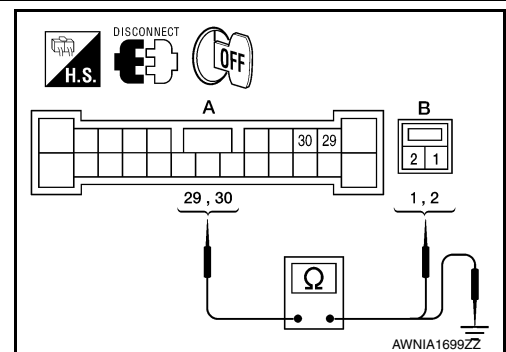
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B109      | 29       | Ground | No         |
|           | 30       |        |            |

Are continuity test results as specified?

YES >> GO TO 3.

- NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

### 3.CENTER SPEAKER SIGNAL CHECK

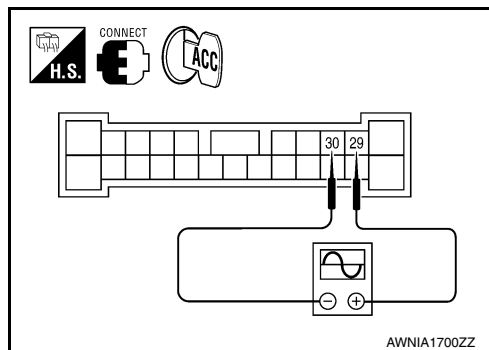


# CENTER SPEAKER

[COLOR DISPLAY - W/ BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

1. Connect BOSE speaker amp. connector B109 and center speaker connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connector B109 terminals with CONSULT or oscilloscope.



| Connector | Terminals |     | Condition            | Reference signal |
|-----------|-----------|-----|----------------------|------------------|
|           | (+)       | (-) |                      |                  |
| B109      | 29        | 30  | Receive audio signal | <p>SKIA0177E</p> |

Is the audio signal voltage reading as specified?

- YES >> Replace center speaker. Refer to [AV-489. "Removal and Installation"](#).  
 NO >> GO TO 4.

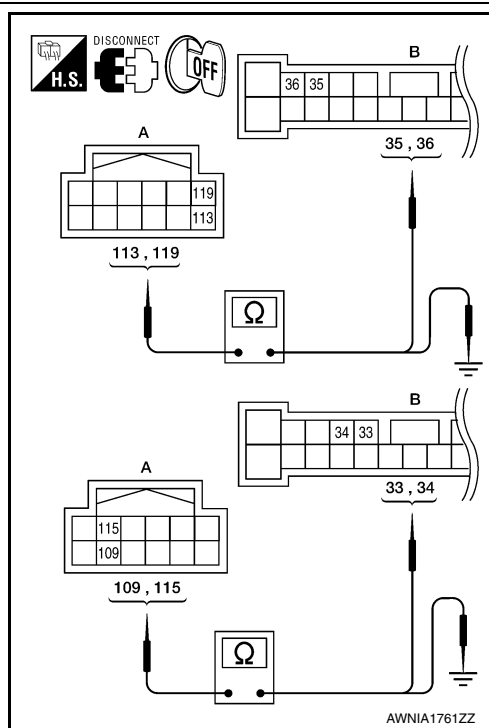
## 4. HARNESS CHECK

1. Disconnect AV control unit connector M157 and BOSE speaker amp. connector B109.
2. Check continuity between AV control unit harness connector M157 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M157      | 113      | B109      | 35       | Yes        |
|           | 119      |           | 36       |            |
|           | 109      |           | 33       |            |
|           | 115      |           | 34       |            |

3. Check continuity between AV control unit harness connector M157 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M157      | 113      | Ground | No         |
|           | 119      |        |            |
|           | 109      |        |            |
|           | 115      |        |            |



Are continuity test results as specified?

- YES >> GO TO 5.  
 NO >> • Check connector housings for disconnected or loose terminals.  
 • Repair harness or connector.

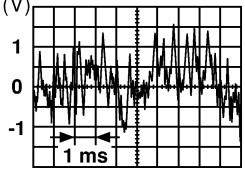
## 5. CENTER SPEAKER SIGNAL CHECK

# CENTER SPEAKER

## < DTC/CIRCUIT DIAGNOSIS >

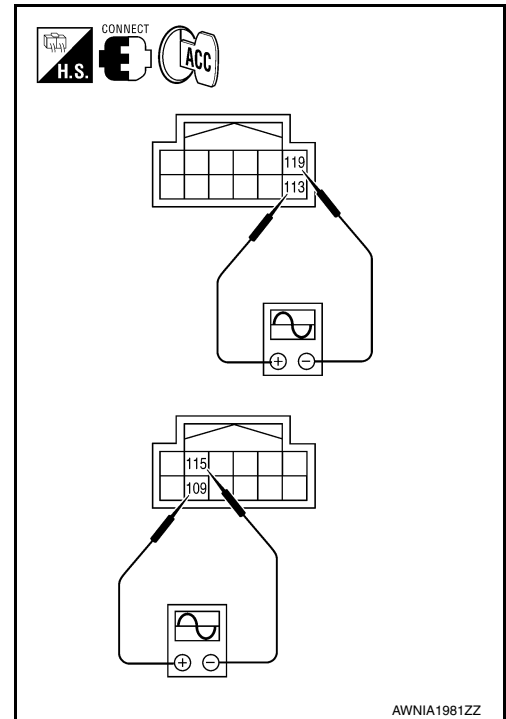
[COLOR DISPLAY - W/ BOSE]

1. Connect AV control unit connector and BOSE speaker amp. connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between AV control unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal  |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| M157      | 113       | 119 | Receive audio signal | <br><small>SKIA0177E</small> |
|           | 109       | 115 |                      |   |

Are the audio signal voltage readings as specified?

- YES >> Replace BOSE speaker amp. Refer to [AV-493, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).



# REAR DOOR SPEAKER

[COLOR DISPLAY - W/ BOSE]

< DTC/CIRCUIT DIAGNOSIS >

## REAR DOOR SPEAKER

### Description

INFOID:000000009471370

The AV control unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the rear door speakers using the audio signal circuits.

### Diagnosis Procedure

INFOID:000000009471371

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

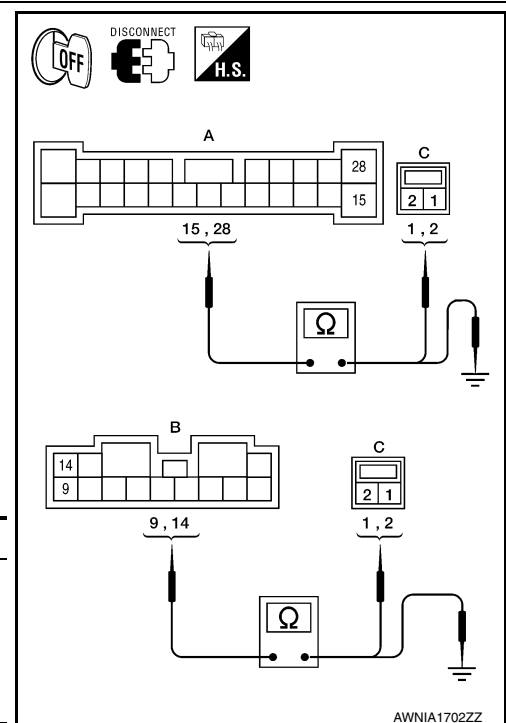
### 2.HARNES CHECK

1. Disconnect BOSE speaker amp. connectors B109, B110 and suspect speaker connector.
2. Check continuity between BOSE speaker amp. harness connectors B109 (A) and B110 (B) and suspect speaker harness connector (C).

| Connector | Terminal | Connector | Terminal | Continuity |
|-----------|----------|-----------|----------|------------|
| A: B109   | 15       | C: D202   | 2        | Yes        |
|           | 28       |           | 1        |            |
| B: B110   | 9        | C: D302   | 2        |            |
|           | 14       |           | 1        |            |

3. Check continuity between BOSE speaker amp. harness connectors B109 (A) and B110 (B) and ground.

| Connector | Terminal | -      | Continuity |
|-----------|----------|--------|------------|
| A: B109   | 15       | Ground | No         |
|           | 28       |        |            |
| B: B110   | 9        |        |            |
|           | 14       |        |            |



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Are the continuity test results as specified?

YES >> GO TO 3.

- NO >>
- Check connector housings for disconnected or loose terminals.
  - Repair harness or connector.

### 3.REAR DOOR SPEAKER SIGNAL CHECK

# REAR DOOR SPEAKER

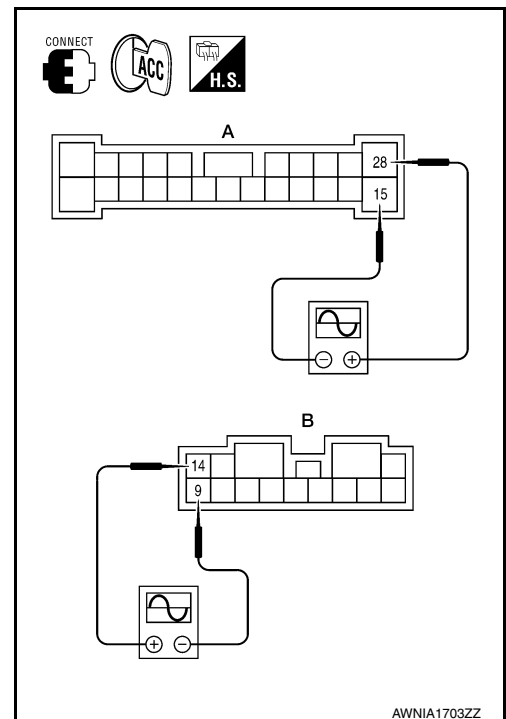
[COLOR DISPLAY - W/ BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

1. Connect BOSE speaker amp. connectors and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connectors B109 (A) and B110 (B) terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal |
|-----------|-----------|-----|----------------------|------------------|
|           | (+)       | (-) |                      |                  |
| A: B109   | 28        | 15  | Receive audio signal |                  |
| B: B110   | 14        | 9   |                      |                  |

SKIA0177E



Are audio signal voltage readings as specified?

- YES >> Replace suspect speaker. Refer to [AV-491, "Removal and Installation"](#).
- NO >> GO TO 4.

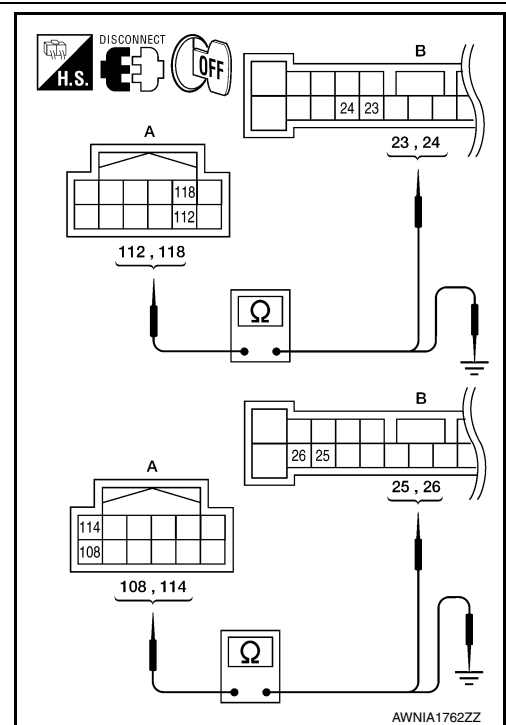
## 4. HARNESS CHECK

1. Disconnect AV control unit connector M157 and BOSE speaker amp. connector B109.
2. Check continuity between AV control unit harness connector M157 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M157      | 112      | B109      | 24       | Yes        |
|           | 118      |           | 23       |            |
|           | 108      |           | 26       |            |
|           | 114      |           | 25       |            |

3. Check continuity between AV control unit harness connector M157 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M157      | 112      | Ground | No         |
|           | 118      |        |            |
|           | 108      |        |            |
|           | 114      |        |            |



Are the continuity test results as specified?

- YES >> GO TO 5.
- NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 5. REAR DOOR SPEAKER SIGNAL CHECK

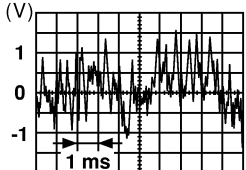


# REAR DOOR SPEAKER

## < DTC/CIRCUIT DIAGNOSIS >

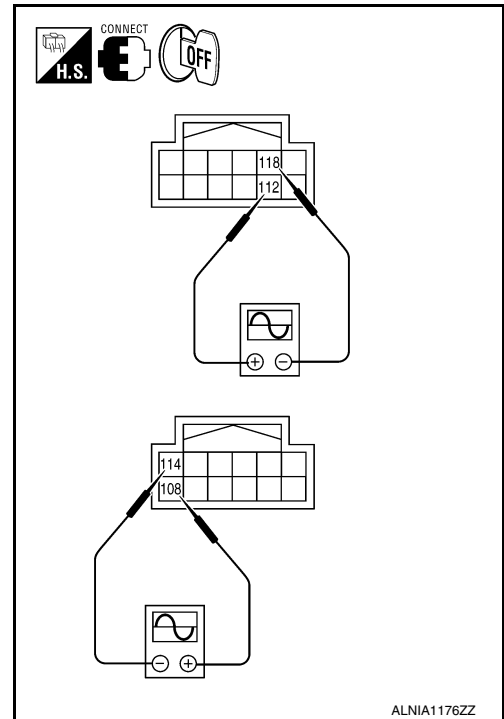
[COLOR DISPLAY - W/ BOSE]

1. Connect AV control unit connector M157 and BOSE speaker amp. connector B109.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between AV control unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal  |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| M157      | 112       | 118 | Receive audio signal |  <p style="text-align: right; font-size: small;">SKIA0177E</p> |
|           | 108       | 114 |                      |   |

Is the audio signal voltage reading as specified?

- YES >> Replace BOSE speaker amp. Refer to [AV-493, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).



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# SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## SUBWOOFER

### Description

INFOID:00000009471372

The AV control unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the subwoofers using the audio signal circuits.

### Diagnosis Procedure

INFOID:00000009471373

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

## 1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and subwoofer connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

## 2.HARNES CHECK

1. Disconnect BOSE speaker amp. connector B110 and suspect rear subwoofer connector.
2. Check continuity between BOSE speaker amp. harness connector B110 (A) and suspect rear subwoofer harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B110      | 13       | B106      | 1        | Yes        |
|           | 8        |           | 2        |            |
|           | 5        | B107      | 1        |            |
|           | 6        |           | 2        |            |

3. Check continuity between BOSE speaker amp. harness connector B110 (A) and ground.

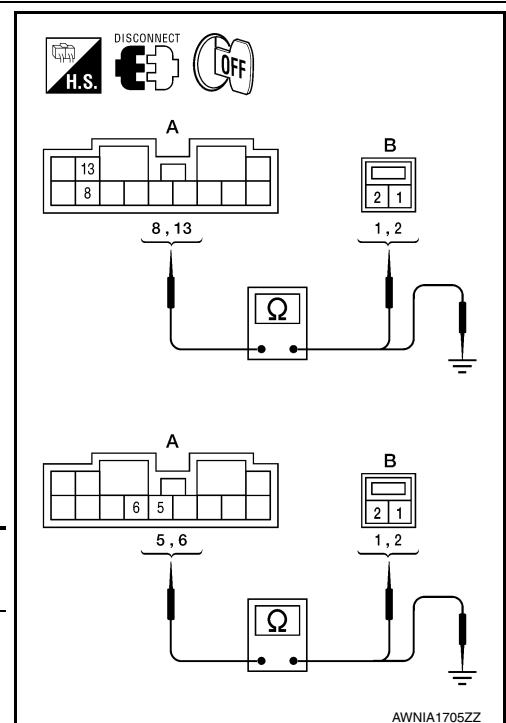
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B110      | 13       | Ground | No         |
|           | 8        |        |            |
|           | 5        |        |            |
|           | 6        |        |            |

Are the continuity test results as specified?

YES >> GO TO 3.

- NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 3.REAR SUBWOOFER SIGNAL CHECK



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# SUBWOOFER

## < DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

1. Connect BOSE speaker amp. connector B110 and suspect rear subwoofer connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connector B110 terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal |
|-----------|-----------|-----|----------------------|------------------|
|           | (+)       | (-) |                      |                  |
| B110      | 13        | 8   | Receive audio signal |                  |
|           | 5         | 6   |                      |                  |

SKIA0177E

Is the audio signal voltage as specified?

YES >> Replace suspect rear subwoofer. Refer to [AV-492](#), "[Removal and Installation](#)".

NO >> GO TO 4.

## 4. HARNESS CHECK

1. Disconnect AV control unit connector M157 and BOSE speaker amp. connector B109.
2. Check continuity between AV control unit harness connector M157 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M157      | 112      | B109      | 24       | Yes        |
|           | 118      |           | 23       |            |
|           | 108      |           | 26       |            |
|           | 114      |           | 25       |            |

3. Check continuity between AV control unit harness connector M157 (A) terminal and ground.

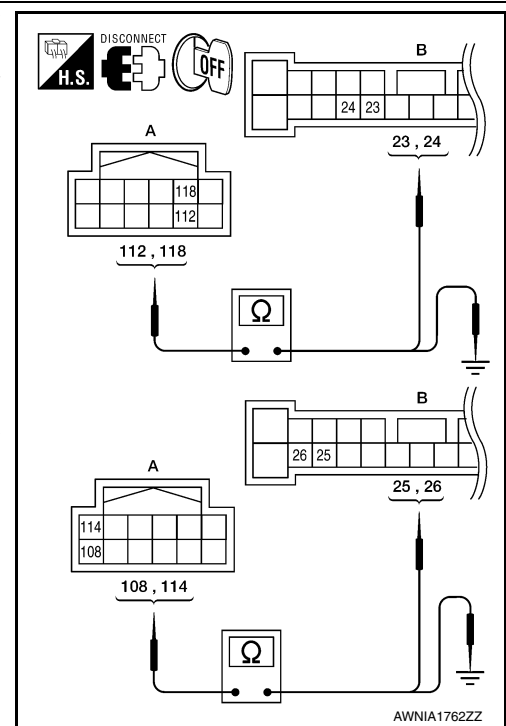
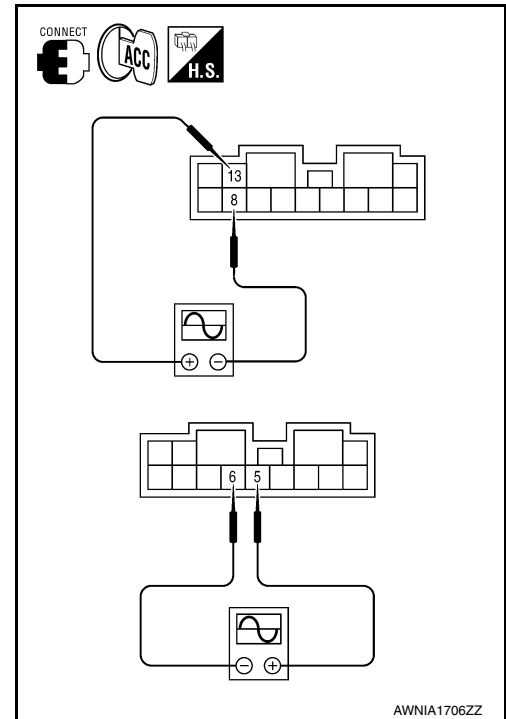
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M157      | 112      | Ground | No         |
|           | 118      |        |            |
|           | 108      |        |            |
|           | 114      |        |            |

Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 5. REAR SUBWOOFER SIGNAL CHECK



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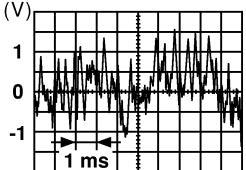
AV

# SUBWOOFER

## < DTC/CIRCUIT DIAGNOSIS >

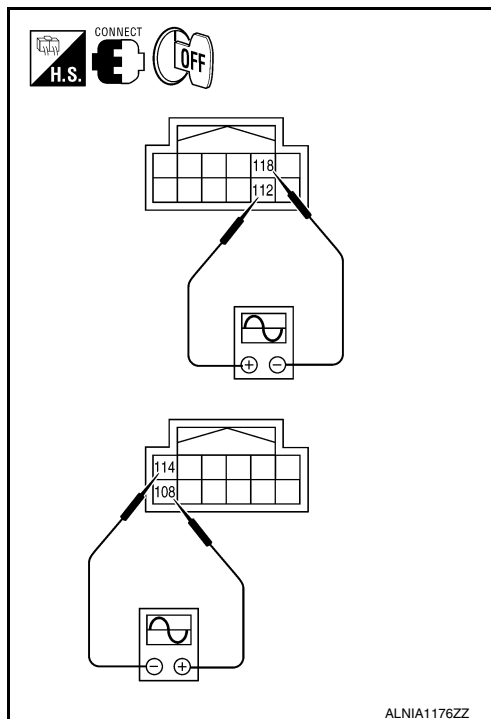
[COLOR DISPLAY - W/ BOSE]

1. Connect AV control unit connector M157 and BOSE speaker amp. connector B109.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between AV control unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal  |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| M157      | 112       | 118 | Receive audio signal |  <p style="text-align: right; font-size: small;">SKIA0177E</p> |
|           | 108       | 114 |                      |   |

**Is the audio signal voltage as specified?**

- YES >> Replace BOSE speaker amp. Refer to [AV-493, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).



# AMP ON SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## AMP ON SIGNAL CIRCUIT

### Description

INFOID:000000009471374

When the audio system is turned on, a voltage signal is supplied from the AV control unit to the BOSE speaker amp. When this signal is received, the BOSE speaker amp. will turn on.

### Diagnosis Procedure

INFOID:000000009471375

Regarding Wiring Diagram information, refer to [AV-449. "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

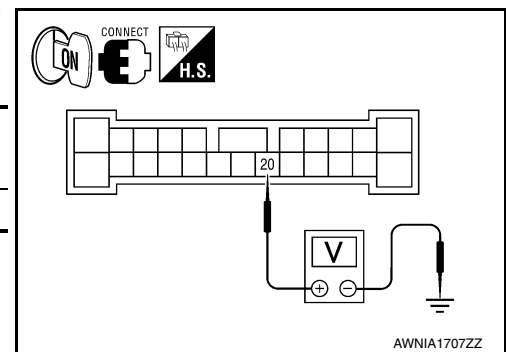
### 1. CHECK AMP ON SIGNAL (BOSE SPEAKER AMP)

1. Turn audio system ON.
2. Check voltage between BOSE speaker amp. harness connector B109 terminal 20 and ground.

| (+)       |          | (-)    | Voltage (Approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| B109      | 20       | Ground | Battery voltage   |

Is inspection result normal?

- YES >> Inspection End.  
NO >> GO TO 2.



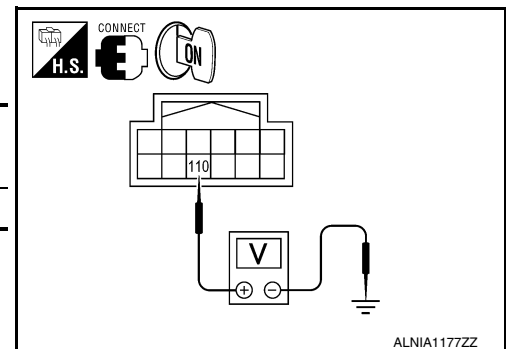
### 2. CHECK AMP ON SIGNAL (AV CONTROL UNIT)

Check voltage between AV control unit harness connector M157 terminal 110 and ground.

| (+)       |          | (-)    | Voltage (Approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| M157      | 110      | Ground | Battery voltage   |

Is inspection result normal?

- YES >> Repair harness or connector.  
NO >> Replace AV control unit. Refer to [AV-481. "Removal and Installation"](#).



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# STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## STEERING SWITCH

### Description

INFOID:000000009471376

When one of the steering wheel audio control switches is pushed, the resistance in the steering wheel audio control switch circuit changes, depending on which button is pushed.





### Diagnosis Procedure

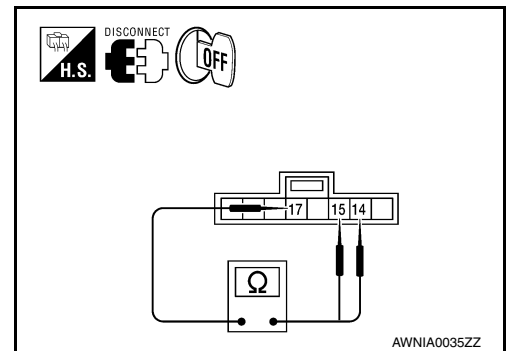
INFOID:000000009471377

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1. CHECK STEERING SWITCH RESISTANCE

1. Disconnect steering switch connector M88.
2. Check resistance between steering switch connector terminals.

| Terminal | Signal name   | Condition   | Resistance (Ω) (Approx.) |
|----------|---------------|---|--------------------------|
| 14       | Volume (down) | Depress volume DOWN switch.   | 0                        |
|          | Volume (up)   | Depress volume UP switch.   | 121                      |
|          | Phone/End     | Depress  switch.   | 321                      |
| 15       | Source        | Depress SOURCE switch.  | 0                        |
|          | Seek (up)     | Depress  switch. | 121                      |
|          | Seek (down)   | Depress  switch. | 321                      |
|          | Phone/Send    | Depress  switch. | 723                      |



#### Do the steering switches check OK?

- YES >> GO TO 2.  
 NO >> Replace steering switch. Refer to [AV-496, "Removal and Installation"](#).

### 2. CHECK HARNESS BETWEEN COMBINATION SWITCH(SPIRAL CABLE) AND AV CONTROL UNIT

1. Disconnect AV control unit connector M152.
2. Check continuity between AV control unit harness connector M152 and combination switch(spiral cable) harness connector M30.

| Connector | Terminal | Connector | Terminal | Continuity |
|-----------|----------|-----------|----------|------------|
| M152      | 6        | M30       | 24       | Yes        |
|           | 16       |           | 31       |            |
|           | 15       |           | 33       |            |

3. Check continuity between AV control unit connector M152 and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| M152      | 6        | Ground | No         |
|           | 16       |        |            |
|           | 15       |        |            |

#### Are the continuity results as specified?

- YES >> GO TO 3.  
 NO >> Repair harness.

# STEERING SWITCH

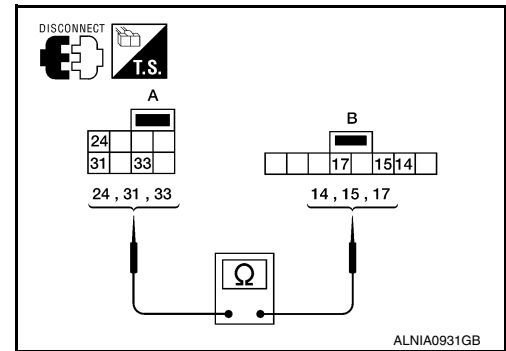
< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## 3.COMBINATION SWITCH(SPIRAL CABLE) CHECK

1. Disconnect combination switch(spiral cable) connector M88.
2. Check continuity between combination switch(spiral cable) harness connector M30 (A) and M88 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M30       | 24       | M88       | 14       | Yes        |
|           | 31       |           | 15       |            |
|           | 33       |           | 17       |            |



Does the combination switch(spiral cable) check OK?

YES >> Inspection End.

NO >> Replace combination switch(spiral cable). Refer to [SR-15, "Removal and Installation"](#).

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# COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## COMMUNICATION SIGNAL CIRCUIT

### SATELLITE RADIO TUNER

#### SATELLITE RADIO TUNER : Description

INFOID:000000009471378

Communication signals are exchanged between the AV control unit and satellite radio tuner using the communication circuits.

#### SATELLITE RADIO TUNER : Diagnosis Procedure

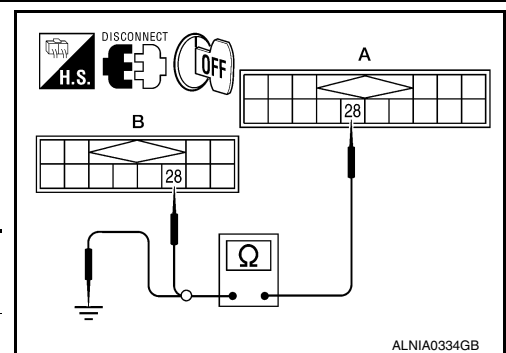
INFOID:000000009471379

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1.CHECK HARNESS - 1

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector B111 and AV control unit connector M153.
3. Check continuity between satellite radio tuner (factory installed) harness connector B111 (A) terminal 28 and AV control unit harness connector M153 (B) terminal 28.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B111      | 28       | M153      | 28       | Yes        |



4. Check continuity between satellite radio tuner (factory installed) harness connector B111 (A) terminal 28 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B111      | 28       | Ground | No         |

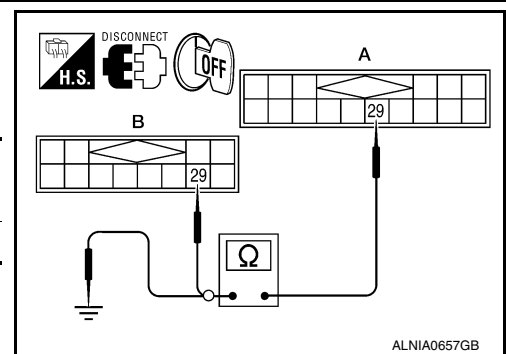
Are continuity results as specified?

- YES >> GO TO 2.  
 NO >> Repair harness or connector.

### 2.CHECK HARNESS - 2

1. Check continuity between satellite radio tuner (factory installed) harness connector B111 (A) terminal 29 and AV control unit harness connector M153 (B) terminal 29.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B111      | 29       | M153      | 29       | Yes        |



2. Check continuity between satellite radio tuner (factory installed) harness connector B111 (A) terminal 29 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B111      | 29       | Ground | No         |

Are continuity results as specified?

- YES >> GO TO 3.  
 NO >> Repair harness or connector.



# COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## 3. CHECK HARNESS - 3

1. Check continuity between satellite radio tuner (factory installed) harness connector B111 (A) terminal 30 and AV control unit harness connector M153 (B) terminal 30.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B111      | 30       | M153      | 30       | Yes        |

2. Check continuity between satellite radio tuner (factory installed) harness connector B111 (A) terminal 30 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B111      | 30       | Ground | No         |

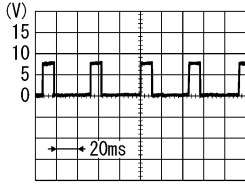
Are continuity results as specified?

YES >> GO TO 4.

NO >> Repair harness or connector.

## 4. CHECK REQ1 SIGNAL

1. Connect satellite radio tuner (factory installed) connector and AV control unit connector.
2. Turn ignition switch to ACC.
3. Check signal between satellite radio tuner (factory installed) harness connector B111 terminal 28 and ground with CONSULT or oscilloscope.

| (+) Connector |          | Terminal | (-)  | Reference signal |
|---------------|----------|----------|--|------------------|
| Connector     | Terminal |          |  |                  |
| B111          | 28       | Ground   |  <p>SKIB3825E</p> |                  |

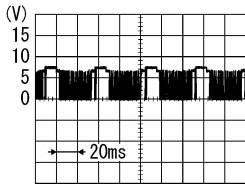
Are voltage readings as specified?

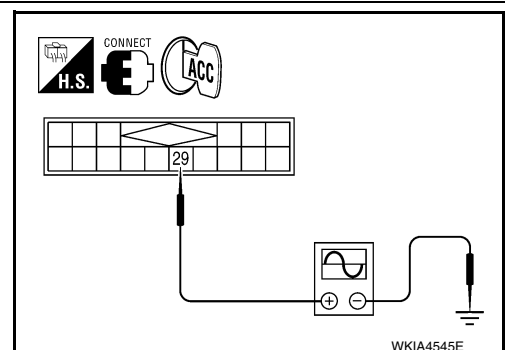
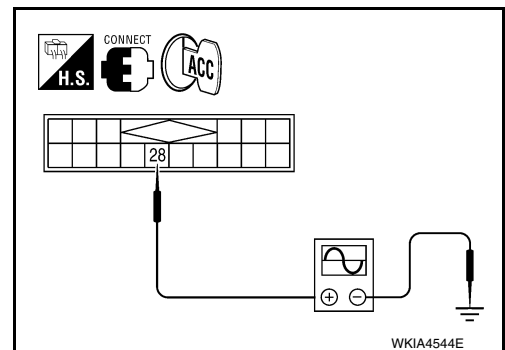
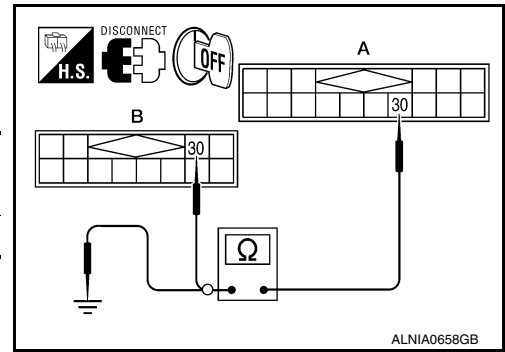
YES >> GO TO 5.

NO >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).

## 5. CHECK TXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector B111 terminal 29 and ground with CONSULT or oscilloscope.

| (+) Connector |          | Terminal | (-)  | Reference signal |
|---------------|----------|----------|--|------------------|
| Connector     | Terminal |          |  |                  |
| B111          | 29       | Ground   |  <p>SKIB3824E</p> |                  |



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AV

# COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

Are the voltage readings as specified?

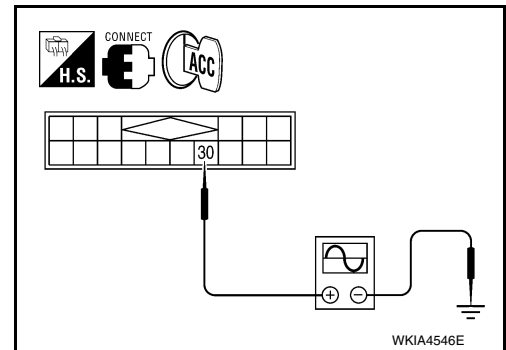
YES >> GO TO 6.

NO >> Replace satellite radio tuner. Refer to [AV-494, "Removal and Installation"](#).

## 6. CHECK RXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector B111 terminal 30 and ground with CONSULT or oscilloscope.

| (+)       |          | (-)    | Reference signal |
|-----------|----------|--------|------------------|
| Connector | Terminal |        |                  |
| B111      | 30       | Ground |                  |



Are the voltage readings as specified?

YES >> Replace satellite radio tuner. Refer to [AV-494, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).

# SOUND SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## SOUND SIGNAL CIRCUIT SATELLITE RADIO TUNER

### SATELLITE RADIO TUNER : Description

INFOID:000000009471380

Left and right channel audio signals are supplied from the satellite radio tuner to the AV control unit through the sound signal circuits.

### SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000009471381

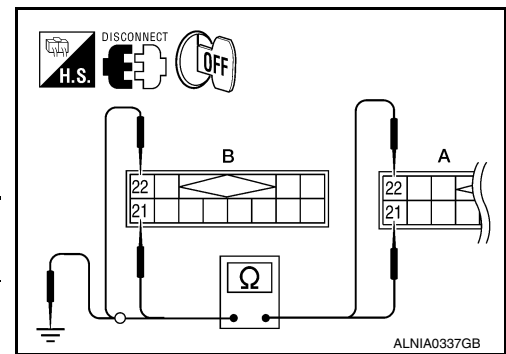
Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

#### LEFT CHANNEL

##### 1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector B111 and AV control unit connector M153.
3. Check continuity between satellite radio tuner (factory installed) connector B111 (A) and AV control unit connector M153 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B111      | 21       | M153      | 21       | Yes        |
|           | 22       |           | 22       |            |



4. Check continuity between satellite radio tuner (factory installed) connector B111 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B111      | 21       | Ground | No         |
|           | 22       |        |            |

Are continuity results as specified?

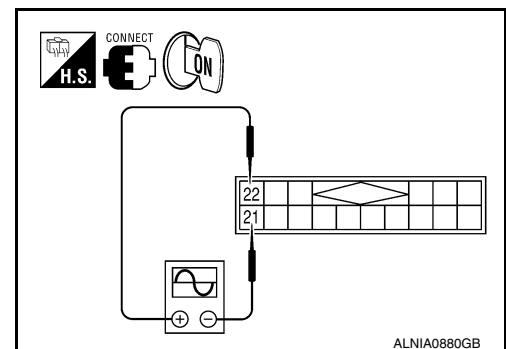
YES >> GO TO 2.

NO >> Repair harness or connector.

##### 2. CHECK LEFT CHANNEL AUDIO SIGNAL

1. Connect satellite radio tuner (factory installed) and AV control unit.
2. Turn ignition switch ON.
3. Check signal between satellite radio tuner (factory installed) connector B111 terminals 21 and 22 with CONSULT or oscilloscope.

| (+)       |          | (-)       |          | Reference signal |
|-----------|----------|-----------|----------|------------------|
| Connector | Terminal | Connector | Terminal |                  |
| B111      | 22       | B111      | 21       |                  |



Are voltage readings as specified?

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AV

# SOUND SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

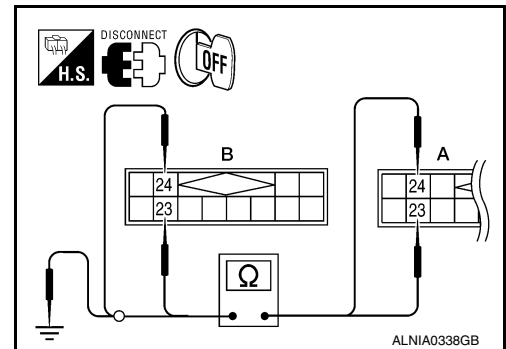
- YES >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).  
 NO >> Replace satellite radio tuner. Refer to [AV-494, "Removal and Installation"](#).

## RIGHT CHANNEL

### 1. CHECK HARNESS

- Turn ignition switch OFF.
- Disconnect satellite radio tuner (factory installed) connector B111 and AV control unit connector M153.
- Check continuity between satellite radio tuner (factory installed) B111 (A) and AV control unit M153 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B111      | 23       | M153      | 23       | Yes        |
|           | 24       |           | 24       |            |



- Check continuity between satellite radio tuner (factory installed) connector B111 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B111      | 23       | Ground | No         |
|           | 24       |        |            |

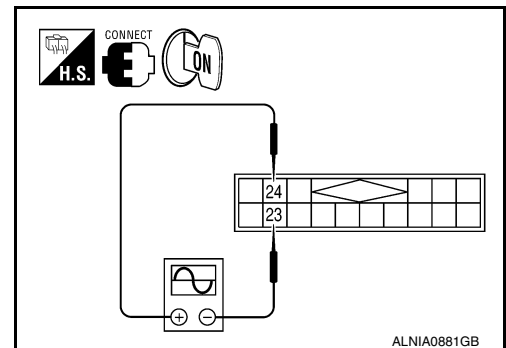
Are continuity results as specified?

- YES >> GO TO 2.  
 NO >> Repair harness or connector.

### 2. CHECK RIGHT CHANNEL AUDIO SIGNAL

- Connect satellite radio tuner (factory installed) and AV control unit.
- Turn ignition switch ON.
- Check signal between satellite radio tuner (factory installed) connector B111 terminals 23 and 24 with CONSULT or oscilloscope.

| (+)       |          | (-)       |          | Reference signal |
|-----------|----------|-----------|----------|------------------|
| Connector | Terminal | Connector | Terminal |                  |
| B111      | 24       | B111      | 23       |                  |



Are voltage readings as specified?

- YES >> Replace AV control unit. Refer to [AV-481, "Removal and Installation"](#).  
 NO >> Replace satellite radio tuner. Refer to [AV-494, "Removal and Installation"](#).

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## MICROPHONE SIGNAL CIRCUIT

### Description

INFOID:000000009471382

Voice signals are transmitted from the microphone to the Bluetooth® control unit using the microphone signal circuits.

### Diagnosis Procedure

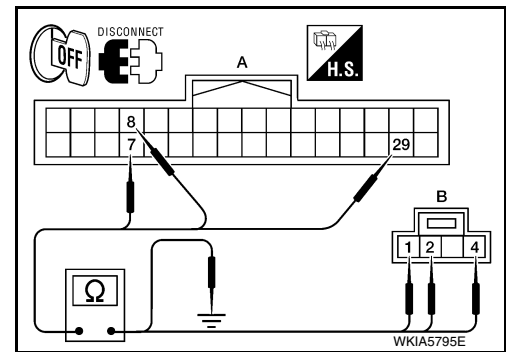
INFOID:000000009471383

Regarding Wiring Diagram information, refer to [AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"](#).

### 1. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector and microphone connector.
3. Check continuity between Bluetooth® control unit harness connector B131 (A) and microphone harness connector R7 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B131      | 7        | R7        | 1        | Yes        |
|           | 8        |           | 2        |            |
|           | 29       |           | 4        |            |



4. Check continuity between Bluetooth® control unit harness connector B131 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B131      | 7        | Ground | No         |
|           | 8        |        |            |
|           | 29       |        |            |

Are the continuity test results as specified?

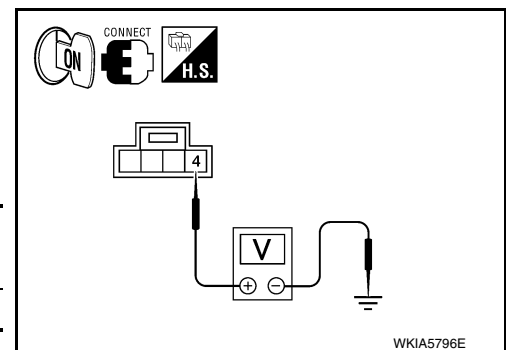
YES >> GO TO 2.

NO >> Repair harness or connector.

### 2. CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth® control unit connector and microphone connector.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector R7 terminal 4 and ground.

| (+)       |          | (-)    | Voltage (Approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| R7        | 4        | Ground | 5V                |



Is voltage reading approx. 5 volts?

YES >> GO TO 3.

NO >> Replace Bluetooth® control unit. Refer to [AV-503, "Removal and Installation"](#).

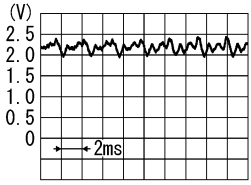
### 3. CHECK MICROPHONE SIGNAL

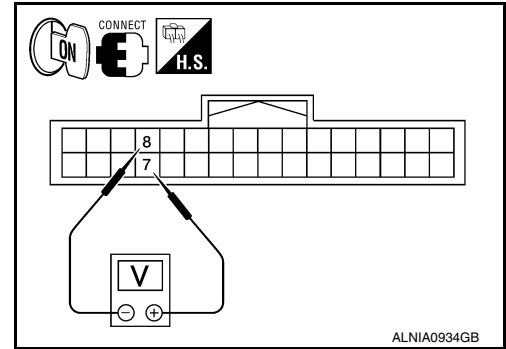
# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

Check signal between Bluetooth® control unit harness connector B131 terminals 7 and 8.

| Connector | (+)      | (-)      | Reference signal   |
|-----------|----------|----------|--|
|           | Terminal | Terminal |  |
| B131      | 7        | 8        | <p>While talking into microphone</p>  <p style="text-align: right;">PKIB5037J</p> |



Are voltage readings as specified?

- YES >> Replace Bluetooth® control unit. Refer to [AV-503. "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-501. "Removal and Installation"](#).

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/ BOSE]

## ECU DIAGNOSIS INFORMATION

### AV CONTROL UNIT

#### Reference Value

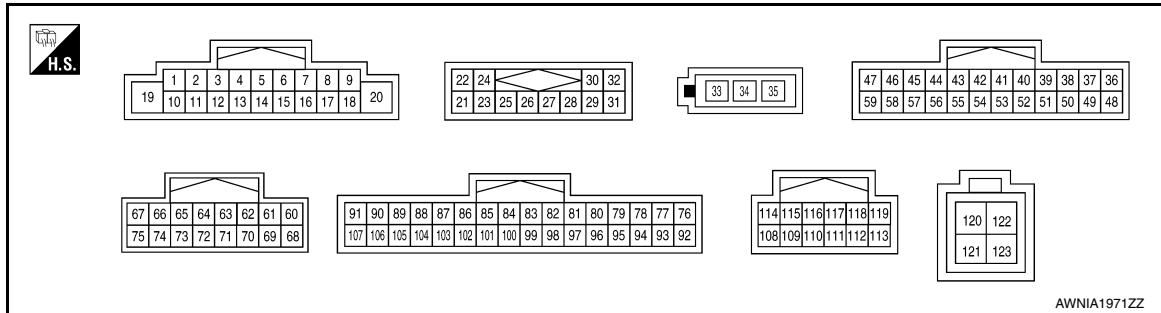
INFOID:000000009471384

#### VALUES ON THE DIAGNOSIS TOOL

CONSULT data monitor item

| Display Item | Display | Vehicle status  | Remarks   |
|--------------|---------|---|---|
| VHCL SPD SIG | ON      | Vehicle speed >0 km/h (0 MPH)   | Changes in indication may be delayed. This is normal. |
|              | OFF     | Vehicle speed =0 km/h (0 MPH)   |   |
| PKB SIG      | ON      | Parking brake is applied.   | Changes in indication may be delayed. This is normal. |
|              | OFF     | Parking brake is released.  |   |
| ILLUM SIG    | ON      | Block the light beam from the auto light optical sensor when the light SW is ON . | —   |
|              | OFF     | Expose the auto light optical sensor to light when the light SW is OFF or ON.     |   |
| IGN SIG      | ON      | Ignition switch ON  | —   |
|              | OFF     | Ignition switch in ACC position   |   |
| REV SIG      | ON      | Selector lever in R position  | Changes in indication may be delayed. This is normal. |
|              | OFF     | Selector lever in any position other than R                                       |   |

#### TERMINAL LAYOUT



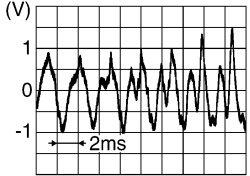
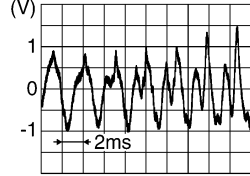
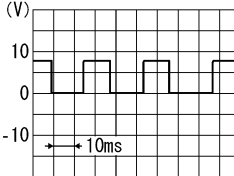
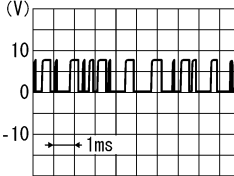
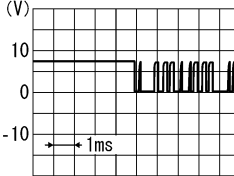
#### PHYSICAL VALUES

| Terminal (Wire color) |          | Description              |               | Condition           |                             | Reference value (Approx.) |
|-----------------------|----------|--------------------------|---------------|---------------------|-----------------------------|---------------------------|
| +                     | -        | Signal name              | Input/ Output |                     |                             |                           |
| 6 (W/G)               | 15 (L/B) | Steering switch signal A | Input         | ON                  | Depress volume DOWN switch. | 0.7V                      |
|                       |          |                          |               |                     | Depress volume UP switch.   | 1.3V                      |
|                       |          |                          |               |                     | Depress  switch.            | 2.0V                      |
|                       |          |                          |               |                     | Except for above.           | 3.3V                      |
| 7 (V/Y)               | Ground   | ACC power supply         | Input         | Ignition switch ACC | —                           | Battery voltage           |
| 9 (R/L)               | Ground   | Illumination signal      | Input         | OFF                 | Lighting switch is OFF.     | 0V                        |
|                       |          |                          |               |                     | Lighting switch is ON.      | Battery voltage           |

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/ BOSE]

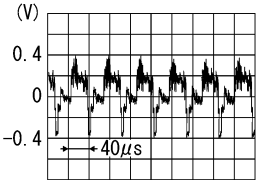
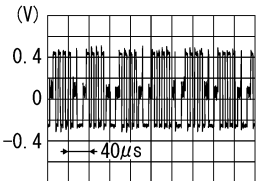
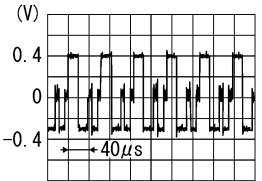
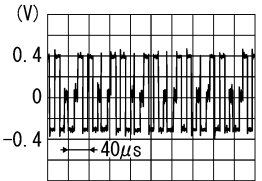
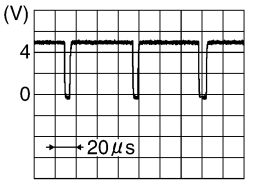
| Terminal<br>(Wire color) |                   | Description                        |                  | Condition                 |  | Reference value<br>(Approx.)  |
|--------------------------|-------------------|------------------------------------|------------------|---------------------------|--|---|
| +                        | -                 | Signal name                        | Input/<br>Output |                           |  |   |
| 16<br>(GR/L)             | 15<br>(L/B)       | Steering switch signal B           | Input            | ON                        | Depress SOURCE switch.                   | 0V  |
|                          |                   |                                    |                  |                           | Depress $\triangle$ switch.              | 0.7V  |
|                          |                   |                                    |                  |                           | Depress $\nabla$ switch.                 | 1.3V  |
|                          |                   |                                    |                  |                           | Depress  switch.                         | 2.0V  |
|                          |                   |                                    |                  |                           | Except for above.                        | 3.3V  |
| 19<br>(Y/R)              | Ground            | Battery power supply               | Input            | Ignition<br>switch<br>OFF | —  | Battery voltage   |
| 20<br>(B)                | Ground            | Ground                             | —                | Ignition<br>switch<br>ON  | —  | 0V  |
| 22<br>(Y/L)<br>*1        | 21<br>(W/L)<br>*1 | Satellite radio sound signal<br>LH | Input            | Ignition<br>switch<br>ON  | When satellite radio mode<br>is selected | <br><small>SKIB3609E</small>   |
| 24<br>(BR/L)<br>*1       | 23<br>(Y/G)<br>*1 | Satellite radio sound signal<br>RH | Input            | Ignition<br>switch<br>ON  | When satellite radio mode<br>is selected | <br><small>SKIB3609E</small> |
| 28<br>(R)<br>*1          | Ground            | Request signal<br>(SAT→CONT)       | Input            | Ignition<br>switch<br>ON  | When satellite radio mode<br>is selected | <br><small>SKIA9299J</small> |
| 29<br>(B)<br>*1          | Ground            | Communication signal<br>(SAT→CONT) | Input            | Ignition<br>switch<br>ON  | When satellite radio mode<br>is selected | <br><small>SKIA9300J</small> |
| 30<br>(G)<br>*1          | Ground            | Communication signal<br>(CONT→SAT) | Output           | Ignition<br>switch<br>ON  | When satellite radio mode<br>is selected | <br><small>SKIA9301J</small> |



# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/ BOSE]

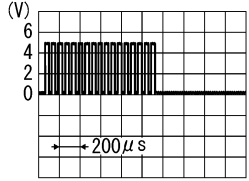
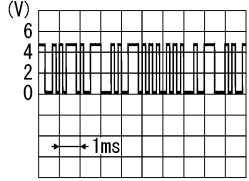
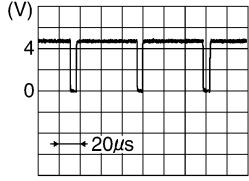
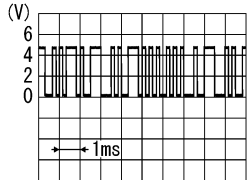
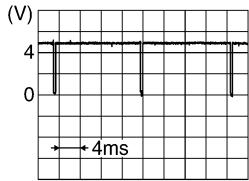
| Terminal<br>(Wire color) |        | Description              |                  | Condition                |  | Reference value<br>(Approx.)  |
|--------------------------|--------|--------------------------|------------------|--------------------------|--|---|
| +                        | -      | Signal name              | Input/<br>Output |                          |  |   |
| 34<br>(B)                | —      | Antenna main             | —                | —                        | —  | —   |
| 35<br>(B)                | —      | Antenna power            | —                | —                        | —  | —   |
| 36<br>(W)                | Ground | AUX image signal         | Output           | Ignition<br>switch<br>ON | When AUX mode is select-<br>ed   | <br><small>SKIB2251J</small>   |
| 37<br>(B)                | Ground | AUX image ground         | —                | Ignition<br>switch<br>ON | —  | 0V  |
| 38<br>(W)                | Ground | RGB signal (B: blue)     | Output           | Ignition<br>switch<br>ON | Start confirmation/adjust-<br>ment mode, and then dis-<br>play color bar by selecting<br>"Color Spectrum Bar" on<br>DISPLAY DIAGNOSIS<br>screen. | <br><small>SKIB2237J</small>   |
| 39<br>(R)                | Ground | RGB signal (G: green)    | Output           | Ignition<br>switch<br>ON | Start confirmation/adjust-<br>ment mode, and then dis-<br>play color bar by selecting<br>"Color Spectrum Bar" on<br>DISPLAY DIAGNOSIS<br>screen. | <br><small>SKIB2236J</small> |
| 40<br>(B)                | Ground | RGB signal (R: red)      | Output           | Ignition<br>switch<br>ON | Start confirmation/adjust-<br>ment mode, and then dis-<br>play color bar by selecting<br>"Color Spectrum Bar" on<br>DISPLAY DIAGNOSIS<br>screen. | <br><small>SKIB2238J</small> |
| 41<br>(G)                | Ground | RGB synchronizing signal | Output           | Ignition<br>switch<br>ON | —  | <br><small>SKIB3603E</small> |
| 42                       | —      | RGB synchronizing ground | —                | Ignition<br>switch<br>ON | —  | 0V  |

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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

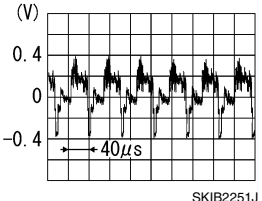
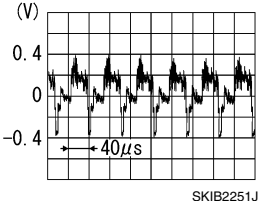
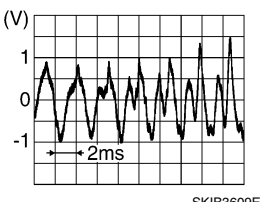
[COLOR DISPLAY - W/ BOSE]

| Terminal<br>(Wire color) |        | Description                             |                  | Condition           | Reference value<br>(Approx.)      |   |
|--------------------------|--------|---|------------------|---------------------|-----------------------------------|---|
| +                        | -      | Signal name                             | Input/<br>Output |                     |                                   |   |
| 43<br>(B)                | Ground | RGB area (YS) signal                    | Output           | Ignition switch ON  | 5V                                |   |
|                          |        |   |                  | RGB image           | AUX image                         |  <p style="text-align: right; font-size: small;">PKIB4948J</p>   |
| 44<br>(BR)               | Ground | Communication signal<br>(DISP→CONT)     | Input            | Ignition switch ON  | When adjusting display brightness |  <p style="text-align: right; font-size: small;">PKIB5039J</p>   |
| 45<br>(R)                | Ground | Horizontal synchronizing<br>(HP) signal | Input            | Ignition switch ON  | —                                 |  <p style="text-align: right; font-size: small;">SKIB3601E</p>  |
| 46<br>(LG)               | Ground | Signal ground                           | —                | Ignition switch     | —                                 | 0V  |
| 47<br>(O)                | Ground | Signal VCC                              | Output           | Ignition switch ACC | —                                 | 9V  |
| 49                       | —      | Shield                                  | —                | —                   | —                                 | —   |
| 50                       | —      | Shield                                  | —                | —                   | —                                 | —   |
| 55                       | —      | Shield                                  | —                | —                   | —                                 | —   |
| 56<br>(Y)                | Ground | Communication signal<br>(CONT→DISP)     | Output           | Ignition switch ON  | When adjusting display brightness |  <p style="text-align: right; font-size: small;">PKIB5039J</p> |
| 57<br>(W)                | Ground | Vertical synchronizing (VP)<br>signal   | Input            | Ignition switch On  | —                                 |  <p style="text-align: right; font-size: small;">SKIB3598E</p> |
| 58<br>(BR)               | Ground | Inverter ground                         | —                | Ignition switch ON  | —                                 | 0V  |

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/ BOSE]

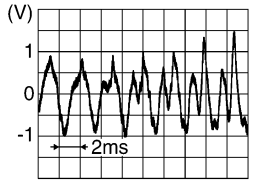
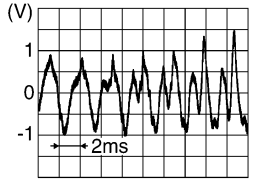
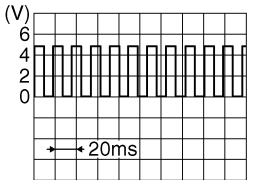
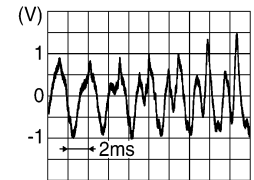
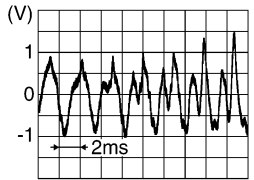
| Terminal<br>(Wire color) |           | Description                      |                  | Condition                 |  | Reference value<br>(Approx.)   |
|--------------------------|-----------|----------------------------------|------------------|---------------------------|--|--|
| +                        | -         | Signal name                      | Input/<br>Output |                           |  |  |
| 59<br>(Y)                | Ground    | Inverter VCC                     | Output           | Ignition<br>switch<br>ACC | —  | 9V   |
| 65<br>(W)                | Ground    | Rear view camera video in<br>(+) | Input            | Ignition<br>switch<br>ON  | With rear view camera ON   | <br>SKIB2251J   |
| 66<br>(LG)               | 74<br>(V) | Aux image signal                 | Input            | Ignition<br>switch<br>ON  | When aux mode is selected  | <br>SKIB2251J   |
| 70<br>(L)                | Ground    | RV_CAM_SIG                       | Output           | Ignition<br>switch<br>ACC | Shift selector is in R posi-<br>tion   | 6V   |
| 71<br>(V/G)              | Ground    | RV_CAM_GND                       | —                | —                         | —  | —  |
| 72                       | —         | Shield                           | —                | —                         | —  | —  |
| 73                       | —         | Shield                           | —                | —                         | —  | —  |
| 80<br>(BR)               | 79<br>(Y) | TEL voice audio signal           | Input            | Ignition<br>switch<br>ON  | Start confirmation/adjust-<br>ment mode, and then Voice<br>Microphone Test by select-<br>ing "Voice Microphone<br>Test" on Handsfree Micro-<br>phone screen. | <br>SKIB3609E |
| 81                       | —         | Shield                           | —                | —                         | —  | —  |
| 85<br>(BR)               | Ground    | Ground                           | —                | Ignition<br>switch<br>ON  | —  | 0V   |
| 86<br>(L)                | —         | CAN-H                            | Input/<br>Output | —                         | —  | —  |
| 87<br>(P)                | —         | CAN-L                            | Input/<br>Output | —                         | —  | —  |
| 88<br>(L)                | —         | AV communication signal 1<br>(H) | Input/<br>Output | —                         | —  | —  |
| 89<br>(P)                | —         | AV communication signal 1<br>(L) | Input/<br>Output | —                         | —  | —  |
| 90<br>(R)                | —         | AV communication signal 2<br>(H) | Input/<br>Output | —                         | —  | —  |
| 91<br>(G)                | —         | AV communication signal 2<br>(L) | Input/<br>Output | —                         | —  | —  |

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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

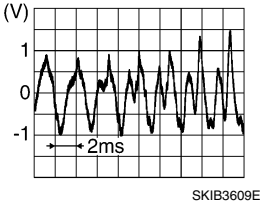
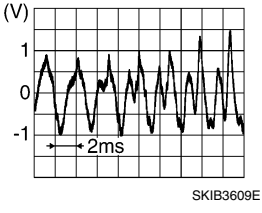
[COLOR DISPLAY - W/ BOSE]

| Terminal<br>(Wire color) |             | Description                       |                  | Condition                |   | Reference value<br>(Approx.)   |
|--------------------------|-------------|-----------------------------------|------------------|--------------------------|---|--|
| +                        | -           | Signal name                       | Input/<br>Output | Ignition<br>switch<br>ON |   |  |
| 95<br>(B)                | 97<br>(R)   | AUX audio signal RH               | Input            | Ignition<br>switch<br>ON | When AUX mode is select-<br>ed                      | <br>SKIB3609E   |
| 96<br>(W)                | 97<br>(R)   | AUX audio signal LH               | Input            | Ignition<br>switch<br>ON | When AUX mode is select-<br>ed                      | <br>SKIB3609E   |
| 103<br>(SB)              | Ground      | CD eject signal                   | Input            | —                        | Pressing the eject switch                           | 0V   |
|                          |             |                                   |                  |                          | Except for above                                    | 3.3V   |
| 104<br>(G)               | Ground      | Ignition signal                   | Input            | Ignition<br>switch<br>ON | —   | Battery voltage  |
| 105<br>(P/B)             | Ground      | Reverse signal                    | Input            | Ignition<br>switch<br>ON | R position  | Battery voltage  |
|                          |             |                                   |                  |                          | Other than R position                               | 0V   |
| 106<br>(G/R)             | Ground      | Parking brake signal              | Input            | Ignition<br>switch<br>ON | Parking brake ON                                    | 0V   |
|                          |             |                                   |                  |                          | Parking brake OFF                                   | Battery voltage  |
| 107<br>(V/W)             | Ground      | Vehicle speed signal<br>(8-pulse) | Input            | Ignition<br>switch<br>ON | When vehicle speed is ap-<br>prox. 25 MPH (40 km/h) | <br>SKIA6649J |
| 108<br>(V)               | 114<br>(LG) | Rear RH pre-amp. sound<br>signal  | Output           | Ignition<br>switch<br>ON | Audio output  | <br>SKIB3609E |
| 109<br>(B)               | 115<br>(W)  | Front RH pre-amp. sound<br>signal | Output           | Ignition<br>switch<br>ON | Audio output  | <br>SKIB3609E |
| 110<br>(B/P)             | Ground      | Amp. ON signal                    | Output           | Ignition<br>switch<br>ON |   | Battery voltage  |

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/ BOSE]

| Terminal<br>(Wire color) |              | Description                       |                  | Condition                |              | Reference value<br>(Approx.)  |
|--------------------------|--------------|-----------------------------------|------------------|--------------------------|--------------|---|
| +                        | -            | Signal name                       | Input/<br>Output |                          |              |   |
| 112<br>(W/R)             | 118<br>(W/L) | Rear LH pre-amp. sound<br>signal  | Output           | Ignition<br>switch<br>ON | Audio output |  |
| 113<br>(G)               | 119<br>(R)   | Front LH pre-amp. sound<br>signal | Output           | Ignition<br>switch<br>ON | Audio output |  |
| 120<br>(B)               | —            | USB ground                        | —                | —                        | —            | —   |
| 121<br>(W)               | —            | USB D-                            | —                | —                        | —            | —   |
| 122<br>(R)               | —            | V BUS signal                      | —                | —                        | —            | —   |
| 123<br>(G)               | —            | USB D+                            | —                | —                        | —            | —   |

\*1 With satellite radio

## DTC Index

INFOID:000000009471385

### Self-diagnosis results display item

| DTC   | Display item                | Refer to                                      |
|-------|-----------------------------|---|
| U1000 | CAN COMM CIRCUIT [U1000]    | <a href="#">AV-363, "Diagnosis Procedure"</a> |
| U1010 | CONTROL UNIT (CAN) [1010]   | <a href="#">AV-364, "DTC Logic"</a>           |
| U1200 | Cont Unit [U1200]           | <a href="#">AV-365, "DTC Logic"</a>           |
| U1216 | CAN CONT [U1216]            | <a href="#">AV-366, "DTC Logic"</a>           |
| U1218 | HDD CONN [U1218]            | <a href="#">AV-367, "DTC Logic"</a>           |
| U1219 | HDD READ [U1219]            | <a href="#">AV-368, "DTC Logic"</a>           |
| U121A | HDD WRITE [U121A]           | <a href="#">AV-369, "DTC Logic"</a>           |
| U121B | HDD COMM [U121B]            | <a href="#">AV-370, "DTC Logic"</a>           |
| U121C | HDD ACCESS [U121C]          | <a href="#">AV-371, "DTC Logic"</a>           |
| U121D | DSP CONN [U121D]            | <a href="#">AV-372, "Diagnosis Procedure"</a> |
| U121E | DSP COMM [U121E]            | <a href="#">AV-373, "Diagnosis Procedure"</a> |
| U1225 | USB CONTROLLER [U1225]      | <a href="#">AV-374, "DTC Logic"</a>           |
| U1227 | DVD COMM [U1227]            | <a href="#">AV-375, "Diagnosis Procedure"</a> |
| U1228 | SUB CPU CONN [U1228]        | <a href="#">AV-376, "DTC Logic"</a>           |
| U1229 | iPod CERTIFICATION [U1229]  | <a href="#">AV-377, "DTC Logic"</a>           |
| U122A | CONFIG UNFINISH [U122A]     | <a href="#">AV-378, "Diagnosis Procedure"</a> |
| U122E | Built-in AUDIO CONN [U122E] | <a href="#">AV-379, "DTC Logic"</a>           |

## AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/ BOSE]

| DTC            | Display item  | Refer to                                      |
|----------------|---|---|
| U1232          | ST ANGLE SEN CALIB [1232]   | <a href="#">AV-380. "Diagnosis Procedure"</a> |
| U1243          | FRONT DISP CONN [U1243]   | <a href="#">AV-381. "Diagnosis Procedure"</a> |
| U1255          | SATELLITE TUNER [U1255]   | <a href="#">AV-384. "Description"</a>         |
| U1263          | USB OVERCURRENT [U1263]   | <a href="#">AV-383. "Diagnosis Procedure"</a> |
| U1310          | CONTROL UNIT (AV) [U1310]   | <a href="#">AV-387. "DTC Logic"</a>           |
| U1300<br>U1240 | <ul style="list-style-type: none"><li>• AV COMM CIRCUIT [U1300]</li><li>• SWITCH CONN [U1240]</li></ul> | <a href="#">AV-386. "Description"</a>         |

# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

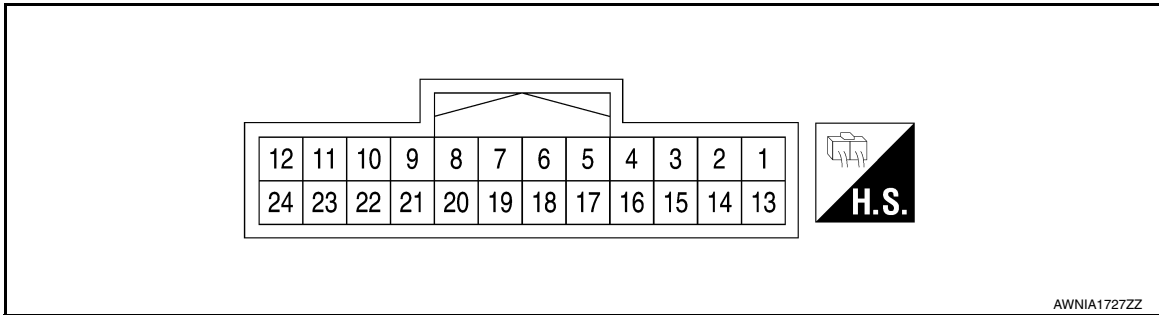
[COLOR DISPLAY - W/ BOSE]

## DISPLAY UNIT

### Reference Value

INFOID:000000009471386

### TERMINAL LAYOUT



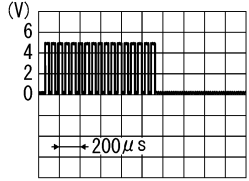
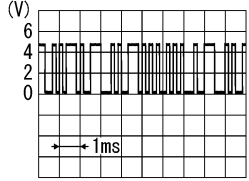
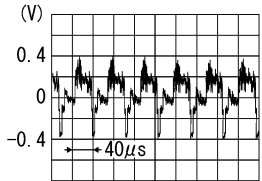
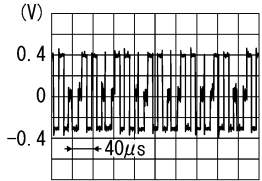
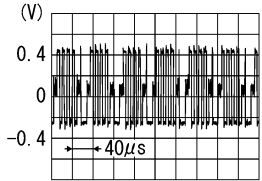
### PHYSICAL VALUES

| Terminal (Wire color) |        | Description                          |              | Condition           |   | Reference value (Approx.) |
|-----------------------|--------|--------------------------------------|--------------|---------------------|---|---------------------------|
| +                     | -      | Signal name                          | Input/Output |                     |   |                           |
| 1 (B)                 | Ground | Ground                               | —            | Ignition switch ON  | —   | 0V                        |
| 2 (Y)                 | Ground | Inverter VCC                         | Input        | Ignition switch ACC | —   | 9V                        |
| 3 (O)                 | Ground | Signal VCC                           | Input        | Ignition switch ACC | —   | 9V                        |
| 4 (B)                 | Ground | AUX image ground                     | —            | Ignition switch ON  | —   | 0V                        |
| 5                     | —      | Shield                               | —            | —                   | —   | —                         |
| 6 (R)                 | Ground | RGB signal (G: green)                | Input        | Ignition switch ON  | Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen. | <p>SKIB2236J</p>          |
| 7                     | —      | Shield                               | —            | —                   | —   | —                         |
| 8 (R)                 | Ground | Horizontal synchronizing (HP) signal | Output       | Ignition switch ON  | —   | <p>SKIB3601E</p>          |

# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/ BOSE]

| Terminal<br>(Wire color) |        | Description                         |                  | Condition                           | Reference value<br>(Approx.)  |
|--------------------------|--------|-------------------------------------|------------------|-------------------------------------|---|
| +                        | -      | Signal name                         | Input/<br>Output |                                     |   |
| 9<br>(B)                 | Ground | RGB area (YS) signal                | Input            | Ignition switch ON                  | At RGB image displayed<br>5V  |
|                          |        |                                     |                  | At rear view camera image displayed | <br>PKIB4948J  |
| 11<br>(Y)                | Ground | Communication signal<br>(CONT→DISP) | Input            | Ignition switch ON                  | When adjusting display brightness<br><br>PKIB5039J   |
| 13<br>(BR)               | Ground | Inverter ground                     | —                | Ignition switch ON                  | —<br>0V   |
| 14<br>(LG)               | Ground | Signal ground                       | —                | Ignition switch ON                  | —<br>0V   |
| 15<br>(W)                | Ground | AUX image signal                    | Input            | Ignition switch ON                  | When AUX mode is selected<br><br>SKIB2251J   |
| 17<br>(B)                | Ground | RGB signal (R: red)                 | Input            | Ignition switch ON                  | Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.<br><br>SKIB2238J |
| 18<br>(W)                | Ground | RGB signal (B: blue)                | Input            | Ignition switch ON                  | Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.<br><br>SKIB2237J |



# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/ BOSE]

| Terminal<br>(Wire color) |        | Description                         |                  | Condition                |                                      | Reference value<br>(Approx.) |
|--------------------------|--------|-------------------------------------|------------------|--------------------------|--------------------------------------|------------------------------|
| +                        | -      | Signal name                         | Input/<br>Output |                          |                                      |                              |
| 19<br>(G)                | Ground | RGB synchronizing signal            | Input            | Ignition<br>switch<br>ON | —                                    |                              |
| 20<br>(W)                | Ground | Vertical synchronizing (VP) signal  | Output           | Ignition<br>switch<br>On | —                                    |                              |
| 21                       | —      | Shield                              | —                | —                        | —                                    | —                            |
| 22<br>(BR)               | Ground | Communication signal<br>(DISP→CONT) | Output           | Ignition<br>switch<br>ON | When adjusting display<br>brightness |                              |
| 23                       | —      | Shield                              | —                | —                        | —                                    | —                            |

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# BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

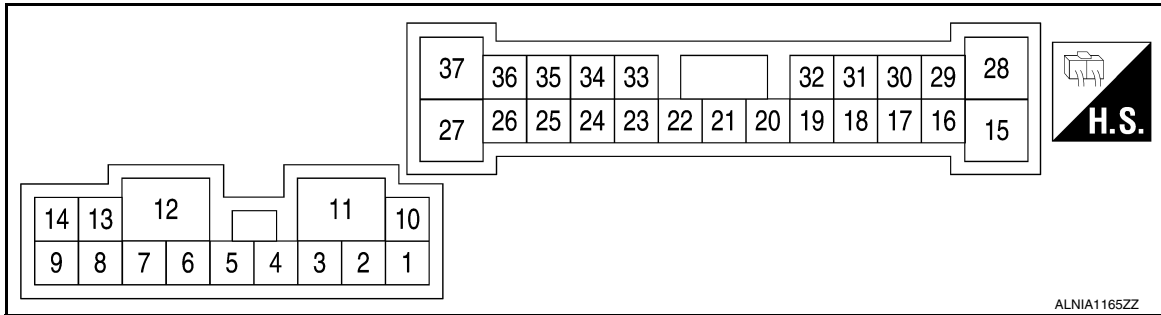
[COLOR DISPLAY - W/ BOSE]

## BOSE SPEAKER AMP

Reference Value

INFOID:00000009471387

### TERMINAL LAYOUT



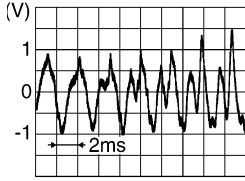
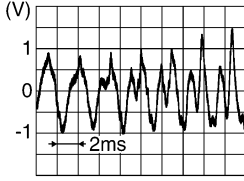
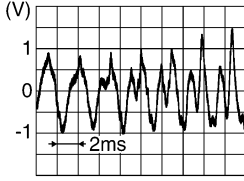
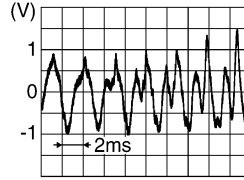
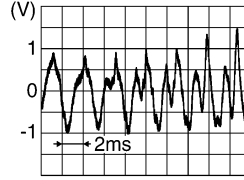
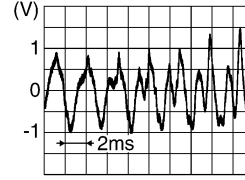
### PHYSICAL VALUES

| Terminal<br>(Wire color) |           | Description               |                  | Condition                 |              | Reference value<br>(Approx.) |
|--------------------------|-----------|---------------------------|------------------|---------------------------|--------------|------------------------------|
| +                        | -         | Signal name               | Input/<br>Output |                           |              |                              |
| 1<br>(LG)                | 2<br>(V)  | Audio signal tweeter LH   | Output           | Ignition<br>switch<br>ON  | Audio output |                              |
| 4<br>(G)                 | 3<br>(W)  | Audio signal tweeter RH   | Output           | Ignition<br>switch<br>ON  | Audio output |                              |
| 5<br>(R)                 | 6<br>(BR) | Audio signal subwoofer RH | Output           | Ignition<br>switch<br>ON  | Audio output |                              |
| 7<br>(B)                 | Ground    | Ground                    | —                | Ignition<br>switch<br>ON  | —            | 0V                           |
| 10<br>(SB)               | Ground    | Battery power supply      | Input            | Ignition<br>switch<br>OFF | —            | Battery voltage              |
| 11<br>(GR)               | Ground    | Battery power supply      | Input            | Ignition<br>switch<br>OFF | —            | Battery voltage              |
| 12<br>(B)                | Ground    | Ground                    | —                | Ignition<br>switch<br>ON  | —            | 0V                           |

# BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/ BOSE]

| Terminal<br>(Wire color) |           | Description               |                  | Condition                 | Reference value<br>(Approx.) |   |
|--------------------------|-----------|---------------------------|------------------|---------------------------|------------------------------|---|
| +                        | -         | Signal name               | Input/<br>Output |                           |                              |   |
| 13<br>(L)                | 8<br>(P)  | Audio signal subwoofer LH | Output           | Ignition<br>switch<br>ON  | Audio output                 |  <p style="text-align: right; font-size: small;">SKIB3609E</p>   |
| 14<br>(LG)               | 9<br>(O)  | Audio signal rear door RH | Output           | Ignition<br>switch<br>ON  | Audio input                  |  <p style="text-align: right; font-size: small;">SKIB3609E</p>   |
| 18<br>(W)                | 19<br>(B) | Audio signal rear door RH | Output           | Ignition<br>switch<br>ON  | Audio input                  |  <p style="text-align: right; font-size: small;">SKIB3609E</p>  |
| 20<br>(SB)               | Ground    | Amp. ON signal            | Input            | Ignition<br>switch<br>ACC | —                            | Battery voltage   |
| 24<br>(GR)               | 23<br>(L) | Audio signal rear LH      | Input            | Ignition<br>switch<br>ON  | Audio input                  |  <p style="text-align: right; font-size: small;">SKIB3609E</p> |
| 26<br>(BR)               | 25<br>(L) | Audio signal rear RH      | Input            | Ignition<br>switch<br>ON  | Audio input                  |  <p style="text-align: right; font-size: small;">SKIB3609E</p> |
| 28<br>(G)                | 15<br>(L) | Audio signal rear door LH | Output           | Ignition<br>switch<br>ON  | Audio output                 |  <p style="text-align: right; font-size: small;">SKIB3609E</p> |

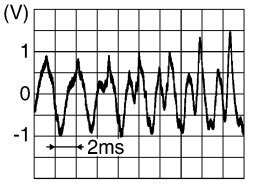
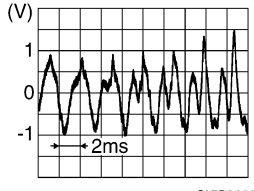
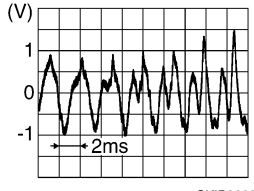
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# BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/ BOSE]

| Terminal<br>(Wire color) |           | Description                 |                  | Condition                |              | Reference value<br>(Approx.)   |
|--------------------------|-----------|-----------------------------|------------------|--------------------------|--------------|--|
| +                        | -         | Signal name                 | Input/<br>Output |                          |              |  |
| 29<br>(V)                | 30<br>(P) | Audio signal center speaker | Output           | Ignition<br>switch<br>ON | Audio output |   |
| 33<br>(LG)               | 34<br>(V) | Audio signal front RH       | Input            | Ignition<br>switch<br>ON | Audio input  |   |
| 35<br>(W)                | 36<br>(B) | Audio signal front LH       | Input            | Ignition<br>switch<br>ON | Audio input  |  |

# SATELLITE RADIO TUNER

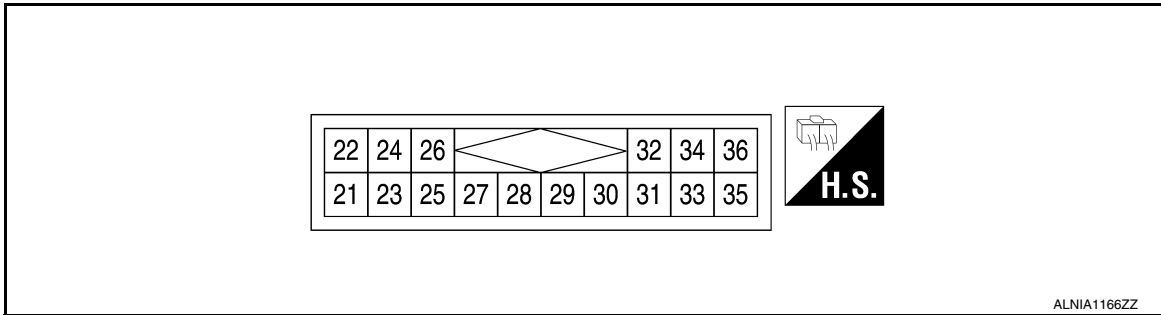
< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/ BOSE]

## SATELLITE RADIO TUNER

Reference Value

INFOID:00000009471388



ALNIA1166ZZ

### PHYSICAL VALUES

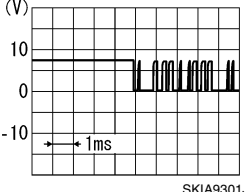
| Terminal |         | Description                     |              | Condition          |                                       | Reference value (Approx.) |
|----------|---------|---------------------------------|--------------|--------------------|---------------------------------------|---------------------------|
| +        | -       | Signal name                     | Input/Output |                    |                                       |                           |
| 22 (W)   | 21 (BR) | Satellite radio sound signal LH | Output       | Ignition switch ON | When satellite radio mode is selected | <p>SKIB3609E</p>          |
| 24 (B)   | 23 (Y)  | Satellite radio sound signal RH | Output       | Ignition switch ON | When satellite radio mode is selected | <p>SKIB3609E</p>          |
| 28 (R)   | Ground  | Request signal (SAT→CONT)       | Output       | Ignition switch ON | When satellite radio mode is selected | <p>SKIA9299J</p>          |
| 29 (V)   | Ground  | Communication signal (SAT→CONT) | Output       | Ignition switch ON | When satellite radio mode is selected | <p>SKIA9300J</p>          |

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# SATELLITE RADIO TUNER

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/ BOSE]

| Terminal |        | Description                     |               | Condition           |                                       | Reference value (Approx.)   |
|----------|--------|---------------------------------|---------------|---------------------|---------------------------------------|---|
| +        | -      | Signal name                     | Input/ Output |                     |                                       |   |
| 30 (L)   | Ground | Communication signal (CONT→SAT) | Input         | Ignition switch ON  | When satellite radio mode is selected |  <p style="text-align: right; font-size: small;">SKIA9301J</p> |
| 32 (P)   | Ground | Battery power supply            | Input         | Ignition switch OFF | —                                     | Battery voltage   |
| 35 (B)   | —      | Shield                          | —             | —                   | —                                     | —   |
| 36 (GR)  | Ground | ACC power supply                | Input         | Ignition switch ACC | —                                     | Battery voltage   |

# BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

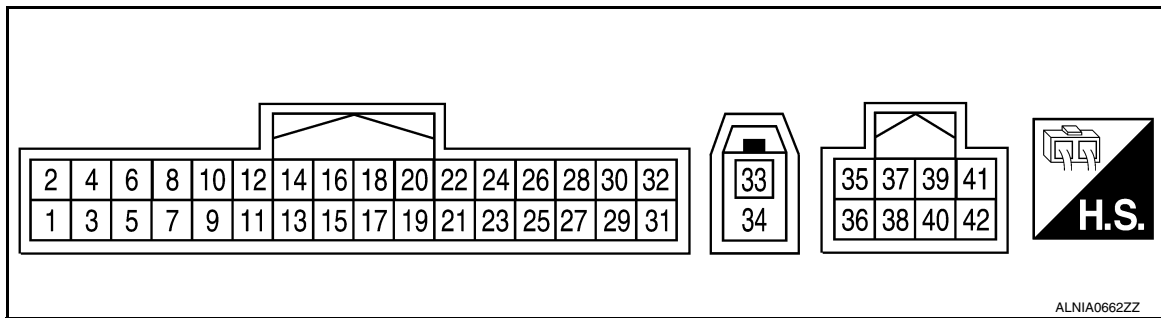
[COLOR DISPLAY - W/ BOSE]

## BLUETOOTH® CONTROL UNIT

### Reference Value

INFOID:000000009471389

### TERMINAL LAYOUT



### PHYSICAL VALUES

| Terminal (wire color) |        | Description                    |              | Condition                 |  | Reference value (Approx.) |
|-----------------------|--------|--------------------------------|--------------|---------------------------|--|---------------------------|
| +                     | -      | Signal name                    | Input/output |                           |  |                           |
| 1 (V)                 | Ground | Battery power                  | Input        | -                         | -  | Battery voltage           |
| 2 (GR)                | Ground | ACC power                      | Input        | Ignition switch ACC/ON    | -  | Battery voltage           |
| 3 (O)                 | Ground | IGN power                      | Input        | Ignition switch ON/ START | -  | Battery voltage           |
| 4 (B)                 | Ground | Ground                         | -            | Ignition switch ON        | -  | 0V                        |
| 7 (L)                 | 8      | MIC in signal                  | Input        | -                         | -  | -                         |
| 9 (BR)                | 10 (Y) | Audio out                      | Output       | Ignition switch ACC/ON    | Bluetooth® control unit sends audio signal     | <p>SKIB3609E</p>          |
| 28 (BR)               | Ground | Vehicle speed signal (8-pulse) | Input        | Ignition switch ON        | When vehicle speed is approx. 40 km/h (25 MPH) | <p>PKIA1935E</p>          |
| 29 (R)                | Ground | Microphone power               | Output       | Ignition switch ON        | -  | 5V                        |
| 33 (B)                | -      | Bluetooth® antenna             | -            | -                         | -  | -                         |

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# BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/ BOSE]

| Terminal<br>(wire color) |   | Description             |                  | Condition |   | Reference value<br>(Approx.) |
|--------------------------|---|-------------------------|------------------|-----------|---|------------------------------|
| +                        | - | Signal name             | Input/<br>output |           |   |                              |
| 34<br>(B)                | - | Bluetooth® anten-<br>na | -                | -         | - | —                            |
| 35<br>(L)                | - | M-CAN1 (+)              | -                | -         | - | —                            |
| 36<br>(P)                | - | M-CAN1 (-)              | -                | -         | - | —                            |
| 37                       | - | Shield                  | -                | -         | - | —                            |
| 40<br>(R)                | - | M-CAN2 (-)              | -                | -         | - | —                            |
| 42<br>(G)                | - | M-CAN2 (-)              | -                | -         | - | —                            |

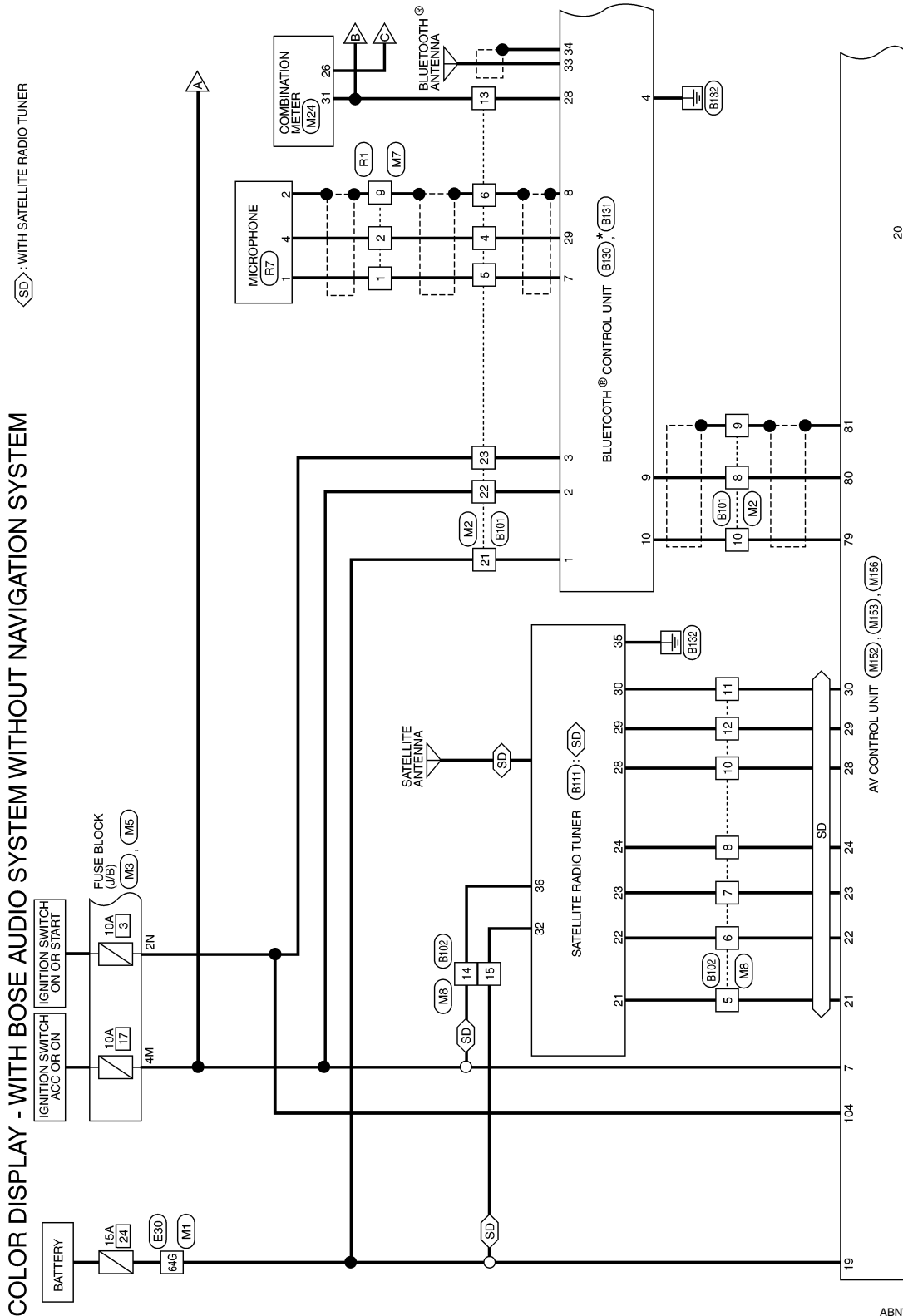


# WIRING DIAGRAM

## COLOR DISPLAY

### Wiring Diagram - With BOSE Audio system Without Navigation System

INFOID:000000009471390



COLOR DISPLAY - WITH BOSE AUDIO SYSTEM WITHOUT NAVIGATION SYSTEM

SD : WITH SATELLITE RADIO TUNER

\* : THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

ABNWA1941GB

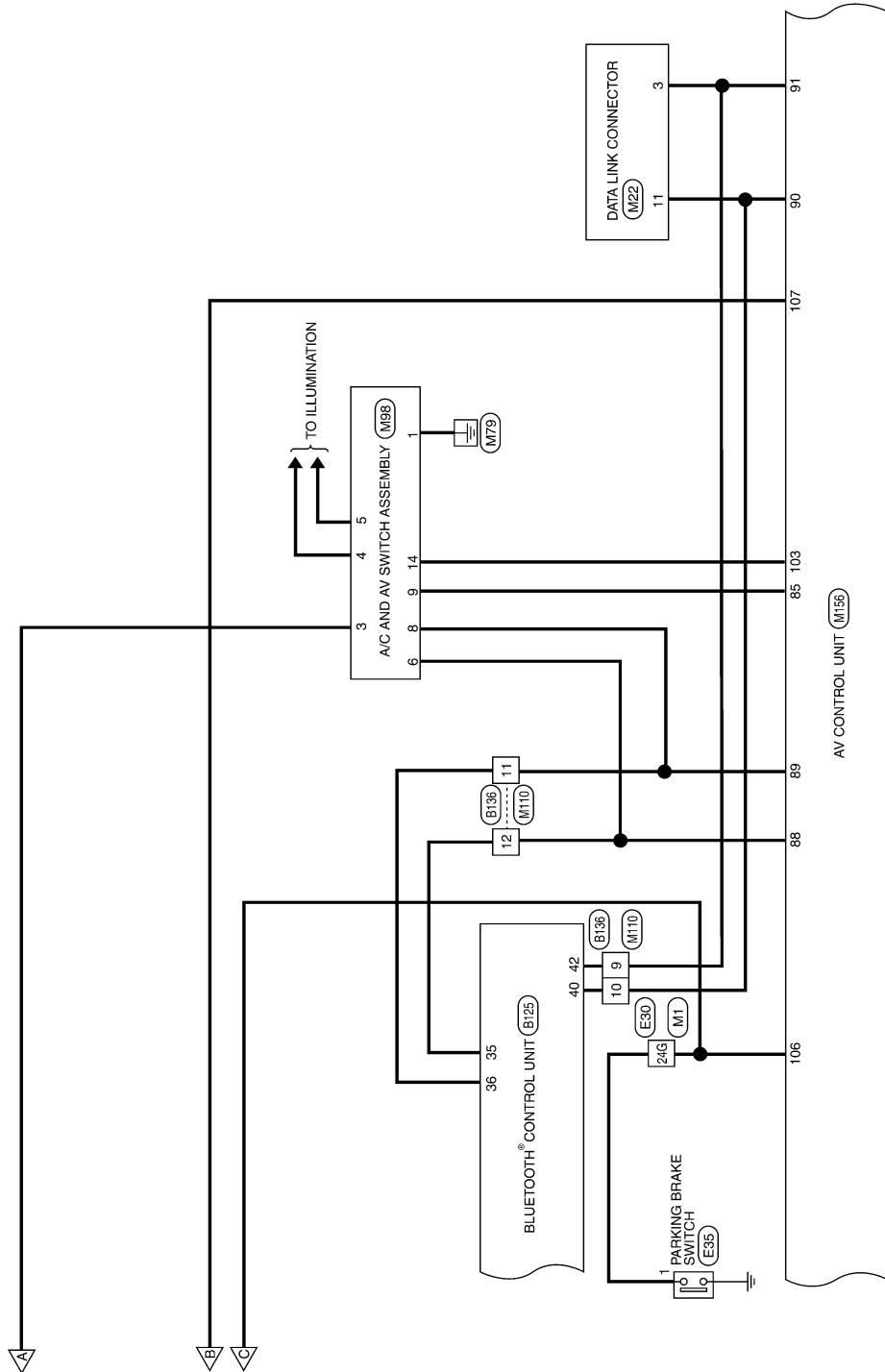
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# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/ BOSE]

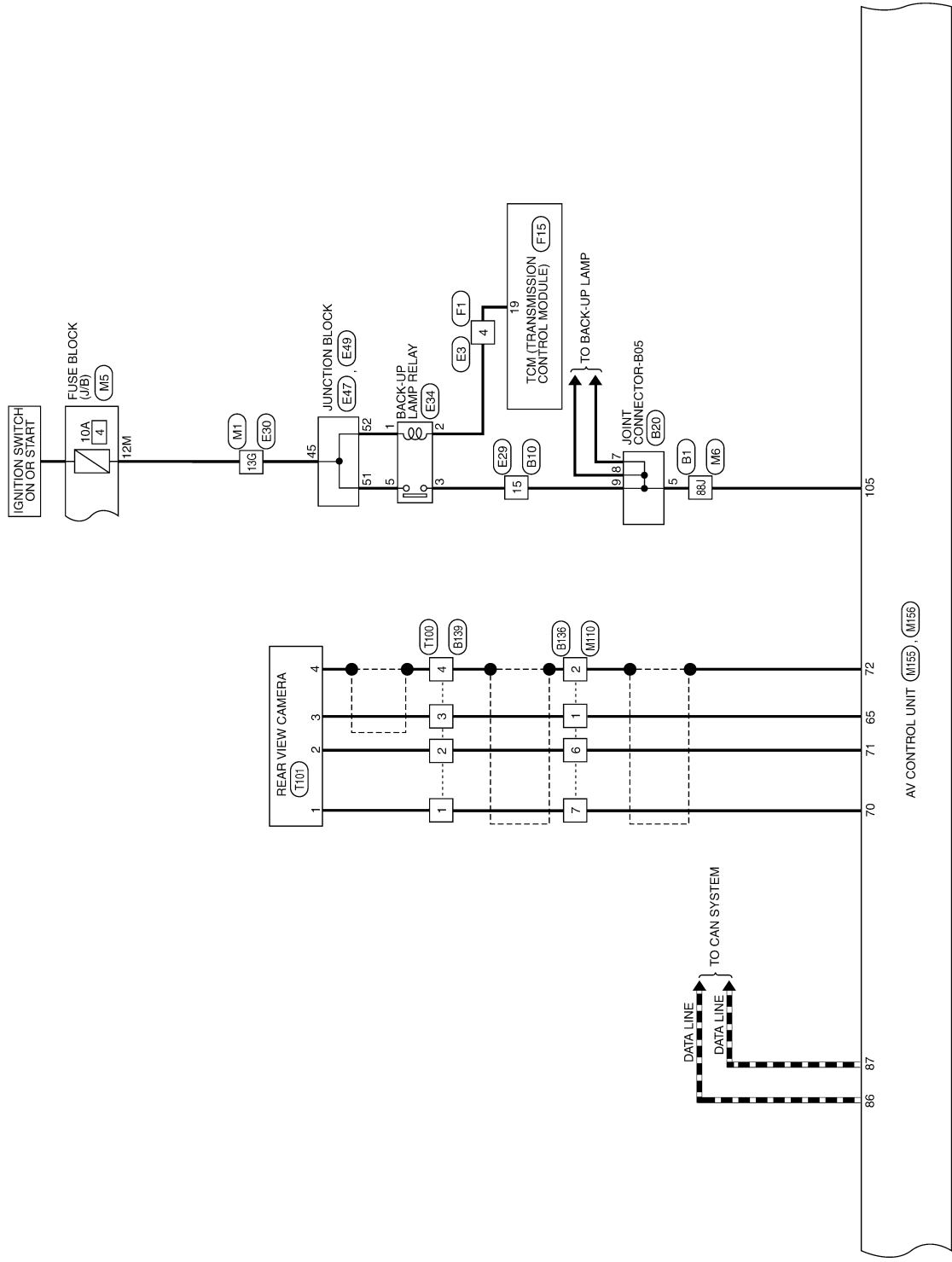


ABNWA1519GB

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/ BOSE]



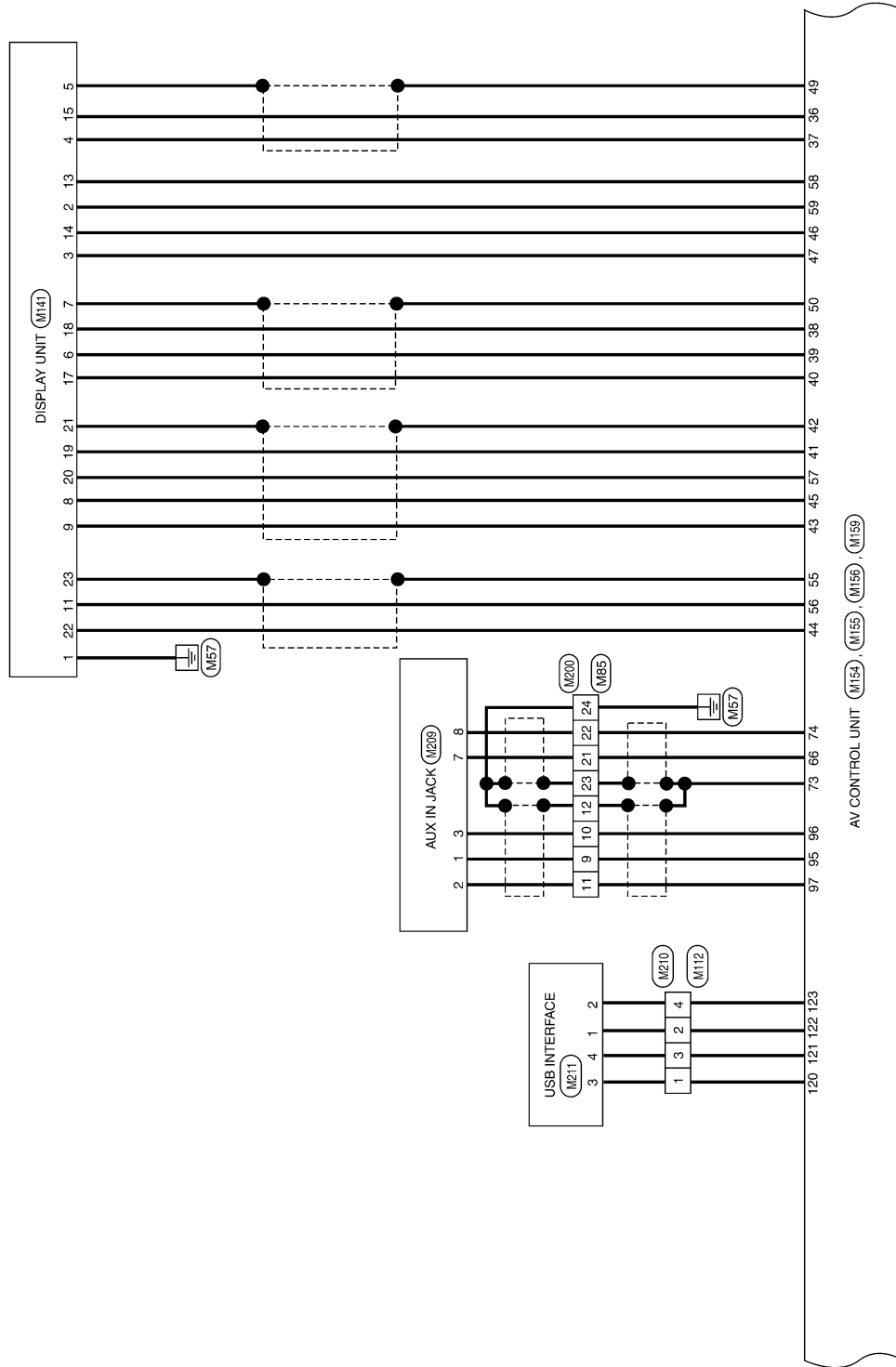
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# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/ BOSE]

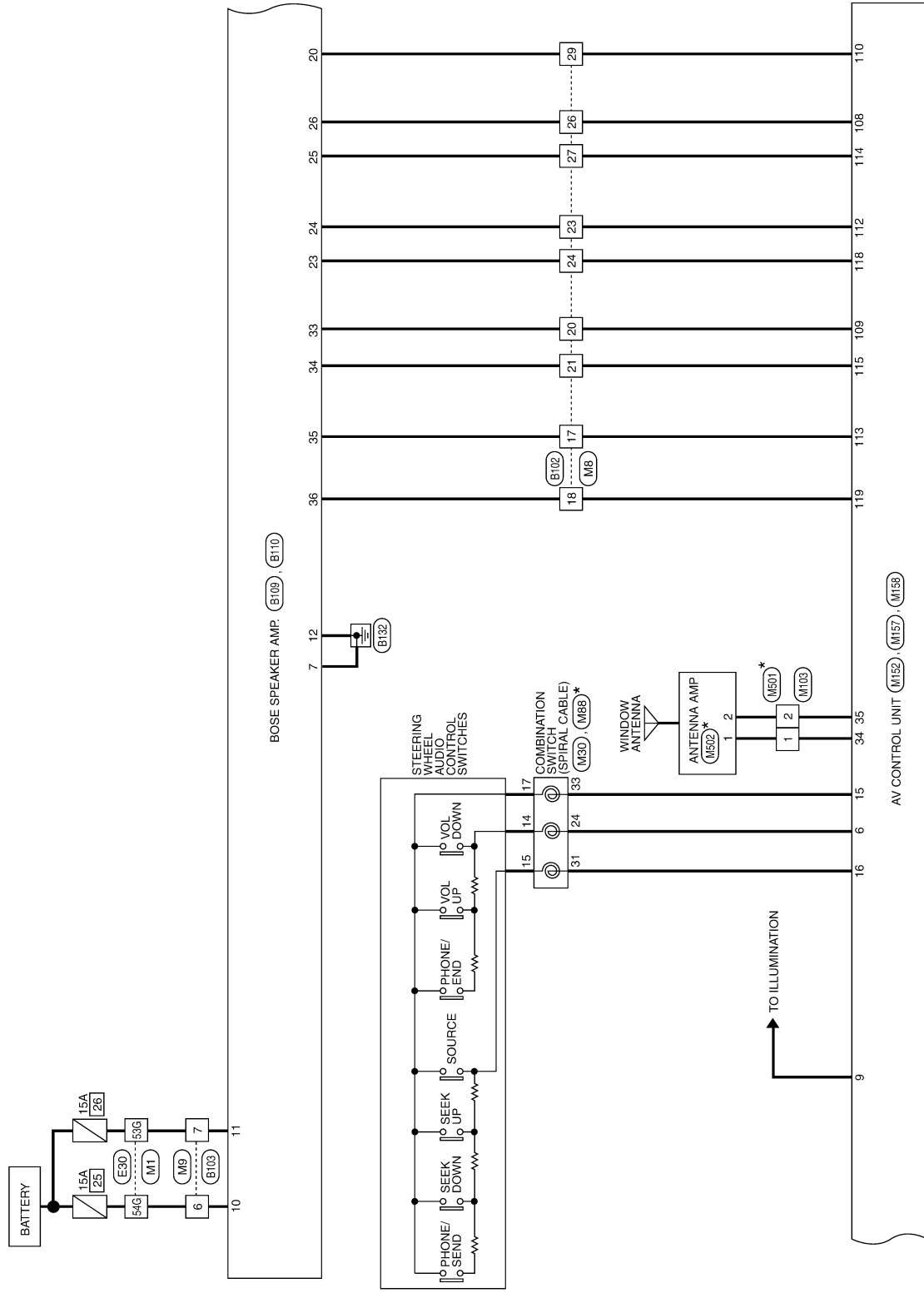


ABNWA1521GB

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/ BOSE]



\* : THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTON.

ABNWA1953GB

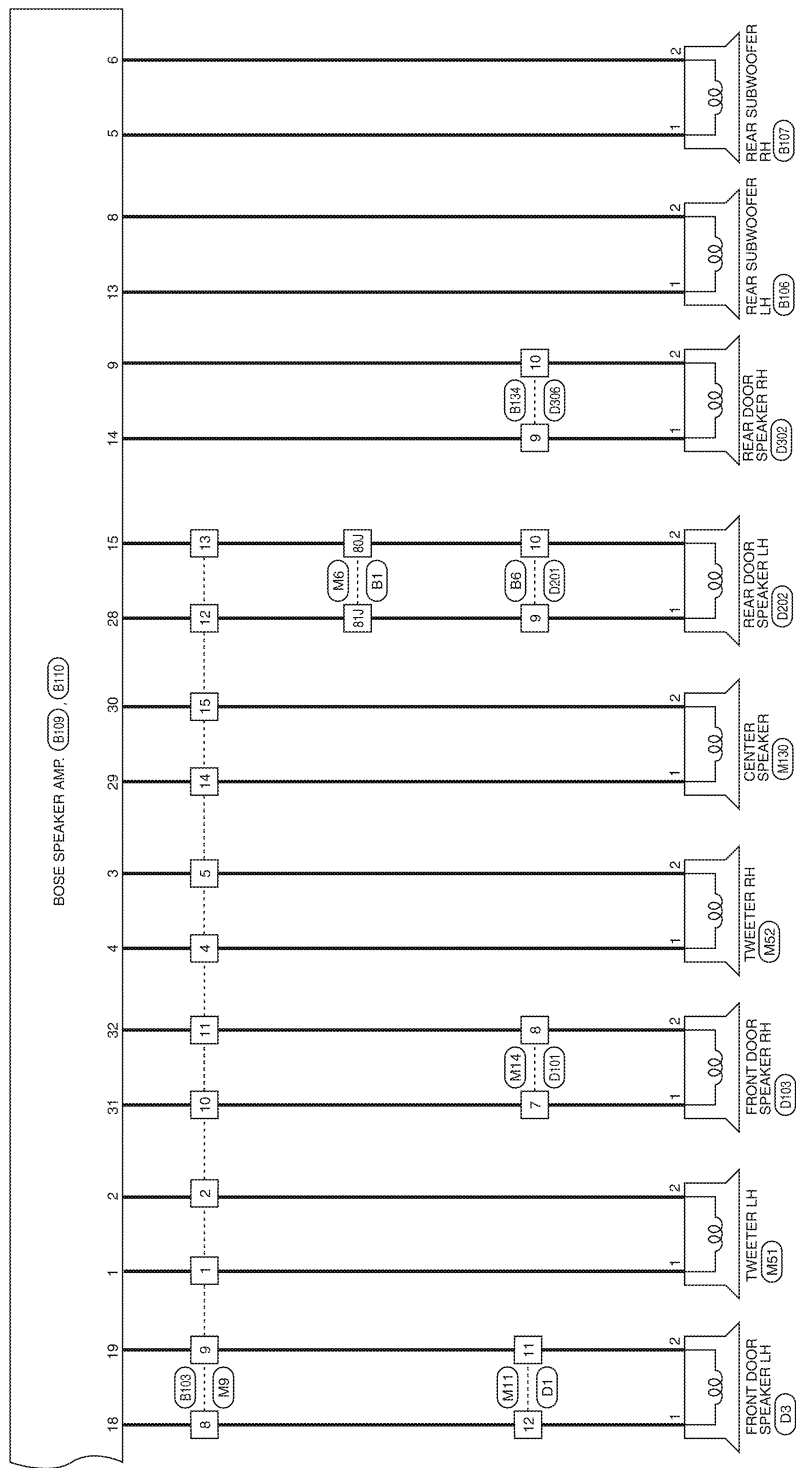
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# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/ BOSE]



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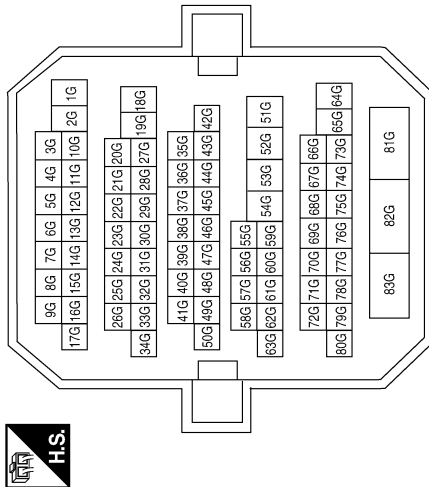
# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/ BOSE]

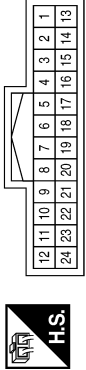
## COLOR DISPLAY CONNECTORS - WITH BOSE AUDIO SYSTEM WITHOUT NAVIGATION SYSTEM

|                 |              |
|-----------------|--------------|
| Connector No.   | M1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13G          | O             | -           |
| 24G          | G/R           | -           |
| 53G          | B/R           | -           |
| 54G          | BR            | -           |
| 64G          | Y/R           | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M2           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



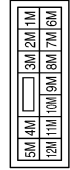
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4            | R             | -           |
| 5            | L             | -           |
| 6            | SHIELD        | -           |
| 8            | BR            | -           |
| 9            | SHIELD        | -           |
| 10           | Y             | -           |
| 13           | V/W           | -           |
| 21           | Y/R           | -           |
| 22           | V/Y           | -           |
| 23           | G             | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | M3               |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | WHITE            |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2N           | G             | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | M5               |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | WHITE            |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4M           | V/Y           | -           |
| 12M          | O             | -           |

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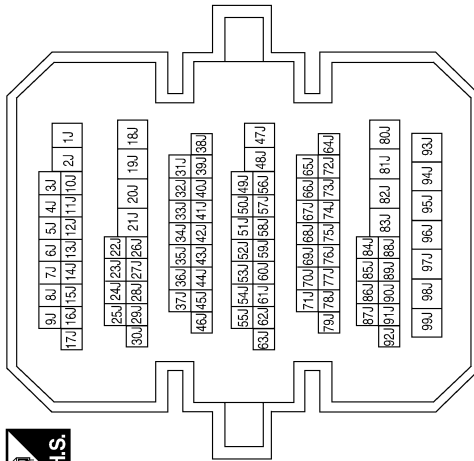
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# COLOR DISPLAY

< WIRING DIAGRAM >

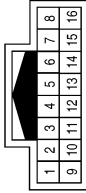
[COLOR DISPLAY - W/ BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | M6           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 80J          | B/Y           | -           |
| 81J          | LG            | -           |
| 88J          | P/B           | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M7           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | R             | -           |
| 9            | SHIELD        | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M8           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | V             | -           |
| 6            | P             | -           |
| 7            | W/R           | -           |
| 8            | B/R           | -           |

| Terminal No. | Color of Wire | Signal Name           |
|--------------|---------------|-----------------------|
| 10           | R             | -                     |
| 11           | W             | -                     |
| 12           | B             | -                     |
| 14           | V/Y           | -                     |
| 15           | Y/R           | -                     |
| 17           | G             | -(WITH COLOR DISPLAY) |
| 18           | R             | -(WITH COLOR DISPLAY) |
| 20           | B             | -(WITH COLOR DISPLAY) |
| 21           | W             | -(WITH COLOR DISPLAY) |

| Terminal No. | Color of Wire | Signal Name           |
|--------------|---------------|-----------------------|
| 23           | W/R           | -                     |
| 24           | W/L           | -(WITH COLOR DISPLAY) |
| 26           | V             | -                     |
| 27           | LG            | -(WITH COLOR DISPLAY) |
| 29           | B/P           | -                     |

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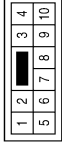


# COLOR DISPLAY

< WIRING DIAGRAM >

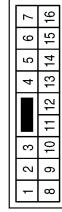
[COLOR DISPLAY - W/ BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | M14          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



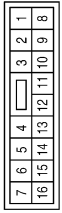
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | BR            | -           |
| 8            | B/R           | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M11          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



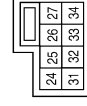
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11           | B/W           | -           |
| 12           | L             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M9           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BROWN        |



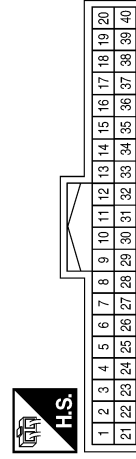
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | B/Y           | -           |
| 4            | L/O           | -           |
| 5            | GR/L          | -           |
| 6            | BR            | -           |
| 7            | B/R           | -           |
| 8            | L             | -           |
| 9            | B/W           | -           |
| 10           | BR            | -           |
| 11           | B/R           | -           |
| 12           | LG            | -           |
| 13           | B/Y           | -           |
| 14           | B/P           | -           |
| 15           | O/B           | -           |

|                 |                                   |
|-----------------|-----------------------------------|
| Connector No.   | M30                               |
| Connector Name  | COMBINATION SWITCH (SPIRAL CABLE) |
| Connector Color | GRAY                              |



| Terminal No. | Color of Wire | Signal Name           |
|--------------|---------------|-----------------------|
| 24           | W/G           | -(WITH COLOR DISPLAY) |
| 31           | GR/L          | -(WITH COLOR DISPLAY) |
| 33           | L/B           | -(WITH COLOR DISPLAY) |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | M24               |
| Connector Name  | COMBINATION METER |
| Connector Color | WHITE             |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 26           | G/R           | PKB         |
| 31           | V/W           | 8P/R OUT    |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M22                 |
| Connector Name  | DATA LINK CONNECTOR |
| Connector Color | WHITE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3            | G             | -           |
| 11           | R             | -           |

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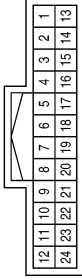


# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/ BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | M85          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | B             | -           |
| 10           | W             | -           |
| 11           | R             | -           |
| 12           | SHIELD        | -           |
| 21           | LG            | -           |
| 22           | V             | -           |
| 23           | SHIELD        | -           |
| 24           | B             | -           |

|                 |                                     |
|-----------------|-------------------------------------|
| Connector No.   | M52                                 |
| Connector Name  | TWEETER RH (WITH BOSE AUDIO SYSTEM) |
| Connector Color | BROWN                               |



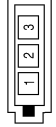
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L/O           | -           |
| 2            | GR/L          | -           |

|                 |                                     |
|-----------------|-------------------------------------|
| Connector No.   | M51                                 |
| Connector Name  | TWEETER LH (WITH BOSE AUDIO SYSTEM) |
| Connector Color | BROWN                               |



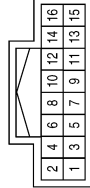
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | B/Y           | -           |

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|-----------------|--------------|
| Connector No.   | M103         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



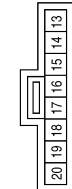
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

|                 |                            |
|-----------------|----------------------------|
| Connector No.   | M98                        |
| Connector Name  | A/C AND AV SWITCH ASSEMBLY |
| Connector Color | WHITE                      |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 3            | V/Y           | -           |
| 4            | R/L           | -           |
| 5            | R/Y           | -           |
| 6            | L             | -           |
| 8            | P             | -           |
| 9            | BR            | -           |
| 14           | SB            | -           |

|                 |                                   |
|-----------------|-----------------------------------|
| Connector No.   | M88                               |
| Connector Name  | COMBINATION SWITCH (SPIRAL CABLE) |
| Connector Color | GRAY                              |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 14           | W             | -           |
| 15           | L             | -           |
| 17           | BR            | -           |

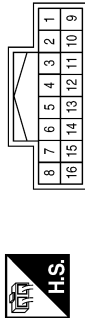
ABNIA5139GB

# COLOR DISPLAY

< WIRING DIAGRAM >

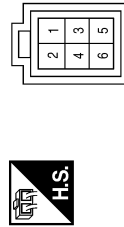
[COLOR DISPLAY - W/ BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | M110         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | -           |
| 2            | SHIELD        | -           |
| 6            | V/G           | -           |
| 7            | L             | -           |
| 9            | G             | -           |
| 10           | R             | -           |
| 11           | P             | -           |
| 12           | L             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M112         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | R             | -           |
| 3            | W             | -           |
| 4            | G             | -           |

|                 |                |
|-----------------|----------------|
| Connector No.   | M130           |
| Connector Name  | CENTER SPEAKER |
| Connector Color | BROWN          |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B/P           | -           |
| 2            | O/B           | -           |

|                 |   |
|-----------------|---|
| Connector No.   | M141  |
| Connector Name  | DISPLAY UNIT (WITH COLOR DISPLAY WITHOUT NAVIGATION SYSTEM) |
| Connector Color | WHITE   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | GND         |
| 2            | Y             | INV VCC     |
| 3            | O             | SIG VCC     |
| 4            | B             | COMP IN-    |

| Terminal No. | Color of Wire | Signal Name    |
|--------------|---------------|----------------|
| 5            | SHIELD        | COMP IN SHIELD |
| 6            | R             | G              |
| 7            | SHIELD        | RGB GND        |
| 8            | R             | HP             |
| 9            | B             | YS             |
| 10           | -             | -              |
| 11           | Y             | IT DISP        |
| 12           | -             | -              |
| 13           | BR            | INV GND        |
| 14           | LG            | SIG GND        |
| 15           | W             | COMP IN+       |
| 16           | -             | -              |
| 17           | B             | R              |

| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 18           | W             | B            |
| 19           | G             | RGB SYNC     |
| 20           | W             | VP           |
| 21           | SHIELD        | RGB SYNC GND |
| 22           | BR            | DISP ITM     |
| 23           | SHIELD        | BUS GND      |
| 24           | -             | -            |

ABNIA5140GB

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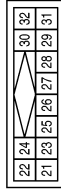
AV

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/ BOSE]

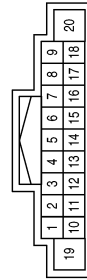
|                 |  |
|-----------------|--|
| Connector No.   | M153   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM WITHOUT NAVIGATION SYSTEM) |
| Connector Color | WHITE  |



| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 21           | W/L           | NBUS LH-     |
| 22           | Y/L           | NBUS LH+     |
| 23           | Y/G           | NBUS RH-     |
| 24           | BR/L          | NBUS RH+     |
| 25           | -             | -            |
| 26           | -             | -            |
| 27           | -             | -            |
| 28           | R             | REQ1 (TO HU) |
| 29           | B             | RX (TO HU)   |
| 30           | G             | TX (FROM HU) |
| 31           | -             | -            |
| 32           | -             | -            |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11           | -             | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | L/B           | STRG SW GND |
| 16           | GR/L          | STRG SW B   |
| 17           | -             | -           |
| 18           | -             | -           |
| 19           | Y/R           | BAT         |
| 20           | B             | GND         |

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| Connector No.   | M152   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM WITHOUT NAVIGATION SYSTEM) |
| Connector Color | WHITE  |

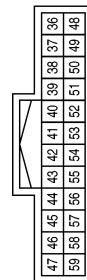


| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | -             | -           |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | W/G           | STRG SW A   |
| 7            | V/Y           | ACC         |
| 8            | -             | -           |
| 9            | R/L           | ILL         |
| 10           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 51           | -             | -           |
| 52           | -             | -           |
| 53           | -             | -           |
| 54           | -             | -           |
| 55           | SHIELD        | SHIELD      |
| 56           | Y             | IT DISP     |
| 57           | W             | VP          |
| 58           | BR            | INV GND     |
| 59           | Y             | INV VCC     |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 40           | B             | R               |
| 41           | G             | RGB SYNC        |
| 42           | SHIELD        | RGB SYNC GND    |
| 43           | B             | YS              |
| 44           | BR            | DISP IT         |
| 45           | R             | HP              |
| 46           | LG            | SIG GND         |
| 47           | O             | SIG VCC         |
| 48           | -             | -               |
| 49           | SHIELD        | COMP OUT SHIELD |
| 50           | SHIELD        | RGB GND         |

|                 |  |
|-----------------|--|
| Connector No.   | M154   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM WITHOUT NAVIGATION SYSTEM) |
| Connector Color | WHITE  |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 36           | W             | COMP OUT+   |
| 37           | B             | COMP OUT-   |
| 38           | W             | B           |
| 39           | R             | G           |

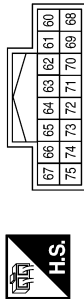
ABNIA5141GB

# COLOR DISPLAY

< WIRING DIAGRAM >

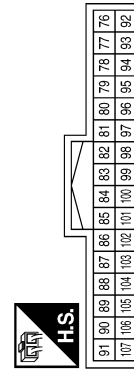
[COLOR DISPLAY - W/ BOSE]

|                 |  |
|-----------------|--|
| Connector No.   | M155   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM WITHOUT NAVIGATION SYSTEM) |
| Connector Color | WHITE  |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 60           | -             | -           |
| 61           | -             | -           |
| 62           | -             | -           |
| 63           | -             | -           |
| 64           | -             | -           |
| 65           | W             | COMP2 IN+   |
| 66           | LG            | COMP1 IN+   |
| 67           | -             | -           |
| 68           | -             | -           |

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|-----------------|--|
| Connector No.   | M156   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM WITHOUT NAVIGATION SYSTEM) |
| Connector Color | WHITE  |



| Terminal No. | Color of Wire | Signal Name        |
|--------------|---------------|--------------------|
| 76           | -             | -                  |
| 77           | -             | -                  |
| 78           | -             | -                  |
| 79           | Y             | TEL VOICE (TO IT)- |
| 80           | BR            | TEL VOICE (TO IT)+ |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 69           | -             | -               |
| 70           | L             | RV CAM SIG      |
| 71           | V/G           | CAM GND         |
| 72           | SHIELD        | COMP2 GND       |
| 73           | SHIELD        | COMP1 IN SHIELD |
| 74           | V             | COMP1 IN-       |
| 75           | -             | -               |

| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 81           | SHIELD        | VOICE SHIELD |
| 82           | -             | -            |
| 83           | -             | -            |
| 84           | -             | -            |
| 85           | BR            | SW GND       |
| 86           | L             | CAN-H        |
| 87           | P             | CAN-L        |
| 88           | L             | M-CAN1 H     |
| 89           | P             | M-CAN1 L     |
| 90           | R             | M-CAN2 L TRM |
| 91           | G             | M-CAN2 H TRM |
| 92           | -             | -            |
| 93           | -             | -            |

| Terminal No. | Color of Wire | Signal Name    |
|--------------|---------------|----------------|
| 94           | -             | -              |
| 95           | B             | AUX AUDIO RH+  |
| 96           | W             | AUX AUDIO LH+  |
| 97           | R             | AUX GND        |
| 98           | -             | -              |
| 99           | -             | -              |
| 100          | -             | -              |
| 101          | -             | -              |
| 102          | -             | -              |
| 103          | SB            | CN (DVD) EJECT |
| 104          | G             | IGN            |
| 105          | P/B           | REVERSE SIG    |
| 106          | G/R           | PKB SIG        |
| 107          | V/W           | SPEED 8P       |

ABNIA5142GB

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# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/ BOSE]

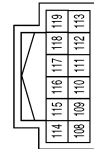
|                 |  |
|-----------------|--|
| Connector No.   | M158   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM WITHOUT NAVIGATION SYSTEM) |
| Connector Color | GRAY   |



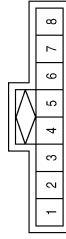
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33           | -             | -           |
| 34           | B             | ANT MAIN    |
| 35           | B             | ANT +B      |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 108          | V             | RR RH PRE-  |
| 109          | B             | FR RH PRE+  |
| 110          | B/P           | AMP ON      |
| 111          | -             | -           |
| 112          | W/R           | RR LH PRE+  |
| 113          | G             | FR LH PRE+  |
| 114          | LG            | RR RH PRE-  |
| 115          | W             | FR RH PRE-  |
| 116          | -             | -           |
| 117          | -             | -           |
| 118          | W/L           | RR LH PRE-  |
| 119          | R             | FRLH PRE-   |

|                 |  |
|-----------------|--|
| Connector No.   | M157   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM WITHOUT NAVIGATION SYSTEM) |
| Connector Color | WHITE  |

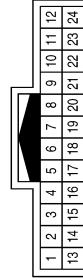


|                 |             |
|-----------------|-------------|
| Connector No.   | M209        |
| Connector Name  | AUX IN JACK |
| Connector Color | WHITE       |



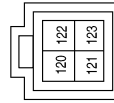
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | R             | -           |
| 3            | W             | -           |
| 7            | LG            | -           |
| 8            | V             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M200         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | B             | -           |
| 10           | W             | -           |
| 11           | R             | -           |
| 12           | SHIELD        | -           |
| 21           | LG            | -           |
| 22           | V             | -           |
| 23           | SHIELD        | -           |
| 24           | GR            | -           |

|                 |  |
|-----------------|--|
| Connector No.   | M159   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM WITHOUT NAVIGATION SYSTEM) |
| Connector Color | GREEN  |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 120          | B             | USB GND     |
| 121          | W             | USB D-      |
| 122          | R             | VBUS        |
| 123          | G             | USB D+      |

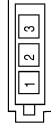
ABNIA5143GB

# COLOR DISPLAY

< WIRING DIAGRAM >

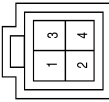
[COLOR DISPLAY - W/ BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | M501         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



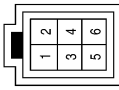
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

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|-----------------|---------------|
| Connector No.   | M211          |
| Connector Name  | USB INTERFACE |
| Connector Color | GREEN         |



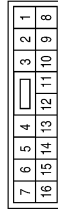
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | G             | -           |
| 3            | B             | -           |
| 4            | W             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M210         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



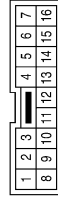
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | R             | -           |
| 3            | W             | -           |
| 4            | G             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | E29          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 15           | W             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | E3           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4            | R             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M502         |
| Connector Name  | ANTENNA AMP. |
| Connector Color | GRAY         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

ABNIA3775GB

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# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/ BOSE]

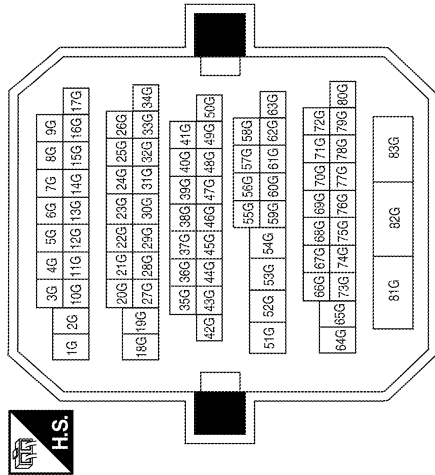
|                 |                    |
|-----------------|--------------------|
| Connector No.   | E34                |
| Connector Name  | BACK-UP LAMP RELAY |
| Connector Color | BLUE               |



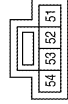
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | O             | --          |
| 2            | R             | --          |
| 3            | W             | --          |
| 5            | LG            | --          |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13G          | BR            | --          |
| 24G          | P             | --          |
| 53G          | GR            | --          |
| 54G          | BR            | --          |
| 64G          | V             | --          |

|                 |              |
|-----------------|--------------|
| Connector No.   | E30          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

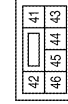


|                 |                |
|-----------------|----------------|
| Connector No.   | E49            |
| Connector Name  | JUNCTION BLOCK |
| Connector Color | BROWN          |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 51           | LG            | --          |
| 52           | O             | --          |

|                 |                |
|-----------------|----------------|
| Connector No.   | E47            |
| Connector Name  | JUNCTION BLOCK |
| Connector Color | WHITE          |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 45           | BR            | --          |

|                 |                      |
|-----------------|----------------------|
| Connector No.   | E35                  |
| Connector Name  | PARKING BRAKE SWITCH |
| Connector Color | BLACK                |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | --          |

ABNIA1635GB

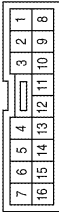


# COLOR DISPLAY

< WIRING DIAGRAM >

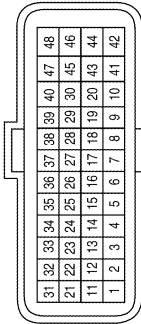
[COLOR DISPLAY - W/ BOSE]

|                 |              |
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| Connector No.   | F1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



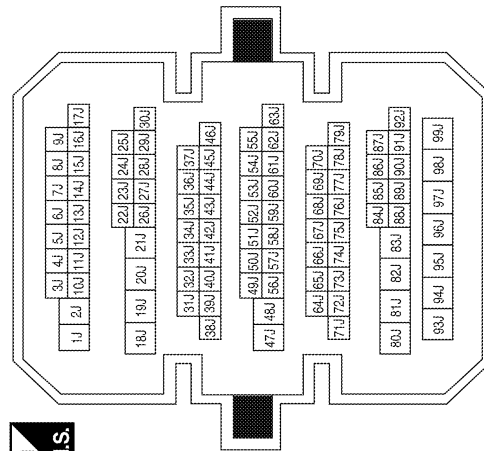
|              |   |               |     |             |    |
|--------------|---|---------------|-----|-------------|----|
| Terminal No. | 4 | Color of Wire | G/B | Signal Name | -- |
|--------------|---|---------------|-----|-------------|----|

|                 |                                   |
|-----------------|-----------------------------------|
| Connector No.   | F15                               |
| Connector Name  | TCM (TRANSMISSION CONTROL MODULE) |
| Connector Color | BLACK                             |



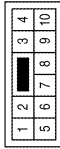
|              |    |               |     |             |              |
|--------------|----|---------------|-----|-------------|--------------|
| Terminal No. | 19 | Color of Wire | G/B | Signal Name | REV LAMP RLY |
|--------------|----|---------------|-----|-------------|--------------|

|                 |              |
|-----------------|--------------|
| Connector No.   | B1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|              |     |               |    |             |    |
|--------------|-----|---------------|----|-------------|----|
| Terminal No. | 80J | Color of Wire | O  | Signal Name | -- |
|              | 81J | Color of Wire | LG | Signal Name | -- |
|              | 88J | Color of Wire | V  | Signal Name | -- |

|                 |              |
|-----------------|--------------|
| Connector No.   | B6           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|              |    |               |    |             |    |
|--------------|----|---------------|----|-------------|----|
| Terminal No. | 9  | Color of Wire | LG | Signal Name | -- |
|              | 10 | Color of Wire | O  | Signal Name | -- |

ABNIA1636GB

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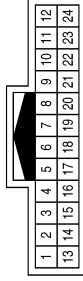
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# COLOR DISPLAY

< WIRING DIAGRAM >

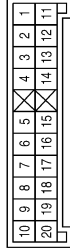
[COLOR DISPLAY - W/ BOSE]

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|-----------------|--------------|
| Connector No.   | B101         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



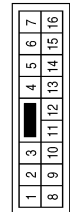
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4            | R             | -           |
| 5            | L             | -           |
| 6            | SHIELD        | -           |
| 8            | BR            | -           |
| 9            | SHIELD        | -           |
| 10           | Y             | -           |
| 13           | BR            | -           |
| 21           | V             | -           |
| 22           | GR            | -           |
| 23           | O             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | B20                 |
| Connector Name  | JOINT CONNECTOR-B05 |
| Connector Color | BLUE                |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | V             | -           |
| 7            | V             | -           |
| 8            | V             | -           |
| 9            | V             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B10          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

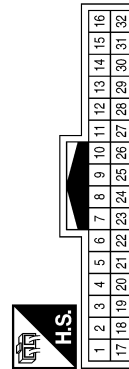


| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 15           | V             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 20           | LG            | -           |
| 21           | V             | -           |
| 23           | GR            | -           |
| 24           | L             | -           |
| 26           | BR            | -           |
| 27           | Y             | -           |
| 29           | SB            | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | BR            | -           |
| 6            | W             | -           |
| 7            | Y             | -           |
| 8            | B             | -           |
| 10           | R             | -           |
| 11           | L             | -           |
| 12           | V             | -           |
| 14           | GR            | -           |
| 15           | P             | -           |
| 17           | W             | -           |
| 18           | B             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B102         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



ABNIA5193GB

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/ BOSE]

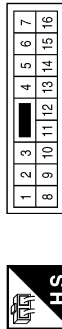
|                 |                   |
|-----------------|-------------------|
| Connector No.   | B106              |
| Connector Name  | REAR SUBWOOFER LH |
| Connector Color | WHITE             |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | P             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 8            | W             | -           |
| 9            | B             | -           |
| 10           | R             | -           |
| 11           | BR            | -           |
| 12           | G             | -           |
| 13           | L             | -           |
| 14           | V             | -           |
| 15           | P             | -           |

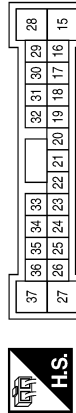
|                 |              |
|-----------------|--------------|
| Connector No.   | B103         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BROWN        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | V             | -           |
| 4            | G             | -           |
| 5            | W             | -           |
| 6            | SB            | -           |
| 7            | GR            | -           |

| Terminal No. | Color of Wire | Signal Name        |
|--------------|---------------|--------------------|
| 25           | Y             | RR RH- IN          |
| 26           | BR            | RR RH+ IN          |
| 27           | -             | -                  |
| 28           | G             | RR DOOR LH+ OUT    |
| 29           | V             | INST CTR TWDR+ OUT |
| 30           | P             | INST CTR TWDR- OUT |
| 31           | R             | FR DOOR RH+ OUT    |
| 32           | BR            | FR DOOR RH- OUT    |
| 33           | LG            | FR RH+ IN          |
| 34           | V             | FR RH- IN          |
| 35           | W             | FR LH+ IN          |
| 36           | B             | FR LH- IN          |
| 37           | -             | -                  |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | B109              |
| Connector Name  | BOSE SPEAKER AMP. |
| Connector Color | BROWN             |



| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 15           | L             | RR DOOR LH- OUT |
| 16           | -             | -               |
| 17           | -             | -               |
| 18           | W             | FR DOOR LH+ OUT |
| 19           | B             | FR DOOR LH- OUT |
| 20           | SB            | AMP ON          |
| 21           | -             | -               |
| 22           | -             | -               |
| 23           | L             | RR LH- IN       |
| 24           | GR            | RR LH+ IN       |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | B107              |
| Connector Name  | REAR SUBWOOFER RH |
| Connector Color | WHITE             |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | BR            | -           |

ABNIA5144GB

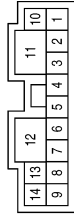
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# COLOR DISPLAY

< WIRING DIAGRAM >

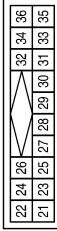
[COLOR DISPLAY - W/ BOSE]

|                 |                   |
|-----------------|-------------------|
| Connector No.   | B110              |
| Connector Name  | BOSE SPEAKER AMP. |
| Connector Color | BROWN             |



| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 1            | LG            | FR TWDR LH+ OUT |
| 2            | V             | FR TWDR LH- OUT |
| 3            | W             | FR TWDR RH- OUT |
| 4            | G             | FR TWDR RH+ OUT |
| 5            | R             | RH WOOFER+ OUT  |
| 6            | BR            | RH WOOFER- OUT  |
| 7            | B             | GND             |
| 8            | P             | LH WOOFER- OUT  |
| 9            | O             | RR DOOR RH- OUT |
| 10           | SB            | BAT             |
| 11           | GR            | BAT             |
| 12           | B             | GND             |
| 13           | L             | LH WOOFER+ OUT  |
| 14           | LG            | RR DOOR RH+ OUT |

|                 |                       |
|-----------------|-----------------------|
| Connector No.   | B111                  |
| Connector Name  | SATELLITE RADIO TUNER |
| Connector Color | WHITE                 |



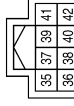
| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 21           | BR            | SAT LCH (-)      |
| 22           | W             | SAT LCH (+)      |
| 23           | Y             | SAT RCH (-)      |
| 24           | B             | SAT RCH (+)      |
| 25           | -             | -                |
| 26           | -             | -                |
| 27           | -             | -                |
| 28           | R             | REQ1 (SAT->COMB) |
| 29           | V             | TXD (SAT->COMB)  |
| 30           | L             | RXD (COMB->SAT)  |
| 31           | -             | -                |
| 32           | P             | BAT              |
| 33           | -             | -                |
| 34           | -             | -                |
| 35           | B             | HARN EARTH       |
| 36           | GR            | ACC              |

|                 |                         |
|-----------------|-------------------------|
| Connector No.   | B130                    |
| Connector Name  | BLUETOOTH® CONTROL UNIT |
| Connector Color | BLACK                   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33           | B             | -           |
| 34           | B             | -           |

|                 |                         |
|-----------------|-------------------------|
| Connector No.   | B125                    |
| Connector Name  | BLUETOOTH® CONTROL UNIT |
| Connector Color | WHITE                   |



| Terminal No. | Color of Wire | Signal Name                 |
|--------------|---------------|-----------------------------|
| 35           | L             | CAN H1                      |
| 36           | P             | CAN L1                      |
| 37           | -             | -                           |
| 38           | -             | -                           |
| 39           | -             | -                           |
| 40           | R             | CAN H2 (WITH COLOR DISPLAY) |
| 41           | -             | -                           |
| 42           | G             | CAN L2 (WITH COLOR DISPLAY) |

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# COLOR DISPLAY

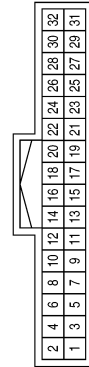
< WIRING DIAGRAM >

[COLOR DISPLAY - W/ BOSE]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 21           | -             | -           |
| 22           | -             | -           |
| 23           | -             | -           |
| 24           | -             | -           |
| 25           | -             | -           |
| 26           | -             | -           |
| 27           | -             | -           |
| 28           | BR            | SPEED       |
| 29           | R             | MIC POWER   |
| 30           | -             | -           |
| 31           | -             | -           |
| 32           | -             | -           |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 6            | -             | -             |
| 7            | L             | MIC IN +      |
| 8            | SHIELD        | MIC IN -      |
| 9            | BR            | AUDIO OUT (+) |
| 10           | Y             | AUDIO OUT (-) |
| 11           | -             | -             |
| 12           | -             | -             |
| 13           | -             | -             |
| 14           | -             | -             |
| 15           | -             | -             |
| 16           | -             | -             |
| 17           | -             | -             |
| 18           | -             | -             |
| 19           | -             | -             |
| 20           | -             | -             |

|                 |   |
|-----------------|---|
| Connector No.   | B131  |
| Connector Name  | BLUETOOTH® CONTROL UNIT (EXCEPT MONOCHROME DISPLAY WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | WHITE   |

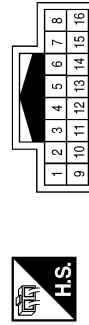


| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | V             | (+B)        |
| 2            | GR            | ACC         |
| 3            | O             | IGN         |
| 4            | B             | GND         |
| 5            | -             | -           |

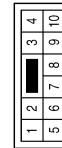
|                 |              |
|-----------------|--------------|
| Connector No.   | B139         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|                 |              |
|-----------------|--------------|
| Connector No.   | B136         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|                 |              |
|-----------------|--------------|
| Connector No.   | B134         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 1            | R             | -(WITHOUT NAVI) |
| 2            | W             | -(WITHOUT NAVI) |
| 3            | B             | -(WITHOUT NAVI) |
| 4            | SHIELD        | -               |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 1            | B             | -(WITHOUT NAVI) |
| 2            | SHIELD        | -               |
| 6            | W             | -(WITHOUT NAVI) |
| 7            | R             | -(WITHOUT NAVI) |
| 9            | G             | -               |
| 10           | R             | -               |
| 11           | P             | -               |
| 12           | L             | -               |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

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A B C D E F G H I J K L M N O P

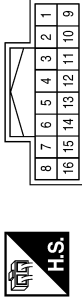
AV

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/ BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | R1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



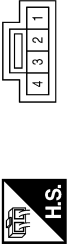
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | R             | -           |
| 9            | SHIELD        | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | T101             |
| Connector Name  | REAR VIEW CAMERA |
| Connector Color | WHITE            |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | W             | -           |
| 3            | B             | -           |
| 4            | GR            | -           |

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|-----------------|--------------|
| Connector No.   | T100         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



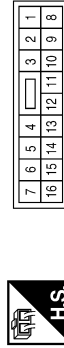
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | W             | -           |
| 3            | B             | -           |
| 4            | SHIELD        | -           |

|                 |                       |
|-----------------|-----------------------|
| Connector No.   | D3                    |
| Connector Name  | FRONT DOOR SPEAKER LH |
| Connector Color | WHITE                 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11           | O             | -           |
| 12           | LG            | -           |

|                 |            |
|-----------------|------------|
| Connector No.   | R7         |
| Connector Name  | MICROPHONE |
| Connector Color | WHITE      |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | SHIELD        | -           |
| 4            | R             | -           |

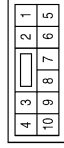
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# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/ BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | D201         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



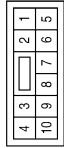
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

|                 |                       |
|-----------------|-----------------------|
| Connector No.   | D103                  |
| Connector Name  | FRONT DOOR SPEAKER RH |
| Connector Color | WHITE                 |



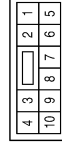
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D101         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | LG            | -           |
| 8            | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D306         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

|                 |   |
|-----------------|---|
| Connector No.   | D302  |
| Connector Name  | REAR DOOR SPEAKER RH<br>(EXCEPT MONOCHROME<br>DISPLAY WITHOUT BOSE<br>AUDIO SYSTEM) |
| Connector Color | BROWN   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |   |
|-----------------|---|
| Connector No.   | D202  |
| Connector Name  | REAR DOOR SPEAKER LH<br>(EXCEPT MONOCHROME<br>DISPLAY WITHOUT BOSE<br>AUDIO SYSTEM) |
| Connector Color | BROWN   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

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**SYMPTOM DIAGNOSIS**

**AUDIO SYSTEM**

Symptom Table

INFOID:000000009471391

**AUDIO SYSTEM**

| Symptoms                    | Check items     | Probable malfunction location  |
|-----------------------------|-----------------|--|
| The disk cannot be removed. | AV control unit | Malfunction in AV control unit.<br>Refer to <a href="#">AV-481. "Removal and Installation"</a> . |



# AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

| Symptoms   | Check items  | Probable malfunction location  |
|--|--|--|
|  | No sound from all speakers.  | <ul style="list-style-type: none"> <li>• Speaker circuit shorted to ground.<br/>Refer to <a href="#">AV-449, "Wiring Diagram - With BOSE Audio system Without Navigation System"</a>.</li> <li>• AV control unit power supply and ground circuits malfunction.<br/>Refer to <a href="#">AV-388, "AV CONTROL UNIT : Diagnosis Procedure"</a>.</li> <li>• BOSE speaker amp. power supply and ground circuits malfunction.<br/>Refer to <a href="#">AV-391, "BOSE SPEAKER AMP : Diagnosis Procedure"</a>.</li> <li>• BOSE speaker amp. on signal circuit malfunction.<br/>Refer to <a href="#">AV-421, "Diagnosis Procedure"</a>.</li> </ul>  |
| No sound comes out or the level of the sound is low. | Only a certain speaker (front door speaker LH, front door speaker RH, tweeter LH, tweeter RH, center speaker, rear door speaker LH, rear door speaker RH, rear subwoofer LH, rear subwoofer RH) does not output sound. | <ul style="list-style-type: none"> <li>• Poor connector connection of speaker.</li> <li>• Sound signal circuit malfunction between AV control unit and BOSE speaker amp.<br/>Refer to <a href="#">AV-406, "Diagnosis Procedure"</a> (front door speaker).<br/>Refer to <a href="#">AV-409, "Diagnosis Procedure"</a> (tweeter).<br/>Refer to <a href="#">AV-412, "Diagnosis Procedure"</a> (center speaker).<br/>Refer to <a href="#">AV-415, "Diagnosis Procedure"</a> (rear door speaker).<br/>Refer to <a href="#">AV-418, "Diagnosis Procedure"</a> (subwoofer).</li> <li>• Sound signal circuit malfunction between BOSE speaker amp. and speaker<br/>Refer to <a href="#">AV-406, "Diagnosis Procedure"</a> (front door speaker).<br/>Refer to <a href="#">AV-409, "Diagnosis Procedure"</a> (tweeter).<br/>Refer to <a href="#">AV-412, "Diagnosis Procedure"</a> (center speaker).<br/>Refer to <a href="#">AV-415, "Diagnosis Procedure"</a> (rear door speaker).<br/>Refer to <a href="#">AV-418, "Diagnosis Procedure"</a> (subwoofer).</li> <li>• Malfunction in speaker.<br/>Refer to <a href="#">AV-490, "Removal and Installation"</a> (front door speaker).<br/>Refer to <a href="#">AV-488, "Removal and Installation"</a> (tweeter).<br/>Refer to <a href="#">AV-489, "Removal and Installation"</a> (center speaker).<br/>Refer to <a href="#">AV-491, "Removal and Installation"</a> (rear door speaker).<br/>Refer to <a href="#">AV-492, "Removal and Installation"</a> (subwoofer).</li> <li>• Malfunction in AV control unit.<br/>Refer to <a href="#">AV-481, "Removal and Installation"</a>.</li> <li>• Malfunction in BOSE speaker amp.<br/>Refer to <a href="#">AV-493, "Removal and Installation"</a>.</li> </ul> |

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# AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

| Symptoms                              | Check items  | Probable malfunction location  |
|---------------------------------------|--|--|
|                                       | Noise comes out from all speakers.   | <ul style="list-style-type: none"> <li>• Malfunction in AV control unit.<br/>Refer to <a href="#">AV-481, "Removal and Installation"</a>.</li> <li>• Malfunction in BOSE speaker amp.<br/>Refer to <a href="#">AV-493, "Removal and Installation"</a>.</li> </ul>  |
| Noise is mixed with audio.            | Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, tweeter LH, tweeter RH, center speaker, rear door speaker LH, rear door speaker RH, rear subwoofer LH, rear subwoofer RH).  | <ul style="list-style-type: none"> <li>• Poor connector connection of speaker.</li> <li>• Sound signal circuit malfunction between AV control unit and BOSE speaker amp.<br/>Refer to <a href="#">AV-406, "Diagnosis Procedure"</a> (front door speaker).<br/>Refer to <a href="#">AV-409, "Diagnosis Procedure"</a> (tweeter).<br/>Refer to <a href="#">AV-412, "Diagnosis Procedure"</a> (center speaker).<br/>Refer to <a href="#">AV-415, "Diagnosis Procedure"</a> (rear door speaker).<br/>Refer to <a href="#">AV-418, "Diagnosis Procedure"</a> (subwoofer).</li> <li>• Sound signal circuit malfunction between BOSE speaker amp. and speaker<br/>Refer to <a href="#">AV-406, "Diagnosis Procedure"</a> (front door speaker).<br/>Refer to <a href="#">AV-409, "Diagnosis Procedure"</a> (tweeter).<br/>Refer to <a href="#">AV-412, "Diagnosis Procedure"</a> (center speaker).<br/>Refer to <a href="#">AV-415, "Diagnosis Procedure"</a> (rear door speaker).<br/>Refer to <a href="#">AV-418, "Diagnosis Procedure"</a> (subwoofer).</li> <li>• Malfunction in speaker.<br/>Refer to <a href="#">AV-490, "Removal and Installation"</a> (front door speaker).<br/>Refer to <a href="#">AV-488, "Removal and Installation"</a> (tweeter).<br/>Refer to <a href="#">AV-489, "Removal and Installation"</a> (center speaker).<br/>Refer to <a href="#">AV-491, "Removal and Installation"</a> (rear door speaker).<br/>Refer to <a href="#">AV-492, "Removal and Installation"</a> (subwoofer).</li> <li>• Malfunction in AV control unit.<br/>Refer to <a href="#">AV-481, "Removal and Installation"</a>.</li> <li>• Malfunction in BOSE speaker amp.<br/>Refer to <a href="#">AV-493, "Removal and Installation"</a>.</li> </ul> |
|                                       | Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)  | Poor connector connection of antenna or antenna feeder.<br>Refer to <a href="#">AV-497, "Location of Antenna"</a> .  |
| No radio reception or poor reception. | <ul style="list-style-type: none"> <li>• Other audio sounds are normal.</li> <li>• Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).</li> </ul> | <ul style="list-style-type: none"> <li>• Antenna amp. ON signal circuit malfunction.<br/>Refer to <a href="#">AV-431, "Reference Value"</a>.</li> <li>• Poor connector connection of antenna or antenna feeder.<br/>Refer to <a href="#">AV-497, "Location of Antenna"</a>.</li> </ul>   |

# AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

| Symptoms                       | Check items  | Probable malfunction location   |
|--------------------------------|--|---|
| No satellite radio reception.  | There is malfunction in the CONSULT self diagnosis result.<br>Refer to <a href="#">AV-359. "CONSULT Function (MULTI AV)".</a>                        | <ul style="list-style-type: none"> <li>• Malfunction in antenna, antenna feeder or AV control unit.</li> <li>• Poor continuity in antenna feeder.</li> <li>• Poor connector connection of antenna or antenna feeder.<br/>Refer to <a href="#">AV-497. "Location of Antenna".</a></li> </ul> |
|                                | There is no malfunction in the CONSULT self diagnosis result.<br>Refer to <a href="#">AV-359. "CONSULT Function (MULTI AV)".</a>                     | <ul style="list-style-type: none"> <li>• Poor continuity in antenna feeder.</li> <li>• Poor connector connection of antenna or antenna feeder.</li> <li>• Loose satellite radio antenna mounting nut.<br/>Refer to <a href="#">AV-497. "Location of Antenna".</a></li> </ul>                |
| Buzz/rattle sound from speaker | The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle. | Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.  |

## RELATED TO HANDS-FREE PHONE

- Before performing diagnosis, confirm that the cellular phone being used by the customer is compatible with the vehicle.
- It is possible that a malfunction is occurring due to a version change of the phone even though the phone is a compatible type. This can be confirmed by changing the cellular phone to another compatible type, and check that it operates normally. It is important to determine whether the cause of the malfunction is the vehicle or the cellular phone.

### Check Compatibility

1. Make sure the customer's Bluetooth® related concern is understood.
2. Verify the customer's concern.  
**NOTE:**  
The customer's phone may be required, depending upon their concern.
3. Write down the customer's phone brand, model and service provider.  
**NOTE:**  
It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.
4. Go to "www.nissanusa.com/bluetooth/".
  - a. Using the website's search engine, find out if the customer's phone is on the approved list.
  - b. If the customer's phone is NOT on the approved list:  
Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.
  - c. If the feature related to the customer's concern shows as "N" (not compatible):  
Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".
  - d. If the feature related to the customer's concern shows as "Y" (compatible):  
Perform diagnosis as per the following table.





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AV

# AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

| Symptoms   | Check items  | Probable malfunction location  |
|--|--|--|
| Does not recognize cellular phone connection (no connection is displayed on the display at the guide). | Repeat the registration of cellular phone.   |  |
| Hands-free phone cannot be established.  | <ul style="list-style-type: none"> <li>• Hands-free phone operation can be made, but the communication cannot be established.</li> <li>• Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.</li> </ul>  | <ul style="list-style-type: none"> <li>• Malfunction in Bluetooth® control unit. Replace Bluetooth® control unit. Refer to <a href="#">AV-503, "Removal and Installation"</a>.</li> <li>• Malfunction in AV control unit. Replace AV control unit. Refer to <a href="#">AV-481, "Removal and Installation"</a>.</li> </ul> |
| The other party's voice cannot be heard by hands-free phone.   | Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.  |  |
| Originating sound is not heard by the other party with hands-free phone communication.                 | Sound operation function is normal.  |  |
|  | Sound operation function does not work.  | Microphone signal circuit malfunction. Refer to <a href="#">AV-429, "Diagnosis Procedure"</a> .  |
| The system cannot be operated.   | <ul style="list-style-type: none"> <li>• The voice recognition can be controlled.</li> <li>• Steering switch's volume DOWN and volume UP switch works, but   does not work.</li> </ul> | Steering switch malfunction. Replace steering switch. Refer to <a href="#">AV-496, "Removal and Installation"</a> .  |
|  | Steering switch's   , volume DOWN and volume UP switches do not work.  | Steering switch signal circuit malfunction. Refer to <a href="#">AV-422, "Diagnosis Procedure"</a> .   |
|  | All steering switches do not work.   | Steering switch ground circuit malfunction. Refer to <a href="#">AV-422, "Diagnosis Procedure"</a> .   |

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

## NORMAL OPERATING CONDITION

### Description

INFOID:000000009471392

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).

### NOISE

The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction.

- Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
- Multi-path noise: This noise results from the waves sent directly from the broadcast station arriving at the antenna at a different time from the waves which reflect off mountains or buildings.

The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and determine the cause.

#### NOTE:

The source of the noise can be found easily by listening to the noise while removing the fuses of electrical components, one by one.

#### Type of Noise and Possible Cause

| Occurrence condition  |   | Possible cause   |
|---|---|--|
| Occurs only when engine is ON.  | A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed. | <ul style="list-style-type: none"> <li>• Ignition components</li> </ul>  |
| The occurrence of the noise is linked with the operation of the fuel pump.  |   | <ul style="list-style-type: none"> <li>• Fuel pump condenser</li> </ul>  |
| Noise only occurs when various electrical components are operating.   | A cracking or snapping sound occurs with the operation of various switches.                         | <ul style="list-style-type: none"> <li>• Relay malfunction, AV control unit malfunction</li> </ul>   |
|   | The noise occurs when various motors are operating.   | <ul style="list-style-type: none"> <li>• Motor case ground</li> <li>• Motor</li> </ul>   |
| The noise occurs constantly, not just under certain conditions.   |   | <ul style="list-style-type: none"> <li>• Rear defogger coil malfunction</li> <li>• Open circuit in printed heater</li> <li>• Poor ground of antenna feeder line</li> </ul>         |
| A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively. |   | <ul style="list-style-type: none"> <li>• Ground wire of body parts</li> <li>• Ground due to improper part installation</li> <li>• Wiring connections or a short circuit</li> </ul> |

### RELATED TO HANDS-FREE PHONE

| Symptom  | Cause and Counter measure   |
|--|---|
| Does not recognize cellular phone connection (No connection is displayed on the display at the guide). | Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in <a href="#">AV-472, "Symptom Table"</a> .   |
| Cannot use hands-free phone.   | <p>Customer will not be able to use a hands-free phone under the following conditions:</p> <ul style="list-style-type: none"> <li>• The vehicle is outside of the telephone service area.</li> <li>• The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area.</li> <li>• The cellular phone is locked to prevent it from being dialed.</li> </ul> <p><b>NOTE:</b></p> <p>While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.</p> |

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/ BOSE]

| Symptom  | Cause and Counter measure   |
|--|---|
| The other party's voice cannot be heard by hands-free phone. | When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.  |
| Poor sound quality.  | Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption. |

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000010136255

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

**WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

**WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.

Precaution for Work

INFOID:000000009471394

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
  - Water soluble dirt:
    - Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
    - Then rub with a soft, dry cloth.
  - Oily dirt:
    - Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
    - Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
    - Then rub with a soft, dry cloth.
  - Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
  - For genuine leather seats, use a genuine leather seat cleaner.

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# PREPARATION

< PREPARATION >

[COLOR DISPLAY - W/ BOSE]

## PREPARATION

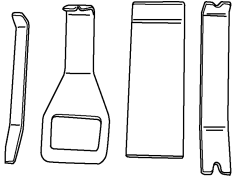
### PREPARATION

#### Special Service Tool

INFOID:000000009471395

The actual shape of the tools may differ from those illustrated here.

| Tool number<br>(TechMate No.)<br>Tool name | Description              |
|--|--------------------------|
| —<br>(J-46534)<br>Trim Tool Set            | Removing trim components |

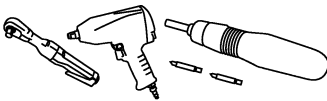


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#### Commercial Service Tools

INFOID:000000009471396

| Tool name  | Description                      |
|------------|----------------------------------|
| Power tool | Loosening nuts, screws and bolts |



PIIB1407E



# AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

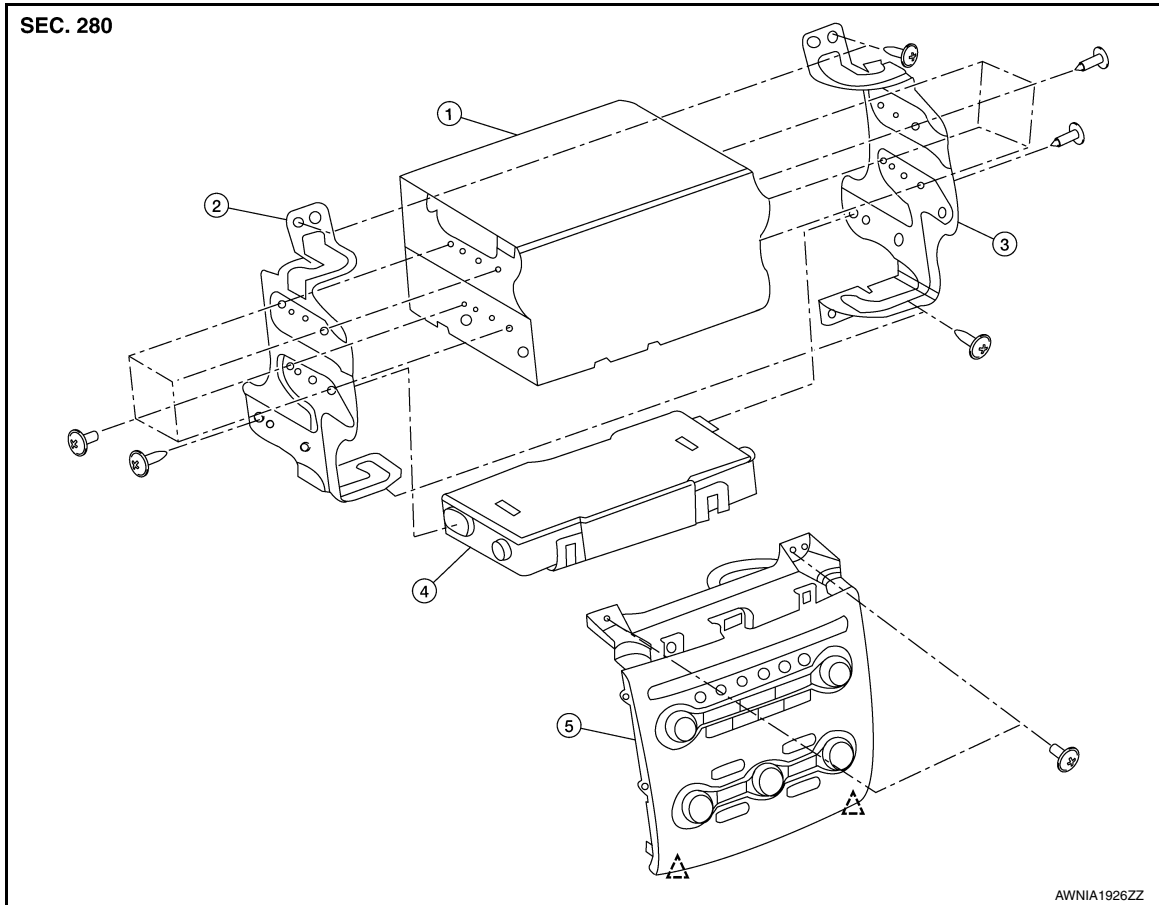
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## REMOVAL AND INSTALLATION

### AV CONTROL UNIT

#### Removal and Installation

INFOID:000000009471397



- |                    |   |                                 |
|--------------------|---|---------------------------------|
| 1. AV control unit | 2. AV control unit bracket (LH)                             | 3. AV control unit bracket (RH) |
| 4. A/C auto amp.   | 5. Cluster lid C (with A/C and AV switch assembly attached) | △ Clip                          |

### AV CONTROL UNIT

#### Removal

#### **CAUTION:**

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to [AV-337, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

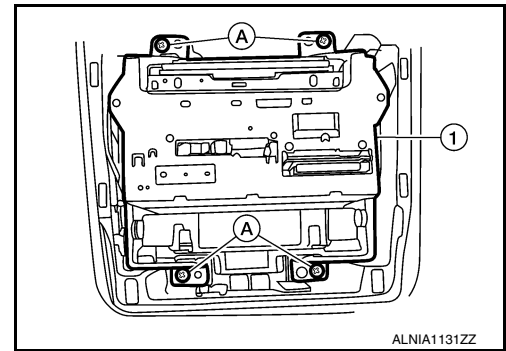
1. Disconnect the battery negative terminal. Refer to [PG-67, "Removal and Installation \(Battery\)"](#).
2. Remove cluster lid D. Refer to [IP-18, "Removal and Installation"](#).
3. Remove cluster lid C. Refer to [IP-10, "Exploded View"](#).

## AV CONTROL UNIT

### < REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

4. Remove the av control unit screws (A), then pull out the av control unit (1), disconnect the av control unit connectors and remove the av control unit (1).



#### Installation

Installation is in the reverse order of removal.

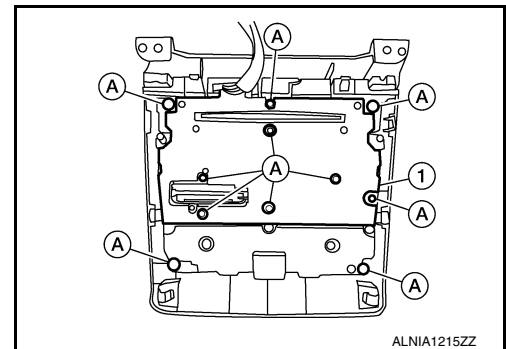
#### CAUTION:

- When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to [AV-337, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

### A/C AND AV SWITCH ASSEMBLY

#### Removal

1. Remove cluster lid D. Refer to [IP-18, "Removal and Installation"](#).
2. Remove cluster lid C. Refer to [IP-10, "Exploded View"](#).
3. Remove the A/C and AV switch assembly screws (A), then pull out the A/C and AV switch assembly (1) from cluster lid C.



#### Installation

Installation is in the reverse order of removal.

# MULTIFUNCTION SWITCH

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

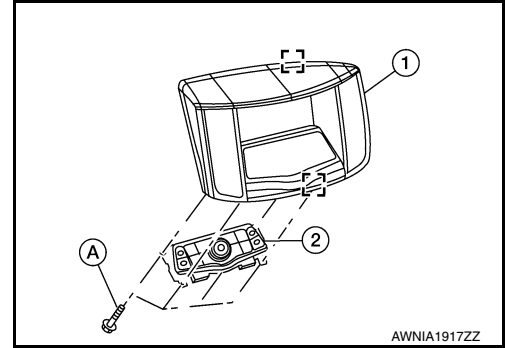
## MULTIFUNCTION SWITCH

### Removal and Installation

INFOID:000000009471398

#### REMOVAL

1. Remove cluster lid D. Refer to [IP-18. "Removal and Installation"](#).
2. Remove the four multifunction switch screws (A) and the multifunction switch (2) from cluster lid D (1).  
[ ]: Metal clip



#### INSTALLATION

Installation is in the reverse order of removal.

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# AUDIO DISPLAY UNIT

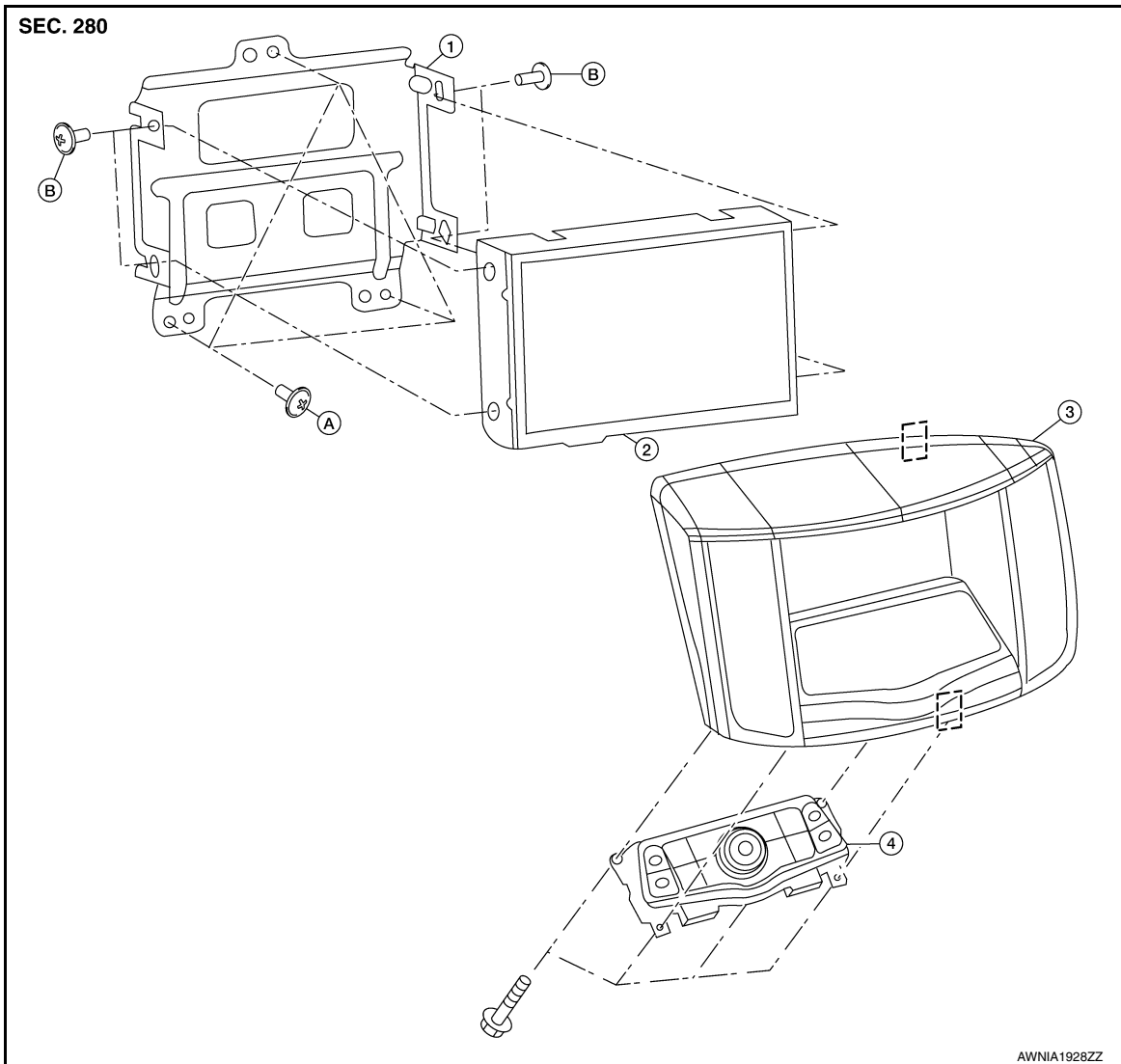
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

## AUDIO DISPLAY UNIT

### Removal and Installation

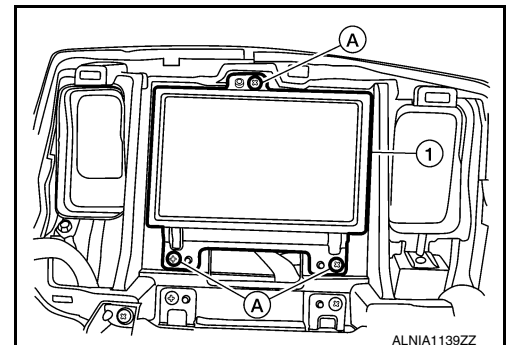
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- |                               |                                      |                              |
|-------------------------------|--------------------------------------|------------------------------|
| 1. Audio display unit bracket | 2. Audio display unit                | 3. Cluster lid D             |
| 4. Multifunction switch       | A. Audio display unit bracket screws | B. Audio display unit screws |
| [ ] Metal Clip                |                                      |                              |

### REMOVAL

1. Remove cluster lid D. Refer to [JP-18. "Removal and Installation"](#).
2. Remove the audio display unit bracket screws (A).
3. Pull out the audio display unit and bracket assembly (1).
4. Disconnect the harness connectors from the audio display unit and bracket assembly (1) and remove.



# AUDIO DISPLAY UNIT

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

5. Remove the audio display unit screws on the sides and the audio display unit from the audio display unit brackets.

## INSTALLATION

Installation is in the reverse order of removal.

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# USB CONNECTOR

< REMOVAL AND INSTALLATION >

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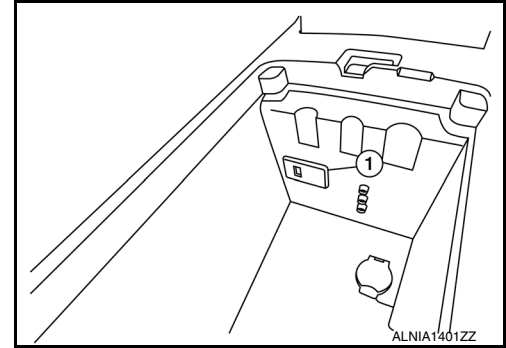
## USB CONNECTOR

### Removal and Installation

INFOID:000000009471400

#### REMOVAL

1. Remove the center console assembly. Refer to [IP-14. "Removal and Installation"](#).
2. Release the pawl from the back of the center console to remove the USB interface (1).



#### INSTALLATION

Installation is in the reverse order of removal.

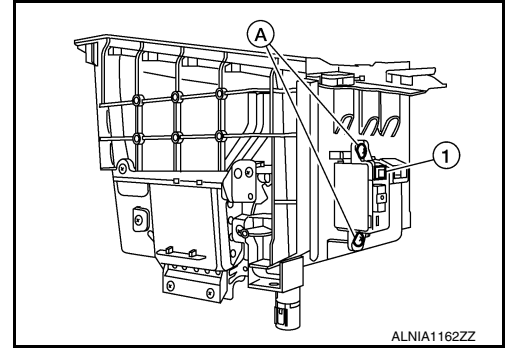
## AUX IN JACK

### Removal and Installation

INFOID:000000009471401

#### REMOVAL

1. Remove the center console assembly. Refer to [IP-14. "Removal and Installation"](#).
2. Remove the auxiliary input jacks screws (A) and auxiliary input jack (1).



#### INSTALLATION

Installation is in the reverse order of removal.

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## FRONT TWEETER

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

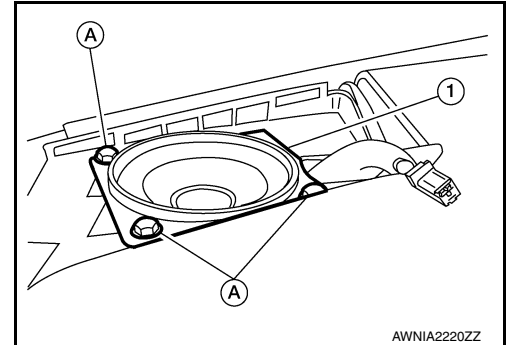
### FRONT TWEETER

#### Removal and Installation

INFOID:000000009471402

#### REMOVAL

1. Remove the front pillar finisher. Refer to [INT-24, "Removal and Installation"](#).
2. Remove the front tweeter speaker grille. Refer to [IP-10, "Exploded View"](#).
3. Remove the front tweeter speaker screws (A).
4. Pull out front tweeter speaker (1), disconnect the harness connector from the front tweeter speaker and remove.



#### INSTALLATION

Installation is in the reverse order of removal.



# CENTER SPEAKER

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

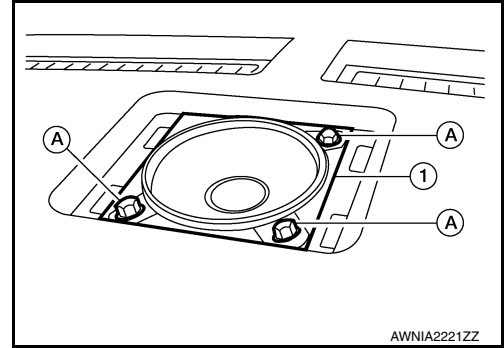
## CENTER SPEAKER

### Removal and Installation

INFOID:000000009471403

#### REMOVAL

1. Remove the center speaker grille, using a suitable tool.
2. Remove the center speaker screws (A).
3. Pull out the center speaker (1), disconnect the harness connector from the center speaker and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

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# FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

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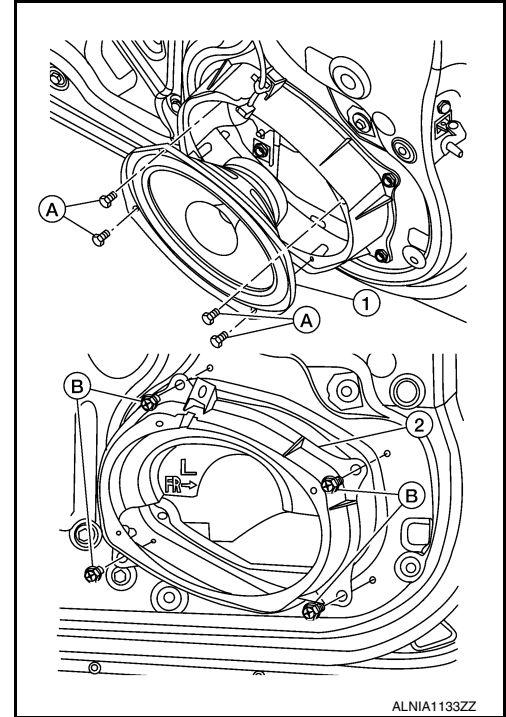
## FRONT DOOR SPEAKER

### Removal and Installation

INFOID:000000009471404

#### REMOVAL

1. Remove the front door finisher. Refer to [INT-18, "Removal and Installation"](#).
2. Remove the front door speaker screws (A).
3. Disconnect the harness connector from the front door speaker (1) and remove.
4. Remove the front door speaker spacer screws (B) and remove the front door speaker spacer (2).



#### INSTALLATION

Installation is in the reverse order of removal.

# REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

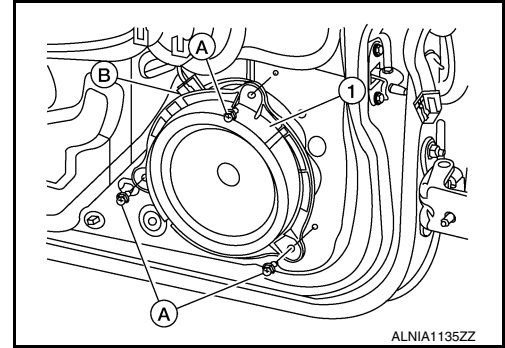
## REAR DOOR SPEAKER

### Removal and Installation

INFOID:000000009471405

#### REMOVAL

1. Remove the rear door finisher. Refer to [INT-21. "Removal and Installation"](#).
2. Remove the rear door speaker screws (A).
3. Disconnect the harness connector (B) from the rear door speaker (1) and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

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# SUBWOOFER

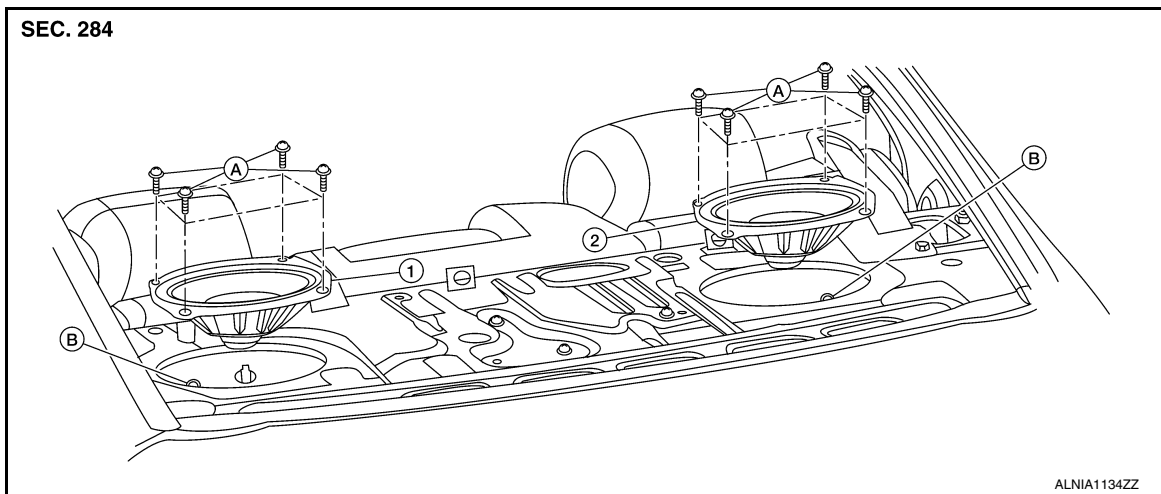
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

## SUBWOOFER

### Removal and Installation

INFOID:000000009471406



- 1. Subwoofer (LH)
- 2. Subwoofer (RH)
- A. Subwoofer screws
- B. Subwoofer connectors

### REMOVAL

1. Remove the rear parcel shelf finisher. Refer to [INT-28. "Removal and Installation"](#).
2. Remove the subwoofer screws.
3. Pull out the subwoofer, disconnect the harness connector from the subwoofer and remove.

### INSTALLATION

Installation is in the reverse order of removal.

# BOSE SPEAKER AMP

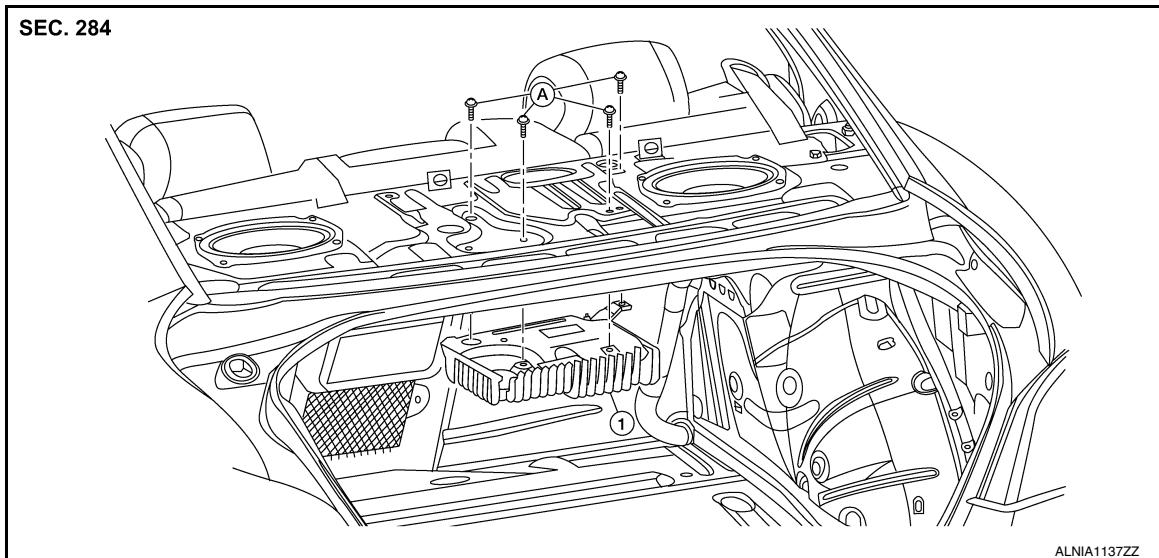
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

## BOSE SPEAKER AMP

### Removal and Installation

INFOID:00000009471407



1. Bose speaker amp.

A. Screws

### REMOVAL

#### NOTE:

If removing the BOSE speaker amp. bracket, it is necessary to remove the parcel shelf finisher. The BOSE speaker amp. can be removed without removing the BOSE speaker amp. bracket.

1. Disconnect the battery negative terminal. Refer to [PG-67, "Removal and Installation \(Battery\)"](#).
2. Remove the trunk upper finisher. Refer to [INT-23, "Exploded View"](#).
3. Remove the Bose speaker amp. screws.
4. Disconnect the harness connector from the BOSE speaker amp. and remove.

### INSTALLATION

Installation is in the reverse order of removal.

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# SATELLITE RADIO TUNER

< REMOVAL AND INSTALLATION >

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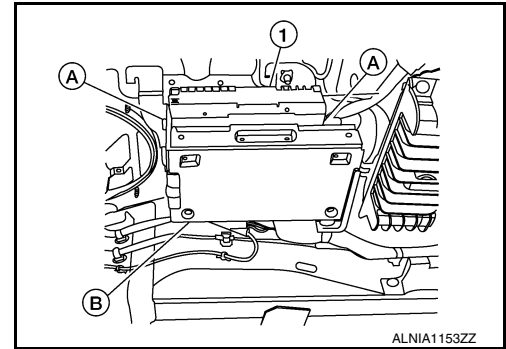
## SATELLITE RADIO TUNER

### Removal and Installation

INFOID:000000009471408

#### REMOVAL

1. Disconnect the battery negative terminal. Refer to [PG-67, "Removal and Installation \(Battery\)"](#).
2. Remove the trunk upper finisher. Refer to [INT-36, "Exploded View"](#).
3. Remove the parcel shelf finisher. Refer to [INT-28, "Removal and Installation"](#).
4. From inside the passenger compartment, remove the bracket screws and lower the assembly for access.
5. Remove the satellite radio tuner unit screws (A), disconnect the harness connectors (B) from the satellite radio tuner (1) and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

# SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

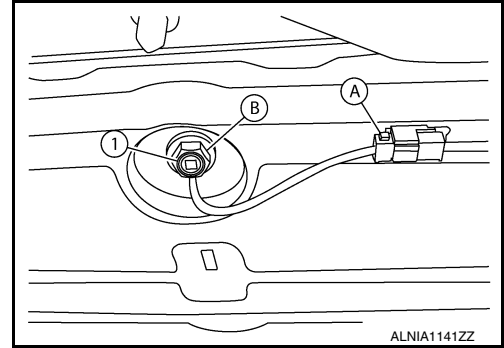
## SATELLITE RADIO ANTENNA

### Removal and Installation

INFOID:000000009471409

#### REMOVAL

1. Lower the headlining at the rear. Refer to [INT-33, "Exploded View"](#).
2. Disconnect the harness connector (A) from satellite radio antenna.
3. Remove the satellite radio antenna nut (B) and the satellite radio antenna (1).



#### INSTALLATION

Installation is in the reverse order of removal.

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# STEERING SWITCH

< REMOVAL AND INSTALLATION >

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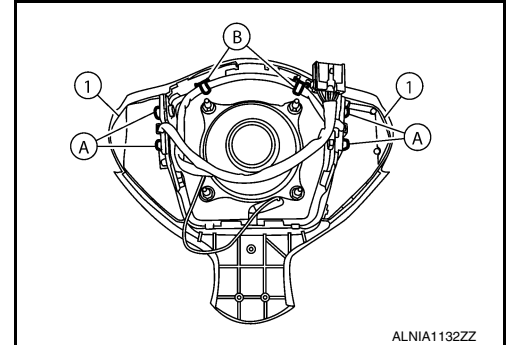
## STEERING SWITCH

### Removal and Installation

INFOID:000000009471410

#### REMOVAL

1. Remove the driver airbag module. Refer to [SR-12. "Removal and Installation"](#).
2. Remove the steering wheel audio control switch screws (A).
3. Release the steering wheel audio control switch harness clips (B).
4. Remove the steering wheel audio control switches (1).



#### INSTALLATION

Installation is in the reverse order of removal.



# AUDIO ANTENNA

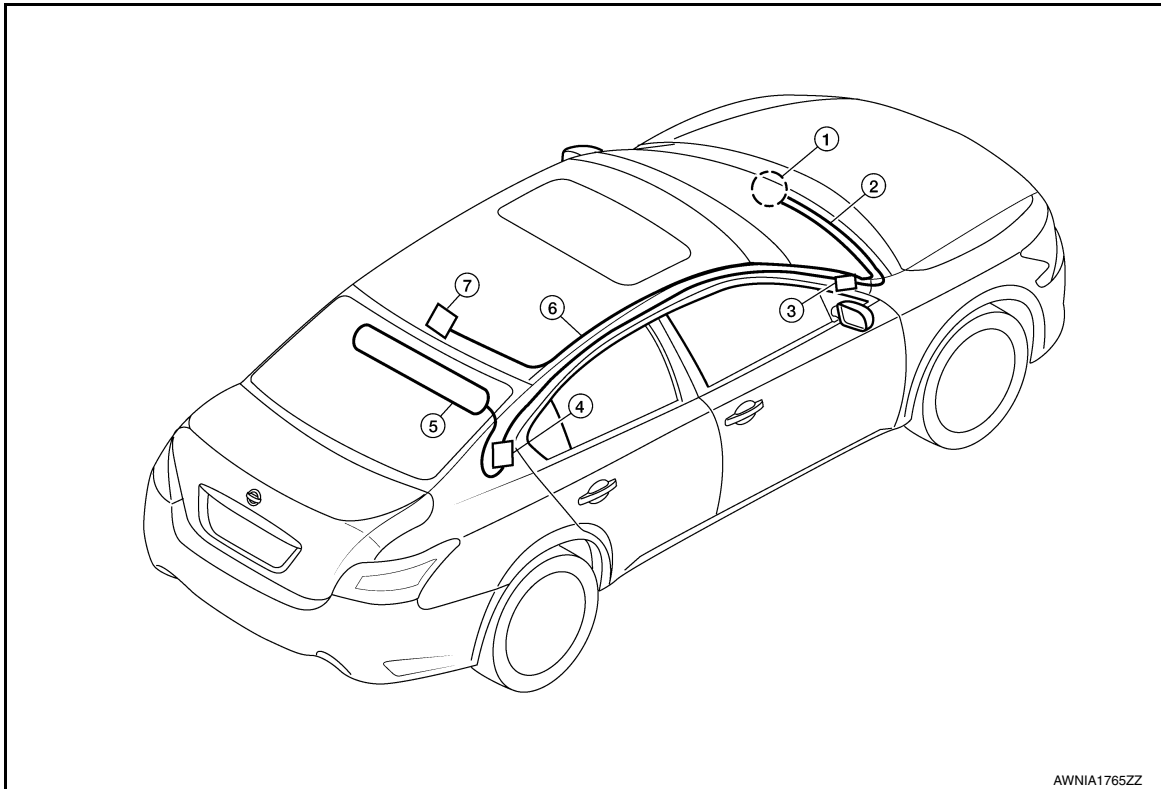
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

## AUDIO ANTENNA

### Location of Antenna

INFOID:000000009471411



AWNIA1765ZZ

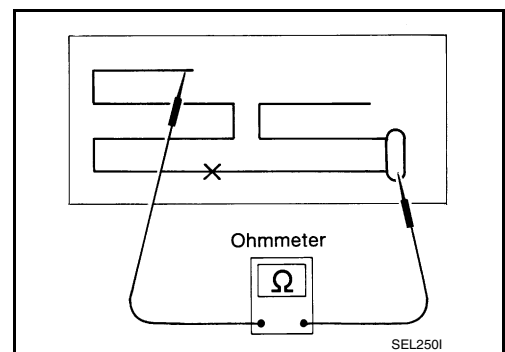
- |                            |                                   |                                   |
|----------------------------|-----------------------------------|-----------------------------------|
| 1. AV control unit         | 2. AV control unit antenna feeder | 3. In-line connectors M103, M501  |
| 4. Antenna amp.            | 5. Window antenna                 | 6. Satellite radio antenna feeder |
| 7. Satellite radio antenna |                                   |                                   |

### Window Antenna Repair

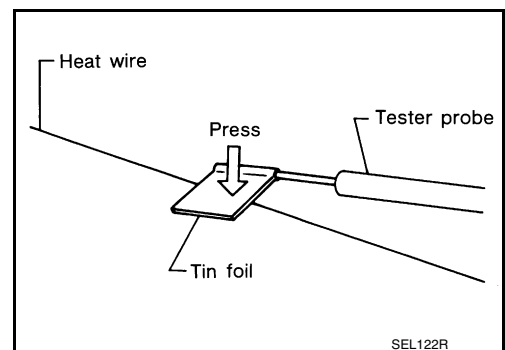
INFOID:000000009471412

#### ELEMENT CHECK

1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



- When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



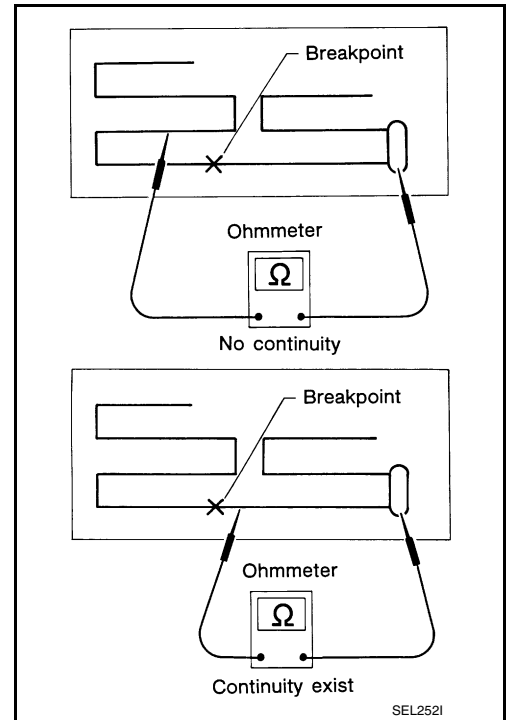
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# AUDIO ANTENNA

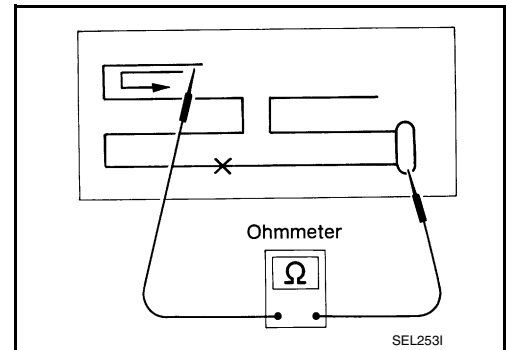
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

- If an element is broken, no continuity will exist.



- To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.

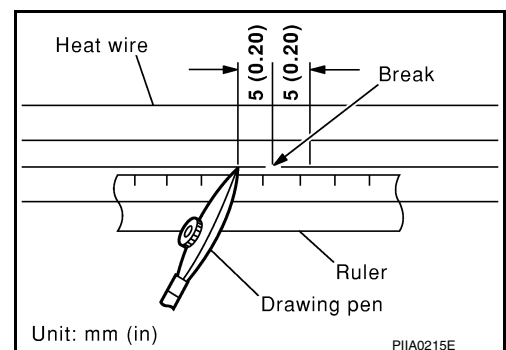


## REPAIR EQUIPMENT

- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

## REPAIRING PROCEDURE

- Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
- Apply a small amount of conductive silver composition to tip of drawing pen.  
**NOTE:**  
Shake silver composition container before use.
- Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.

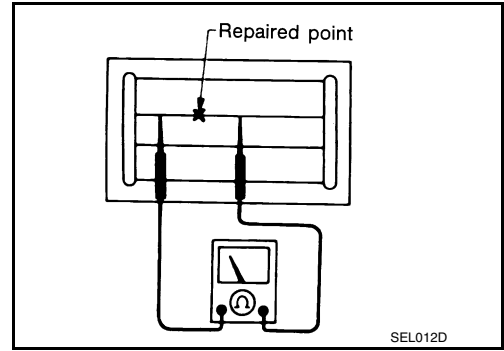


# AUDIO ANTENNA

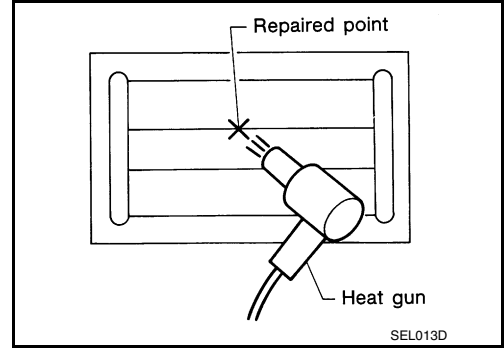
## < REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited. Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.



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## ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

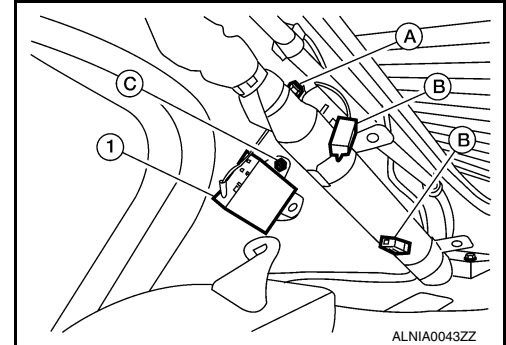
### ANTENNA AMP.

#### Removal and Installation

INFOID:000000009471413

#### REMOVAL

1. Remove the rear pillar finisher RH. Refer to [INT-36. "Exploded View"](#).
2. Detach the antenna amp. harness clip (A).
3. Disconnect the harness connectors (B) from the antenna amp. (1).
4. Remove the antenna amp. screw (C) and the antenna amp. (1).



#### INSTALLATION

Installation is in the reverse order of removal.

# MICROPHONE

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

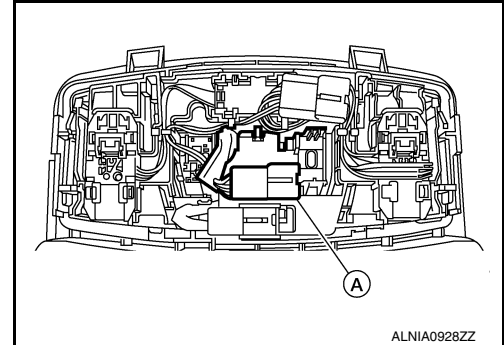
## MICROPHONE

### Removal and Installation

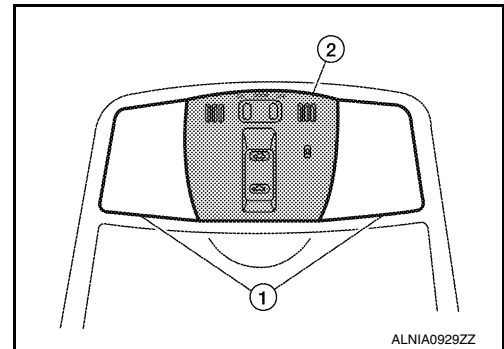
INFOID:000000009471414

#### REMOVAL

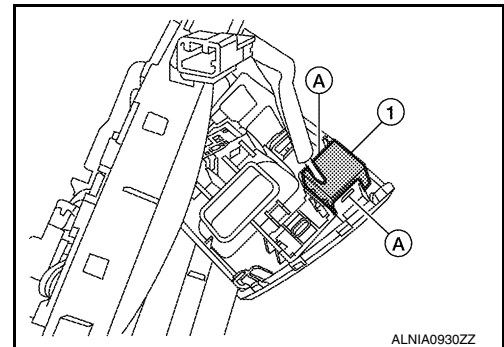
1. Remove the front room/map lamp assembly. Refer to [INL-84, "Removal and Installation"](#).
2. Detach the microphone connector (A).



3. Remove the front room/map lamp covers (1), then remove the map lamp assembly cover (2).



4. Release the microphone tabs (A), then remove the microphone (1).



#### INSTALLATION

Installation is in the reverse order of removal.

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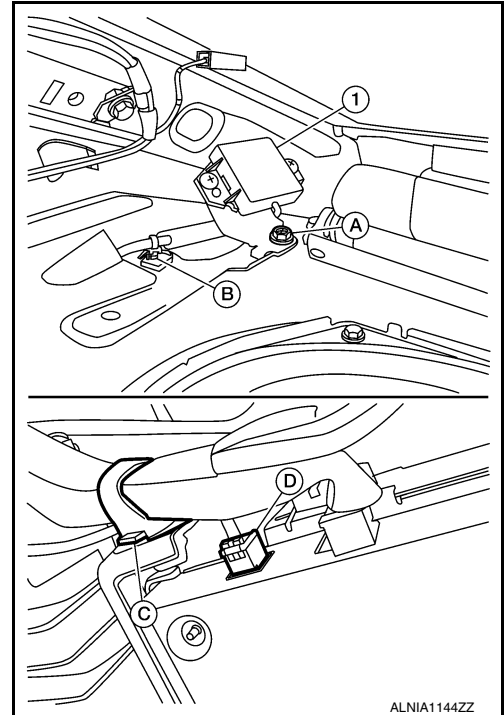
P

**TEL ANTENNA****Removal and Installation**

INFOID:000000009471415

**REMOVAL**

1. Disconnect the battery negative terminal. Refer to [PG-67, "Removal and Installation \(Battery\)"](#).
2. Remove the rear parcel shelf finisher. Refer to [INT-28, "Removal and Installation"](#).
3. Remove the Bluetooth antenna screw (A).
4. Detach the Bluetooth antenna harness clip (B).
5. Fold down the rear seat (if equipped) or open the trunk lid, then detach the Bluetooth antenna harness clip (C).
6. Disconnect the harness connector (D) from the Bluetooth antenna (1) and remove.

**INSTALLATION**

Installation is in the reverse order of removal.

# BLUETOOTH CONTROL UNIT

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

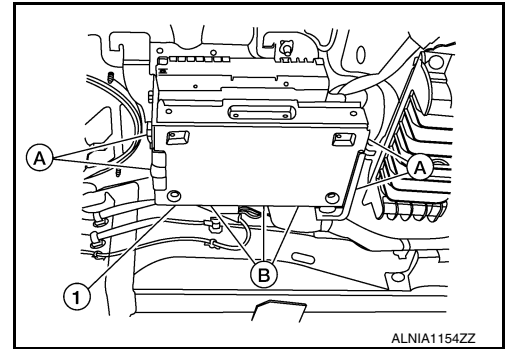
## BLUETOOTH CONTROL UNIT

### Removal and Installation

INFOID:000000009471416

#### REMOVAL

1. Disconnect the battery negative terminal. Refer to [PG-67. "Removal and Installation \(Battery\)"](#).
2. Remove the trunk upper finisher. Refer to [INT-36. "Exploded View"](#).
3. Remove the parcel shelf finisher. Refer to [INT-28. "Removal and Installation"](#).
4. From inside the passenger compartment, remove the bracket screws and lower the assembly for access.
5. Remove the Bluetooth control unit screws (A).
6. Disconnect the harness connector (B) from the Bluetooth control unit and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

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## REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/ BOSE]

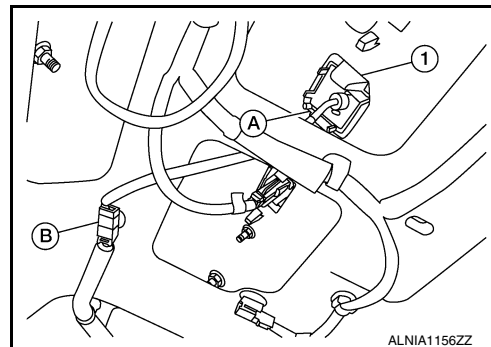
### REAR VIEW CAMERA

#### Removal and Installation

INFOID:000000009471417

#### REMOVAL

1. Remove the license plate finisher. Refer to [EXL-166. "Removal and Installation"](#).
2. Remove trunk lid finisher. Refer to [INT-36. "Exploded View"](#).
3. Disconnect the rear view camera connector (B), press the rear view camera tab (A) and remove the rear view camera (1).



#### INSTALLATION

Installation is in the reverse order of removal.

#### Adjustment

INFOID:000000009471418

#### REAR VIEW CAMERA

For adjustment on the rear view camera, refer to [DLK-12. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).



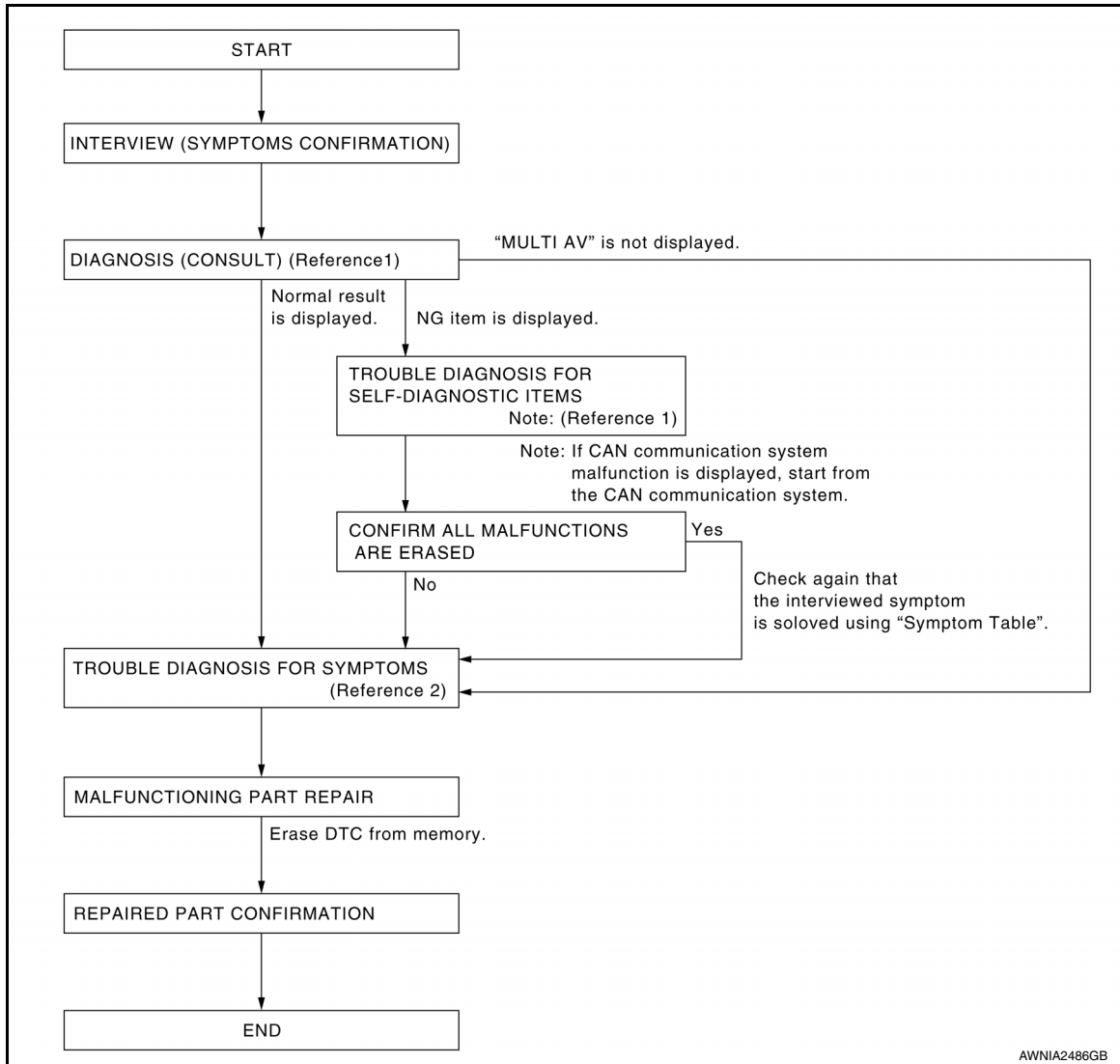
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

#### Work Flow

INFOID:000000009471419

#### OVERALL SEQUENCE



- Reference 1... Refer to [AV-536, "CONSULT Function \(MULTI AV\)".](#)
- Reference 2... Refer to [AV-635, "Symptom Table".](#)

#### DETAILED FLOW

##### 1. CHECK SYMPTOM

Check the malfunction symptoms by performing the following items.

- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

>> GO TO 2.

##### 2. SELF-DIAGNOSIS (CONSULT)

1. Connect CONSULT and perform "SELF-DIAGNOSIS" for "MULTI AV".

**NOTE:**

Skip to step 4 of the diagnosis procedure if "MULTI AV" is not displayed.

2. Check if any DTC No. is displayed in the self-diagnosis results.

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# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[COLOR DISPLAY - W/BOSE & NAVI]

---

Is any DTC No. displayed?

- YES >> GO TO 3.
- NO >> GO TO 4.

## 3.CHECK SELF-DIAGNOSIS RESULTS (CONSULT)

---

1. Check the DTC No. indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC No. list. Refer to [AV-607, "DTC Index"](#).

**NOTE:**

Start with the diagnosis for the CAN communication system if "CAN COMM CIRCUIT [U1000] or CONTROL UNIT (CAN) [U1010]" is displayed.

>> GO TO 5.

## 4.PERFORM DIAGNOSIS BY SYMPTOM

---

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-635, "Symptom Table"](#).

>> GO TO 5.

## 5.REPAIR OR REPLACE MALFUNCTIONING PARTS

---

Repair or replace the identified malfunctioning parts.

**NOTE:**

Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC No. has been indicated in the self-diagnosis results.

>> GO TO 6.

## 6.CHECK AFTER REPAIR

---

1. Perform self-diagnosis for "MULTI AV" with CONSULT after repairing or replacing the malfunctioning parts.
2. Check if any DTC No. is displayed in the self-diagnosis results.

Is any DTC No. displayed?

- YES >> GO TO 3.
- NO >> GO TO 7.

## 7.FINAL CHECK

---

Perform the operation check to confirm that the malfunction symptom is solved or that any other symptoms are present.

Are any symptoms present?

- YES >> GO TO 4.
- NO >> Inspection End.

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[COLOR DISPLAY - W/BOSE & NAVI]

## INSPECTION AND ADJUSTMENT

### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

#### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:000000009471420

#### BEFORE REPLACEMENT

When replacing AV control unit, save current vehicle specification with CONSULT configuration before replacement.

#### AFTER REPLACEMENT

##### **CAUTION:**

When replacing AV control unit, you must perform "WRITE CONFIGURATION" with CONSULT.

- Complete the procedure of "WRITE CONFIGURATION" in order.
- If you set incorrect "WRITE CONFIGURATION", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

#### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:000000009471421

### 1. SAVING VEHICLE SPECIFICATION

#### Ⓜ-CONSULT Configuration

Perform "READ CONFIGURATION" to save current vehicle specification. Refer to [AV-507, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

##### **NOTE:**

If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection".

>> GO TO 2.

### 2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).

>> GO TO 3.

### 3. WRITING VEHICLE SPECIFICATION

#### Ⓜ-CONSULT Configuration

Perform "WRITE CONFIGURATION - Config file" or "WRITE CONFIGURATION - Manual selection" to write vehicle specification. Refer to [AV-508, "CONFIGURATION \(AV CONTROL UNIT\) : Special Repair Requirement"](#).

>> GO TO 4.

### 4. OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

## CONFIGURATION (AV CONTROL UNIT)

### CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:000000009471422

- Since vehicle specifications are not included in the AV control unit after replacement, it is required to write vehicle specifications with CONSULT.
- Configuration has three functions as follows.

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# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[COLOR DISPLAY - W/BOSE & NAVI]

| Function                             | Description  |
|--------------------------------------|--|
| READ CONFIGURATION                   | <ul style="list-style-type: none"> <li>Reads the vehicle configuration of current AV control unit.</li> <li>Saves the read vehicle configuration.</li> </ul> |
| WRITE CONFIGURATION-Manual selection | Writes the vehicle configuration with manual selection.  |
| WRITE CONFIGURATION-Config file      | Writes the vehicle configuration with saved data.  |

## CONFIGURATION (AV CONTROL UNIT) : Special Repair Requirement


INFOID:000000009471423

### 1. WRITING MODE SELECTION

 **CONSULT Configuration**  
Select "CONFIGURATION" of AV control unit.


When writing saved data >> GO TO 2.  
When writing manually >> GO TO 3.

### 2. PERFORM "WRITE CONFIGURATION-CONFIG FILE"

 **CONSULT Configuration**  
Perform "WRITE CONFIGURATION-Config file".

>> WORK END

### 3. PERFORM "WRITE CONFIGURATION-MANUAL SELECTION"

 **CONSULT Configuration**  
Select "WRITE CONFIGURATION-Manual selection" to write vehicle specifications into the AV control unit.  
For data to write, refer to [AV-508. "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

>> GO TO 4.

### 4. OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

## CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:000000009471424

**CAUTION:**  
**Check vehicle specifications before servicing.**

| MANUAL SETTING ITEM |               | Note               |
|---------------------|---------------|--------------------|
| Items               | Setting value |                    |
| STEERING            | LHD           | —                  |
|                     | RHD           | —                  |
| GRADE               | MODE 1        | BASE               |
|                     | MODE 2        | OTHER              |
| ENGINE TYPE         | NORMAL        | —                  |
|                     | HYBRID        | —                  |
| BODY TYPE           | NORMAL        | NORMAL             |
|                     | CONV          | CONVERTIBLE        |
| CAMERA SYSTEM       | NONE/AVM      | NONE or AVM        |
|                     | REAR          | REAR CAMERA        |
|                     | REAR + SIDE   | REAR + SIDE CAMERA |

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[COLOR DISPLAY - W/BOSE & NAVI]

| MANUAL SETTING ITEM |               | Note                    |   |
|---------------------|---------------|-------------------------|---|
| Items               | Setting value |                         |   |
| 4WAS                | WITHOUT       | —                       | A |
|                     | WITH          | —                       | B |
| SOUND SYSTEM        | BASE          | —                       |   |
|                     | BOSE          | —                       |   |
| ANTENNA TYPE        | ROD TYPE      | —                       | C |
|                     | LONG TYPE     | —                       |   |
| DUAL-ZONE AUTO TEMP | WITHOUT       | —                       | D |
|                     | WITH          | —                       |   |
| DVD PLAY FUNCTION   | WITHOUT       | —                       |   |
|                     | WITH          | —                       | E |
| BODY TYPE           | SED 2DR       | SEDAN 2 DOOR            |   |
|                     | SED 4DR 1     | SEDAN 4 DOOR            | F |
|                     | SED 4DR 2     | SEDAN 4 DOOR (WIDE)     |   |
|                     | H/B 2DR       | H/B 2 DOOR              |   |
|                     | H/B 4DR       | H/B 4 DOOR              | G |
|                     | COUPE 2DR     | COUPE 2 DOOR            |   |
|                     | COUPE T       | COUPE T BAR             |   |
|                     | WGN 4DR 2     | 49H WAGON 4 DOOR (WIDE) | H |
|                     | H/T 2DR 1     | H/T 2 DOOR              |   |
|                     | H/T 2DR 2     | H/T 2 DOOR (HIGHROOF)   | I |
|                     | H/T 4DR 1     | H/T 4 DOOR              |   |
|                     | H/T 4DR 2     | H/T 4 DOOR (WIDE)       |   |
|                     | WGN 2DR       | WAGON 2 DOOR            | J |
|                     | WGN 4DR 1     | WAGON 4 DOOR            |   |
|                     | WGN 4DR 3     | WAGON 4 DOOR (HIGHROOF) | K |
|                     | WGN 4DR 4     | 56H WAGON 4 DOOR (WIDE) |   |
|                     | VAN 2DR       | VAN 2 DOOR              |   |
|                     | VAN 4DR 1     | VAN 4 DOOR              | L |
|                     | VAN 4DR 2     | VAN 4 DOOR (HIGHROOF)   |   |
|                     | CONV          | CONVERTIBLE             | M |

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# AUDIO SYSTEM

< SYSTEM DESCRIPTION >

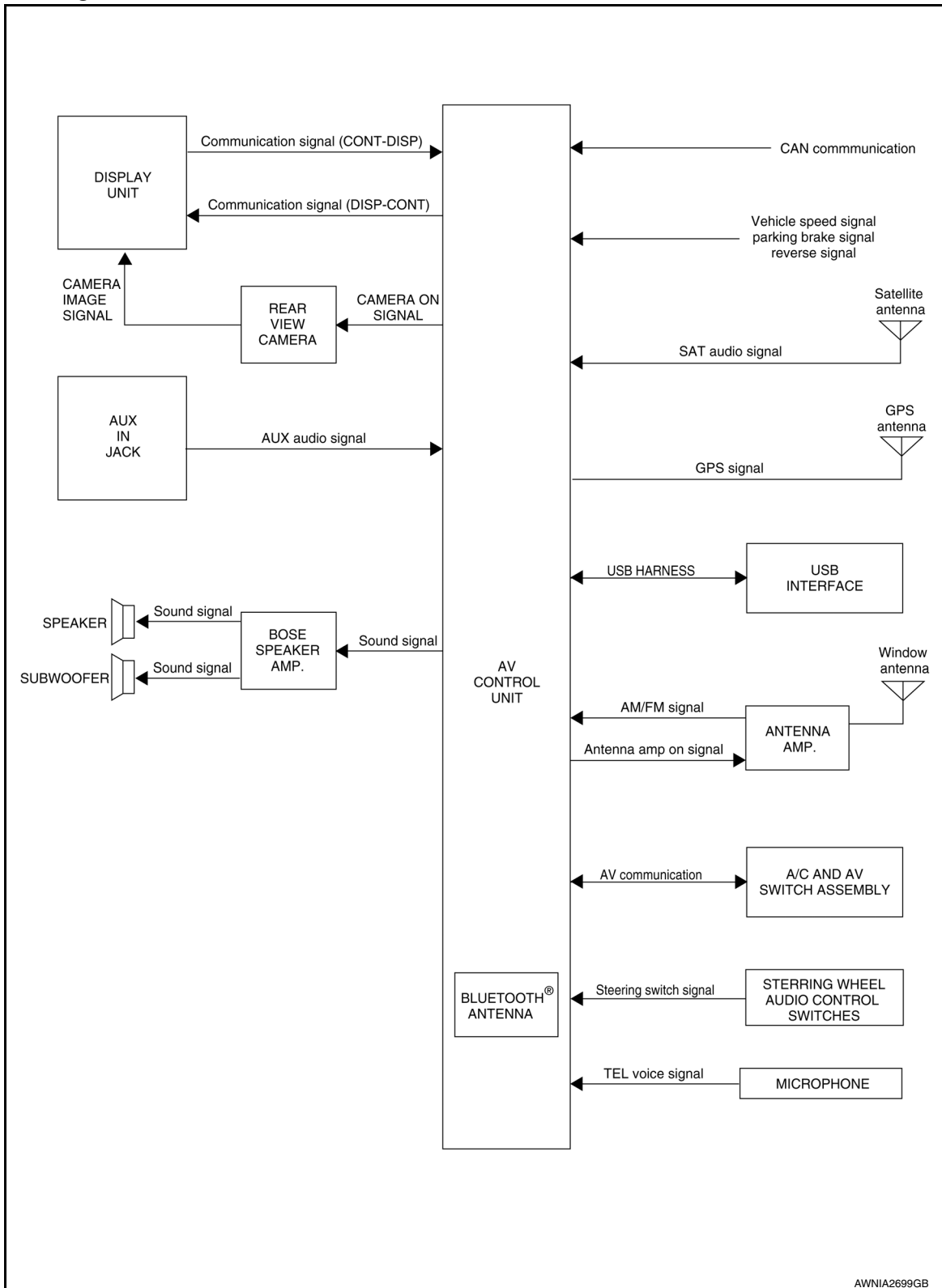
[COLOR DISPLAY - W/BOSE & NAVI]

## SYSTEM DESCRIPTION

### AUDIO SYSTEM

#### System Diagram

INFOID:000000009471425



#### System Description

INFOID:000000009471426

### AUDIO SYSTEM

Revision: August 2013

AV-510

2014 Maxima NAM

# AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

The audio system consists of the following components

- AV control unit
- Display unit
- BOSE speaker amp.
- Window antenna
- Steering wheel audio control switches
- A/C and AV switch assembly
- Front door speakers
- Tweeters
- Center speaker
- Rear door speakers
- Rear subwoofers

When the audio system is on, radio signals are received by the window antenna. The AV control unit then sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the front door speakers, tweeters, center speaker, rear door speakers and the rear subwoofers.

Refer to Owner's Manual for audio system operating instructions.

## SATELLITE RADIO SYSTEM (IF EQUIPPED)

The satellite radio system consists of the following components

- Satellite antenna
- AV control unit

When the satellite radio system is on, radio signals are supplied to the AV control unit from the satellite antenna. The AV control unit then sends audio signals to the BOSE speaker amp.

Refer to Owner's Manual for satellite radio system operating instructions.

## SPEED SENSITIVE VOLUME SYSTEM

Volume level of this system goes up and down automatically in proportion to the vehicle speed. The control level can be selected by the customer. Refer to Owner's Manual for operating instructions.

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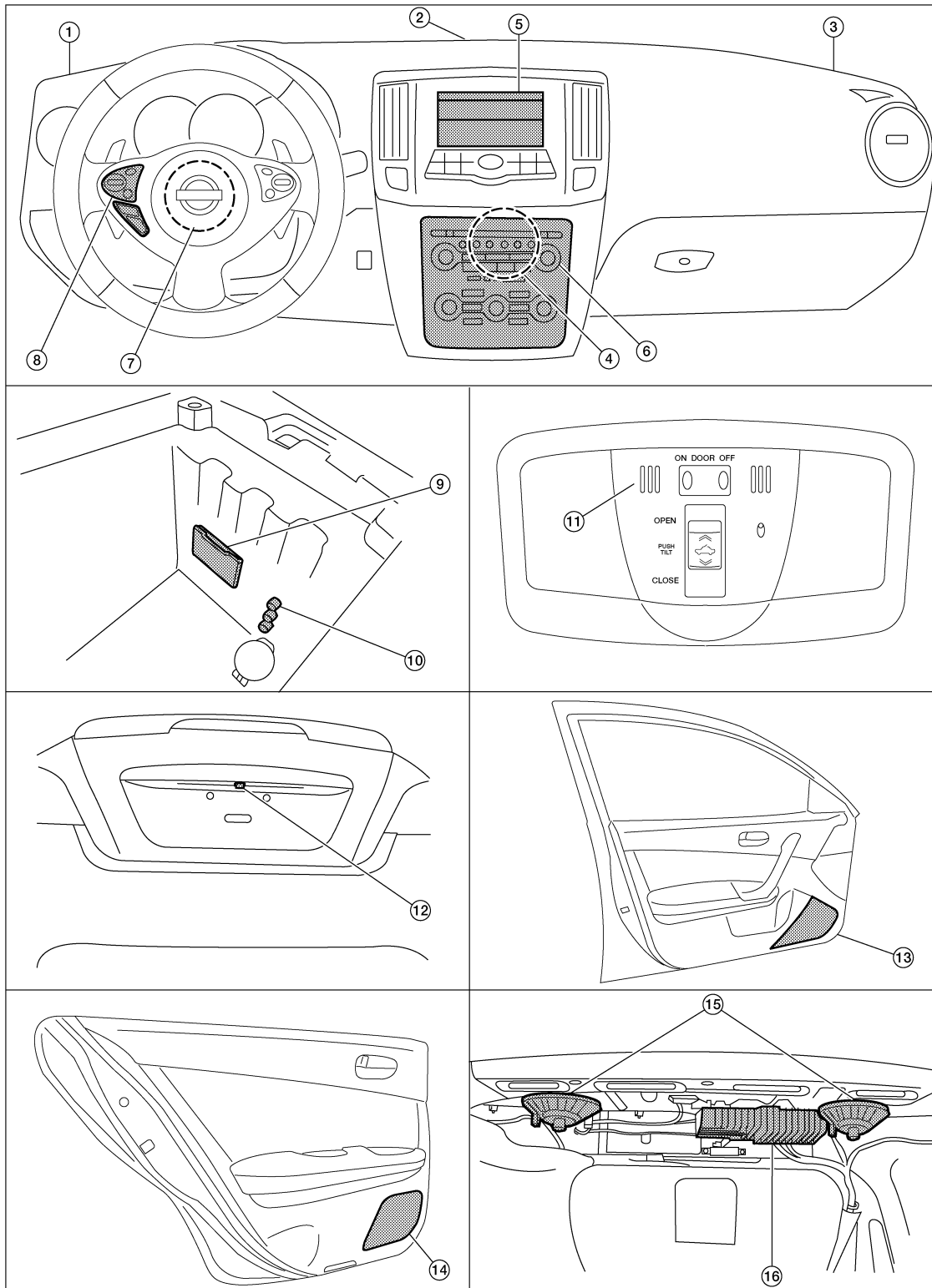
# AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

## Component Parts Location

INFOID:000000009471427



AWNIA3228ZZ

- |   |                            |                                   |
|---|----------------------------|-----------------------------------|
| 1. Tweeter LH M51   | 2. Center speaker M130     | 3. Tweeter RH M52                 |
| 4. AV control unit M160, M161, M162, M163, M164, M165, M166, M167, M168 (located behind A/C and AV switch assembly) | 5. Display unit M142, M151 | 6. A/C and AV switch assembly M98 |



# AUDIO SYSTEM

## < SYSTEM DESCRIPTION >

## [COLOR DISPLAY - W/BOSE & NAVI]

- |  |   |  |
|--|---|--|
| 7. Steering angle sensor M53 [located in steering column behind combination switch (spiral cable)] | 8. Steering wheel audio control switches    | 9. USB interface M211(view in center console)                            |
| 10. Aux in jack M209   | 11. Microphone R7                           | 12. Rear view camera T101  |
| 13. Front door speaker<br>LH D3<br>RH D103   | 14. Rear door speaker<br>LH D202<br>RH D302 | 15. Rear subwoofers (view under rear parcel shelf)<br>LH B106<br>RH B107 |
| 16. BOSE speaker amp B109, B110  |   |  |

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## Component Description

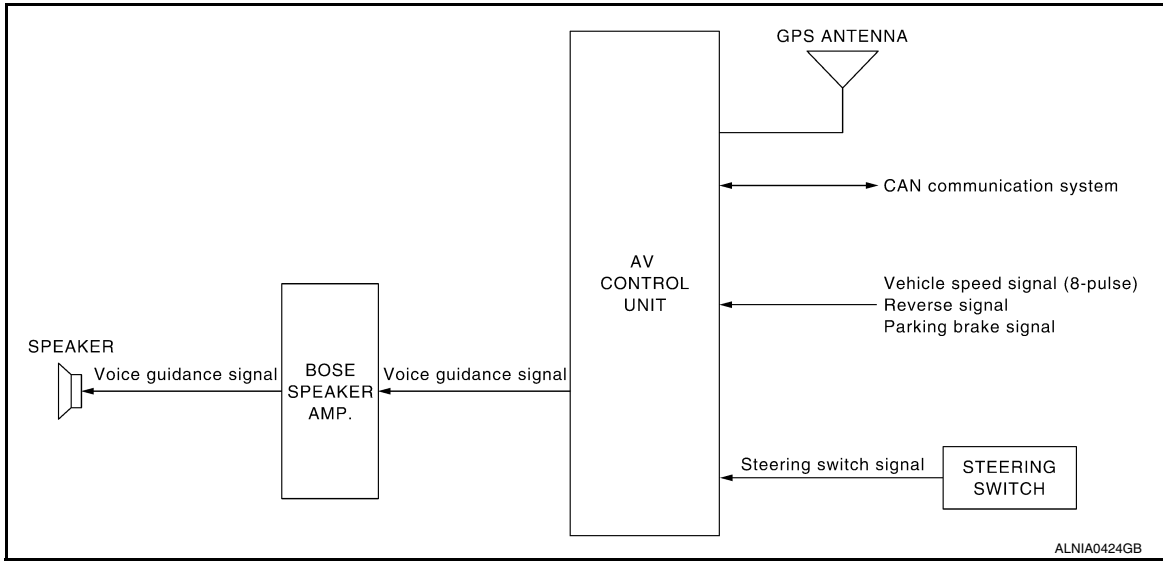
INFOID:000000009471428

| Part name                             | Description  |
|---------------------------------------|--|
| AV control unit                       | Controls audio system, USB connection, AUX IN connection, NAVI functions and satellite radio system functions.                                       |
| Display unit                          | Displays all audio and climate control related information.  |
| BOSE speaker amp.                     | Receives power (amp ON) and audio signals from AV control unit and outputs audio signals to each speaker.  |
| Steering wheel audio control switches | <ul style="list-style-type: none"> <li>• Audio operation can be operated.</li> <li>• Steering switch signal is output to AV control unit.</li> </ul> |
| Front door speakers                   | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs high, mid and low range sounds.</li> </ul>   |
| Tweeters                              | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs high range sounds.</li> </ul>                |
| Center speaker                        | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs high range sounds.</li> </ul>                |
| Rear door speakers                    | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs high, mid and low range sounds.</li> </ul>   |
| Rear subwoofers                       | <ul style="list-style-type: none"> <li>• Outputs audio signal from BOSE speaker amp.</li> <li>• Outputs low range sounds.</li> </ul>                 |
| Satellite antenna (if so equipped)    | Audio signal (satellite radio) is received and output to AV control unit.  |

AV

## NAVIGATION SYSTEM

### System Diagram



### System Description

INFOID:000000009471430

**NOTE:**

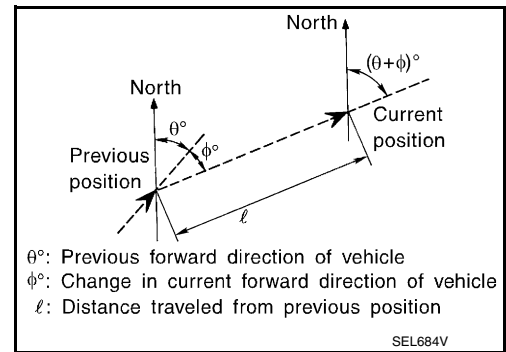
Refer to NAVI System Owner's Manual for system operation.

The navigation system periodically calculates the vehicle's current position according to the following three signals: Travel distance of the vehicle as determined by the vehicle speed sensor, turning angle of the vehicle as determined by the gyroscope (angular velocity sensor), and the direction of vehicle travel as determined by the GPS antenna (GPS information).

The current position of the vehicle is then identified by comparing the calculated vehicle position with map data read from the map data, which is stored in the hard disk drive (HDD) (map-matching), and indicated on the screen with a current-location mark.

By comparing the vehicle position detection results found by the GPS and by map-matching, more accurate vehicle position data can be used.

The current vehicle position will be calculated by detecting the distance the vehicle moved from the previous calculation point and its direction.



### TRAVEL DISTANCE

Travel distance calculations are based on the vehicle speed input signal. Therefore, the calculation may become incorrect as the tires wear down. To prevent this, an automatic distance fine adjustment function has been adopted.

### TRAVEL DIRECTION

Change in the travel direction of the vehicle is calculated by a gyroscope (angular velocity sensor) and a GPS antenna (GPS information). As the gyroscope and GPS antenna have both merit and demerit, input signals from them are prioritized in each situation. However, this order of priority may change in accordance with more detailed travel conditions so that the travel direction is detected more accurately.

# NAVIGATION SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

| Type                                | Advantage  | Disadvantage  |
|-------------------------------------|--|---|
| Gyroscope (angular velocity sensor) | <ul style="list-style-type: none"> <li>Can detect the vehicle's turning angle quite accurately.</li> </ul>           | <ul style="list-style-type: none"> <li>Direction errors may accumulate when the vehicle is driven for long distances without stopping.</li> </ul> |
| GPS antenna (GPS information)       | <ul style="list-style-type: none"> <li>Can detect the vehicle's travel direction (North/South/East/West).</li> </ul> | <ul style="list-style-type: none"> <li>Correct direction cannot be detected when the vehicle speed is low.</li> </ul>                             |

## MAP-MATCHING

Map-matching is a function that repositions the vehicle on the road map when a new location is judged to be the most accurate. This is done by comparing the current vehicle position, calculated by the method described in the position detection principle, with the road map data around the vehicle, read from the map data stored on the HDD.

Therefore, the vehicle position may not be corrected after the vehicle is driven over a certain distance or time in which GPS information is hard to receive. In this case, the current-location mark on the display must be corrected manually.

### CAUTION:

**The road map data is based on data stored on the HDD.**

- In map-matching, alternative routes to reach the destination will be shown and prioritized, after the road on which the vehicle is currently driven has been judged and the current-location mark has been repositioned.

If there is an error in distance and/or direction, the alternative routes will be shown in different order of priority, and the wrong road can be avoided.

If two roads are running in parallel, they are of the same priority. Therefore, the current-location mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.

- Map-matching does not function correctly when the road on which the vehicle is driving is new and not recorded on the HDD, or when the road pattern stored in the map data and the actual road pattern are different due to repair.

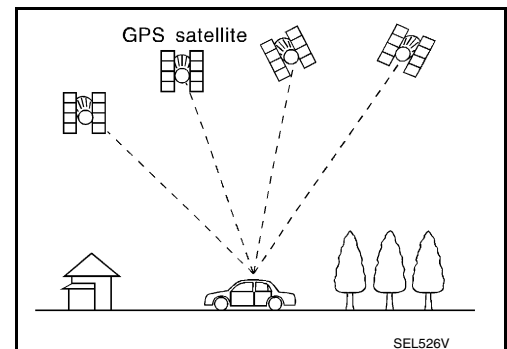
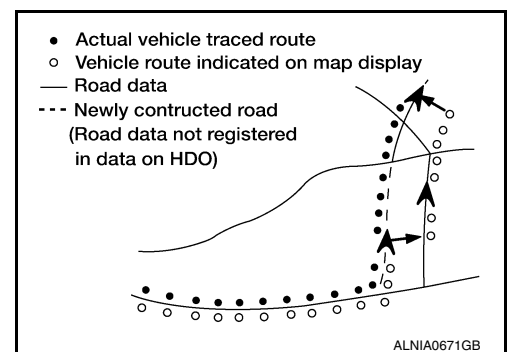
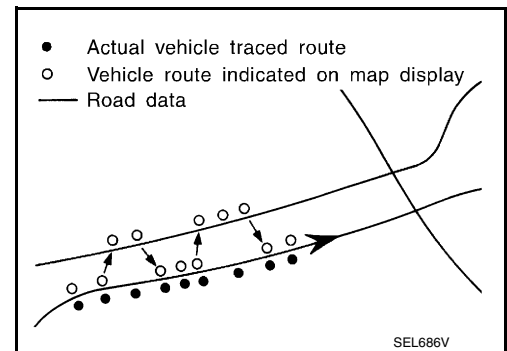
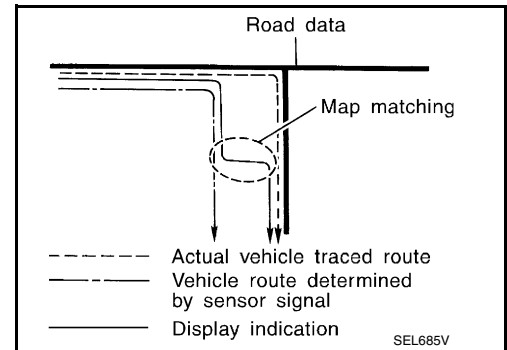
When driving on a road not present in the map, the map-matching function may find another road and position the current-location mark on it. Then, when the correct road is detected, the current-location mark may leap to it.

- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data read from the HDD is limited. Therefore, when there is an excessive gap between the current vehicle position and the position on the map, correction by map-matching is not possible.

## GPS (GLOBAL POSITIONING SYSTEM)

GPS (Global Positioning System) has been developed and controlled by the US Department of Defense. The system utilizes GPS satellite (NAVSTAR), sending out radio waves while flying on an orbit around the earth at the height of approx. 21,000 km (13,000 mi).

The GPS receiver calculates the vehicle's position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves received from four or more GPS satellites (three-dimensional positioning). If radio waves were received only from three GPS satellites, the GPS receiver calculates the vehicle's position in two dimensions (latitude/longitude), utilizing the altitude data calculated previously by using radio waves from four or more GPS satellites (two-dimensional positioning).



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AV

## NAVIGATION SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

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Accuracy of the GPS will deteriorate under the following conditions.

- In two-dimensional positioning, the GPS accuracy will deteriorate when the altitude of the vehicle position changes.
- There may be an error of approximately 10 m (30 ft.) in position detected by three-dimensional positioning, which is more accurate than two-dimensional positioning. The accuracy can be even lower depending on the arrangement of the GPS satellites utilized for the positioning.
- Position detection is not possible when the vehicle is in an area where radio waves from the GPS satellite do not reach, such as in a tunnel, parking lot in a building, and under an elevated highway. Radio waves from the GPS satellites may not be received when some object is located over the GPS antenna.
- Position correction by GPS is not available while the vehicle is stopped.

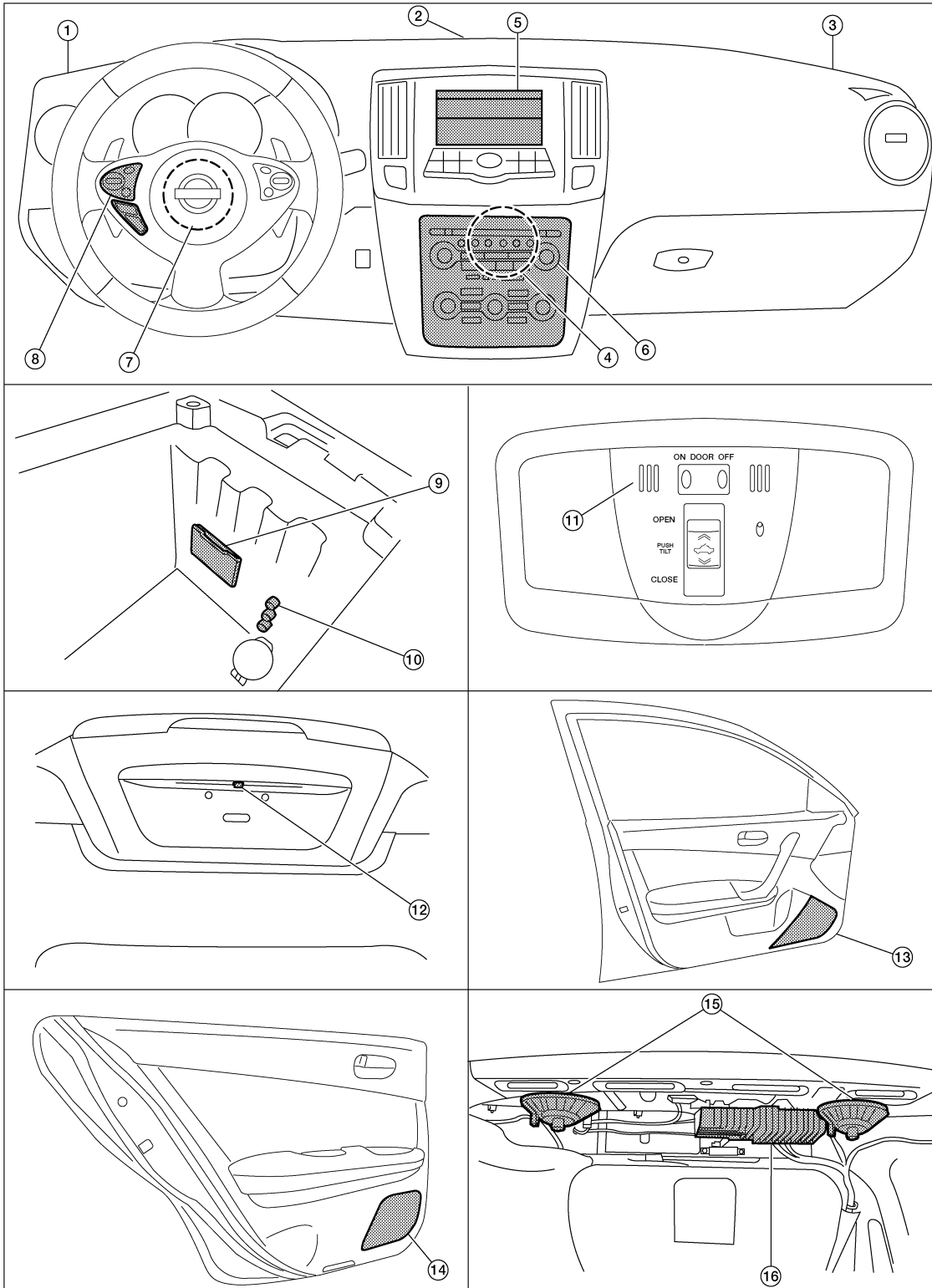
# NAVIGATION SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

## Component Parts Location

INFOID:000000009471431



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- |   |                            |                                   |
|---|----------------------------|-----------------------------------|
| 1. Tweeter LH M51   | 2. Center speaker M130     | 3. Tweeter RH M52                 |
| 4. AV control unit M160, M161, M162, M163, M164, M165, M166, M167, M168 (located behind A/C and AV switch assembly) | 5. Display unit M142, M151 | 6. A/C and AV switch assembly M98 |

AWNIA3228ZZ

# NAVIGATION SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

- |  |   |   |
|--|---|---|
| <p>7. Steering angle sensor M53 [located in steering column behind combination switch (spiral cable)]</p> <p>10. Aux in jack M209</p> <p>13. Front door speaker<br/>LH D3<br/>RH D103</p> <p>16. BOSE speaker amp B109, B110</p> | <p>8. Steering wheel audio control switches</p> <p>11. Microphone R7</p> <p>14. Rear door speaker<br/>LH D202<br/>RH D302</p> | <p>9. USB interface M211(view in center console)</p> <p>12. Rear view camera T101</p> <p>15. Rear subwoofers (view under rear parcel shelf)<br/>LH B106<br/>RH B107</p> |
|--|---|---|

## Component Description

INFOID:000000009471432

| Part name                             | Description   |
|---------------------------------------|---|
| AV control unit                       | <ul style="list-style-type: none"> <li>Controls each operation of the navigation system</li> <li>HDD is built in</li> <li>Voice guidance signal is output to BOSE speaker amp.</li> </ul> |
| BOSE speaker amp.                     | Voice guidance signal is input from AV control unit, and it is output to speakers.  |
| Tweeter                               | Voice guidance signal from BOSE speaker amp. is output.   |
| Steering wheel audio control switches | <ul style="list-style-type: none"> <li>Each operation of navigation system can be performed</li> <li>Switch operating signal is output to AV control unit</li> </ul>                      |
| Microphone                            | Sends voice signals to AV control unit  |
| GPS antenna                           | GPS signal is received and is output to AV control unit.  |

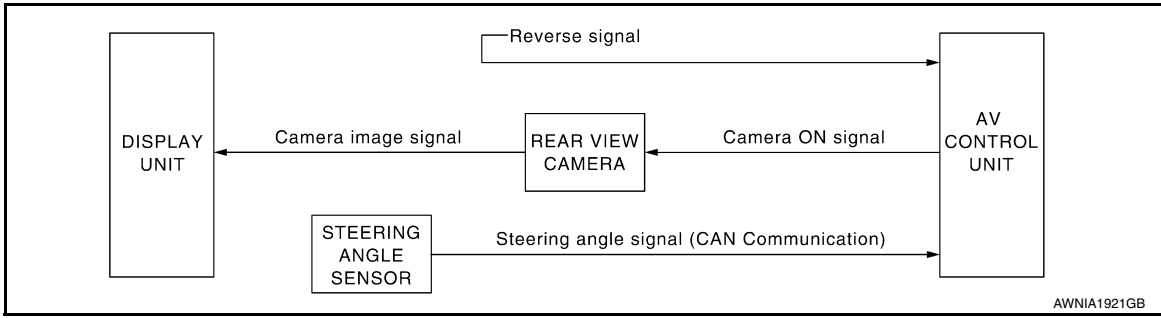
# REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

## REAR VIEW MONITOR SYSTEM

### System Diagram



### System Description

When the shift selector is in the R position, the display unit shows a view to the rear of the vehicle. Lines which indicate the vehicle clearance and distances are also displayed.

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AV

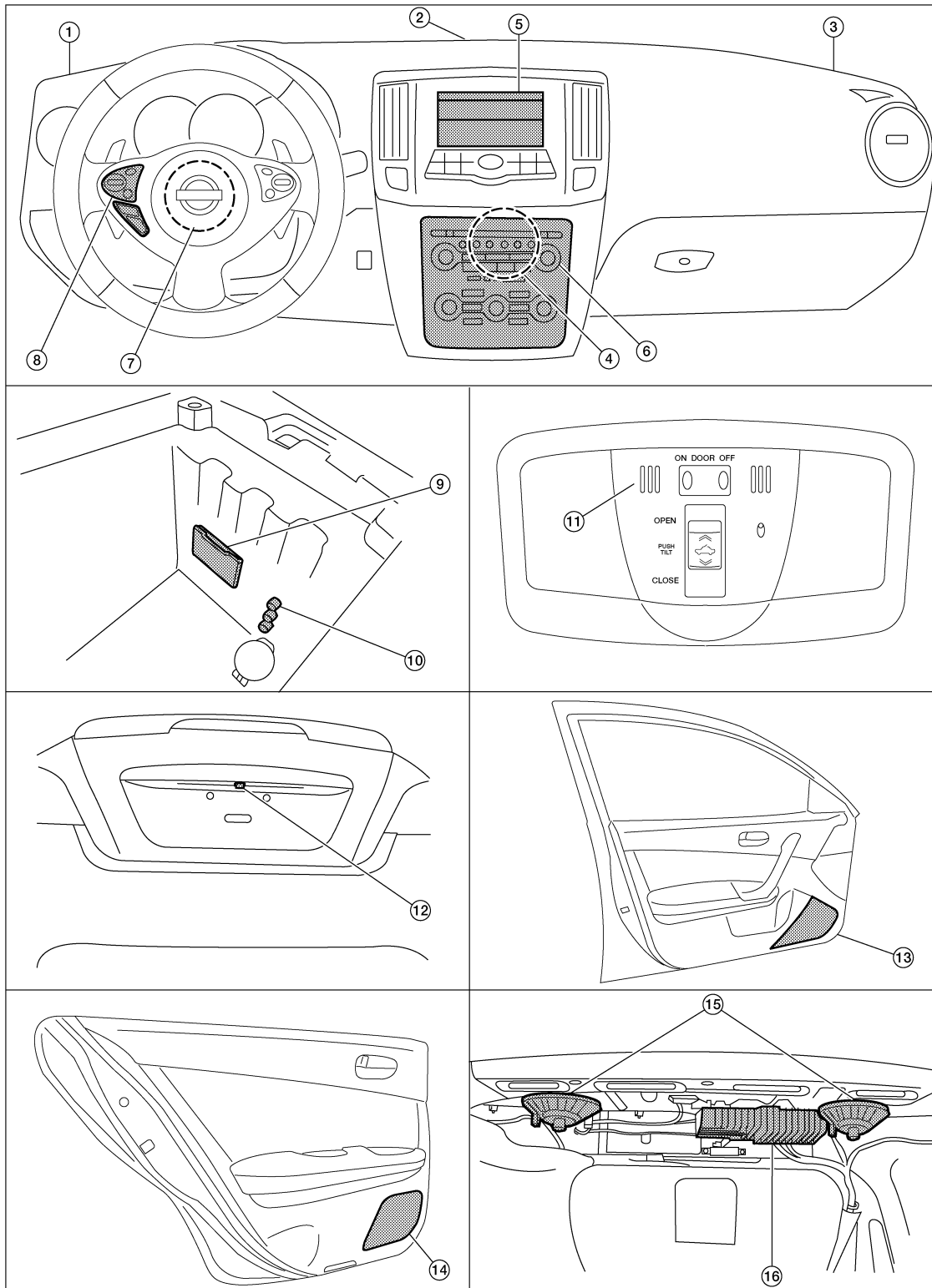
# REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

## Component Parts Location

INFOID:000000009471435



AWNIA3228ZZ

- |   |                            |                                   |
|---|----------------------------|-----------------------------------|
| 1. Tweeter LH M51   | 2. Center speaker M130     | 3. Tweeter RH M52                 |
| 4. AV control unit M160, M161, M162, M163, M164, M165, M166, M167, M168 (located behind A/C and AV switch assembly) | 5. Display unit M142, M151 | 6. A/C and AV switch assembly M98 |



# REAR VIEW MONITOR SYSTEM

[COLOR DISPLAY - W/BOSE & NAVI]

< SYSTEM DESCRIPTION >

- |  |   |  |   |
|--|---|--|---|
| 7. Steering angle sensor M53 [located in steering column behind combination switch (spiral cable)] | 8. Steering wheel audio control switches    | 9. USB interface M211(view in center console)                            | A |
| 10. Aux in jack M209   | 11. Microphone R7                           | 12. Rear view camera T101  | B |
| 13. Front door speaker<br>LH D3<br>RH D103   | 14. Rear door speaker<br>LH D202<br>RH D302 | 15. Rear subwoofers (view under rear parcel shelf)<br>LH B106<br>RH B107 | C |
| 16. BOSE speaker amp B109, B110  |   |  | D |

## Component Description

INFOID:000000009471436

| Part name             | Description  |
|-----------------------|--|
| AV control unit       | <ul style="list-style-type: none"> <li>Receives reverse signal from back-up lamp relay</li> <li>Receives steering angle sensor signal</li> <li>Sends camera ON signal to rear view camera</li> </ul> |
| Rear view camera      | <ul style="list-style-type: none"> <li>Receives camera ON signal from the AV control unit</li> <li>Sends image signal to the display unit</li> </ul>   |
| Steering angle sensor | Sends steering angle information to the AV control unit via CAN communication  |

AV

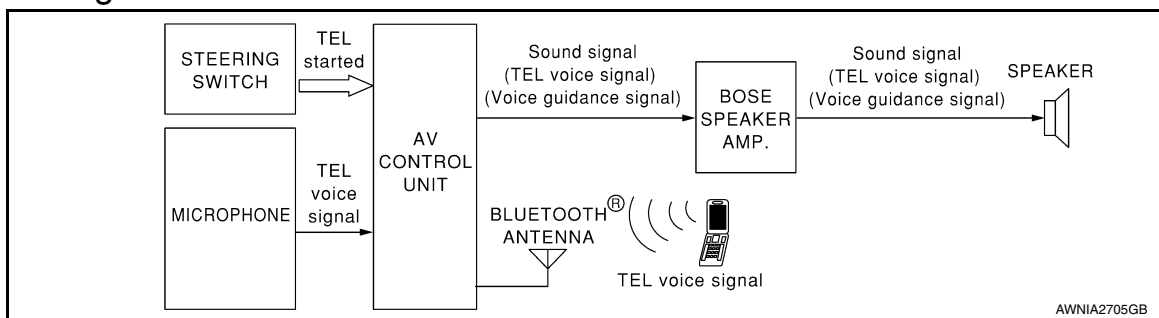
# HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

## HANDS-FREE PHONE SYSTEM

### System Diagram



### System Description

INFOID:000000009471438

Refer to the Owner's Manual for Bluetooth® telephone system operating instructions.

#### NOTE:

Cellular telephones must have their wireless connection set up (paired) before using the Bluetooth® telephone system.

Bluetooth® telephone system allows users who have a Bluetooth® equipped cellular telephone to make a wireless connection between their cellular telephone and the AV control unit. Hands-free cellular telephone calls can be sent and received. Personal memos can be created using the Nissan Voice Recognition system. Some Bluetooth® cellular telephones may not be recognized by the AV control unit. When a cellular telephone or the AV control unit is replaced, the telephone must be paired with the AV control unit. Different cellular telephones may have different pairing procedures. Refer to the cellular telephone operating manual and the vehicle Owner's Manual for more information.

#### AV CONTROL UNIT

When the ignition switch is turned to ACC or ON, the AV control unit will power up. During power up, the Bluetooth® feature is initialized and performs various self-checks. Initialization may take up to 10 seconds. If a phone is present in the vehicle and paired with the AV control unit, Nissan Voice Recognition will then become active. Bluetooth® telephone functions can be turned off using the Nissan Voice Recognition system.

#### STEERING WHEEL AUDIO CONTROL SWITCHES

When buttons on the steering wheel audio control switch are pushed, the resistance in steering wheel audio control switch circuit changes depending on which button is pushed. The AV control unit uses this signal to perform various functions while navigating through the voice recognition system.

The following functions can be performed using the steering wheel audio control switch:

- Initiate self-diagnosis of the Bluetooth® telephone system
- Start a voice recognition session
- Answer and end telephone calls
- Adjust the volume of calls
- Record memos

#### MICROPHONE

The microphone is located in the roof console assembly. The microphone sends a signal to the AV control unit. The microphone can be actively tested during self-diagnosis.

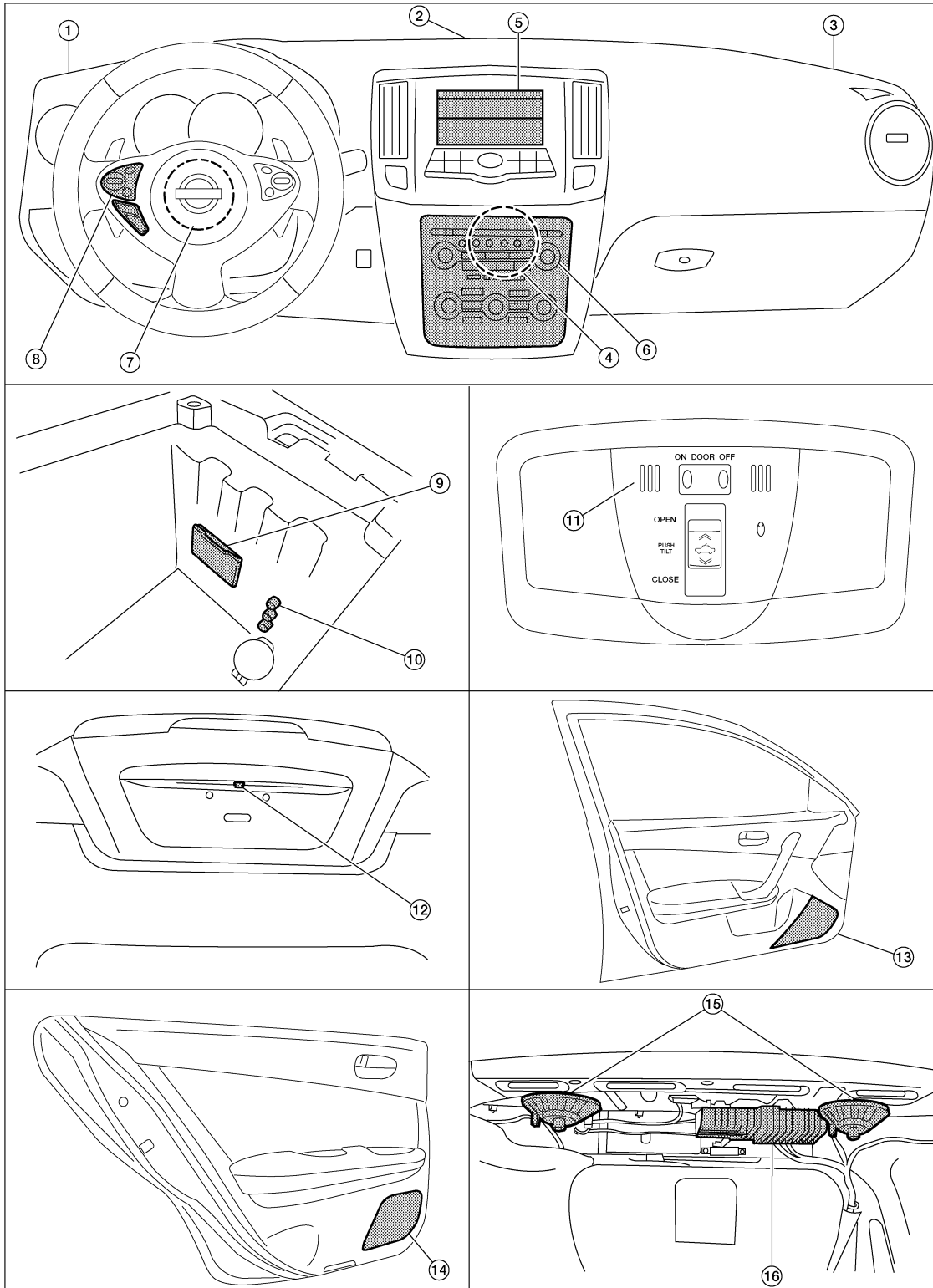
# HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

## Component Parts Location

INFOID:00000009471439



- |   |                            |                                   |
|---|----------------------------|-----------------------------------|
| 1. Tweeter LH M51   | 2. Center speaker M130     | 3. Tweeter RH M52                 |
| 4. AV control unit M160, M161, M162, M163, M164, M165, M166, M167, M168 (located behind A/C and AV switch assembly) | 5. Display unit M142, M151 | 6. A/C and AV switch assembly M98 |

# HANDS-FREE PHONE SYSTEM

[COLOR DISPLAY - W/BOSE & NAVI]

## < SYSTEM DESCRIPTION >

- |  |   |  |
|--|---|--|
| 7. Steering angle sensor M53 [located in steering column behind combination switch (spiral cable)] | 8. Steering wheel audio control switches    | 9. USB interface M211(view in center console)                            |
| 10. Aux in jack M209   | 11. Microphone R7                           | 12. Rear view camera T101  |
| 13. Front door speaker<br>LH D3<br>RH D103   | 14. Rear door speaker<br>LH D202<br>RH D302 | 15. Rear subwoofers (view under rear parcel shelf)<br>LH B106<br>RH B107 |
| 16. BOSE speaker amp B109, B110  |   |  |

## Component Description

INFOID:000000009471440

| Part name                             | Description   |
|---------------------------------------|---|
| AV control unit                       | <ul style="list-style-type: none"> <li>Receives telephone voice signal from antenna and microphone</li> <li>Sends telephone voice and voice guidance signals to the speakers</li> </ul> |
| BOSE speaker amp.                     | <ul style="list-style-type: none"> <li>Receives audio signals from the AV control unit</li> <li>Outputs amplified audio signals to the speakers.</li> </ul>                             |
| Front door speaker                    | Receives telephone voice and voice guidance signals from the AV control unit through the BOSE speaker amp.  |
| Front tweeter                         |   |
| Center speaker                        |   |
| Steering wheel audio control switches | <ul style="list-style-type: none"> <li>Start a voice recognition session</li> <li>Answer and end telephone calls</li> <li>Adjust the volume level</li> </ul>                            |
| Microphone                            | Sends voice signals to AV control unit  |
| Bluetooth® antenna                    | Sends telephone voice signal to AV control unit   |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

### Description

INFOID:000000009471441

- The AV control unit diagnosis function starts up with multifunction switch operation and the AV control unit performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT diagnosis if the on board diagnosis does not start, e.g., the screen does not display anything, the multifunction switch does not function, etc.

### On Board Diagnosis Function

INFOID:000000009471442

#### MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

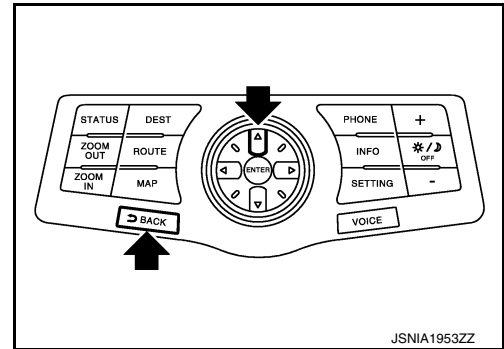
The ON/OFF operation (continuity) of each switch in the multifunction switch and preset switch can be checked.

##### Self-diagnosis Mode

- Press the “BACK” switch and the “UP” switch of the 8-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. Then the buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.
- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.

**NOTE:**

The disk eject switch cannot be checked.



##### Finishing Self-diagnosis Mode

Self-diagnosis mode is canceled when turning the ignition switch OFF.

### ON BOARD DIAGNOSIS

#### Description

- The trouble diagnosis function has a self-diagnosis mode for conducting trouble diagnosis automatically and a confirmation/adjustment mode for operating manually.
- The self-diagnosis mode performs diagnoses on the AV control unit, connections between system components as well as connections between AV control unit and GPS antenna. Then it displays the diagnosis results on the display.
- The confirmation/adjustment mode allows the technician to check, modify or adjust the vehicle signals and set values, as well as to monitor the system error records and system communication status. The checking, modifying or adjusting generally require human intervention and judgment (the system cannot make judgment automatically).

#### On Board Diagnosis Item

| Mode           | Description  |
|----------------|--|
| Self Diagnosis | <ul style="list-style-type: none"> <li>• AV control unit diagnosis.</li> <li>• Diagnoses the connections across system components, between AV control unit and GPS antenna.</li> </ul> |

AV

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

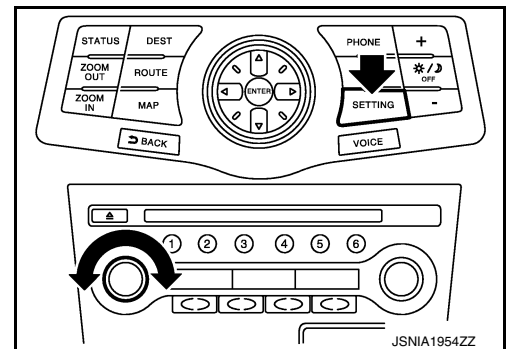
< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

|                             | Mode   | Description   |  |
|-----------------------------|--|---|--|
| Confirmation/<br>Adjustment | Display Diagnosis  | The following check functions are available: color tone check by color bar display, light and shade check by gray scale display, touch panel calibration and response check, and color tone check by white display. |  |
|                             | Vehicle Signals  | Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition, reverse, side view switch and room lamp.  |  |
|                             | Speaker Test   | The connection of a speaker can be confirmed by test tone.  |  |
|                             | Navigation   | Steering Angle Adjustment   | When there is a difference between the actual turning angle and the vehicle mark turning angle, it can be adjusted.  |
|                             |  | Speed Calibration   | When there is a difference between the current location mark and the actual location, it can be adjusted.  |
|                             |  | XM Subscription Status  | The XM NavTraffic subscription status can be checked.  |
|                             | Error History  | The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.          |  |
|                             | Synchronize FES Clock                                    | -   |  |
|                             | Vehicle CAN Diagnosis                                    | The transmitting/receiving of CAN communication can be monitored.   |  |
|                             | AV COMM Diagnosis  | The communication condition of each unit of Multi AV system can be monitored.   |  |
|                             | Hands-free Phone   | The received volume adjustment of hands-free phone, microphone speaker check, and erase memory can be performed.  |  |
|                             | Camera   | The four functions of "Correct Draw Line", "Alter/Confirm Configuration", "Reset Configuration" and "Camera Syst Type" are available.   |  |
|                             | XM   | XM NavTraffic   | Change Channel   |
|                             |  | XM NavWeather   | <ul style="list-style-type: none"> <li>• Any necessary channels required to receive traffic information from the satellite radio system can be set.</li> </ul> |
|                             |  | XM CGS  | Change Application ID  |
| Diag                        |  | Not used.   |  |
| Delete Unit Connection Log  | Erase the connection history of unit and error history.  |   |  |
| Initialize Settings         | Initializes the AV control unit memory.                  |   |  |
| Version Information         | Version information of the AV control unit is displayed. |   |  |

## STARTING PROCEDURE

1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the "SETTING" button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
  - Shifting from current screen to previous screen is performed by pressing "BACK" button.

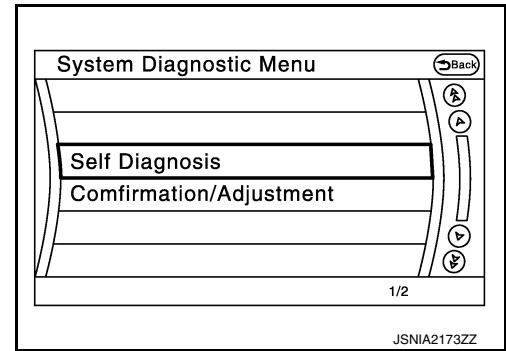


# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

[COLOR DISPLAY - W/BOSE & NAVI]

## < SYSTEM DESCRIPTION >

- The trouble diagnosis initial screen is displayed, and then the items of "Self Diagnosis" and "Confirmation/Adjustment" can be selected.



## SELF-DIAGNOSIS MODE

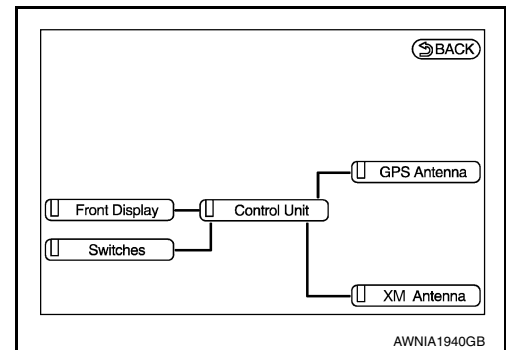
- Start the self-diagnosis function and select "Self Diagnosis".
  - Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
  - The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.
- Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

| Diagnosis results                | Unit  | Connection line |
|----------------------------------|-------|-----------------|
| Normal                           | Green | Green           |
| Connection malfunction           | Gray  | Yellow          |
| Unit malfunction <sup>Note</sup> | Red   | Green           |

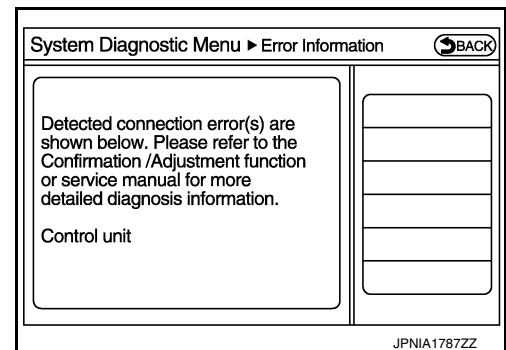
### NOTE:

Control unit (AV control unit) and amplifier (BOSE amp.) are displayed in red.

- Replace AV control unit if "Self-Diagnosis did not run because of a control unit malfunction" is indicated. The symptom is AV control unit internal error.
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.



- The comments of the self-diagnosis results can be viewed with a component in the diagnosis result screen.



## Detection Range of Self-diagnosis Mode

- The self-diagnosis mode allows the technician to diagnose the connection in the communication line between AV control unit and each unit and the internal operation of the AV control unit.
- Because the start condition of diagnosis function is a switch operation, the on board diagnosis function cannot be started up if any malfunction is detected in the communication circuit between AV control unit and multifunction switch.

## SELF-DIAGNOSIS RESULTS

Check the applicable display at the following table, and then repair the malfunctioning parts.

Only Unit Part Is Displayed In Red.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

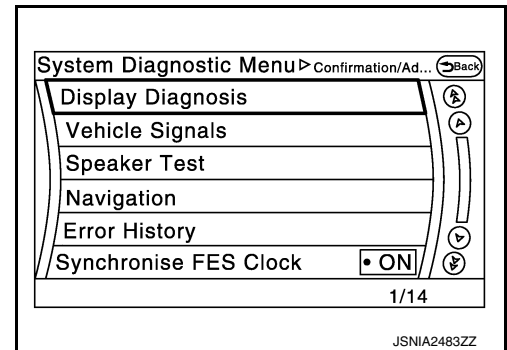
| Screen switch | Description  | Possible malfunction location / Action to take  |
|---------------|--|---|
| Control unit  | Malfunction is detected in AV control unit power supply and ground circuits. | Check AV control unit power supply and ground circuits. When detecting no malfunction in those components, replace AV control unit. |

A Connecting Cable Between Units Is Displayed In Yellow.

| Area with yellow connection lines | Description  | Possible malfunction location / Action to take                                |
|-----------------------------------|--|---|
| Control unit ↔ Front Display      | Malfunction is detected in serial communication circuits between AV control unit and front display unit. | Serial communication circuits between AV control unit and front display unit. |
| Control unit ↔ GPS Antenna        | GPS antenna connection malfunctions detected.  | GPS antenna   |

## CONFIRMATION/ADJUSTMENT MODE

1. Start the diagnosis function and select "Confirmation/Adjustment". The confirmation/adjustment mode indicates where each item can be checked or adjusted.
2. Select each switch on the "Confirmation/Adjustment Mode" screen to display the relevant trouble diagnosis screen. Press the "Back" switch to return to the initial Confirmation/Adjustment Mode screen.



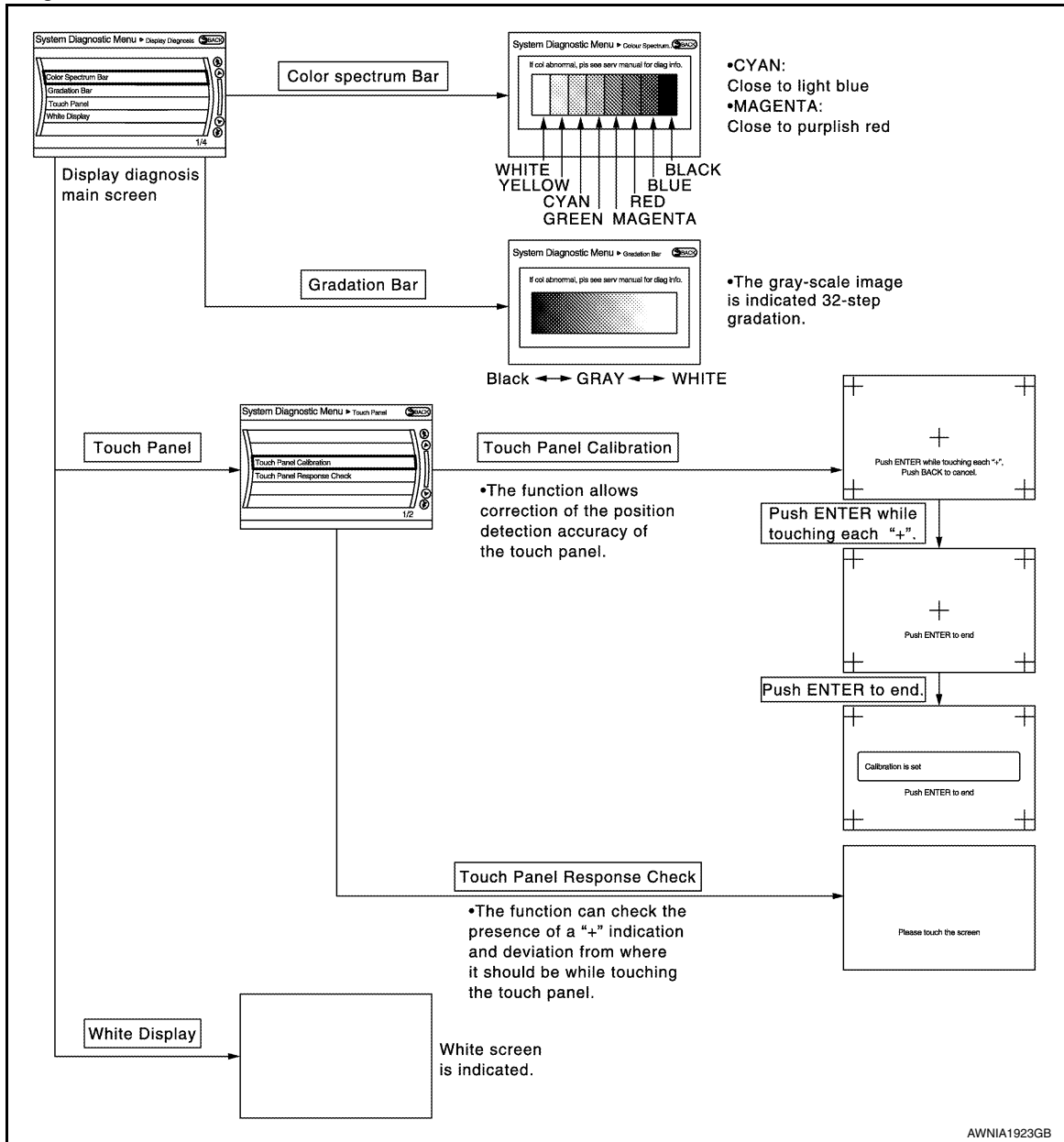


# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

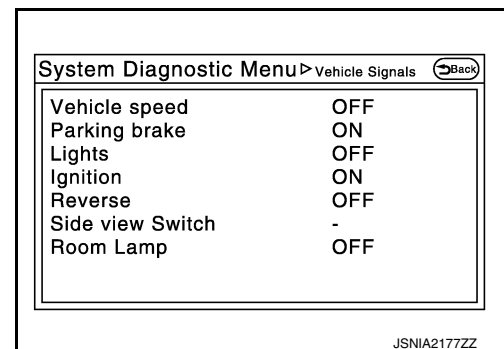
[COLOR DISPLAY - W/BOSE & NAVI]

## Display Diagnosis



## Vehicle Signals

A comparison check can be made of each actual vehicle signal and the signals recognized by the system.



# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

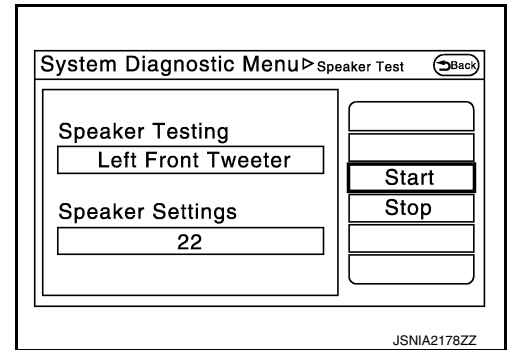
< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

| Diagnosis item   | Display | Vehicle status                                   | Remarks   |
|------------------|---------|--|---|
| Vehicle speed    | ON      | Vehicle speed > 0 km/h (0 MPH)                   | Changes in indication may be delayed. This is normal. |
|                  | OFF     | Vehicle speed = 0 km/h (0 MPH)                   |   |
| Parking brake    | ON      | Parking brake is applied.                        |   |
|                  | OFF     | Parking brake is released.                       |   |
| Lights           | ON      | Light switch ON                                  | —   |
|                  | OFF     | Light switch OFF                                 | —   |
| Ignition         | ON      | Ignition switch ON                               | —   |
|                  | OFF     | Ignition switch in ACC position                  | —   |
| Reverse          | ON      | Shift the selector lever to “R” position         | Changes in indication may be delayed. This is normal. |
|                  | OFF     | Shift the selector lever other than “R” position |   |
| Side view Switch | —       | —  | This item is displayed, but cannot be monitored.      |
| Room Lamp        | OFF     | —  | This item is displayed, but not used.                 |

### Speaker Test

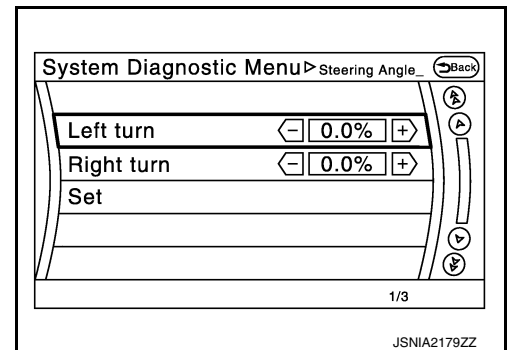
Select “SPEAKER DIAGNOSIS” to display the Speaker Diagnosis screen. Press “Start” to generate a test tone in a speaker. Press “Start” to generate a test tone in the next speaker. Press “Stop” to stop the test tones.



### Navigation

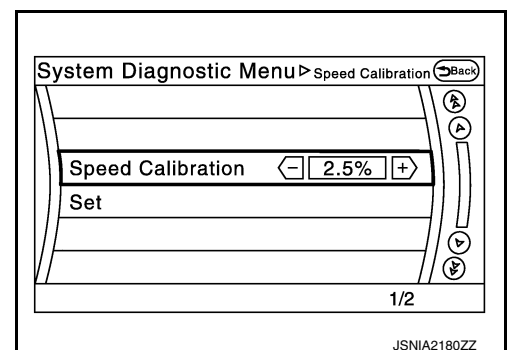
#### STEERING ANGLE ADJUSTMENT

The steering angle output value detected with the gyroscope is adjusted.



#### SPEED CALIBRATION

During normal driving, distance error caused by tire wear and tire pressure change is automatically adjusted for by the automatic distance correction function. This function, on the other hand, is for immediate adjustment, in cases such as driving with tire chain fitted on tires.



# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

[COLOR DISPLAY - W/BOSE & NAVI]

## < SYSTEM DESCRIPTION >

### Error History

The self-diagnosis results are judged depending on whether any error occurs from when “Self-diagnosis” is selected until the self-diagnosis results are displayed.

However, the diagnosis results are judged normal if an error has occurred before the ignition switch is turned ON and then no error has occurred until the self-diagnosis start. Check the “Error Record” to detect any error that may have occurred before the self-diagnosis start because of this situation.

The error record displays the time and place of the most recent occurrence of that error. However, take note of the following points.

- If there is a malfunction with the GPS antenna circuit board in the AV control unit, the correct date and time of occurrence may not be able to be displayed.
- Place of the error occurrence is represented by the position of the current location mark at the time an error occurred. If current location mark has deviated from the correct position, then the place of the error occurrence cannot be located correctly.
- The frequency of occurrence is displayed in a count up manner. The actual count up method differs depending on the error item.

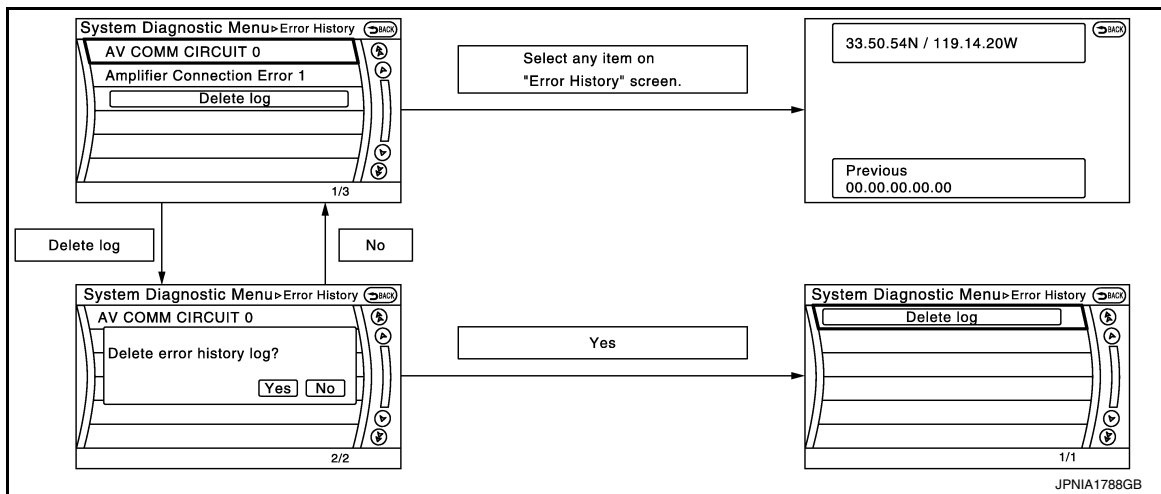
#### Count up method A

- The counter resets to 0 if an error occurs when ignition switch is turned ON. The counter increases by 1 if the condition is normal at a next ignition ON cycle.
- The counter upper limit is 39. Any counts exceeding 39 are ignored. The counter can be reset (no error record display) with the “Delete log” switch or CONSULT.

#### Count up method B

- The counter increases by 1 if an error occurs when ignition switch is ON. The counter will not decrease even if the condition is normal at the next ignition ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. The counter can be reset (no error record display) with the “Delete log” switch or CONSULT.

| Display type of occurrence frequency | Error history display item   |
|--------------------------------------|--|
| Count up method A                    | CAN communication line, control unit (CAN), AV communication line, control unit (AV) |
| Count up method B                    | Other than the above   |



### Error item

Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

| Error item       | Description                                | Possible malfunction factor/Action to take   |
|------------------|--|--|
| CAN COMM CIRCUIT | CAN communication malfunction is detected. | Perform diagnosis with CONSULT, and then repair the malfunctioning parts according to the diagnosis results.<br>Refer to <a href="#">AV-536, "CONSULT Function (MULTI AV)"</a> . |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

| Error item                         | Description   | Possible malfunction factor/Action to take  |
|------------------------------------|---|---|
| CONTROL UNIT (CAN)                 | CAN initial diagnosis malfunction is detected.  |   |
| CONTROL UNIT (AV)                  | AV communication circuit initial diagnosis malfunction is detected.   |   |
| FLASH-ROM Error Of Control Unit    | AV control unit malfunction is detected.  | Replace the AV control unit if the malfunction occurs constantly.   |
| Connection Of Gyro                 |   |   |
| Connection of G Sensor             |   |   |
| CAN Controller Memory Error        |   |   |
| Bluetooth® Module Connection Error |   |   |
| Sub CPU Connection Error           |   |   |
| iPod authentication chip error     |   |   |
| Audio connection error             |   |   |
| DSP Connection Error               |   |   |
| DSP Communication Error            | AV control unit malfunction is detected.  | <ul style="list-style-type: none"> <li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li> <li>• Replace the AV control unit if the malfunction occurs constantly.</li> </ul>        |
| HDD Connection Error               | AV control unit malfunction is detected.  | <ul style="list-style-type: none"> <li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li> <li>• Replace the AV control unit if the malfunction occurs constantly.</li> </ul> |
| HDD Read Error                     |   |   |
| HDD Write Error                    |   |   |
| HDD Communication Error            |   |   |
| HDD Access Error                   |   |   |
| GPS Communication Error            | GPS malfunction is detected.  | <p>An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.</p> <p>Replace the AV control unit if the malfunction occurs constantly.</p>                          |
| GPS ROM Error                      |   |   |
| GPS RAM Error                      |   |   |
| GPS RTC Error                      |   |   |
| Unfinished configuration           | The writing of configuration data is incomplete.  | Write configuration data with CONSULT.  |
| USB Controller Communication Error | USB connection malfunction is detected.   | Check that the connection to the USB connector is normal.   |
| DVD Mechanism Communication Error  | AV control unit malfunction is detected.  | <ul style="list-style-type: none"> <li>• If DVD can be played, then there is a possibility of the detection of a temporary malfunction.</li> <li>• Replace the AV control unit if the malfunction occurs constantly.</li> </ul>           |
| Front Display Connection Error     | <p>When either one of the following items is detected:</p> <ul style="list-style-type: none"> <li>• Display unit power supply and ground circuits malfunction is detected.</li> <li>• Malfunction is detected in communication circuits between AV control unit and display unit.</li> <li>• Malfunction is detected in communication signal between AV control unit and display unit.</li> </ul> | <ul style="list-style-type: none"> <li>• Display unit power supply and ground circuits.</li> <li>• Communication circuits between AV control unit and display unit.</li> </ul>  |
| USB electric current Error         | Detection of over current in USB interface.   | Check USB harness between the AV control unit and USB interface.  |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

| Error item   | Description  | Possible malfunction factor/Action to take  |
|--|--|---|
| GPS Antenna Error  | GPS antenna connection malfunction is detected.  | Check the connection of the GPS antenna connector.  |
| <ul style="list-style-type: none"> <li>• AV COMM CIRCUIT</li> <li>• Switches Connection Error</li> </ul> | When either one of the following items are detected: <ul style="list-style-type: none"> <li>• Multifunction switch power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li> </ul> | <ul style="list-style-type: none"> <li>• Multifunction switch power supply and ground circuits.</li> <li>• AV communication circuits between AV control unit and multifunction switch.</li> </ul> |

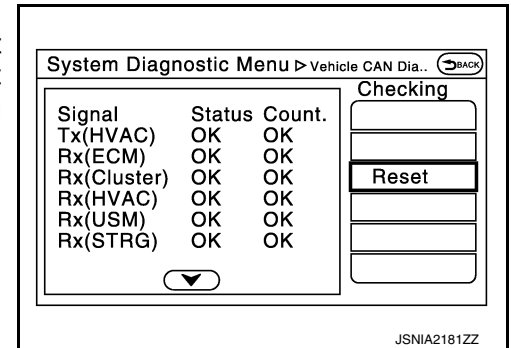
### Vehicle CAN Diagnosis

- CAN communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if “Reset” is pressed.

| Items       | Display (Current) | Malfunction counter (Past) |
|-------------|-------------------|----------------------------|
| Tx(HVAC)    | OK / ???          | OK / 0 – 39                |
| Rx(ECM)     | OK / ???          | OK / 0 – 39                |
| Rx(Cluster) | OK / ???          | OK / 0 – 39                |
| Rx(HVAC)    | OK / ???          | OK / 0 – 39                |
| Rx(USM)     | OK / ???          | OK / 0 – 39                |
| Rx(STRG)    | OK / ???          | OK / 0 – 39                |

**NOTE:**

“???” indicates UNKWN



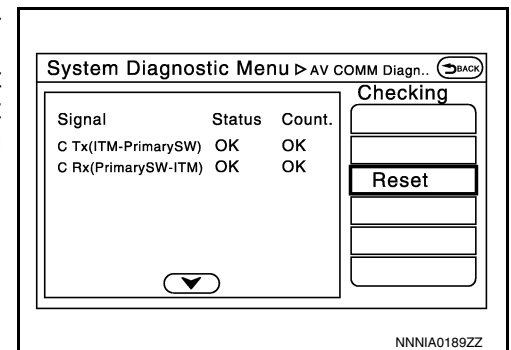
### AV COMM Diagnosis

- Displays the communication status between AV control unit (master unit) and each unit.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if “Reset” is pressed.

| Items               | Status (Current) | Counter (Past) |
|---------------------|------------------|----------------|
| C Tx(ITM-PrimarySW) | OK / ???         | OK / 0 – 39    |
| C Rx(PrimarySW-ITM) | OK / ???         | OK / 0 – 39    |

**NOTE:**

“???” indicates UNKWN



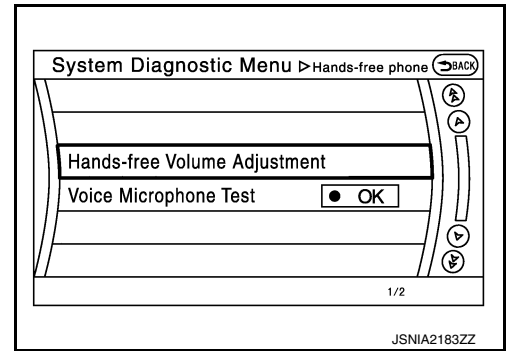
### Hands-Free Phone

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

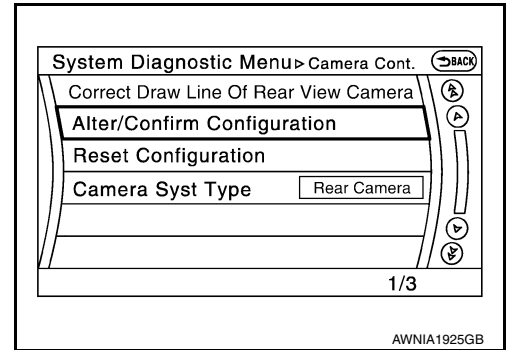
[COLOR DISPLAY - W/BOSE & NAVI]

The hands-free phone reception volume adjustment and microphone and speaker test functions are also available.



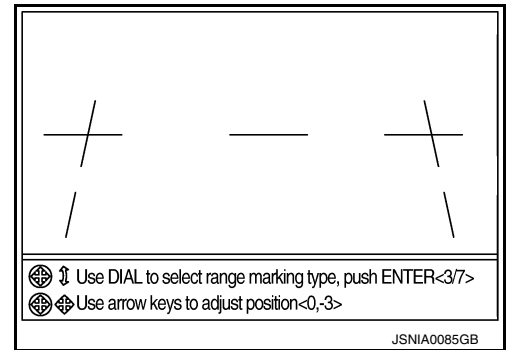
### Camera

The four functions of “Correct Draw Line of Rear View Camera”, “Alter/Confirm Configuration”, “Reset Configuration” and “Camera Syst Type” are available.



### Correct Draw Line of Rear View Camera

- Use this mode to adjust the guide line display position of the rear-view monitor if necessary after removing the rear view monitor camera.



### Alter/Confirm Configuration

- Configuration stored in the AV control unit can be checked and modified.

#### Configuration list

| Setting item        | Setting   | Setting item        | Setting   |
|---------------------|-----------|---------------------|-----------|
| Predi. Course Lines | Without   | Wheelbase           | 0.0000000 |
| Rear Coeff. K       | 0.0000000 | Total Length        | 0.0000000 |
| Rear Coeff. F       | 0.0000000 | Steering Gear Ratio | 0.0000000 |
| Rear Coeff. P1      | 0.0000000 | Side Coeff. K       | 0.0000000 |
| Rear Coeff. P2      | 0.0000000 | Side Coeff. F       | 0.0000000 |
| Rear Coeff. C1      | 0.0000000 | Side Coeff. P1      | 0.0000000 |
| Rear Coeff. C2      | 0.0000000 | Side Coeff. P2      | 0.0000000 |
| Rear Coeff. D1      | 0.0000000 | Side Coeff. C1      | 0.0000000 |
| Rear Coeff. D2      | 0.0000000 | Side Coeff. C2      | 0.0000000 |
| Car Width           | 0.0000000 | Side Coeff. D1      | 0.0000000 |
| Rear Offset         | 0.0000000 | Side Coeff. D2      | 0.0000000 |
| Rear Height         | 0.0000000 | Side Offset         | 0.0000000 |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

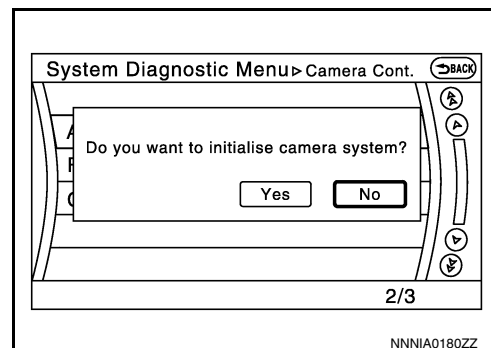
< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

| Setting item        | Setting   | Setting item        | Setting   |
|---------------------|-----------|---------------------|-----------|
| Rear L/R Angle      | 0.0000000 | Overall Height      | 0.0000000 |
| Rear Up/Dn Angle    | 0.0000000 | Side L/R Angle      | 0.0000000 |
| Rear Roll Angle     | 0.0000000 | Side Up/Dn Angle    | 0.0000000 |
| Bumper Rear Dist.   | 0.0000000 | Side Roll Angle     | 0.0000000 |
| Bumper Rear Ax Dist | 0.0000000 | Side Front End Dist | 0.0000000 |
| Steer. Max Angle    | 0.0000000 | Total Width         | 0.0000000 |
| Min. Turning Red.   | 0.0000000 | —                   | —         |

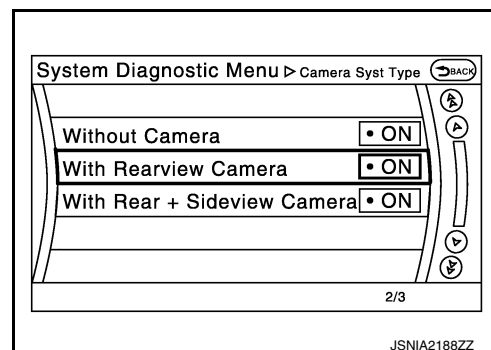
## Reset Configuration

- Configuration stored in the AV control unit can be initialized.



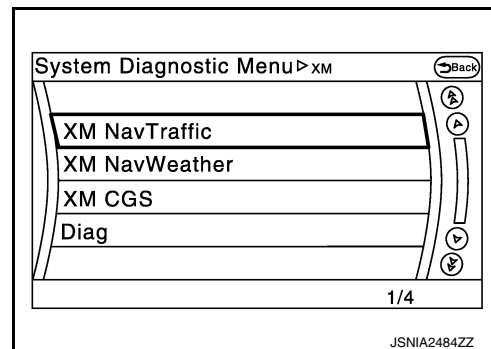
## Camera Syst Type

- Type of camera system is selectable.



## XM

- Change Channel
  - Any necessary channels required to receive traffic information from the satellite radio system can be set.
- Change Application ID
  - Any application ID's required to receive traffic information from the satellite radio system can be set.



Delete Unit Connection Log

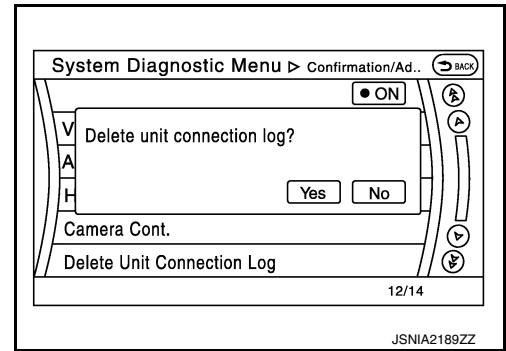
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# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

[COLOR DISPLAY - W/BOSE & NAVI]

## < SYSTEM DESCRIPTION >

Deletes any unit connection records and error records from the AV control unit memory. (Clear the records of the unit that has been removed.)

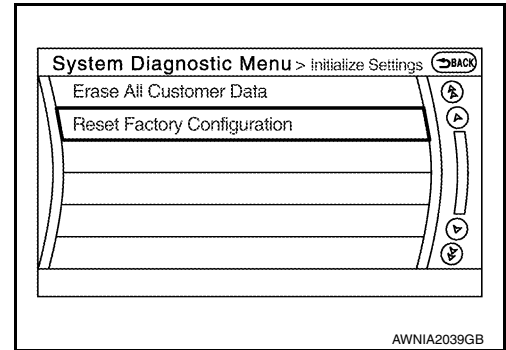


### Initialize Settings

“Erase All Customer Data” and “Reset Factory Configuration” are possible.

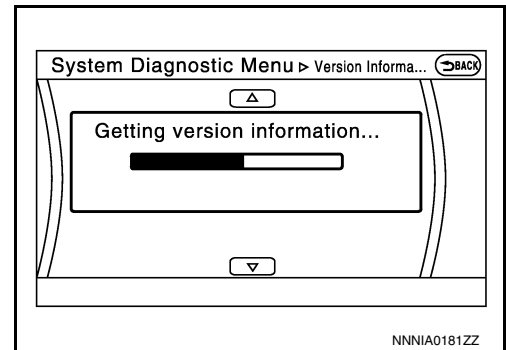
**CAUTION:**

- **Never perform Reset Factory Configuration except when configuration is unsuccessful.**
- **Factory Configuration Initialize requires configuration. For details, refer to [AV-525, "Description"](#).**



### Version Information

Version information of the AV control unit is displayed.



## CONSULT Function (MULTI AV)

INFOID:000000009471443

### APPLICATION ITEMS

CONSULT performs the following functions via the communication with the AV control unit.

| Diagnosis mode         | Description   |
|------------------------|---|
| Ecu Identification     | The part number of AV control unit can be checked.  |
| Self Diagnostic Result | Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively. |
| Data Monitor           | The diagnosis of vehicle signal that is input to the AV control unit can be performed.  |
| Configuration          | <ul style="list-style-type: none"> <li>• Read and save the vehicle specification.</li> <li>• Write the vehicle specification when replacing AV control unit.</li> </ul>                   |

### AV Communication

When “AV communication” of “CAN Diag Support Monitor” is selected, the following function will be performed.

|                  |             |   |
|------------------|-------------|---|
| AV communication | AV&NAVI C/U | Displays the communication status from AV control unit to each unit as well as the error counter. |
|                  | AUDIO       | Displays the AV control unit communication status and the error counter.                          |

## ECU IDENTIFICATION



# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

[COLOR DISPLAY - W/BOSE & NAVI]

## < SYSTEM DESCRIPTION >

The part number of AV control unit is displayed.

### SELF DIAGNOSIS RESULT

- In CONSULT self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates “CRNT”. The past malfunction indicates “PAST”.
- The timing is displayed as “0” if any of the error codes [U1000], [U1010], [U1300] and [U1310] is detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

### Self-diagnosis Results Display Item

| Error item                  | Description   | Possible malfunction factor/Action to take  |
|-----------------------------|---|---|
| CAN COMM CIRCUIT [U1000]    | CAN communication malfunction is detected.  | Perform diagnosis with CONSULT, and then repair the malfunctioning parts according to the diagnosis results.<br>Refer to <a href="#">AV-540. "Diagnosis Procedure"</a>  |
| CONTROL UNIT (CAN) [U1010]  | CAN initial diagnosis malfunction is detected.  |   |
| CONTROL UNIT (AV) [U1310]   | AV communication circuit initial diagnosis malfunction is detected.                           |   |
| Cont Unit [U1200]           | AV control unit malfunction is detected.  | Replace the AV control unit if the malfunction occurs constantly.   |
| GYRO NO CONN [U1201]        |   |   |
| G-SENSOR NO CONN [U1202]    |   |   |
| CAN CONT [U1216]            |   |   |
| BLUETOOTH MODULE [U1217]    |   |   |
| SUB CPU CONN [U1228]        |   |   |
| iPod CERTIFICATION [U1229]  |   |   |
| Built-in AUDIO CONN [U122E] |   |   |
| HDD CONN [U1218]            | AV control unit malfunction is detected.  | <ul style="list-style-type: none"> <li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li> <li>• Replace the AV control unit if the malfunction occurs constantly.</li> </ul> |
| HDD READ [U1219]            |   |   |
| HDD WRITE [U121A]           |   |   |
| HDD COMM [U121B]            |   |   |
| HDD ACCESS [U121C]          |   |   |
| GPS COMM [U1204]            | GPS malfunction is detected.  | An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.<br>Replace the AV control unit if the malfunction occurs constantly.                                     |
| GPS ROM [U1205]             |   |   |
| GPS RAM [U1206]             |   |   |
| GPS RTC [U1207]             |   |   |
| USB CONTROLLER [U1225]      | USB connection malfunction is detected.   | Check that the connection to the USB connector is normal.   |
| DSP CONN [U121D]            | AV control unit malfunction is detected.  | <ul style="list-style-type: none"> <li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li> <li>• Replace the AV control unit if the malfunction occurs constantly.</li> </ul>        |
| DSP COMM [U121E]            |   |   |
| DVD COMM [U1227]            | AV control unit malfunction is detected.  | <ul style="list-style-type: none"> <li>• If DVD can be played, then there is a possibility of the detection of a temporary malfunction.</li> <li>• Replace the AV control unit if the malfunction occurs constantly.</li> </ul>           |
| CONFIG UNFINISH [U122A]     | The writing of configuration data is incomplete.  | Write configuration data with CONSULT.  |
| ST ANGLE SEN CALIB [U1232]  | Predictive course line center position adjustment of the steering angle sensor is incomplete. | Adjust the predictive course line center position of the steering angle sensor.   |

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

| Error item   | Description   | Possible malfunction factor/Action to take  |
|--|---|---|
| FRONT DISP CONN [U1243]  | When either one of the following items are detected:<br><ul style="list-style-type: none"> <li>• Display unit power supply and ground circuits malfunction is detected.</li> <li>• Communication circuits between AV control unit and display unit.</li> </ul>                                  | <ul style="list-style-type: none"> <li>• Display unit power supply and ground circuits.</li> <li>• Communication circuits between AV control unit and AV display unit.</li> </ul>                 |
| GPS ANTENNA CONN [U1244]   | GPS antenna connection malfunction is detected.   | Check the connection of the GPS antenna connector.  |
| USB OVERCURRENT [U1263]  | Detection of over current in USB connector.   | Check USB harness between the AV control unit and USB connector.  |
| <ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• SWITCH CONN [U1240]</li> </ul> | When either one of the following items are detected:<br><ul style="list-style-type: none"> <li>• Multifunction switch power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li> </ul> | <ul style="list-style-type: none"> <li>• Multifunction switch power supply and ground circuits.</li> <li>• AV communication circuits between AV control unit and multifunction switch.</li> </ul> |

### DATA MONITOR

#### ALL SIGNALS

- Displays the status of the following vehicle signals inputted into the AV control unit.
- For each signal, actual signal can be compared with the condition recognized on the system.

| Display Item | Display | Vehicle status   | Remarks   |   |
|--------------|---------|--|---|---|
| VHCL SPD SIG | On      | Vehicle speed >0 km/h (0 MPH)  | Changes in indication may be delayed. This is normal. |   |
|              | Off     | Vehicle speed =0 km/h (0 MPH)  |   |   |
| PKB SIG      | On      | Parking brake is applied.  |   |   |
|              | Off     | Parking brake is released.   |   |   |
| ILLUM SIG    | On      | Block the light beam from the auto light optical sensor when the light SW is ON. | —   |   |
|              | Off     | Expose the auto light optical sensor to light when the light SW is OFF or ON.    |   |   |
| IGN SIG      | On      | Ignition switch ON   |   |   |
|              | Off     | Ignition switch in ACC position  |   |   |
| REV SIG      | On      | Selector lever in R position   |   | Changes in indication may be delayed. This is normal. |
|              | Off     | Selector lever in any position other than R                                      |   |   |
| SIDE VIEW SW | Off     | This item is displayed, but cannot be monitored.                                 |   | —   |
| ROOM LAMP    | Off     | This item is displayed, but not used.  |   | —   |

#### SELECTION FROM MENU

Allows the technician to select which vehicle signals should be displayed and displays the status of the selected vehicle signals.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[COLOR DISPLAY - W/BOSE & NAVI]

| Item to be selected | Description                                 |   |
|---------------------|---|---|
| VHCL SPD SIG        | The same as when "ALL SIGNALS" is selected. | A |
| PKB SIG             |   | B |
| ILLUM SIG           |   |   |
| IGN SIG             |   |   |
| REV SIG             |   | C |
| SIDE VIEW SW        |   |   |
| ROOM LAMP           |   | D |

## WORK SUPPORT

| Conditions                 | Description  |   |
|----------------------------|--|---|
| ST ANGLE SENSOR ADJUSTMENT | Steering angle sensor neutral position adjustment can be performed. Refer to <a href="#">BRC-6. "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Description"</a> . | E |

## CONFIGURATION

Configuration has three functions as follows.

| Function                             | Description   |   |
|--------------------------------------|---|---|
| READ CONFIGURATION                   | <ul style="list-style-type: none"><li>• Reads the vehicle configuration of current AV control unit.</li><li>• Saves the read vehicle configuration.</li></ul> | G |
| WRITE CONFIGURATION-Manual selection | Writes the vehicle configuration with manual selection.   | H |
| WRITE CONFIGURATION-Config file      | Writes the vehicle configuration with saved data.   | I |

AV

# U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000009471444

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

#### DTC Logic

INFOID:000000009471445

#### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | DTC detection condition  | Probable malfunction location |
|-------|-----------------------------|--|-------------------------------|
| U1000 | CAN COMM CIRCUIT [U1000]    | AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more. | CAN communication system.     |

#### Diagnosis Procedure

INFOID:000000009471446

#### 1. PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result" of "AV Control Unit".

Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to LAN system. Refer to [LAN-15, "Trouble Diagnosis Flow Chart"](#).  
NO >> Refer to GI section. Refer to [GI-41, "Intermittent Incident"](#).

# U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1010 CONTROL UNIT (CAN)

### DTC Logic

INFOID:000000009471447

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT   | DTC detection condition                        | Probable malfunction factor   |
|-------|-------------------------------|--|---|
| U1010 | CONTROL UNIT (CAN)<br>[U1010] | CAN initial diagnosis malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652, "Removal and Installation"</a> . |

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AV

# U1200 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1200 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471448

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1200 | Cont Unit [U1200]           | AV control unit malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652. "Removal and Installation"</a> . |

# U1201 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1201 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471449

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1201 | GYRO NO CONN<br>[U1201]     | AV control unit malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652. "Removal and Installation"</a> . |

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AV

# U1202 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1202 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471450

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1202 | G-SENSOR NO CONN<br>[U1202] | AV control unit malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652. "Removal and Installation"</a> . |



# U1204 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1204 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471451

| DTC   | Display contents of CONSULT | DTC detection condition      | Possible malfunction factor  |
|-------|-----------------------------|------------------------------|--|
| U1204 | GPS CONN<br>[U1204]         | GPS malfunction is detected. | An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652. "Removal and Installation"</a> . |

### Diagnosis Procedure

INFOID:000000009471452

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the "self-diagnosis" results of "MULTI AV". Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-652. "Removal and Installation"](#).
- NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

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AV

# U1205 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1205 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471453

| DTC   | Display contents of CONSULT | DTC detection condition      | Possible malfunction factor  |
|-------|-----------------------------|------------------------------|--|
| U1205 | GPS ROM [U1205]             | GPS malfunction is detected. | An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652. "Removal and Installation"</a> . |

### Diagnosis Procedure

INFOID:000000009471454

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the "self-diagnosis" results of "MULTI AV". Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-652. "Removal and Installation"](#).
- NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

# U1206 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1206 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471455

| DTC   | Display contents of CONSULT | DTC detection condition      | Possible malfunction factor  |
|-------|-----------------------------|------------------------------|--|
| U1206 | GPS RAM [U1206]             | GPS malfunction is detected. | An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652. "Removal and Installation"</a> . |

### Diagnosis Procedure

INFOID:000000009471456

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the "self-diagnosis" results of "MULTI AV". Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-652. "Removal and Installation"](#).
- NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

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AV

# U1207 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1207 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471457

| DTC   | Display contents of CONSULT | DTC detection condition      | Possible malfunction factor  |
|-------|-----------------------------|------------------------------|--|
| U1207 | GPS RTC [U1207]             | GPS malfunction is detected. | An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652. "Removal and Installation"</a> . |

### Diagnosis Procedure

INFOID:000000009471458

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the "self-diagnosis" results of "MULTI AV". Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-652. "Removal and Installation"](#).
- NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

# U1216 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1216 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471459

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1216 | CAN CONT [U1216]            | AV control unit malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652. "Removal and Installation"</a> . |

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AV

# U1217 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1217 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471460

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1217 | BLUETOOTH MODULE [U1217]    | AV control unit malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652. "Removal and Installation"</a> . |

# U1218 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1218 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471461

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1218 | HDD CONN [U1218]            | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652, "Removal and Installation"</a>.</li></ul> |

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AV

# U1219 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1219 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471462

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1219 | HDD READ<br>[U1219]         | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652, "Removal and Installation"</a>.</li></ul> |



# U121A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U121A AV CONTROL UNIT

### DTC Logic

INFOID:000000009471463

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U121A | HDD WRITE [U121A]           | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652, "Removal and Installation"</a>.</li></ul> |

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AV

# U121B AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U121B AV CONTROL UNIT

### DTC Logic

INFOID:000000009471464

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U121B | HDD COMM [U121B]            | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652, "Removal and Installation"</a>.</li></ul> |

# U121C AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U121C AV CONTROL UNIT

### DTC Logic

INFOID:000000009471465

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U121C | HDD ACCESS [U121C]          | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If the hard disk drive (HDD) is functioning normally, there is a possibility of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652, "Removal and Installation"</a>.</li></ul> |

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AV

# U121D AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U121D AV CONTROL UNIT

### DTC Logic

INFOID:000000009471466

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor  |
|-------|-----------------------------|--|--|
| U121D | DSP CONN [U121D]            | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652. "Removal and Installation"</a>.</li></ul> |

### Diagnosis Procedure

INFOID:000000009471467

#### 1. CHECK PLAYBACK OF A DISK (CD)

##### Can a disk (CD) be played?

YES >> Malfunction may be detected intermittently.

NO >> Replace AV control unit. Refer to [AV-652. "Removal and Installation"](#).

# U121E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U121E AV CONTROL UNIT

### DTC Logic

INFOID:000000009471468

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor  |
|-------|-----------------------------|--|--|
| U121E | DSP COMM [U121E]            | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652, "Removal and Installation"</a>.</li></ul> |

### Diagnosis Procedure

INFOID:000000009471469

#### 1. CHECK PLAYBACK OF A DISK (CD)

##### Can a disk (CD) be played?

- YES >> Malfunction may be detected intermittently.  
NO >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).

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AV

# U1225 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1225 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471470

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | DTC detection condition                 | Possible malfunction factor                               |
|-------|-----------------------------|---|---|
| U1225 | USB CONTROLLER<br>[U1225]   | USB connection malfunction is detected. | Check that the connection to the USB connector is normal. |

# U1227 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1227 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471471

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1227 | DVD COMM [U1227]            | AV control unit malfunction is detected. | <ul style="list-style-type: none"><li>• If DVD can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652, "Removal and Installation"</a>.</li></ul> |

### Diagnosis Procedure

INFOID:000000009471472

#### 1. CHECK PLAYBACK OF A DISK (DVD)

##### Can a disc (DVD) be played?

- YES >> Malfunction may be detected intermittently.  
NO >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).

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# U1228 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1228 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471473

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1228 | SUB CPU CONN [U1228]        | AV control unit malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652, "Removal and Installation"</a> . |



# U1229 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1229 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471474

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U1229 | iPod CERTIFICATION [U1229]  | AV control unit malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652, "Removal and Installation"</a> . |

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AV

# U122A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U122A AV CONTROL UNIT

### DTC Logic

INFOID:000000009471475

| DTC   | Display contents of CONSULT | DTC detection condition                          | Action to take                                       |
|-------|-----------------------------|--|--|
| U122A | CONFIG UNFINISH [U122A]     | The writing of configuration data is incomplete. | Write configuration data with "MULTI AV" of CONSULT. |

### Diagnosis Procedure

INFOID:000000009471476

#### 1.PERFORM THE SELF-DIAGNOSIS

When U122A is detected, write configuration data with "MULTI AV" of CONSULT.

>> Write configuration data with "MULTI AV" of CONSULT. Refer to [AV-508. "CONFIGURATION \(AV CONTROL UNIT\) : Special Repair Requirement"](#).

# U122E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U122E AV CONTROL UNIT

### DTC Logic

INFOID:000000009471477

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | DTC detection condition                  | Possible malfunction factor   |
|-------|-----------------------------|--|---|
| U122E | Built-in AUDIO CONN [U122E] | AV control unit malfunction is detected. | Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-652, "Removal and Installation"</a> . |

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# U1232 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1232 STEERING ANGLE SENSOR

### DTC Logic

INFOID:000000009471478

| DTC   | Display contents of CONSULT | DTC detection condition   | Possible malfunction factor   |
|-------|-----------------------------|---|---|
| U1232 | ST ANGLE SEN CALIB [1232]   | Predictive course line center position adjustment of the steering angle sensor is incomplete. | Adjust the predictive course line center position of the steering angle sensor. |

### Diagnosis Procedure

INFOID:000000009471479

#### 1. ADJUST THE PREDICTIVE COURSE LINE CENTER POSITION OF THE STEERING ANGLE SENSOR

When U1232 is detected, adjust the predictive course line center position of the steering angle sensor.

>> Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to [BRC-6. "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"](#).

# U1243 DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1243 DISPLAY UNIT

### DTC Logic

INFOID:000000009471480

| DTC   | Display contents of CONSULT | DTC detection condition  | Possible malfunction factor  |
|-------|-----------------------------|--|--|
| U1243 | FRONT DISP CONN [U1243]     | When either one of the following items are detected:<br><ul style="list-style-type: none"> <li>display unit power supply and ground circuit malfunction is detected.</li> <li>communication circuit between AV control unit and display unit.</li> </ul> | <ul style="list-style-type: none"> <li>Display unit power supply and ground circuit.</li> <li>Communication circuit between AV control unit and display unit.</li> </ul> |

### Diagnosis Procedure

INFOID:000000009471481

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

### 1. CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to [AV-572, "DISPLAY UNIT : Diagnosis Procedure"](#).

Is inspection result OK?

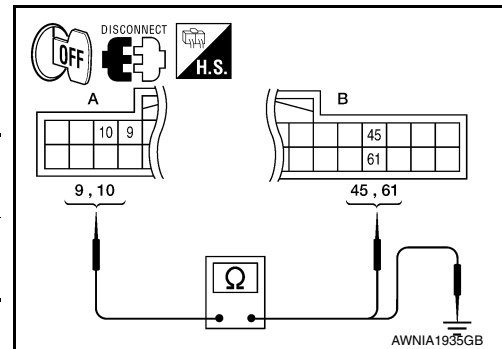
YES >> GO TO 2.

NO >> Repair malfunctioning parts.

### 2. CHECK CONTINUITY OF COMMUNICATION CIRCUIT

- Turn ignition switch OFF.
- Disconnect display unit connector M142 and AV control unit connector M163.
- Check continuity between display unit harness connector M142 (A) terminals 9, 10 and AV control unit harness connector M163 (B) terminals 45 and 61.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M142      | 9        | M163      | 61       | Yes        |
|           | 10       |           | 45       |            |



- Check continuity between display unit harness connector M142 (A) terminals 9, 10 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M142      | 9        | Ground | No         |
|           | 10       |        |            |

Are continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

### 3. CHECK COMMUNICATION SIGNAL

- Connect display unit connector and AV control unit connector.
- Turn ignition switch ON.

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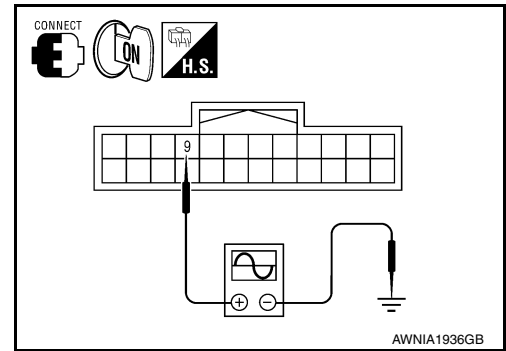
# U1243 DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

3. Check signal between display unit harness connector M142 terminal 9 and ground with an oscilloscope or CONSULT.

| (+)       |          | (-)    | Reference signal |
|-----------|----------|--------|------------------|
| Connector | Terminal |        |                  |
| M142      | 9        | Ground |                  |



Are voltage readings as specified?

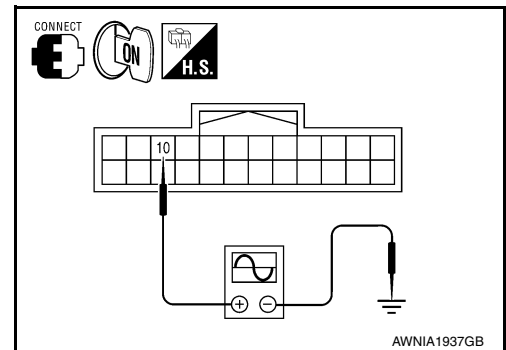
YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-652. "Removal and Installation"](#).

## 4. CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector M142 terminal 10 and ground with an oscilloscope or CONSULT.

| (+)       |          | (-)    | Reference signal |
|-----------|----------|--------|------------------|
| Connector | Terminal |        |                  |
| M142      | 10       | Ground |                  |



Are voltage readings as specified?

YES >> Inspection End.

NO >> Replace display unit. Refer to [AV-655. "Removal and Installation"](#).

# U1244 GPS ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1244 GPS ANTENNA

### DTC Logic

INFOID:000000009471482

| DTC   | Display contents of CONSULT | DTC detection condition                         | Possible malfunction factor                        |
|-------|-----------------------------|---|--|
| U1244 | GPS ANTENNA CONN [U1244]    | GPS antenna connection malfunction is detected. | Check the connection of the GPS antenna connector. |

### Diagnosis Procedure

INFOID:000000009471483

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

### 1. GPS ANTENNA CHECK

Inspect GPS antenna and antenna feeder for damage or poor connection.

Is the GPS antenna and feeder clean and undamaged?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning parts.

### 2. CHECK AV CONTROL UNIT VOLTAGE

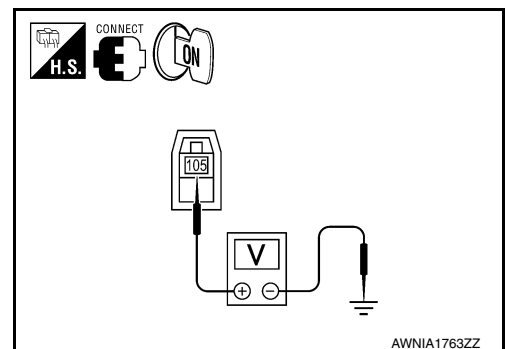
- Turn ignition switch ON.
- Check voltage between AV control unit connector M165 terminal 105 and ground.

| (+)       |          | (-)    | Voltage (Approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| M165      | 105      | Ground | 5V                |

Is the voltage reading as specified?

YES >> Replace GPS antenna. Refer to [AV-666, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).



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AV

# U1263 USB

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1263 USB

### DTC Logic

INFOID:000000009471484

| DTC   | Display contents of CONSULT | DTC detection condition                     | Possible malfunction factor                                      |
|-------|-----------------------------|---|--|
| U1263 | USB OVERCURRENT<br>[U1263]  | Detection of over current in USB interface. | Check USB harness between the AV control unit and USB interface. |

### Diagnosis Procedure

INFOID:000000009471485

#### 1.CHECK USB HARNESS

Visually check USB harness.

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).
- NO >> Replace USB harness.



# U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1300 AV COMM CIRCUIT

### Description

INFOID:000000009471486

U1300 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

### SELF-DIAGNOSIS RESULTS DISPLAY ITEM

| DTC            | Display contents of CONSULT   | DTC detection condition   | Possible malfunction factor  |
|----------------|---|---|--|
| U1300<br>U1240 | <ul style="list-style-type: none"><li>• AV COMM CIRCUIT [U1300]</li><li>• SWITCH CONN [U1240]</li></ul> | When either one of the following items are detected: <ul style="list-style-type: none"><li>• Multifunction switch power supply and ground circuits are malfunctioning.</li><li>• AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li></ul> | <ul style="list-style-type: none"><li>• Multifunction switch power supply and ground circuits.</li><li>• AV communication circuits between AV control unit and multifunction switch.</li></ul> |

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# U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## U1310 AV CONTROL UNIT

### DTC Logic

INFOID:000000009471487

| DTC   | Display contents of CONSULT  | DTC detection condition   | Possible malfunction factor  |
|-------|------------------------------|---|--|
| U1310 | CONTROL UNIT (AV)<br>[U1310] | An initial diagnosis error is detected in AV communication circuit. | Replace AV control unit. If the malfunction occurs constantly. Refer to <a href="#">AV-652. "Removal and Installation"</a> . |

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## POWER SUPPLY AND GROUND CIRCUIT

### AV CONTROL UNIT

#### AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000009471488

Regarding Wiring Diagram information, refer to [AV-614. "Wiring Diagram - With BOSE audio system With Navigation System"](#).

### 1. CHECK FUSES

Check that the following AV control unit fuses are not blown.

| Unit            | Terminals | Signal name                 | Fuse No. |
|-----------------|-----------|-----------------------------|----------|
| AV control unit | 19        | Battery power               | 24       |
|                 | 7         | Ignition switch ACC or ON   | 17       |
|                 | 52        | Ignition switch ON or START | 3        |

Are the fuses OK?

YES >> GO TO 2.

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

### 2. POWER SUPPLY CIRCUIT CHECK

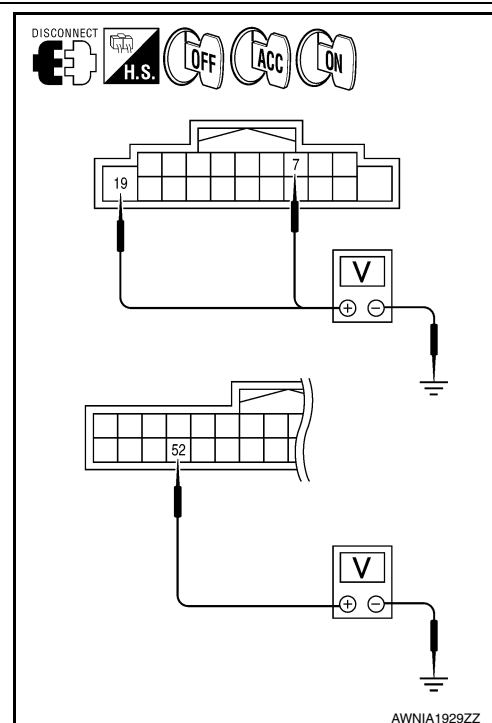
1. Disconnect AV control unit connectors M160 and M163.
2. Check voltage between the AV control unit connectors M160 and M163 and ground.

| (+) Connector |    | Terminal | (-)    | OFF             | ACC             | ON              |
|---------------|----|----------|--------|-----------------|-----------------|-----------------|
| Terminal      |    |          |        |                 |                 |                 |
| M160          | 7  | 7        | Ground | 0V              | Battery voltage | Battery voltage |
|               | 19 | 19       | Ground | Battery voltage | Battery voltage | Battery voltage |
| M163          | 52 | 52       | Ground | 0V              | 0V              | Battery voltage |

Are the voltage results as specified?

YES >> GO TO 3.

- NO >>
- Check connector housings for disconnected or loose terminals.
  - Repair harness or connector.



### 3. GROUND CIRCUIT CHECK

# POWER SUPPLY AND GROUND CIRCUIT

[COLOR DISPLAY - W/BOSE & NAVI]

## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Check continuity between AV control unit harness connector M160 and ground.

| (+)       |          | (-)    | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M160      | 20       | Ground | Yes        |

Are the continuity results as specified?

- YES >> Inspection End.  
 NO >> Repair AV control unit ground.

## DISPLAY UNIT

### DISPLAY UNIT : Diagnosis Procedure

INFOID:000000009471489

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

## 1.CHECK FUSES

Check that the following display unit fuses are not blown.

| Unit         | Terminals | Signal name               | Fuse No. |
|--------------|-----------|---------------------------|----------|
| Display Unit | 11        | Battery power             | 24       |
|              | 23        | Ignition switch ACC or ON | 17       |

Are the fuses OK?

- YES >> GO TO 2.  
 NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

## 2.CHECK POWER SUPPLY CIRCUIT

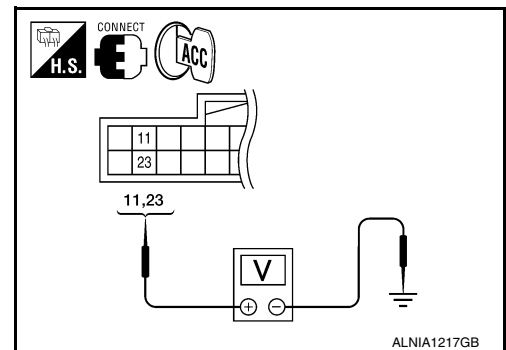
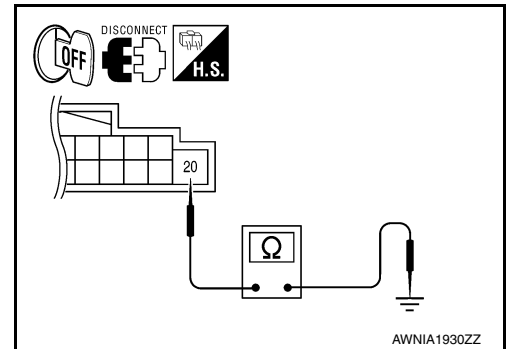
1. Turn ignition switch to ACC.
2. Check voltage between display unit harness connector M142 and ground.

| (+)       |          | (-)    | OFF             | ACC             | ON              |
|-----------|----------|--------|-----------------|-----------------|-----------------|
| Connector | Terminal |        | OFF             | ACC             | ON              |
| M142      | 11       | Ground | Battery voltage | Battery voltage | Battery voltage |
|           | 23       |        | 0V              | Battery voltage | Battery voltage |

Does specified voltage exist?

- YES >> GO TO 3.  
 NO >> • Check connector housings for disconnected or loose terminals.  
 • Repair harness or connector.

## 3.CHECK GROUND CIRCUIT

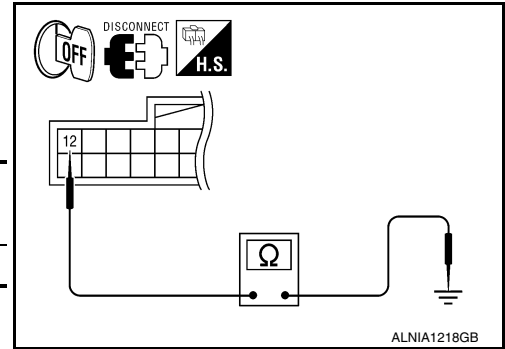


# POWER SUPPLY AND GROUND CIRCUIT

[COLOR DISPLAY - W/BOSE & NAVI]

## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect display unit connector.
3. Check continuity between display unit harness connector M142 and ground.



| (+)       |          | (-)    | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M142      | 12       | Ground | Yes        |

### Does continuity exist?

- YES >> Inspection End.  
 NO >> Repair harness or connector.

## A/C AND AV SWITCH ASSEMBLY

### A/C AND AV SWITCH ASSEMBLY : Diagnosis Procedure

INFOID:000000009471490

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

## 1. CHECK FUSE

Check that the A/C and AV switch assembly fuse is not blown.

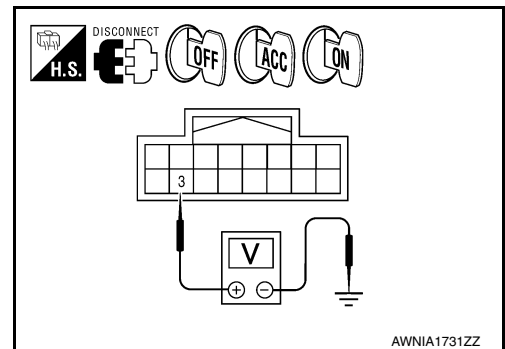
| Unit                       | Terminal | Signal name               | Fuse No. |
|----------------------------|----------|---------------------------|----------|
| A/C and AV switch assembly | 3        | Ignition switch ACC or ON | 17       |

### Is the fuse OK?

- YES >> GO TO 2.  
 NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

## 2. POWER SUPPLY CIRCUIT CHECK

1. Disconnect A/C and AV switch assembly connector M98.
2. Check voltage between the A/C and AV switch assembly connector M98 and ground.



| (+)       |          | (-)    | OFF | ACC             | ON              |
|-----------|----------|--------|-----|-----------------|-----------------|
| Connector | Terminal |        | OFF | ACC             | ON              |
| M98       | 3        | Ground | 0V  | Battery voltage | Battery voltage |

### Are the voltage results as specified?

- YES >> GO TO 3.  
 NO >> • Check connector housings for disconnected or loose terminals.  
 • Repair harness or connector.

## 3. GROUND CIRCUIT CHECK

A  
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P

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

1. Turn ignition switch OFF.
2. Check continuity between A/C and AV switch assembly harness connector M98 and ground.

| (+)       |          | (-)    | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M98       | 1        | Ground | Yes        |

Are the continuity results as specified?

- YES >> Inspection End.  
 NO >> Repair A/C and AV switch assembly ground.

## BOSE SPEAKER AMP

### BOSE SPEAKER AMP : Diagnosis Procedure

INFOID:000000009471491

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

## 1.CHECK FUSE

Check that the BOSE speaker amp. fuse is not blown.

| Unit              | Terminal | Signal name   | Fuse No. |
|-------------------|----------|---------------|----------|
| BOSE speaker amp. | 11       | Battery power | 26       |
|                   | 10       |               | 25       |

Are the fuses OK?

- YES >> GO TO 2.  
 NO >> Be sure to eliminate cause of malfunction before installing new fuse.

## 2.CHECK POWER SUPPLY CIRCUIT

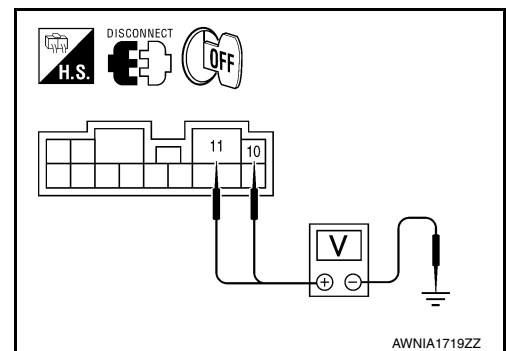
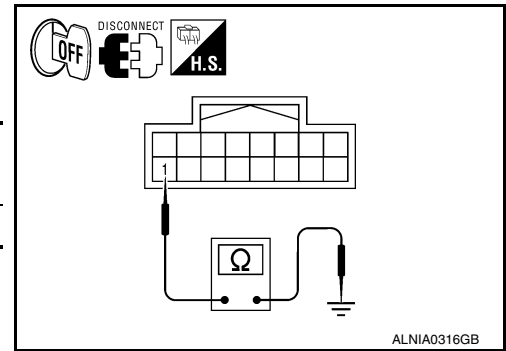
1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. connector.
3. Check voltage between BOSE speaker amp. harness connector B110 terminal 10, 11 and ground.

| (+)       |          | (-)    | Voltage (approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| B110      | 10       | Ground | Battery voltage   |
|           | 11       |        |                   |

Is battery voltage present?

- YES >> GO TO 3.  
 NO >> Check harness between BOSE speaker amp. and fuse.

## 3.CHECK GROUND CIRCUIT



# POWER SUPPLY AND GROUND CIRCUIT

[COLOR DISPLAY - W/BOSE & NAVI]

## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. connector.
3. Check continuity between BOSE speaker amp. harness connector B110 terminal 7,12 and ground.

| (+)       |          | (-)    | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B110      | 7        | Ground | Yes        |
|           | 12       |        |            |

### Does continuity exist?

- YES >> Inspection End.  
 NO >> Repair harness or connector.

## REAR VIEW CAMERA

### REAR VIEW CAMERA : Diagnosis Procedure

INFOID:000000009471492

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

## 1. CHECK POWER SUPPLY CIRCUIT (REAR VIEW CAMERA SIDE)

1. Turn ignition switch ON.
2. Shift transmission into Reverse.
3. Check voltage between rear view camera harness connector T101 and ground.

| (+)       |          | (-)    | Transmission position | Value (Approx.) |
|-----------|----------|--------|-----------------------|-----------------|
| Connector | Terminal |        |                       |                 |
| T101      | 1        | Ground | Reverse               | 6V              |

### Is voltage reading approximately 6 volts?

- YES >> GO TO 4.  
 NO >> GO TO 2.

## 2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect rear view camera and AV control unit connectors.
3. Check continuity between rear view camera harness connector T101 (A) terminal 1 and AV control unit harness connector M164 (B) terminal 68.

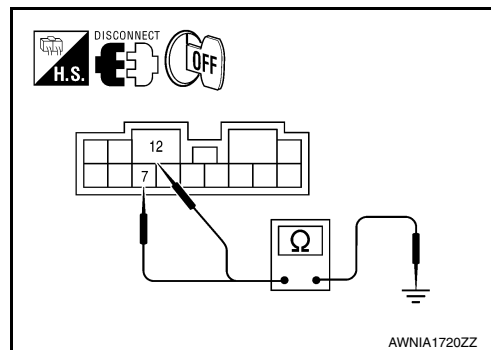
| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| T101      | 1        | M164      | 68       | Yes        |

4. Check continuity between rear view camera harness connector T101 (A) terminal 1 and ground.

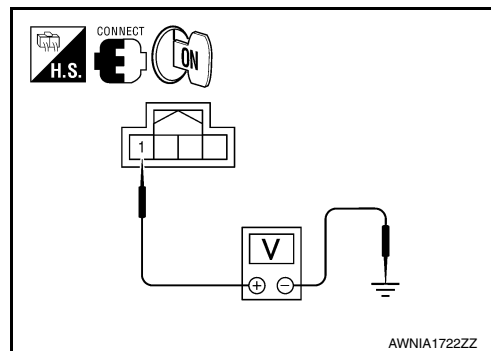
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| T101      | 1        | Ground | No         |

### Are continuity test results as specified?

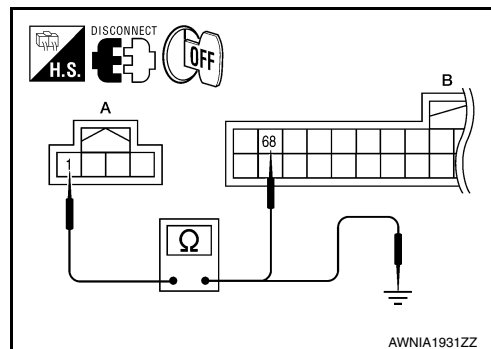
- YES >> GO TO 3.  
 NO >> Repair harness or connector.



AWNIA1720ZZ



AWNIA1722ZZ



AWNIA1931ZZ

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AV

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## 3. CHECK REVERSE POSITION INPUT SIGNAL

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Shift transmission into reverse.
4. Check voltage between AV control unit harness connector M163 terminal 53 and ground.

| (+)       |          | (-)    | Transmission position | Value (Approx.) |
|-----------|----------|--------|-----------------------|-----------------|
| Connector | Terminal |        |                       |                 |
| M163      | 53       | Ground | Reverse               | 12V             |

Is voltage reading approximately 12 volts?

- YES >> Replace AV control unit. Refer to [AV-652. "Removal and Installation"](#).  
 NO >> Check harness for open or short between AV control unit and back-up lamp relay.

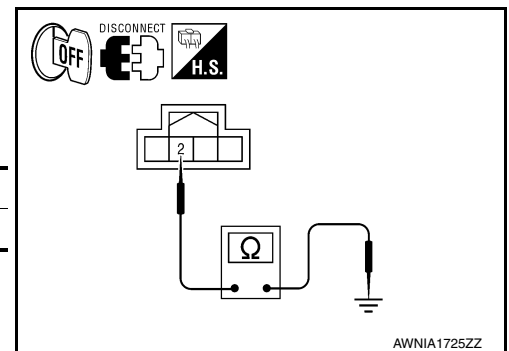
## 4. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear view camera harness connector.
3. Check continuity between rear view camera harness connector T101 terminal 2 and ground.

| Connector | Terminal | —      | Continuity |
|-----------|----------|--------|------------|
| T101      | 2        | Ground | Yes        |

Does continuity exist?

- YES >> Inspection End.  
 NO >> Repair harness or connector.



## MICROPHONE

### MICROPHONE : Diagnosis Procedure

INFOID:000000009471493

Regarding Wiring Diagram information, refer to [AV-614. "Wiring Diagram - With BOSE audio system With Navigation System"](#).

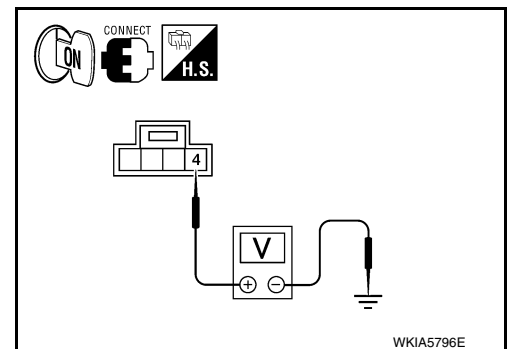
## 1. CHECK POWER SUPPLY CIRCUIT

Check voltage between microphone harness connector R7 terminal 4 and ground.

| (+)       |          | (-)    | Value (Approx.) |
|-----------|----------|--------|-----------------|
| Connector | Terminal |        |                 |
| R7        | 4        | Ground | 5V              |

Is approximately 5V present?

- YES >> GO TO 3.  
 NO >> GO TO 2.



## 2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)



# POWER SUPPLY AND GROUND CIRCUIT

[COLOR DISPLAY - W/BOSE & NAVI]

## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect microphone and AV control unit harness connectors.
3. Check continuity between microphone harness connector R7 (A) terminal 4 and AV control unit harness connector M163 (B) terminal 44.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| R7        | 4        | M163      | 44       | Yes        |

4. Check continuity between microphone harness connector R7 (A) terminal 4 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| R7        | 4        | Ground | No         |

Are the continuity test results as specified?

YES >> Replace the AV control unit. Refer to [AV-652. "Removal and Installation"](#).

NO >> Repair harness or connector.

### 3. CHECK GROUND CIRCUIT

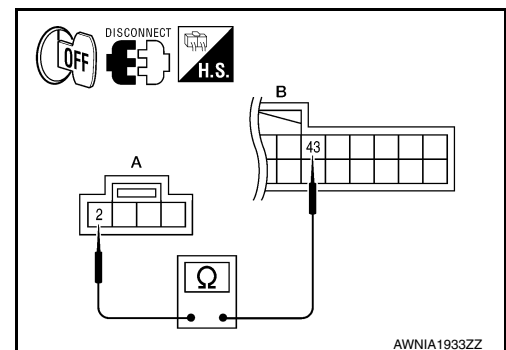
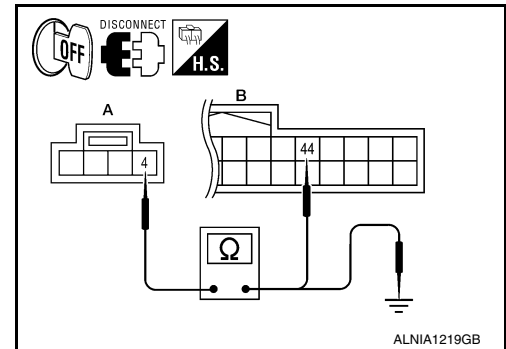
1. Turn ignition switch OFF.
2. Disconnect microphone harness connector R7 and AV control unit harness connector M163.
3. Check continuity between microphone harness connector R7 (A) terminal 2 and AV control unit harness connector M163 (B) terminal 43.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| R7        | 2        | M163      | 43       | Yes        |

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.



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AV

# RGB DIGITAL IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## RGB DIGITAL IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009471494

Transmit the image displayed with AV control unit with RGB digital image signal to the display unit.

### Diagnosis Procedure

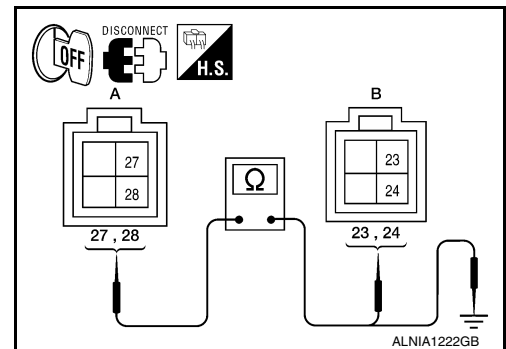
INFOID:000000009471495

Regarding Wiring Diagram information, refer to [AV-652, "Removal and Installation"](#).

### 1. CHECK CONTINUITY RGB DIGITAL IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M151 and AV control unit connector M161.
3. Check continuity between display unit harness connector M151 (A) terminals 27, 28 and AV control unit harness connector M161 (B) terminals 23 and 24.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M151      | 27       | M161      | 23       | Yes        |
|           | 28       |           | 24       |            |



4. Check continuity between display unit harness connector M151 (A) terminals 27, 28 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M151      | 27       | Ground | No         |
|           | 28       |        |            |

Are continuity results as specified?

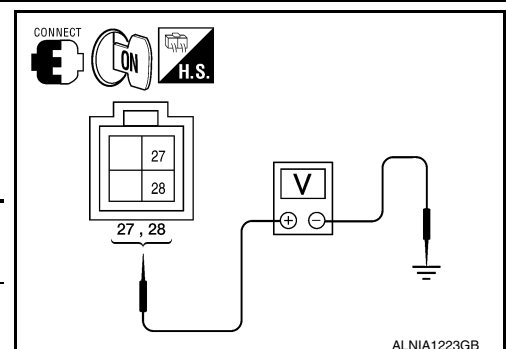
YES >> GO TO 2.

NO >> Repair harness or connector.

### 2. CHECK RGB DIGITAL IMAGE SIGNAL

1. Connect display unit connector M151 and AV control unit connector M161.
2. Turn ignition switch ON.
3. Check voltage between display unit harness connector M151 terminals 27, 28 and ground.

| (+)       |          | (-)    | Condition               | Voltage (Approx.) |
|-----------|----------|--------|-------------------------|-------------------|
| Connector | Terminal |        |                         |                   |
| M151      | 27       | Ground | Not connected connector | 1.3 V             |
|           | 28       |        |                         |                   |



Are voltage readings as specified?

YES >> Replace display unit. Refer to [AV-655, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).

# COMPOSITE IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## COMPOSITE IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009471496

AV control unit transmits the playback DVD image signal and AUX image signal to the display unit.

### Diagnosis Procedure

INFOID:000000009471497

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

#### 1. CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M163 and display unit connector M142.
3. Check continuity between AV control unit connector M163 (A) terminal 40 and display unit connector M142 (B) terminal 18.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M163      | 40       | M142      | 18       | Yes        |

4. Check continuity between AV control unit connector M163 (A) terminal 40 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M163      | 40       | Ground | No         |

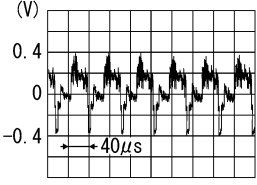
Are continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK AUX COMPOSITE SIGNAL

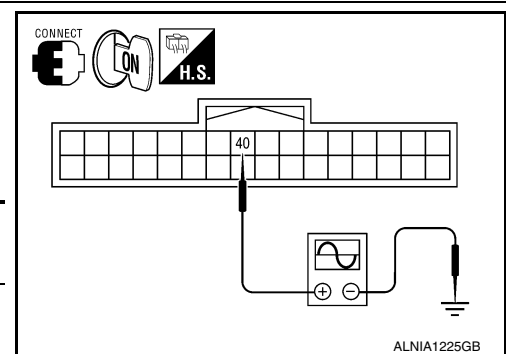
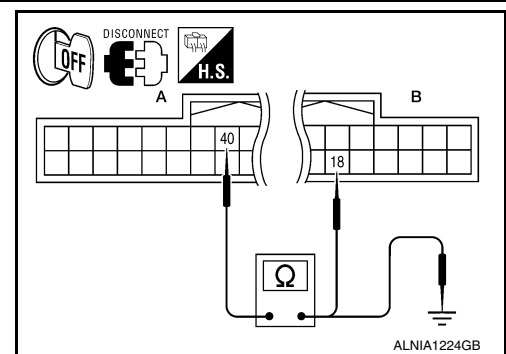
1. Connect AV control unit connector M163 and display unit connector M142.
2. Turn ignition switch ON.
3. Check signal between AV control unit harness connector M163 terminal 40 and ground.

| (+)       |          | (-)    | Condition                 | Reference signal   |
|-----------|----------|--------|---------------------------|--|
| Connector | Terminal |        |                           |  |
| M163      | 40       | Ground | At DVD image is displayed |  <p>SKIB2251J</p> |

Are voltage readings as specified?

YES >> Replace display unit. Refer to [AV-655, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).



# AUX IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## AUX IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009471498

- Transmits the image signal of AUX device from auxiliary input jacks to AV control unit.
- AV control unit transmits the image signal that is input to the display unit.

### Diagnosis Procedure

INFOID:000000009471499

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

### 1. CHECK CONTINUITY AUX IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect auxiliary input jack connector M209 and AV control unit connector M164.
3. Check continuity between auxiliary input jack harness connector M209 (A) terminal 7 and AV control unit harness connector M164 (B) terminal 76.

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M209      | 7        | M164      | 76       | Yes        |

4. Check continuity between auxiliary input jack harness connector M209 (A) terminal 8 and ground.

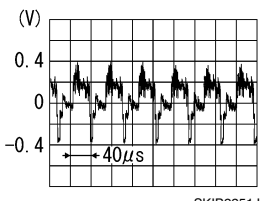
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M209      | 7        | Ground | No         |

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair harness or connector.

### 2. CHECK AUX IMAGE SIGNAL

1. Connect auxiliary input jack connector M209 and AV control unit connector M164.
2. Turn ignition switch ON.
3. Check signal between auxiliary input jack connector M209 terminal 7 and ground.

| (+) Connector |          | (-)    | Condition            | Reference signal  |
|---------------|----------|--------|----------------------|---|
| Connector     | Terminal |        |                      |   |
| M209          | 7        | Ground | Receive video signal |  |

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).
- NO >> Check that there is no malfunction in the external device.

# DISK EJECT SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## DISK EJECT SIGNAL CIRCUIT

### Description

INFOID:000000009471500

The eject signal is output to AV control unit when the eject switch of A/C and AV switch assembly is pressed.

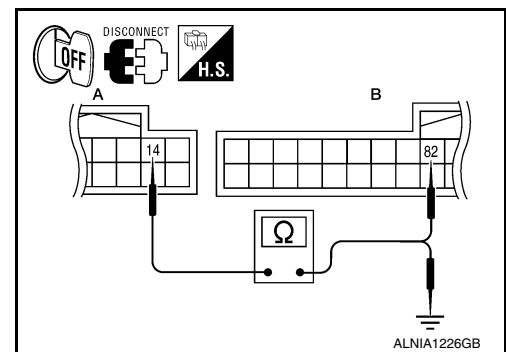
### Diagnosis Procedure

INFOID:000000009471501

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

#### 1. CHECK CONTINUITY DISK EJECT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect A/C and AV switch assembly connector M98 and AV control unit connector M164.
3. Check continuity between A/C and AV switch assembly connector M98 (A) terminal 14 and AV control unit harness connector M164 (B) terminal 82.



| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M98       | 14       | M164      | 82       | Yes        |

4. Check continuity between A/C and AV switch assembly connector M98 (A) terminal 14 and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M98       | 14       | Ground | No         |

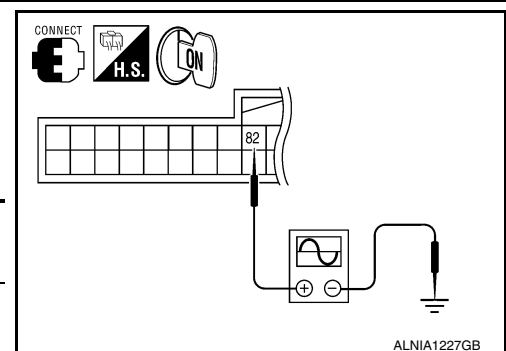
Are continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK AV CONTROL UNIT VOLTAGE

1. Connect A/C and AV switch assembly connector M98 and AV control unit connector M164.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector M164 terminal 82 and ground.



| (+)       |          | (-)    | Condition                 | Voltage (Approx.) |
|-----------|----------|--------|---------------------------|-------------------|
| Connector | Terminal |        |                           |                   |
| M164      | 82       | Ground | Pressing the eject switch | 0 V               |
|           |          |        | Except for above          | 5.0 V             |

Are voltage readings as specified?

YES >> Replace A/C and AV switch assembly. Refer to [AV-654, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## MICROPHONE SIGNAL CIRCUIT

### Description

INFOID:000000009471502

Voice signals are transmitted from the microphone to the AV control unit using the microphone signal circuits.

### Diagnosis Procedure

INFOID:000000009471503

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

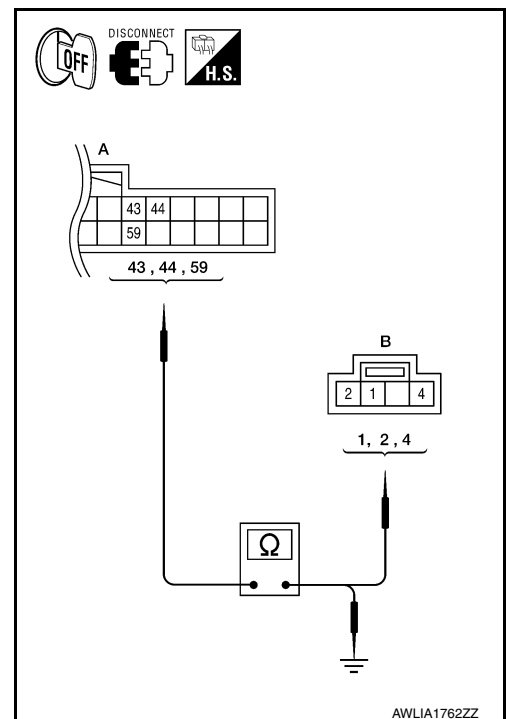
### 1. CHECK HARNESS BETWEEN AV CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and microphone connector.
3. Check continuity between AV control unit harness connector M163 (A) and microphone harness connector R7 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M163      | 59       | R7        | 1        | Yes        |
|           | 43       |           | 2        |            |
|           | 44       |           | 4        |            |

4. Check continuity between AV control unit harness connector M163 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M163      | 44       | Ground | No         |
|           | 43       |        |            |
|           | 59       |        |            |



Are the continuity test results as specified?

- YES >> GO TO 2.  
 NO >> Repair harness or connector.

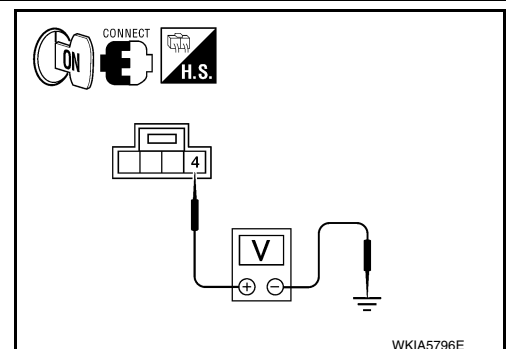
### 2. CHECK MICROPHONE POWER SUPPLY

1. Connect AV control unit connector and microphone connector.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector R7 terminal 4 and ground.

| (+)       |          | (-)    | Voltage (approx) |
|-----------|----------|--------|------------------|
| Connector | Terminal |        |                  |
| R7        | 4        | Ground | 5V               |

Is voltage reading approx. 5 volts?

- YES >> GO TO 3.  
 NO >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).



### 3. CHECK MICROPHONE SIGNAL

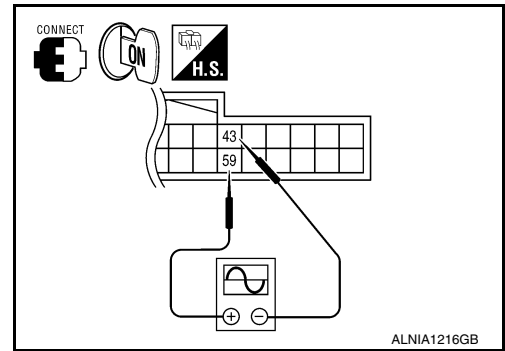
# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

Check signal between AV control unit harness connector M163 terminals 43 and 59.

| Connector | (+)      | (-)      | Reference signal                                |
|-----------|----------|----------|---|
|           | Terminal | Terminal |   |
| M163      | 59       | 43       | <p>While speaking into MIC</p> <p>PKIB5037J</p> |



Are voltage readings as specified?

- YES >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-672, "Removal and Installation"](#).

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# AMP ON SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## AMP ON SIGNAL CIRCUIT

### Description

INFOID:000000009471504

When the audio system is turned on, a voltage signal is supplied from the AV control unit to the BOSE speaker amp. When this signal is received, the BOSE speaker amp. will turn on.

### Diagnosis Procedure

INFOID:000000009471505

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

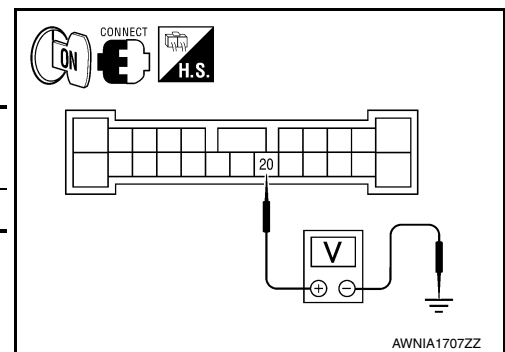
### 1. CHECK AMP ON SIGNAL (BOSE SPEAKER AMP)

1. Turn audio system ON.
2. Check voltage between BOSE speaker amp. harness connector B109 terminal 20 and ground.

| (+)       |          | (-)    | Voltage (Approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| B109      | 20       | Ground | Battery voltage   |

Is inspection result normal?

- YES >> Inspection End.  
NO >> GO TO 2.



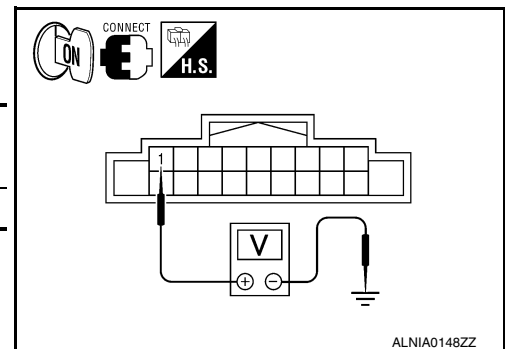
### 2. CHECK AMP ON SIGNAL (AV CONTROL UNIT)

Check voltage between AV control unit harness connector M160 terminal 1 and ground.

| (+)       |          | (-)    | Voltage (Approx.) |
|-----------|----------|--------|-------------------|
| Connector | Terminal |        |                   |
| M160      | 1        | Ground | Battery voltage   |

Is inspection result normal?

- YES >> Repair harness or connector.  
NO >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).





# FRONT DOOR SPEAKER

[COLOR DISPLAY - W/BOSE & NAVI]

< DTC/CIRCUIT DIAGNOSIS >

## FRONT DOOR SPEAKER

### Description

INFOID:000000009471506

The AV control unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the front door speakers using the audio signal circuits.

### Diagnosis Procedure

INFOID:000000009471507

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

### 1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

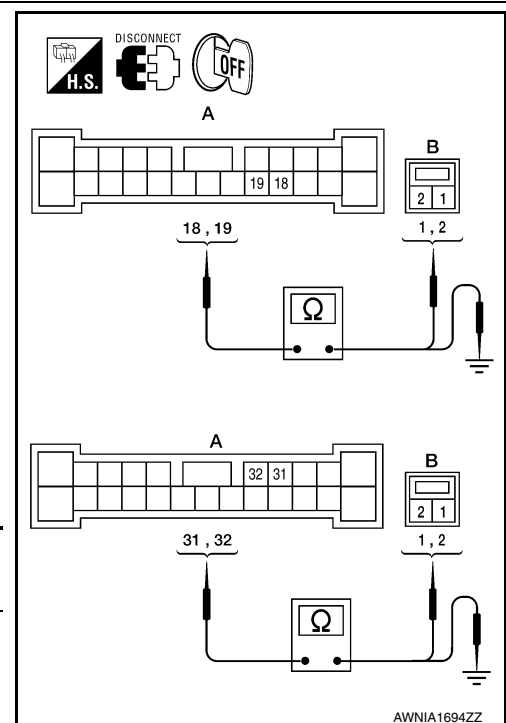
### 2.HARNES CHECK

1. Disconnect BOSE speaker amp. connector B109 and suspect speaker connector.
2. Check continuity between BOSE speaker amp. harness connector B109 (A) and suspect speaker harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B109      | 18       | D3        | 1        | Yes        |
|           | 19       |           | 2        |            |
|           | 31       | D103      | 1        |            |
|           | 32       |           | 2        |            |

3. Check continuity between BOSE speaker amp. harness connector B109 (A) and ground.

| A         |          | -      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B109      | 18       | Ground | No         |
|           | 19       |        |            |
|           | 31       |        |            |
|           | 32       |        |            |



Are continuity test results as specified?

YES >> GO TO 3.

- NO >>
- Check connector housings for disconnected or loose terminals.
  - Repair harness or connector.

### 3.FRONT DOOR SPEAKER SIGNAL CHECK

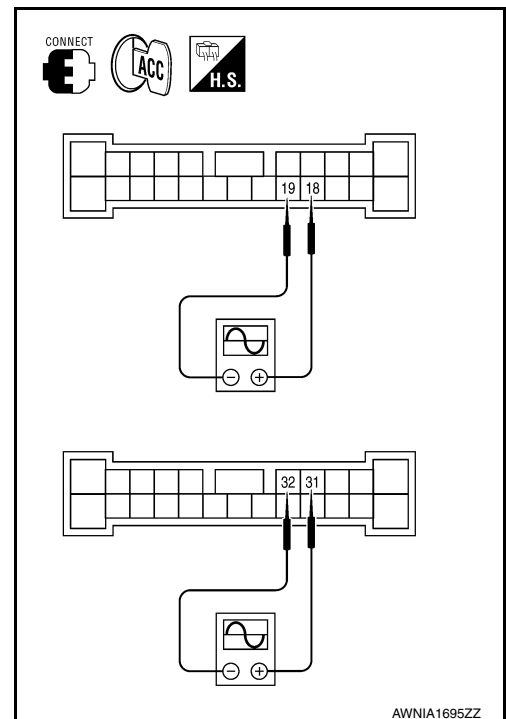
# FRONT DOOR SPEAKER

[COLOR DISPLAY - W/BOSE & NAVI]

## < DTC/CIRCUIT DIAGNOSIS >

1. Connect BOSE speaker amp. connector B109 and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connector B109 terminals with CONSULT or oscilloscope.

| Connector | Terminal |     | Condition            | Reference signal |
|-----------|----------|-----|----------------------|------------------|
|           | (+)      | (-) |                      |                  |
| B109      | 18       | 19  | Receive audio signal |                  |
|           | 31       | 32  |                      |                  |



Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to [AV-661. "Removal and Installation"](#).

NO >> GO TO 4.

## 4. HARNESS CHECK

1. Disconnect AV control unit connector M160 and BOSE speaker amp. connector B109.
2. Check continuity between AV control unit harness connector M160 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M160      | 2        | B109      | 35       | Yes        |
|           | 3        |           | 36       |            |
|           | 11       |           | 33       |            |
|           | 12       |           | 34       |            |

3. Check continuity between AV control unit harness connector M160 (A) and ground.

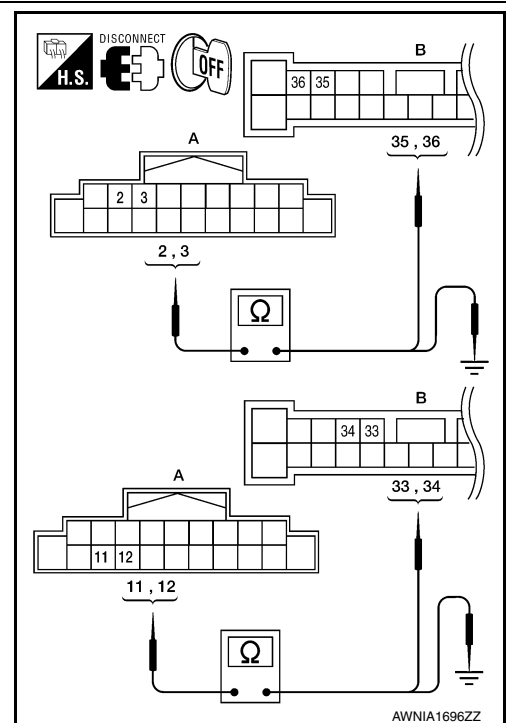
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M160      | 2        | Ground | No         |
|           | 3        |        |            |
|           | 11       |        |            |
|           | 12       |        |            |

Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 5. FRONT DOOR SPEAKER SIGNAL CHECK

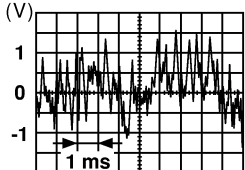


# FRONT DOOR SPEAKER

[COLOR DISPLAY - W/BOSE & NAVI]

## < DTC/CIRCUIT DIAGNOSIS >

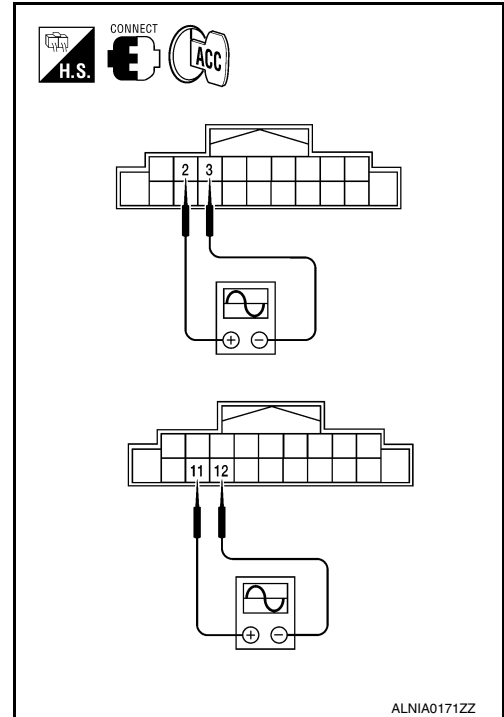
1. Connect AV control unit connector and BOSE speaker amp. connector.
2. Turn ignition switch ACC.
3. Push POWER switch.
4. Check the signal between AV control unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal  |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| M160      | 2         | 3   | Receive audio signal |  |
|           | 11        | 12  |                      |   |

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Are the audio signal voltage readings as specified?

- YES >> Replace BOSE speaker amp. Refer to [AV-664, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).



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# TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## TWEETER

### Description

INFOID:000000009471508

The AV control unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the tweeters using the audio signal circuits.

### Diagnosis Procedure

INFOID:000000009471509

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

### 1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

- YES >> GO TO 2  
 NO >> Repair the terminal and connector.

### 2.HARNES CHECK

1. Disconnect BOSE speaker amp. connector B110 and suspect tweeter connector.
2. Check continuity between BOSE speaker amp. harness connector B110 (A) and suspect tweeter harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B110      | 1        | M51       | 1        | Yes        |
|           | 2        |           | 2        |            |
|           | 4        | M52       | 1        |            |
|           | 3        |           | 2        |            |

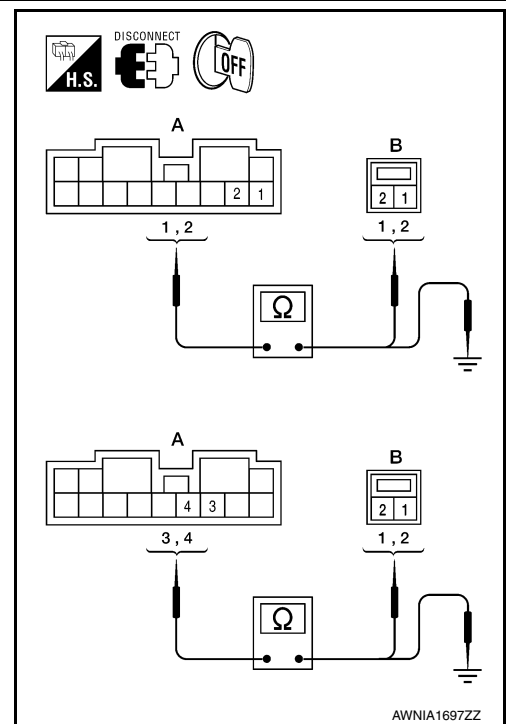
3. Check continuity between BOSE speaker amp. harness connector B110 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B110      | 1        | Ground | No         |
|           | 2        |        |            |
|           | 4        |        |            |
|           | 3        |        |            |

Are continuity test results as specified?

- YES >> GO TO 3.  
 NO >> • Check connector housings for disconnected or loose terminals.  
 • Repair harness or connector.

### 3.TWEETER SIGNAL CHECK



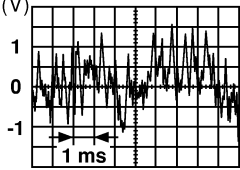
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# TWEETER

## < DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

1. Connect BOSE speaker amp. connector B110 and suspect tweeter connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connector B110 terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal  |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| B110      | 1         | 2   | Receive audio signal |  |
|           | 4         | 3   |                      |   |

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace suspect tweeter. Refer to [AV-659, "Removal and Installation"](#).

NO >> GO TO 4.

## 4. HARNESS CHECK

1. Disconnect AV control unit connector M160 and BOSE speaker amp. connector B109.
2. Check continuity between AV control unit harness connector M160 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M160      | 2        | B109      | 35       | Yes        |
|           | 3        |           | 36       |            |
|           | 11       |           | 33       |            |
|           | 12       |           | 34       |            |

3. Check continuity between AV control unit harness connector M160 (A) and ground.

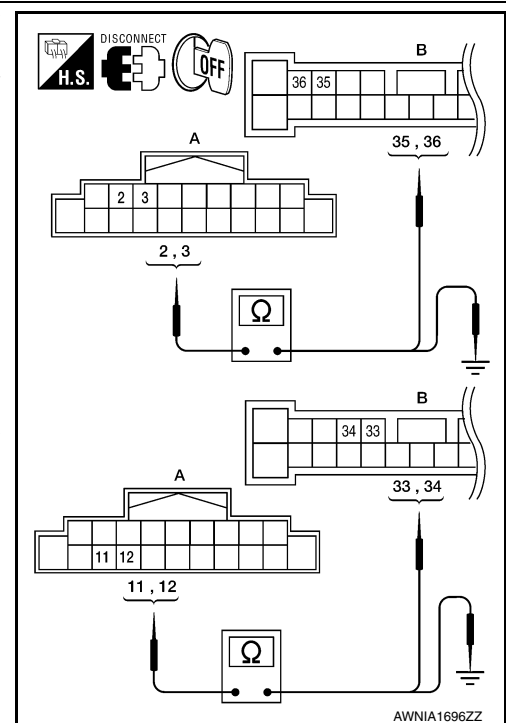
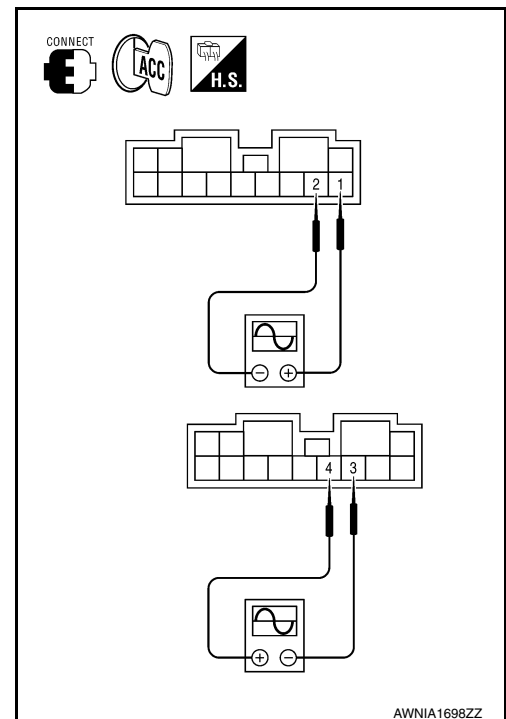
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M160      | 2        | Ground | No         |
|           | 3        |        |            |
|           | 11       |        |            |
|           | 12       |        |            |

Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 5. TWEETER SIGNAL CHECK

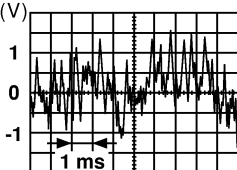


# TWEETER

## < DTC/CIRCUIT DIAGNOSIS >

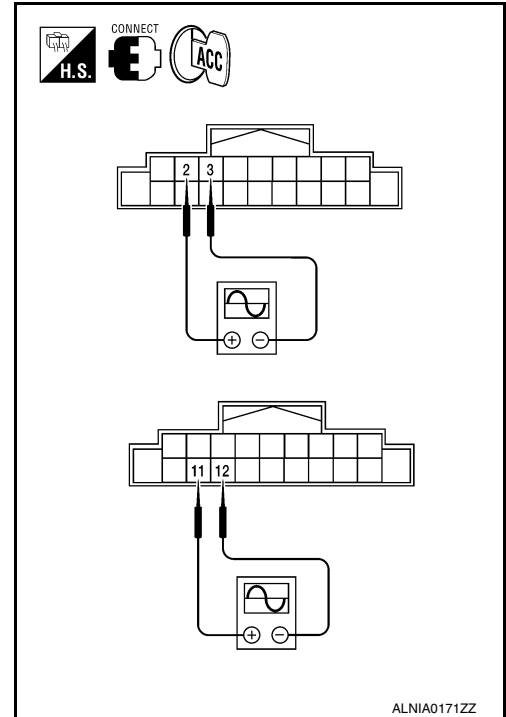
[COLOR DISPLAY - W/BOSE & NAVI]

1. Connect AV control unit connector and BOSE speaker amp. connector.
2. Turn ignition switch ACC.
3. Push POWER switch.
4. Check the signal between AV control unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal  |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| M160      | 2         | 3   | Receive audio signal | <br><small>SKIA0177E</small> |
|           | 11        | 12  |                      |   |

Are the audio signal voltage readings as specified?

- YES >> Replace BOSE speaker amp. Refer to [AV-664, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).



# CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## CENTER SPEAKER

### Description

INFOID:000000009471510

The AV control unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the center speaker using the audio signal circuits.

### Diagnosis Procedure

INFOID:000000009471511

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

### 1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

### 2.HARNES CHECK

1. Disconnect BOSE speaker amp. connector B109 and center speaker connector M130.
2. Check continuity between BOSE speaker amp. harness connector B109 (A) and center speaker harness connector M130 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B109      | 29       | M130      | 1        | Yes        |
|           | 30       |           | 2        |            |

3. Check continuity between BOSE speaker amp. harness connector B109 (A) and ground.

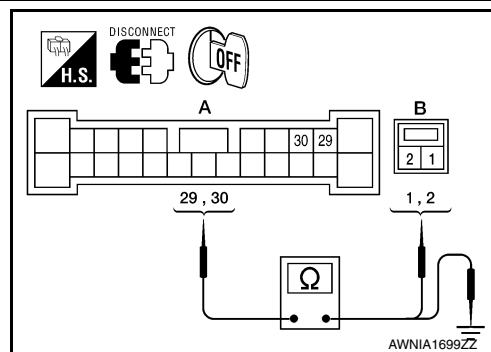
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B109      | 29       | Ground | No         |
|           | 30       |        |            |

Are continuity test results as specified?

YES >> GO TO 3.

- NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

### 3.CENTER SPEAKER SIGNAL CHECK



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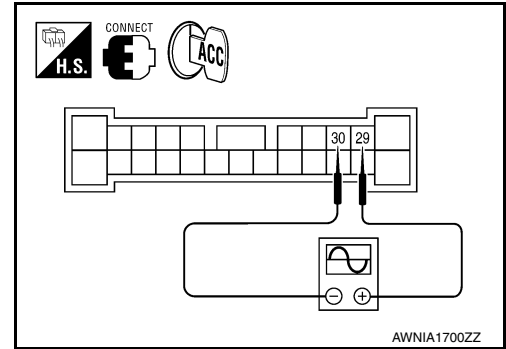
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# CENTER SPEAKER

[COLOR DISPLAY - W/BOSE & NAVI]

## < DTC/CIRCUIT DIAGNOSIS >

1. Connect BOSE speaker amp. connector B109 and center speaker connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connector B109 terminals with CONSULT or oscilloscope.



| Connector | Terminals |     | Condition            | Reference signal                            |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| B109      | 29        | 30  | Receive audio signal | <p style="text-align: right;">SKIA0177E</p> |

Is the audio signal voltage reading as specified?

- YES >> Replace center speaker. Refer to [AV-660, "Removal and Installation"](#).  
 NO >> GO TO 4.

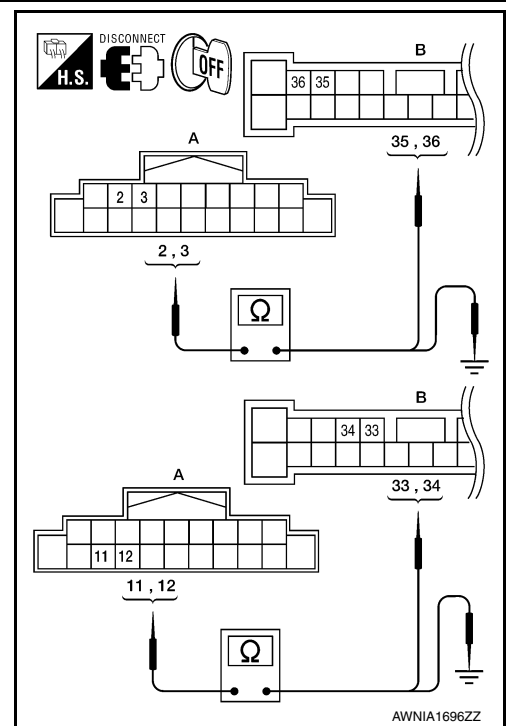
## 4. HARNESS CHECK

1. Disconnect AV control unit connector M160 and BOSE speaker amp. connector B109.
2. Check continuity between AV control unit harness connector M160 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M160      | 2        | B109      | 35       | Yes        |
|           | 3        |           | 36       |            |
|           | 11       |           | 33       |            |
|           | 12       |           | 34       |            |

3. Check continuity between AV control unit harness connector M160 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M160      | 2        | Ground | No         |
|           | 3        |        |            |
|           | 11       |        |            |
|           | 12       |        |            |



Are continuity test results as specified?

- YES >> GO TO 5.  
 NO >> • Check connector housings for disconnected or loose terminals.  
 • Repair harness or connector.

## 5. CENTER SPEAKER SIGNAL CHECK

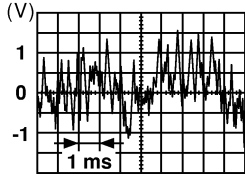


# CENTER SPEAKER

## < DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

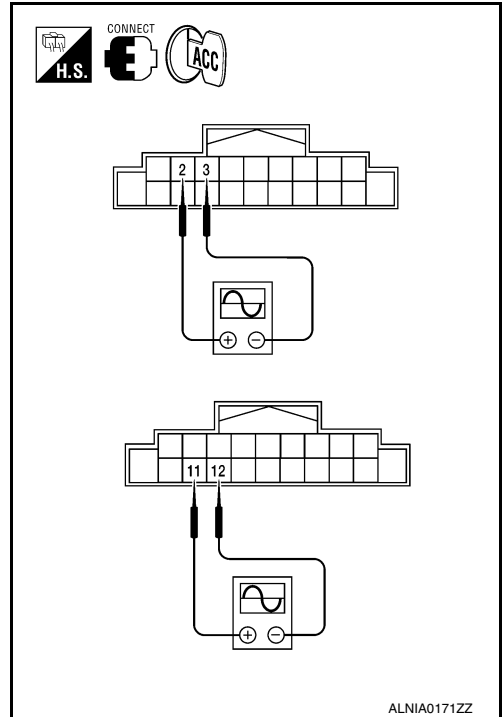
1. Connect AV control unit connector and BOSE speaker amp. connector.
2. Turn ignition switch ACC.
3. Push POWER switch.
4. Check the signal between AV control unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal  |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| M160      | 2         | 3   | Receive audio signal |  |
|           | 11        | 12  |                      |   |

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Are the audio signal voltage readings as specified?

- YES >> Replace BOSE speaker amp. Refer to [AV-664, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).



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# REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## REAR DOOR SPEAKER

### Description

INFOID:000000009471512

The AV control unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the rear door speakers using the audio signal circuits.

### Diagnosis Procedure

INFOID:000000009471513

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

### 1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

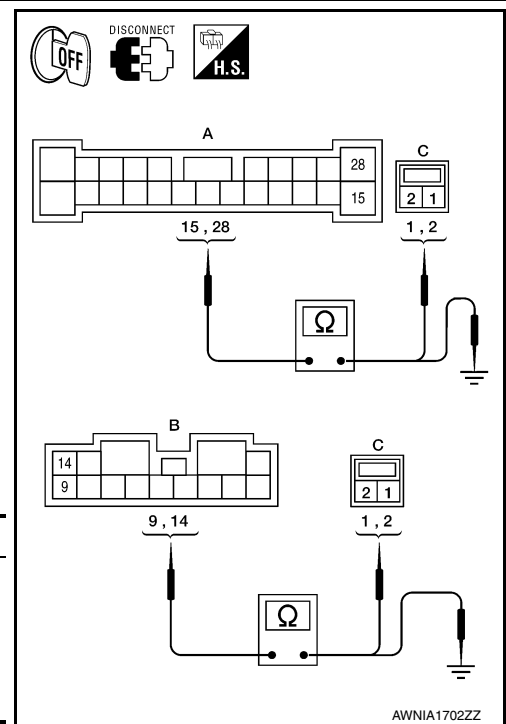
### 2.HARNES CHECK

1. Disconnect BOSE speaker amp. connectors B109, B110 and suspect speaker connector.
2. Check continuity between BOSE speaker amp. harness connectors B109 (A) and B110 (B) and suspect speaker harness connector (C).

| Connector | Terminal | Connector | Terminal | Continuity |
|-----------|----------|-----------|----------|------------|
| A: B109   | 15       | C: D202   | 2        | Yes        |
|           | 28       |           | 1        |            |
| B: B110   | 9        | C: D302   | 2        |            |
|           | 14       |           | 1        |            |

3. Check continuity between BOSE speaker amp. harness connectors B109 (A) and B110 (B) and ground.

| Connector | Terminal | -      | Continuity |
|-----------|----------|--------|------------|
| A: B109   | 15       | Ground | No         |
|           | 28       |        |            |
| B: B110   | 9        |        |            |
|           | 14       |        |            |



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Are the continuity test results as specified?

YES >> GO TO 3.

- NO >>
- Check connector housings for disconnected or loose terminals.
  - Repair harness or connector.

### 3.REAR DOOR SPEAKER SIGNAL CHECK

# REAR DOOR SPEAKER

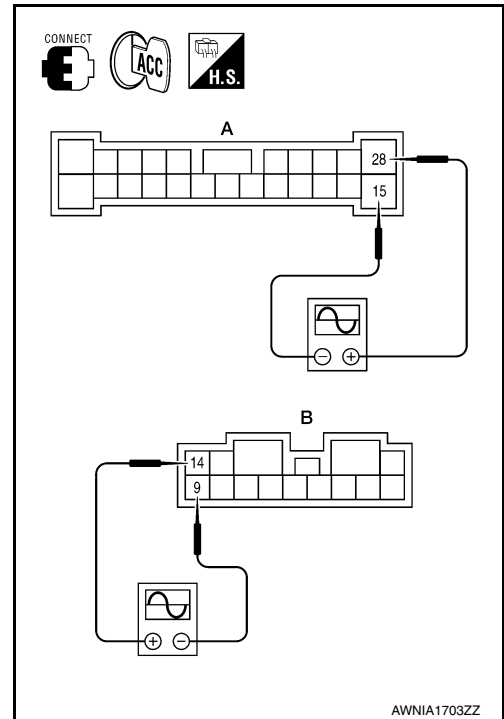
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## < DTC/CIRCUIT DIAGNOSIS >

1. Connect BOSE speaker amp. connectors and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connectors B109 (A) and B110 (B) terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal |
|-----------|-----------|-----|----------------------|------------------|
|           | (+)       | (-) |                      |                  |
| A: B109   | 28        | 15  | Receive audio signal |                  |
| B: B110   | 14        | 9   |                      |                  |

SKIA0177E



Are audio signal voltage readings as specified?

- YES >> Replace suspect speaker. Refer to [AV-662, "Removal and Installation"](#).
- NO >> GO TO 4.

## 4. HARNESS CHECK

1. Disconnect AV control unit connector M160 and BOSE speaker amp. connector B109.
2. Check continuity between AV control unit harness connector M160 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M160      | 4        | B109      | 24       | Yes        |
|           | 5        |           | 23       |            |
|           | 13       |           | 26       |            |
|           | 14       |           | 25       |            |

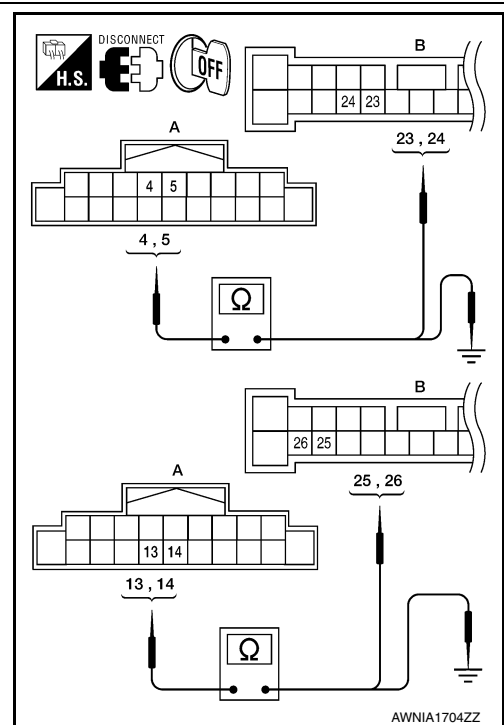
3. Check continuity between AV control unit harness connector M160 (A) and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M160      | 4        | Ground | No         |
|           | 5        |        |            |
|           | 13       |        |            |
|           | 14       |        |            |

Are the continuity test results as specified?

- YES >> GO TO 5.
- NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

## 5. REAR DOOR SPEAKER SIGNAL CHECK

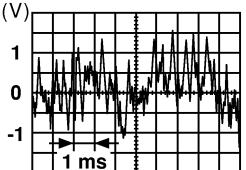


# REAR DOOR SPEAKER

[COLOR DISPLAY - W/BOSE & NAVI]

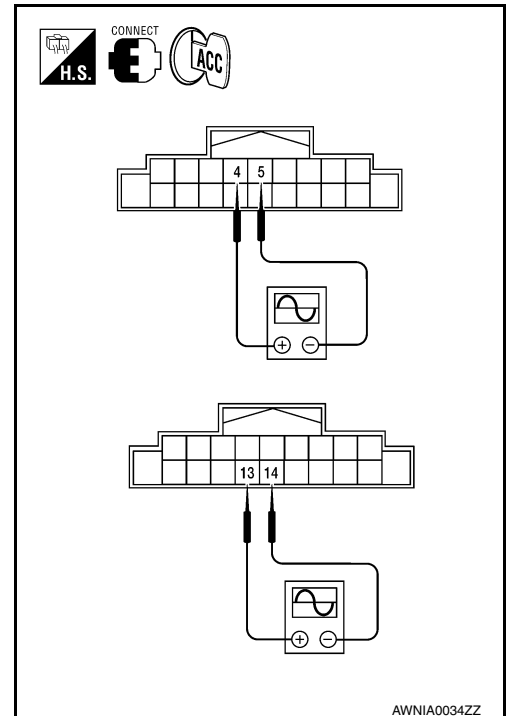
## < DTC/CIRCUIT DIAGNOSIS >

1. Connect AV control unit connector M160 and BOSE speaker amp. connector B109.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between AV control unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal   |
|-----------|-----------|-----|----------------------|--|
|           | (+)       | (-) |                      |  |
| M160      | 4         | 5   | Receive audio signal |  <p style="text-align: center;">SKIA0177E</p> |
|           | 13        | 14  |                      |  |

Is the audio signal voltage reading as specified?

- YES >> Replace BOSE speaker amp. Refer to [AV-664, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).



# SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## SUBWOOFER

### Description

INFOID:000000009471514

The AV control unit sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the subwoofers using the audio signal circuits.

### Diagnosis Procedure

INFOID:000000009471515

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

### 1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and subwoofer connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

### 2.HARNES CHECK

1. Disconnect BOSE speaker amp. connector B110 and suspect rear subwoofer connector.
2. Check continuity between BOSE speaker amp. harness connector B110 (A) and suspect rear subwoofer harness connector (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| B110      | 13       | B106      | 1        | Yes        |
|           | 8        |           | 2        |            |
|           | 5        | B107      | 1        |            |
|           | 6        |           | 2        |            |

3. Check continuity between BOSE speaker amp. harness connector B110 (A) and ground.

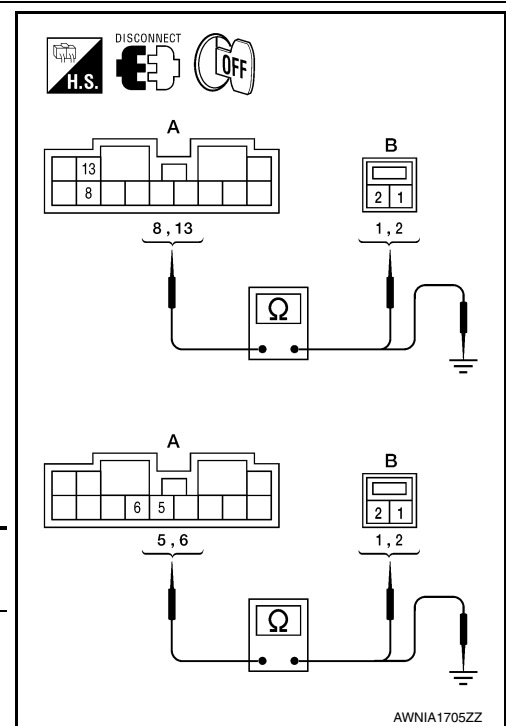
| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| B110      | 13       | Ground | No         |
|           | 8        |        |            |
|           | 5        |        |            |
|           | 6        |        |            |

Are the continuity test results as specified?

YES >> GO TO 3.

- NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

### 3.REAR SUBWOOFER SIGNAL CHECK

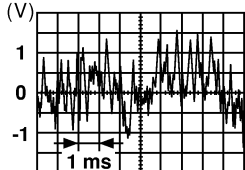


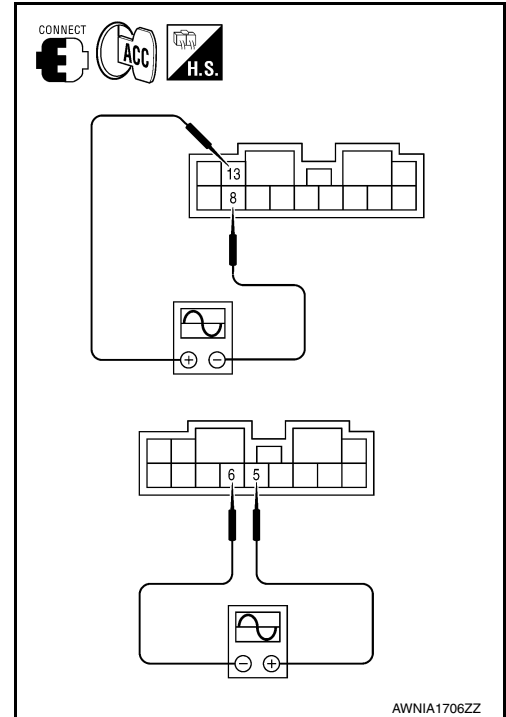
# SUBWOOFER

## < DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

1. Connect BOSE speaker amp. connector B110 and suspect rear subwoofer connector.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between BOSE speaker amp. harness connector B110 terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal  |
|-----------|-----------|-----|----------------------|---|
|           | (+)       | (-) |                      |   |
| B110      | 13        | 8   | Receive audio signal | <br><small>SKIA0177E</small> |
|           | 5         | 6   |                      |   |



Is the audio signal voltage as specified?

YES >> Replace suspect rear subwoofer. Refer to [AV-663](#), "[Removal and Installation](#)".

NO >> GO TO 4.

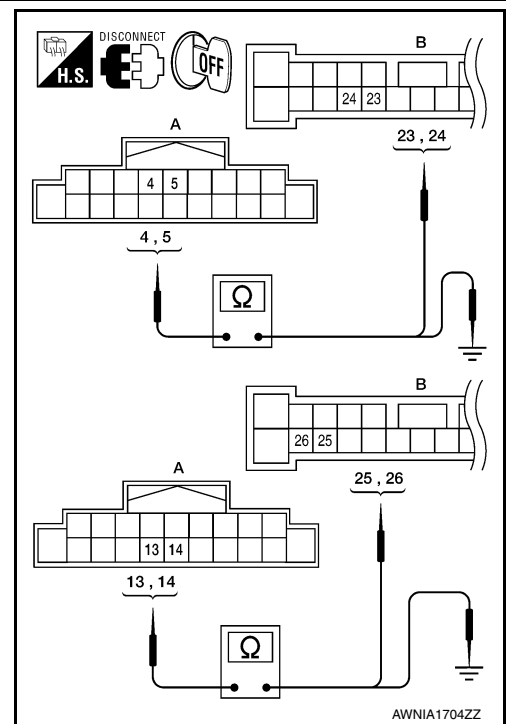
## 4. HARNESS CHECK

1. Disconnect AV control unit connector M160 and BOSE speaker amp. connector B109.
2. Check continuity between AV control unit harness connector M160 (A) and BOSE speaker amp. harness connector B109 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M160      | 4        | B109      | 24       | Yes        |
|           | 5        |           | 23       |            |
|           | 13       |           | 26       |            |
|           | 14       |           | 25       |            |

3. Check continuity between AV control unit harness connector M160 (A) terminal and ground.

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M160      | 4        | Ground | No         |
|           | 5        |        |            |
|           | 13       |        |            |
|           | 14       |        |            |



Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.  
• Repair harness or connector.

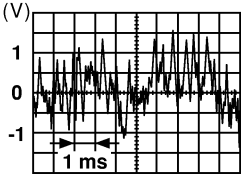
## 5. REAR SUBWOOFER SIGNAL CHECK

# SUBWOOFER

## < DTC/CIRCUIT DIAGNOSIS >

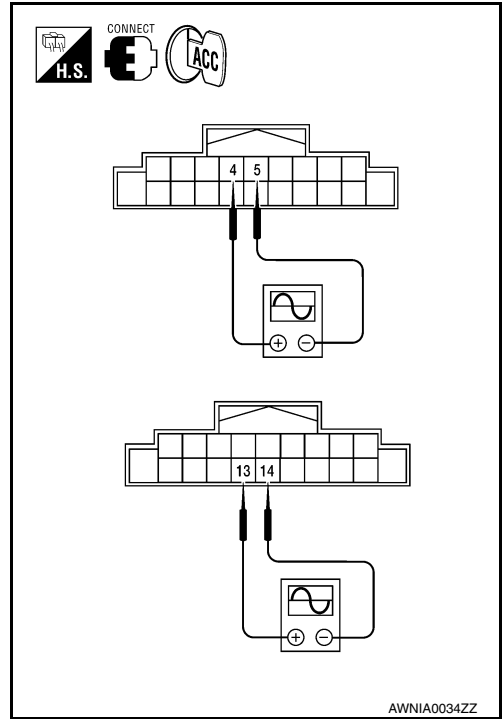
[COLOR DISPLAY - W/BOSE & NAVI]

1. Connect AV control unit connector M160 and BOSE speaker amp. connector B109.
2. Turn ignition switch to ACC.
3. Push POWER switch.
4. Check the signal between AV control unit harness connector terminals with CONSULT or oscilloscope.

| Connector | Terminals |     | Condition            | Reference signal   |
|-----------|-----------|-----|----------------------|--|
|           | (+)       | (-) |                      |  |
| M160      | 4         | 5   | Receive audio signal | <br>SKIA0177E |
|           | 13        | 14  |                      |  |

Is the audio signal voltage as specified?

- YES >> Replace BOSE speaker amp. Refer to [AV-664, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-652, "Removal and Installation"](#).



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# STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## STEERING SWITCH

### Description

INFOID:000000009471516

When one of the steering wheel audio control switches is pushed, the resistance in the steering wheel audio control switch circuit changes, depending on which button is pushed.





### Diagnosis Procedure

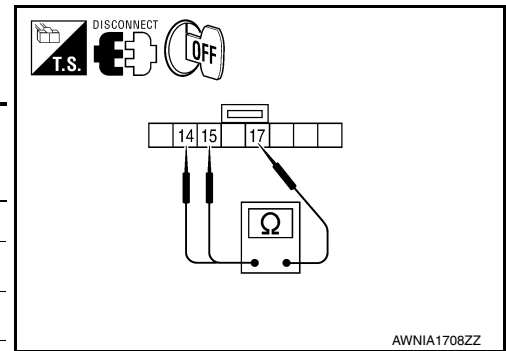
INFOID:000000009471517

Regarding Wiring Diagram information, refer to [AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"](#).

## 1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect steering wheel audio control switch connector M88.
3. Check resistance between steering switch connector terminals.

| Terminal | Signal name       | Condition   | Resistance (Ω)<br>(Approx.) |
|----------|-------------------|---|-----------------------------|
| 14       | Enter             | Depress ENTER switch.   | 2023                        |
|          | Voice recognition | Depress  switch.   | 723                         |
|          | Menu (down)       | Depress  switch. | 321                         |
|          | Menu (up)         | Depress  switch. | 121                         |
| 15       | Source            | Depress SOURCE switch.  | 0                           |
|          | Menu back         | Depress the back switch.  | 723                         |
|          | Phone             | Depress  switch. | 321                         |
|          | Volume (up)       | Depress VOL up switch.  | 121                         |
|          | Volume (down)     | Depress VOL down switch.  | 0                           |



Do the steering wheel audio control switches check OK?

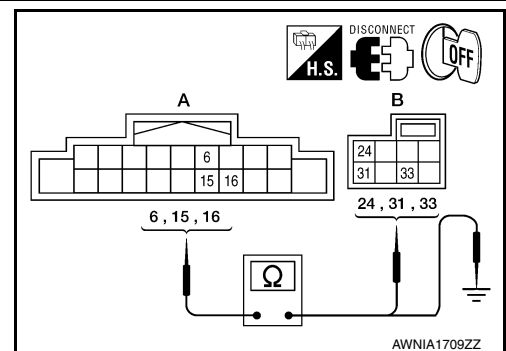
YES >> GO TO 2.

NO >> Replace steering wheel audio control switch. Refer to [AV-667, "Removal and Installation"](#).

## 2. CHECK HARNESS BETWEEN COMBINATION SWITCH (SPIRAL CABLE) AND AV CONTROL UNIT

1. Disconnect AV control unit connector M160 and combination switch (spiral cable) connector M30.
2. Check continuity between AV control unit harness connector M160 (A) and combination switch (spiral cable) harness connector M30 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M160      | 6        | M30       | 24       | Yes        |
|           | 15       |           | 33       |            |
|           | 16       |           | 31       |            |



3. Check continuity between AV switch connector M160 (A) and ground.



# STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

| A         |          | —      | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M160      | 6        | Ground | No         |
|           | 15       |        |            |
|           | 16       |        |            |

Are the continuity results as specified?

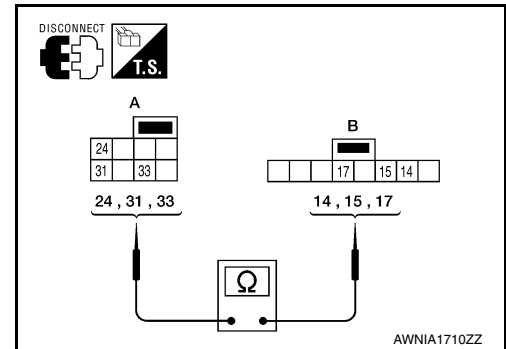
YES >> GO TO 3.

NO >> Repair harness.

### 3.COMBINATION SWITCH (SPIRAL CABLE) CHECK

1. Disconnect combination switch (spiral cable) connector M88.
2. Check continuity between combination switch (spiral cable) harness connector M30 (A) and M88 (B).

| A         |          | B         |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M30       | 24       | M88       | 14       | Yes        |
|           | 31       |           | 15       |            |
|           | 33       |           | 17       |            |



Does the combination switch (spiral cable) check OK?

YES >> Inspection End.

NO >> Replace combination switch (spiral cable). Refer to [SR-15. "Removal and Installation"](#).

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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/BOSE & NAVI]

## ECU DIAGNOSIS INFORMATION

### AV CONTROL UNIT

Reference Value

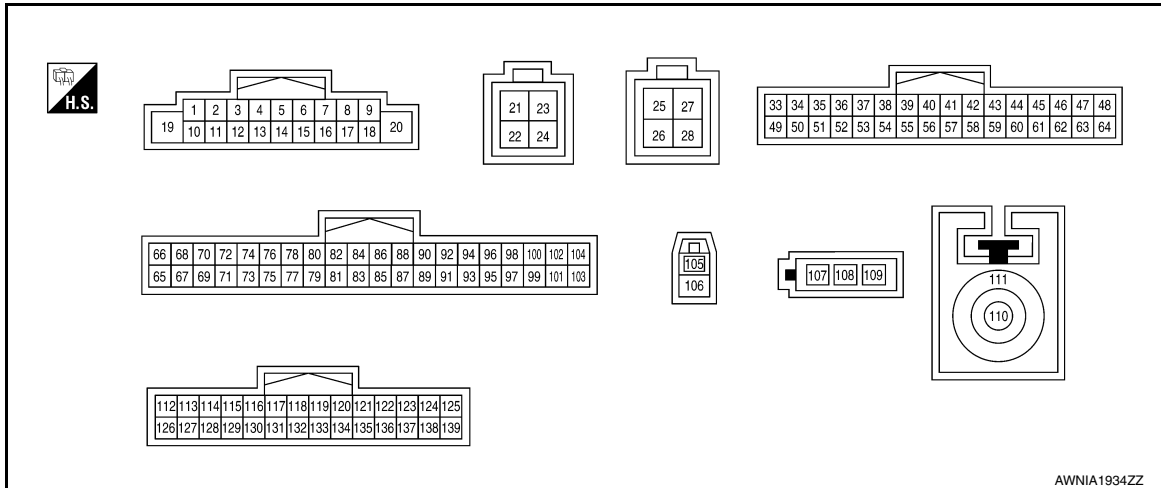
INFOID:000000009471518

#### VALUES ON THE DIAGNOSIS TOOL

CONSULT data monitor item

| Display Item | Display | Vehicle status   | Remarks   |
|--------------|---------|--|---|
| VHCL SPD SIG | ON      | Vehicle speed >0 km/h (0 MPH)  | Changes in indication may be delayed. This is normal. |
|              | OFF     | Vehicle speed =0 km/h (0 MPH)  |   |
| PKB SIG      | ON      | Parking brake is applied.  | Changes in indication may be delayed. This is normal. |
|              | OFF     | Parking brake is released.   |   |
| ILLUM SIG    | ON      | Block the light beam from the auto light optical sensor when the light SW is ON. | —   |
|              | OFF     | Expose the auto light optical sensor to light when the light SW is OFF or ON.    |   |
| IGN SIG      | ON      | Ignition switch ON   | —   |
|              | OFF     | Ignition switch in ACC position  |   |
| REV SIG      | ON      | Selector lever in R position   | Changes in indication may be delayed. This is normal. |
|              | OFF     | Selector lever in any position other than R                                      |   |

#### TERMINAL LAYOUT

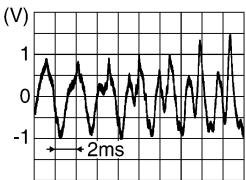
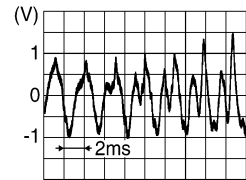
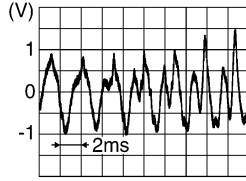
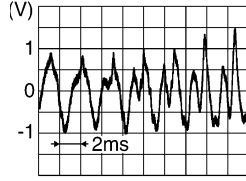


#### PHYSICAL VALUES

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/BOSE & NAVI]

| Terminal<br>(Wire color) |             | Description                       |                  | Condition                 |                                   | Reference value<br>(Approx.)  |
|--------------------------|-------------|-----------------------------------|------------------|---------------------------|-----------------------------------|---|
| +                        | -           | Signal name                       | Input/<br>Output |                           |                                   |   |
| 1<br>(B/P)               | Ground      | Amp. ON signal                    | Output           | Ignition<br>switch<br>ON  | —                                 | Battery voltage   |
| 2<br>(G)                 | 3<br>(R)    | Pre-amp. audio signal front<br>LH | Output           | Ignition<br>switch<br>ON  | Audio output                      | <br><small>SKIB3609E</small>   |
| 4<br>(W/R)               | 5<br>(W/L)  | Pre-amp. audio signal rear<br>LH  | Output           | Ignition<br>switch<br>ON  | Audio output                      | <br><small>SKIB3609E</small>   |
| 6<br>(W/G)               | 15<br>(L/B) | Steering switch signal A          | Input            | Ignition<br>switch<br>OFF | Depress SOURCE switch.            | 0V  |
|                          |             |                                   |                  |                           | Depress $\Delta$ switch.          | 1.0V  |
|                          |             |                                   |                  |                           | Depress $\nabla$ switch.          | 2.0V  |
|                          |             |                                   |                  |                           | Depress $\sphericalangle$ switch. | 3.0V  |
|                          |             |                                   |                  |                           | Depress ENTER switch.             | 4.0V  |
|                          |             |                                   |                  |                           | Except for above.                 | 5.0V  |
| 7<br>(V/Y)               | Ground      | ACC power supply                  | Input            | Ignition<br>switch<br>ACC | -                                 | Battery voltage   |
| 9<br>(R/L)               | Ground      | Illumination signal               | Input            | OFF                       | Lighting switch is OFF            | 0V  |
|                          |             |                                   |                  |                           | Lighting switch is ON             | Battery voltage   |
| 11<br>(B)                | 12<br>(W)   | Pre-amp. audio signal front<br>RH | Output           | Ignition<br>switch<br>ON  | Audio output                      | <br><small>SKIB3609E</small> |
| 13<br>(V)                | 14<br>(LG)  | Audio signal rear RH              | Output           | Ignition<br>switch<br>ON  | Audio output                      | <br><small>SKIB3609E</small> |
| 15<br>(L/B)              | Ground      | Steering switch signal<br>ground  | —                | Ignition<br>switch<br>ON  | —                                 | 0V  |

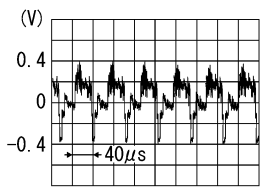
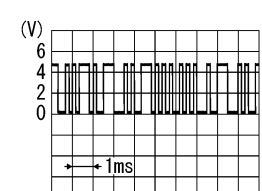
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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

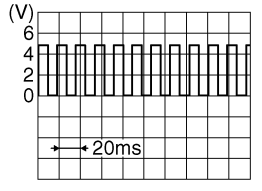
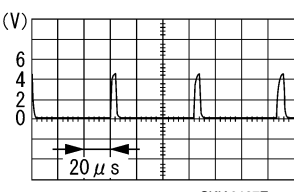
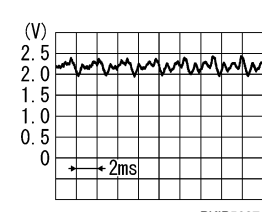
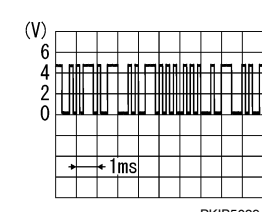
[COLOR DISPLAY - W/BOSE & NAVI]

| Terminal<br>(Wire color) |             | Description                         |                  | Condition                 | Reference value<br>(Approx.)          |   |
|--------------------------|-------------|-------------------------------------|------------------|---------------------------|---------------------------------------|---|
| +                        | -           | Signal name                         | Input/<br>Output |                           |                                       |   |
| 16<br>(GR/L)             | 15<br>(L/B) | Steering switch signal B            | Input            | Ignition<br>switch<br>ON  | Depress VOL down switch.              | 0V  |
|                          |             |                                     |                  |                           | Depress VOL up switch.                | 1.0V  |
|                          |             |                                     |                  |                           | Depress  switch.                      | 2.0V  |
|                          |             |                                     |                  |                           | Depress the back switch.              | 3.0V  |
|                          |             |                                     |                  |                           | Except for the above.                 | 5.0V  |
| 19<br>(Y/R)              | Ground      | Battery power supply                | Input            | Ignition<br>switch<br>OFF | —                                     | Battery voltage   |
| 20<br>(B)                | Ground      | Ground                              | —                | Ignition<br>switch<br>ON  | —                                     | 0V  |
| 23<br>(R)                | Ground      | RGB digital image signal<br>(+)     | Output           | Ignition<br>switch<br>ON  | Not connected connector.              | 1.3 V   |
| 24<br>(W)                | Ground      | RGB digital image signal<br>(-)     | Output           | Ignition<br>switch<br>ON  | Not connected connector.              | 1.3 V   |
| 25<br>(B)                | —           | USB ground                          | —                | —                         | —                                     | —   |
| 26<br>(W)                | —           | USB D-                              | —                | —                         | —                                     | —   |
| 27<br>(R)                | —           | V BUS signal                        | —                | —                         | —                                     | —   |
| 28<br>(G)                | —           | USB D+                              | —                | —                         | —                                     | —   |
| 37<br>(G/R)              | Ground      | Parking brake signal                | Input            | Ignition<br>switch<br>ON  | Parking brake is ON.                  | 5.0 V   |
|                          |             |                                     |                  |                           | Parking brake is OFF.                 | 0 V   |
| 39<br>(W)                | Ground      | Composite image ground              | —                | Ignition<br>switch<br>ON  | —                                     | 0 V   |
| 40<br>(R)                | Ground      | Composite image signal              | Output           | Ignition<br>switch<br>ON  | At DVD image is displayed.            |  <p style="text-align: right; font-size: small;">SKIB2251J</p> |
| 43                       | —           | Shield                              | —                | —                         | —                                     | —   |
| 44<br>(R)                | Ground      | Microphone VCC                      | Output           | Ignition<br>switch<br>ON  | —                                     | 5.0 V   |
| 45<br>(Y)                | Ground      | Communication signal<br>(CONT→DISP) | Output           | Ignition<br>switch<br>ON  | When adjusting display<br>brightness. |  <p style="text-align: right; font-size: small;">PKIB5039J</p> |

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/BOSE & NAVI]

| Terminal<br>(Wire color) |        | Description                         |                  | Condition                 |   | Reference value<br>(Approx.)  |
|--------------------------|--------|-------------------------------------|------------------|---------------------------|---|---|
| +                        | -      | Signal name                         | Input/<br>Output |                           |   |   |
| 46<br>(P)                | —      | CAN-L                               | Input/<br>Output | —                         | —   | —   |
| 47<br>(P)                | —      | AV communication signal<br>(L)      | Input/<br>Output | —                         | —   | —   |
| 48<br>(P)                | —      | AV communication signal<br>(L)      | Input/<br>Output | —                         | —   | —   |
| 51<br>(R/L)              | Ground | Illumination signal                 | Input            | Ignition<br>switch<br>OFF | Lighting switch is OFF.                             | 0 V   |
|                          |        |                                     |                  | Ignition<br>switch<br>ON  | Lighting switch is ON.                              | 12.0 V  |
| 52<br>(G)                | Ground | Ignition signal                     | Input            | Ignition<br>switch<br>ON  | —   | Battery voltage   |
| 53<br>(P/B)              | Ground | Reverse signal                      | Input            | Ignition<br>switch<br>ON  | R position  | 12.0 V  |
|                          |        |                                     |                  |                           | Other than R position                               | 0 V   |
| 54<br>(V/W)              | Ground | Vehicle speed signal (8-<br>pulse)  | Input            | Ignition<br>switch<br>ON  | When vehicle speed is ap-<br>prox. 40 km/h (25 MPH) | <p><b>NOTE:</b><br/>Maximum voltage may be 12.0 V<br/>due to specifications (connected<br/>units).</p>  |
| 55                       | —      | Shield                              | —                | —                         | —   | —   |
| 56<br>(B)                | Ground | Composite synchronizing<br>signal   | Output           | Ignition<br>switch<br>ON  | —   |    |
| 59<br>(L)                | Ground | Microphone signal                   | Input            | Ignition<br>switch<br>ON  | Give a voice  |    |
| 60                       | —      | Shield                              | —                | —                         | —   | —   |
| 61<br>(BR)               | Ground | Communication signal<br>(DISP→CONT) | Input            | Ignition<br>switch<br>ON  | When adjusting display<br>brightness.               |    |
| 62<br>(L)                | —      | CAN-H                               | Input/<br>Output | —                         | —   | —   |

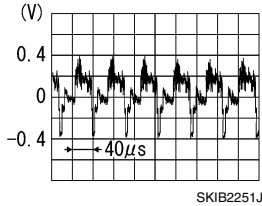
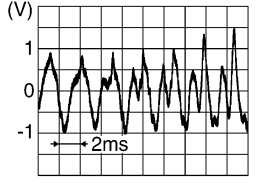
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AV

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

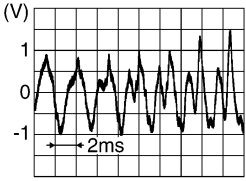
[COLOR DISPLAY - W/BOSE & NAVI]

| Terminal<br>(Wire color) |            | Description                        |                  | Condition                 |                                 | Reference value<br>(Approx.)  |
|--------------------------|------------|------------------------------------|------------------|---------------------------|---------------------------------|---|
| +                        | -          | Signal name                        | Input/<br>Output |                           |                                 |   |
| 63<br>(L)                | —          | AV communication signal<br>(H)     | Input/<br>Output | —                         | —                               | —   |
| 64<br>(L)                | —          | AV communication signal<br>(H)     | Input/<br>Output | —                         | —                               | —   |
| 67<br>(W)                | Ground     | Rear view camera ground            | —                | Ignition<br>switch<br>ON  | —                               | 0 V   |
| 68<br>(R)                | Ground     | Camera ON signal                   | Output           | Ignition<br>switch<br>ON  | R position.                     | 6.0 V   |
|                          |            |                                    |                  |                           | Other than R position.          | 0 V   |
| 75<br>(V)                | Ground     | AUX image signal ground            | —                | Ignition<br>switch<br>ON  | —                               | 0 V   |
| 76<br>(LG)               | 75<br>(V)  | AUX image signal                   | Input            | Ignition<br>switch<br>ON  | At AUX image is displayed.      |    |
| 77                       | —          | Shield                             | —                | —                         | —                               | —   |
| 81<br>(BR)               | Ground     | Switch ground                      | —                | Ignition<br>switch<br>ON  | —                               | 0 V   |
| 82<br>(SB)               | 81<br>(BR) | Disk eject signal                  | Input            | Ignition<br>switch<br>ON  | Pressing the eject switch.      | 0 V   |
|                          |            |                                    |                  |                           | Except for above.               | 5.0 V   |
| 105<br>(B)               | —          | GPS antenna signal                 | —                | —                         | —                               | —   |
| 106                      | —          | Shield                             | —                | —                         | —                               | —   |
| 108<br>(B)               | —          | Amplified window antenna<br>signal | Input            | —                         | —                               | —   |
| 109<br>(B)               | Ground     | Antenna amp. ON signal             | Output           | Ignition<br>switch<br>ACC | —                               | Battery voltage   |
| 110<br>(B)               | —          | Satellite antenna signal           | —                | —                         | —                               | —   |
| 111<br>(B)               | —          | Shield                             | —                | —                         | —                               | —   |
| 115<br>(W)               | 130<br>(R) | AUX sound signal LH                | Input            | Ignition<br>switch<br>ON  | When AUX mode is select-<br>ed. |  |

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/BOSE & NAVI]

| Terminal<br>(Wire color) |            | Description         |                  | Condition                |                                 | Reference value<br>(Approx.)  |
|--------------------------|------------|---------------------|------------------|--------------------------|---------------------------------|---|
| +                        | -          | Signal name         | Input/<br>Output |                          |                                 |   |
| 128                      | —          | Shield              | —                | —                        | —                               | —   |
| 129<br>(B)               | 130<br>(R) | AUX sound signal RH | Input            | Ignition<br>switch<br>ON | When AUX mode is select-<br>ed. |  <p style="text-align: right; font-size: small;">SKIB3609E</p> |

## DTC Index

INFOID:000000009471519

## SELF-DIAGNOSIS RESULTS DISPLAY ITEM

| DTC   | Display item                | Refer to                                      |
|-------|-----------------------------|---|
| U1000 | CAN COMM CIRCUIT [U1000]    | <a href="#">AV-540, "Diagnosis Procedure"</a> |
| U1010 | CONTROL UNIT (CAN) [1010]   | <a href="#">AV-541, "DTC Logic"</a>           |
| U1200 | Cont Unit [U1200]           | <a href="#">AV-542, "DTC Logic"</a>           |
| U1201 | GYRO NO CONN [U1201]        | <a href="#">AV-543, "DTC Logic"</a>           |
| U1202 | G-SENSOR NO CONN [U1202]    | <a href="#">AV-544, "DTC Logic"</a>           |
| U1204 | GPS COMM [U1204]            | <a href="#">AV-545, "Diagnosis Procedure"</a> |
| U1205 | GPS ROM [U1205]             | <a href="#">AV-546, "Diagnosis Procedure"</a> |
| U1206 | GPS RAM [U1206]             | <a href="#">AV-547, "Diagnosis Procedure"</a> |
| U1207 | GPS RTC [U1207]             | <a href="#">AV-548, "Diagnosis Procedure"</a> |
| U1216 | CAN CONT [U1216]            | <a href="#">AV-549, "DTC Logic"</a>           |
| U1217 | BLUETOOTH MODULE [U1217]    | <a href="#">AV-550, "DTC Logic"</a>           |
| U1218 | HDD CONN [U1218]            | <a href="#">AV-551, "DTC Logic"</a>           |
| U1219 | HDD READ [U1219]            | <a href="#">AV-552, "DTC Logic"</a>           |
| U121A | HDD WRITE [U121A]           | <a href="#">AV-553, "DTC Logic"</a>           |
| U121B | HDD COMM [U121B]            | <a href="#">AV-554, "DTC Logic"</a>           |
| U121C | HDD ACCESS [U121C]          | <a href="#">AV-555, "DTC Logic"</a>           |
| U121D | DSP CONN [U121D]            | <a href="#">AV-556, "Diagnosis Procedure"</a> |
| U121E | DSP COMM [U121E]            | <a href="#">AV-557, "Diagnosis Procedure"</a> |
| U1225 | USB CONTROLLER [U1225]      | <a href="#">AV-558, "DTC Logic"</a>           |
| U1227 | DVD COMM [U1227]            | <a href="#">AV-559, "Diagnosis Procedure"</a> |
| U1228 | SUB CPU CONN [U1228]        | <a href="#">AV-560, "DTC Logic"</a>           |
| U1229 | iPod CERTIFICATION [U1229]  | <a href="#">AV-561, "DTC Logic"</a>           |
| U122A | CONFIG UNFINISH [U122A]     | <a href="#">AV-562, "Diagnosis Procedure"</a> |
| U122E | Built-in AUDIO CONN [U122E] | <a href="#">AV-563, "DTC Logic"</a>           |
| U1232 | ST ANGLE SEN CALIB [1232]   | <a href="#">AV-564, "Diagnosis Procedure"</a> |
| U1243 | FRONT DISP CONN [U1243]     | <a href="#">AV-565, "Diagnosis Procedure"</a> |
| U1244 | GPS ANTENNA CONN [U1244]    | <a href="#">AV-567, "Diagnosis Procedure"</a> |
| U1263 | USB OVERCURRENT [U1263]     | <a href="#">AV-568, "Diagnosis Procedure"</a> |

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/BOSE & NAVI]

| DTC            | Display item  | Refer to                              |
|----------------|---|---------------------------------------|
| U1310          | CONTROL UNIT (AV) [U1310]   | <a href="#">AV-570, "DTC Logic"</a>   |
| U1300<br>U1240 | <ul style="list-style-type: none"><li>• AV COMM CIRCUIT [U1300]</li><li>• SWITCH CONN [U1240]</li></ul> | <a href="#">AV-569, "Description"</a> |



# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

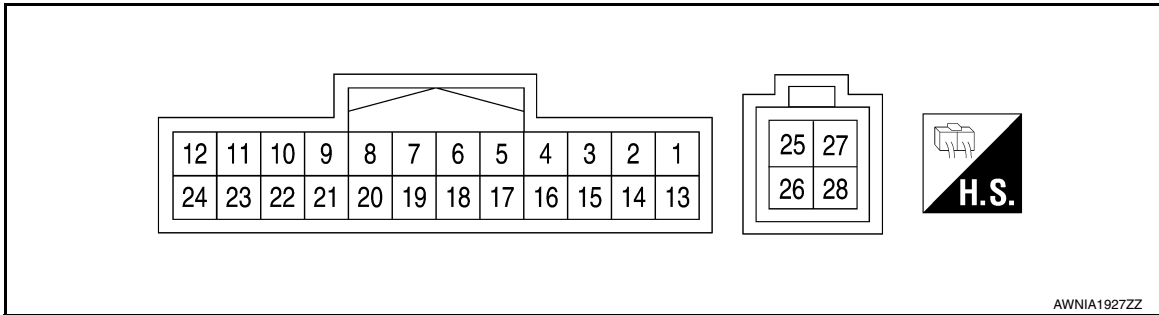
[COLOR DISPLAY - W/BOSE & NAVI]

## DISPLAY UNIT

Reference Value

INFOID:000000009471520

### TERMINAL LAYOUT



### PHYSICAL VALUES

| Terminal<br>(Wire color) |        | Description                         |                  | Condition                 |  | Reference value<br>(Approx.)                |
|--------------------------|--------|-------------------------------------|------------------|---------------------------|--|---|
| +                        | -      | Signal name                         | Input/<br>Output |                           |  |   |
| 6                        | —      | Shield                              | —                | —                         | —  | —   |
| 7                        | —      | Shield                              | —                | —                         | —  | —   |
| 8<br>(B)                 | Ground | Rear view camera image<br>signal    | Input            | Ignition<br>switch<br>ON  | At rear view camera image<br>is displayed. | <p style="text-align: right;">SKIB2251J</p> |
| 9<br>(BR)                | Ground | Communication signal<br>(DISP→CONT) | Output           | Ignition<br>switch<br>ON  | When adjusting display-<br>brightness.     | <p style="text-align: right;">PKIB5039J</p> |
| 10<br>(Y)                | Ground | Communication signal<br>(CONT→DISP) | Input            | Ignition<br>switch<br>ON  | When adjusting display-<br>brightness.     | <p style="text-align: right;">PKIB5039J</p> |
| 11<br>(Y/R)              | Ground | Battery power supply                | Input            | Ignition<br>switch<br>OFF | —  | Battery Voltage                             |
| 12<br>(B)                | Ground | Ground                              | —                | Ignition<br>switch<br>ON  | —  | 0V  |

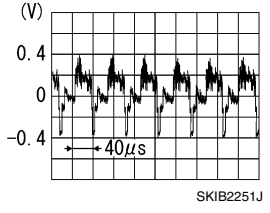
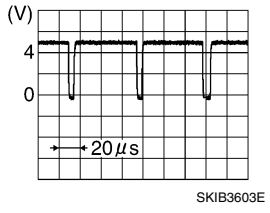
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AV

# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/BOSE & NAVI]

| Terminal<br>(Wire color) |        | Description                       |                  | Condition                 |                            | Reference value<br>(Approx.)  |
|--------------------------|--------|-----------------------------------|------------------|---------------------------|----------------------------|---|
| +                        | -      | Signal name                       | Input/<br>Output |                           |                            |   |
| 18<br>(R)                | Ground | Composite image signal            | Input            | Ignition<br>switch<br>ON  | At DVD image is displayed. |  |
| 19<br>(W)                | Ground | Composite image ground            | —                | Ignition<br>switch<br>ON  | —                          | 0V  |
| 20<br>(B)                | Ground | Composite synchronizing<br>signal | Input            | Ignition<br>switch<br>ON  | —                          |  |
| 22                       | —      | Shield                            | —                | —                         | —                          | —   |
| 23<br>(V/Y)              | Ground | ACC power supply                  | Input            | Ignition<br>switch<br>ACC | —                          | —   |
| 27<br>(R)                | —      | RGB digital image signal<br>(+)   | Input            | —                         | —                          | —   |
| 28<br>(W)                | —      | RGB digital image signal<br>(-)   | Input            | —                         | —                          | —   |

# BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

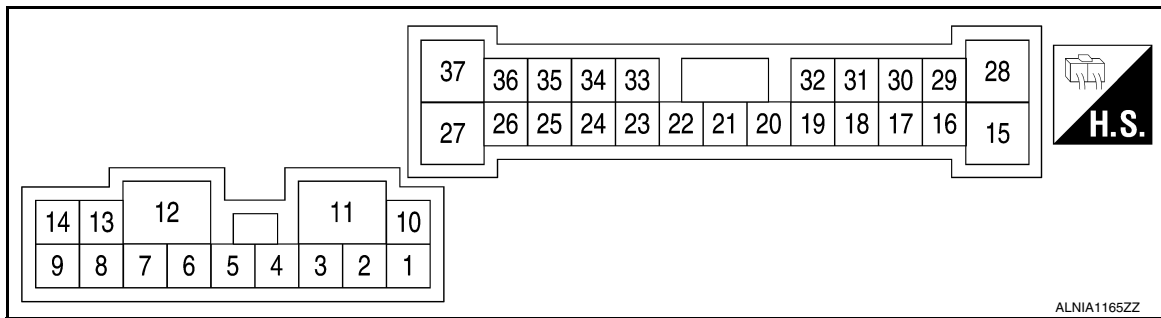
[COLOR DISPLAY - W/BOSE & NAVI]

## BOSE SPEAKER AMP

### Reference Value

INFOID:000000009471521

### TERMINAL LAYOUT



### PHYSICAL VALUES

| Terminal<br>(Wire color) |           | Description               |                  | Condition                 |              | Reference value<br>(Approx.) |
|--------------------------|-----------|---------------------------|------------------|---------------------------|--------------|------------------------------|
| +                        | -         | Signal name               | Input/<br>Output |                           |              |                              |
| 1<br>(LG)                | 2<br>(V)  | Audio signal tweeter LH   | Output           | Ignition<br>switch<br>ON  | Audio output | <p>SKIB3609E</p>             |
| 4<br>(G)                 | 3<br>(W)  | Audio signal tweeter RH   | Output           | Ignition<br>switch<br>ON  | Audio output | <p>SKIB3609E</p>             |
| 5<br>(R)                 | 6<br>(BR) | Audio signal subwoofer LH | Output           | Ignition<br>switch<br>ON  | Audio output | <p>SKIB3609E</p>             |
| 7<br>(B)                 | Ground    | Ground                    | —                | Ignition<br>switch<br>ON  | —            | 0V                           |
| 10<br>(SB)               | Ground    | Battery power supply      | Input            | Ignition<br>switch<br>OFF | —            | Battery voltage              |
| 11<br>(GR)               | Ground    | Battery power supply      | Input            | Ignition<br>switch<br>OFF | —            | Battery voltage              |
| 12<br>(B)                | Ground    | Ground                    | —                | Ignition<br>switch<br>ON  | —            | 0V                           |

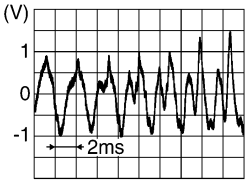
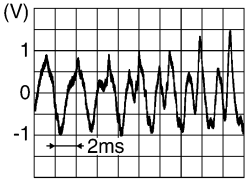
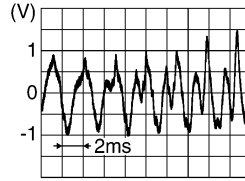
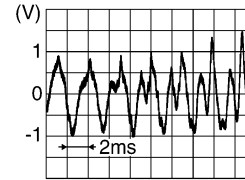
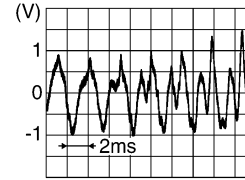
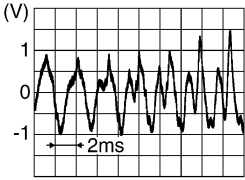
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# BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

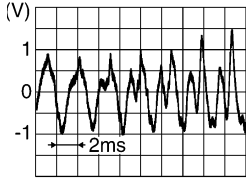
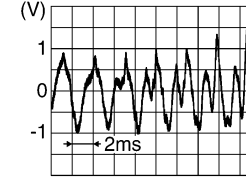
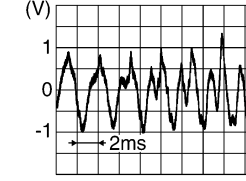
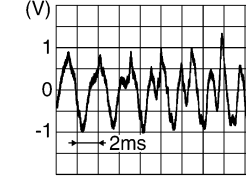
[COLOR DISPLAY - W/BOSE & NAVI]

| Terminal<br>(Wire color) |           | Description                           |                  | Condition                 |              | Reference value<br>(Approx.)  |
|--------------------------|-----------|---------------------------------------|------------------|---------------------------|--------------|---|
| +                        | -         | Signal name                           | Input/<br>Output |                           |              |   |
| 13<br>(L)                | 8<br>(P)  | Audio signal subwoofer LH             | Output           | Ignition<br>switch<br>ON  | Audio output |  <p style="text-align: right; font-size: small;">SKIB3609E</p>   |
| 14<br>(LG)               | 9<br>(O)  | Audio signal rear door<br>speaker RH  | Output           | Ignition<br>switch<br>ON  | Audio output |  <p style="text-align: right; font-size: small;">SKIB3609E</p>   |
| 18<br>(W)                | 19<br>(B) | Audio signal front door<br>speaker LH | Output           | Ignition<br>switch<br>ON  | Audio output |  <p style="text-align: right; font-size: small;">SKIB3609E</p>  |
| 20<br>(SB)               | Ground    | Amp. ON signal                        | Input            | Ignition<br>switch<br>ACC | —            | Battery voltage   |
| 24<br>(GR)               | 23<br>(L) | Audio signal rear LH                  | Input            | Ignition<br>switch<br>ON  | Audio input  |  <p style="text-align: right; font-size: small;">SKIB3609E</p> |
| 26<br>(BR)               | 25<br>(Y) | Audio signal rear RH                  | Input            | Ignition<br>switch<br>ON  | Audio input  |  <p style="text-align: right; font-size: small;">SKIB3609E</p> |
| 28<br>(G)                | 15<br>(L) | Audio signal rear door<br>speaker LH  | Output           | Ignition<br>switch<br>ON  | Audio output |  <p style="text-align: right; font-size: small;">SKIB3609E</p> |

# BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

[COLOR DISPLAY - W/BOSE & NAVI]

| Terminal<br>(Wire color) |            | Description                        |                  | Condition          |              | Reference value<br>(Approx.)  |
|--------------------------|------------|------------------------------------|------------------|--------------------|--------------|---|
| +                        | -          | Signal name                        | Input/<br>Output |                    |              |   |
| 29<br>(V)                | 30<br>(P)  | Audio signal center speaker        | Output           | Ignition switch ON | Audio output |    |
| 31<br>(R)                | 32<br>(BR) | Audio signal front door speaker RH | Output           | Ignition switch ON | Audio output |    |
| 33<br>(LG)               | 34<br>(V)  | Audio signal front RH              | Input            | Ignition switch ON | Audio input  |   |
| 35<br>(W)                | 36<br>(B)  | Audio signal rear LH               | Input            | Ignition switch ON | Audio input  |  |

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# COLOR DISPLAY

< WIRING DIAGRAM >

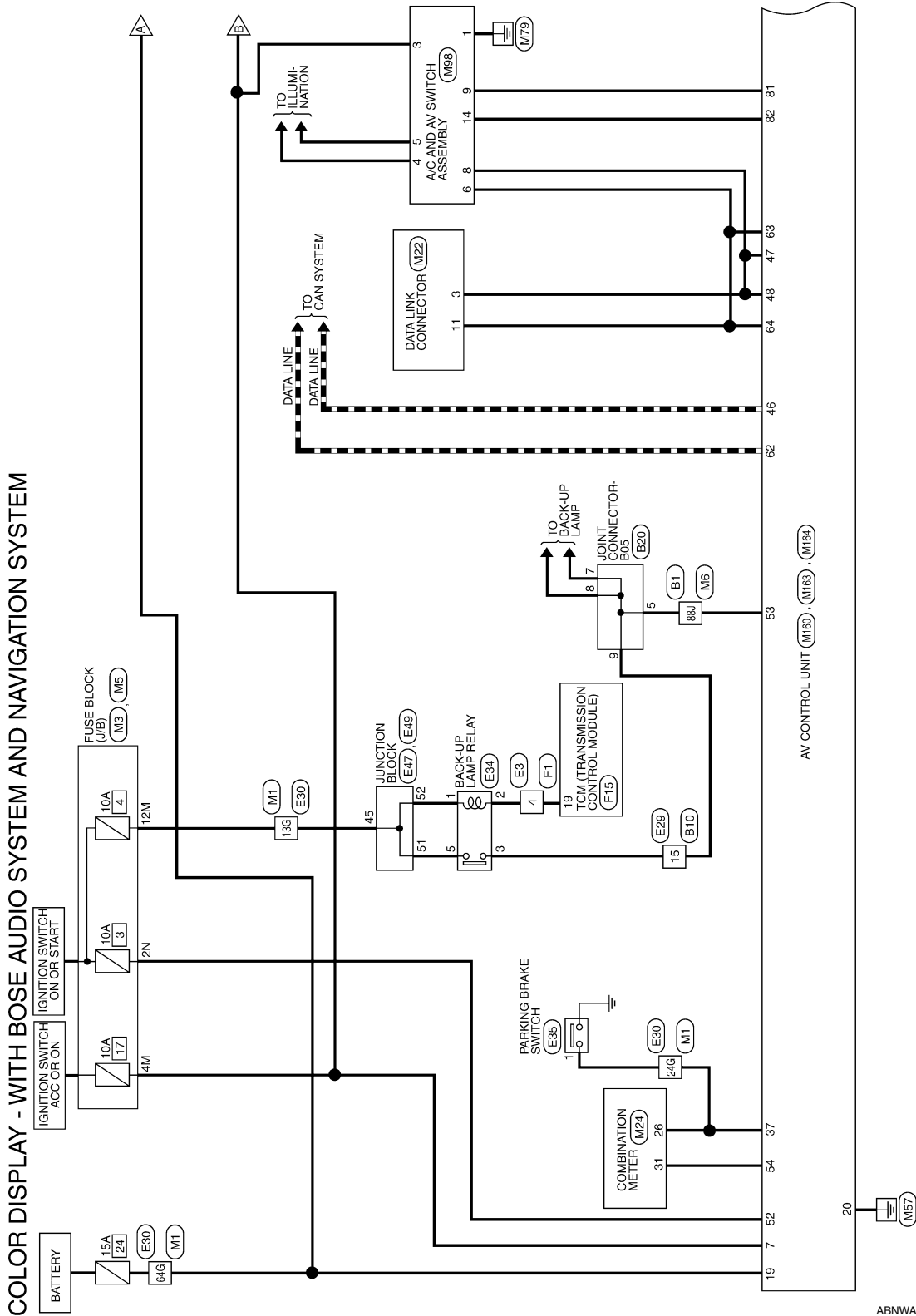
[COLOR DISPLAY - W/BOSE & NAVI]

## WIRING DIAGRAM

### COLOR DISPLAY

Wiring Diagram - With BOSE audio system With Navigation System

INFOID:000000009471522

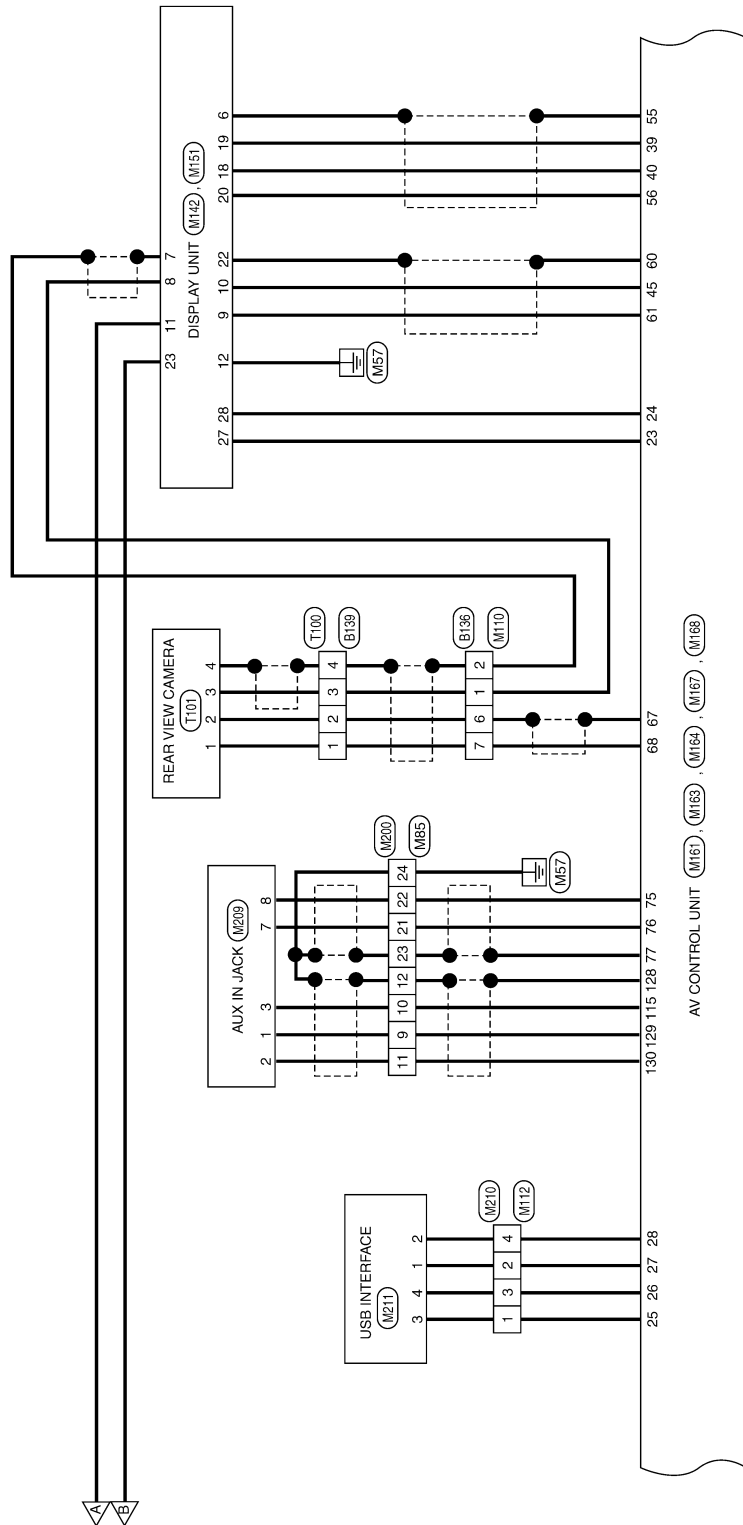


ABNWA1938GB

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/BOSE & NAVI]



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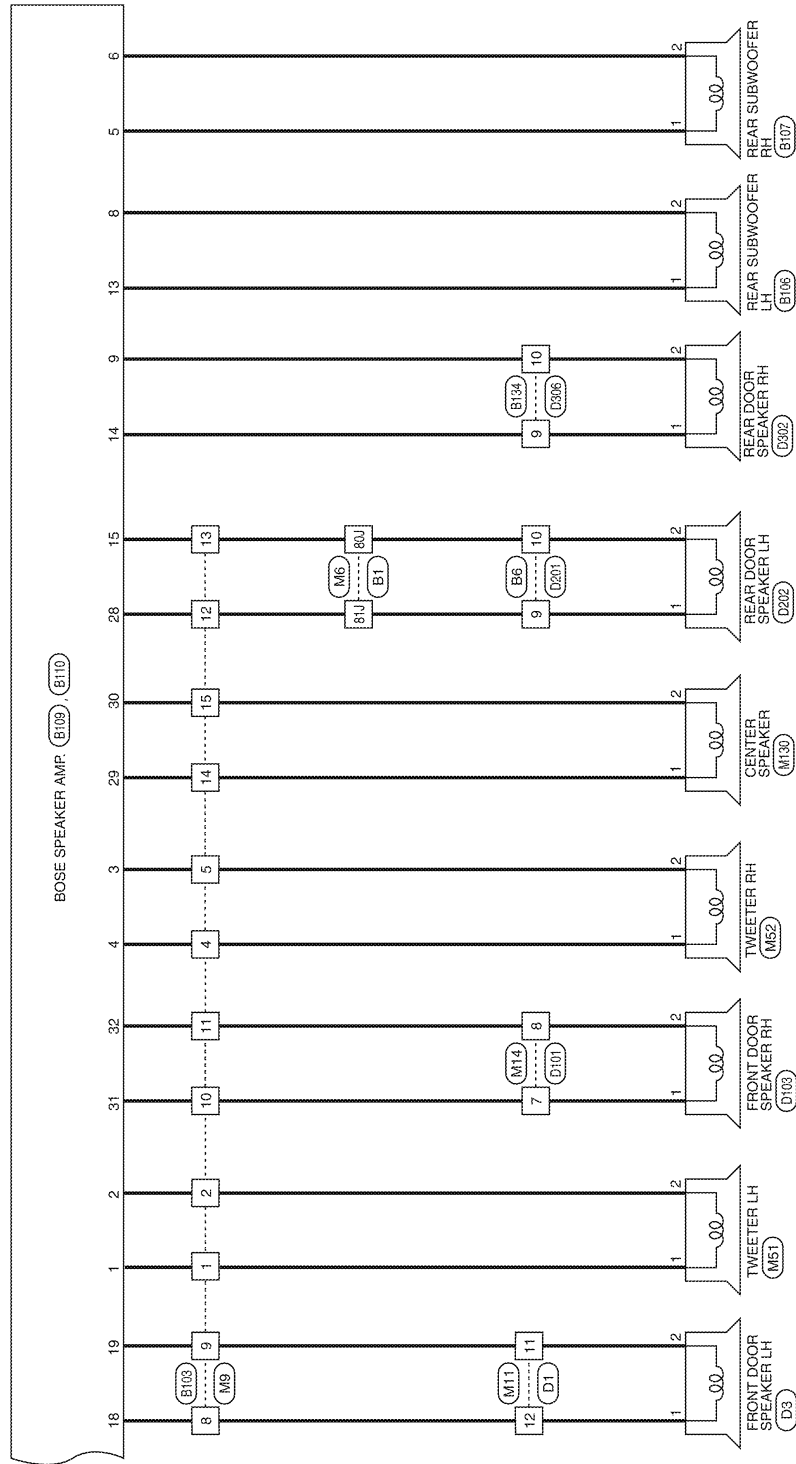




# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/BOSE & NAVI]



ABNWA0539GB

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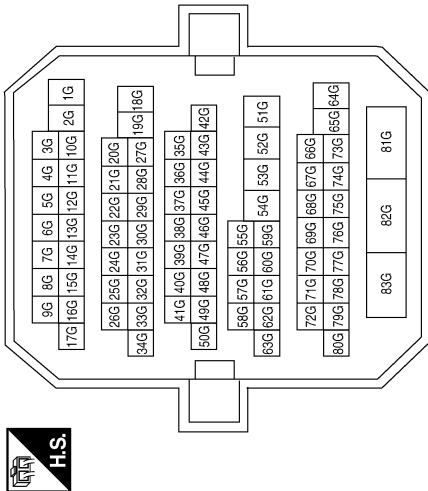
# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/BOSE & NAVI]

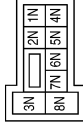
## COLOR DISPLAY CONNECTORS - WITH BOSE AUDIO SYSTEM AND NAVIGATION SYSTEM

|                 |              |
|-----------------|--------------|
| Connector No.   | M1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13G          | O             | -           |
| 24G          | G/R           | -           |
| 53G          | B/R           | -           |
| 54G          | BR            | -           |
| 64G          | Y/R           | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | M3               |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | WHITE            |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2N           | G             | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | M5               |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | WHITE            |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4M           | V/Y           | -           |
| 12M          | O             | -           |

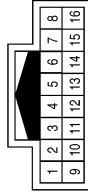
ABNIA5118GB

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/BOSE & NAVI]

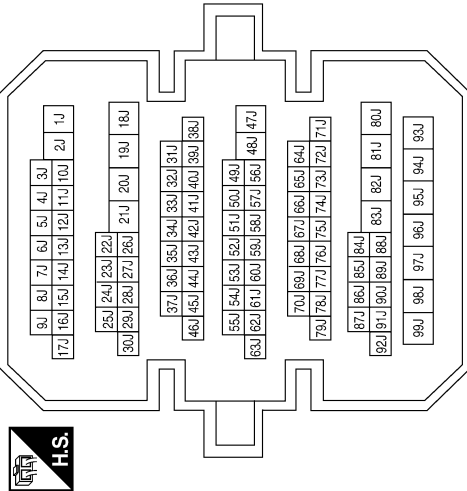
|                 |              |
|-----------------|--------------|
| Connector No.   | M7           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | R             | -           |
| 9            | SHIELD        | -           |

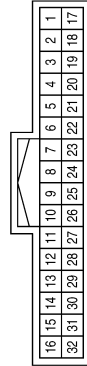
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 80J          | B/Y           | -           |
| 81J          | LG            | -           |
| 88J          | P/B           | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M6           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name           |
|--------------|---------------|-----------------------|
| 23           | W/R           | -                     |
| 24           | W/L           | -(WITH COLOR DISPLAY) |
| 26           | V             | -                     |
| 27           | LG            | -(WITH COLOR DISPLAY) |
| 29           | B/P           | -                     |

|                 |              |
|-----------------|--------------|
| Connector No.   | M8           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name           |
|--------------|---------------|-----------------------|
| 17           | G             | -(WITH COLOR DISPLAY) |
| 18           | R             | -(WITH COLOR DISPLAY) |
| 20           | B             | -(WITH COLOR DISPLAY) |
| 21           | W             | -(WITH COLOR DISPLAY) |

AANIA0700GB

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AV

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/BOSE & NAVI]

|                 |              |
|-----------------|--------------|
| Connector No.   | M11          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |




|   |   |    |    |    |    |    |    |    |
|---|---|----|----|----|----|----|----|----|
| 1 | 2 | 3  | 4  | 5  | 6  | 7  |    |    |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11           | B/W           | -           |
| 12           | L             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | B/W           | -           |
| 10           | BR            | -           |
| 11           | B/R           | -           |
| 12           | LG            | -           |
| 13           | B/Y           | -           |
| 14           | B/P           | -           |
| 15           | O/B           | -           |


|                 |              |
|-----------------|--------------|
| Connector No.   | M9           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BROWN        |



|    |    |    |    |    |    |    |   |   |
|----|----|----|----|----|----|----|---|---|
| 7  | 6  | 5  | 4  | 3  | 2  | 1  |   |   |
| 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | B/Y           | -           |
| 4            | L/O           | -           |
| 5            | GR/L          | -           |
| 6            | BR            | -           |
| 7            | B/R           | -           |
| 8            | L             | -           |


|                 |                   |
|-----------------|-------------------|
| Connector No.   | M24               |
| Connector Name  | COMBINATION METER |
| Connector Color | WHITE             |



|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 26           | G/R           | PKB         |
| 31           | V/W           | 8P/R OUT    |


|                 |                     |
|-----------------|---------------------|
| Connector No.   | M22                 |
| Connector Name  | DATA LINK CONNECTOR |
| Connector Color | WHITE               |



|   |    |    |    |    |    |    |    |
|---|----|----|----|----|----|----|----|
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8  |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3            | G             | -           |
| 11           | R             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M14          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|   |   |   |   |   |    |
|---|---|---|---|---|----|
| 1 | 2 | 3 | 4 |   |    |
| 5 | 6 | 7 | 8 | 9 | 10 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | BR            | -           |
| 8            | B/R           | -           |

ABNIA2388GB

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/BOSE & NAVI]

|                 |                                     |
|-----------------|-------------------------------------|
| Connector No.   | M52                                 |
| Connector Name  | TWEETER RH (WITH BOSE AUDIO SYSTEM) |
| Connector Color | BROWN                               |



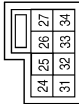
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L/O           | -           |
| 2            | GR/L          | -           |

|                 |                                     |
|-----------------|-------------------------------------|
| Connector No.   | M51                                 |
| Connector Name  | TWEETER LH (WITH BOSE AUDIO SYSTEM) |
| Connector Color | BROWN                               |



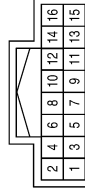
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | B/Y           | -           |

|                 |                                   |
|-----------------|-----------------------------------|
| Connector No.   | M30                               |
| Connector Name  | COMBINATION SWITCH (SPIRAL CABLE) |
| Connector Color | GRAY                              |



| Terminal No. | Color of Wire | Signal Name           |
|--------------|---------------|-----------------------|
| 24           | W/G           | -(WITH COLOR DISPLAY) |
| 31           | GR/L          | -(WITH COLOR DISPLAY) |
| 33           | L/B           | -(WITH COLOR DISPLAY) |

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|-----------------|----------------------------|
| Connector No.   | M98                        |
| Connector Name  | A/C AND AV SWITCH ASSEMBLY |
| Connector Color | WHITE                      |



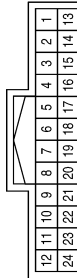
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 3            | V/Y           | -           |
| 4            | R/L           | -           |
| 5            | R/Y           | -           |
| 6            | L             | -           |
| 8            | P             | -           |
| 9            | BR            | -           |
| 14           | SB            | -           |

|                 |                                   |
|-----------------|-----------------------------------|
| Connector No.   | M88                               |
| Connector Name  | COMBINATION SWITCH (SPIRAL CABLE) |
| Connector Color | GRAY                              |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 14           | W             | -           |
| 15           | L             | -           |
| 17           | BR            | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M85          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | B             | -           |
| 10           | W             | -           |
| 11           | R             | -           |
| 12           | SHIELD        | -           |
| 21           | LG            | -           |
| 22           | V             | -           |
| 23           | SHIELD        | -           |
| 24           | B             | -           |

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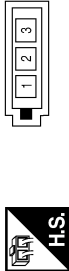
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# COLOR DISPLAY

< WIRING DIAGRAM >

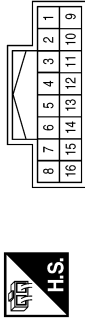
[COLOR DISPLAY - W/BOSE & NAVI]

|                 |              |
|-----------------|--------------|
| Connector No.   | M103         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



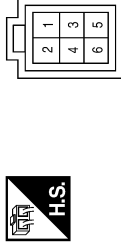
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M110         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | -           |
| 2            | SHIELD        | -           |
| 6            | V/G           | -           |
| 7            | L             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M112         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



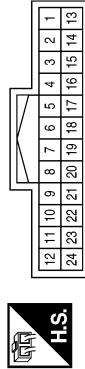
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | R             | -           |
| 3            | W             | -           |
| 4            | G             | -           |

|                 |                |
|-----------------|----------------|
| Connector No.   | M130           |
| Connector Name  | CENTER SPEAKER |
| Connector Color | BROWN          |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B/P           | -           |
| 2            | O/B           | -           |

|                 |   |
|-----------------|---|
| Connector No.   | M142  |
| Connector Name  | DISPLAY UNIT (WITH COLOR DISPLAY AND NAVIGATION SYSTEM) |
| Connector Color | WHITE   |



| Terminal No. | Color of Wire | Signal Name       |
|--------------|---------------|-------------------|
| 1            | -             | -                 |
| 2            | -             | -                 |
| 3            | -             | -                 |
| 4            | -             | -                 |
| 5            | -             | -                 |
| 6            | SHIELD        | FRONT COMP SHIELD |
| 7            | SHIELD        | R CAMERA COMP-    |
| 8            | B             | R CAMERA COMP+    |
| 9            | BR            | DISP IT           |
| 10           | Y             | IT DISP           |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 11           | Y/R           | +B              |
| 12           | B             | GND             |
| 13           | -             | -               |
| 14           | -             | -               |
| 15           | -             | -               |
| 16           | -             | -               |
| 17           | -             | -               |
| 18           | R             | FRONT COMP+     |
| 19           | W             | FRONT COMP-     |
| 20           | B             | FRONT COMP SYNC |
| 21           | -             | -               |
| 22           | SHIELD        | SHIELD          |
| 23           | V/Y           | ACC             |
| 24           | -             | -               |

ABNIA5167GB

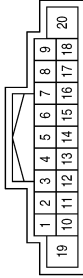
# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/BOSE & NAVI]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | R/L           | ILL         |
| 10           | -             | -           |
| 11           | B             | FR RH PRE+  |
| 12           | W             | FR RH PRE-  |
| 13           | V             | RR RH PRE+  |
| 14           | LG            | RR RH PRE-  |
| 15           | L/B           | STRG SW GND |
| 16           | GR/L          | STRG SW B   |
| 17           | -             | -           |
| 18           | -             | -           |
| 19           | Y/R           | BAT         |
| 20           | B             | GND         |

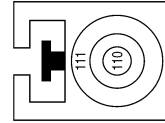
|                 |  |
|-----------------|--|
| Connector No.   | M160   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM AND NAVIGATION SYSTEM) |
| Connector Color | WHITE  |



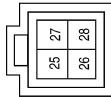
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B/P           | AMP ON      |
| 2            | G             | FR LH PRE+  |
| 3            | R             | FR LH PRE-  |
| 4            | W/R           | RR LH PRE+  |
| 5            | W/L           | RR LH PRE-  |
| 6            | W/G           | STRG SW A   |
| 7            | V/Y           | ACC         |
| 8            | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 110          | B             | -           |
| 111          | B             | -           |

|                 |  |
|-----------------|--|
| Connector No.   | M162   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM AND NAVIGATION SYSTEM) |
| Connector Color | PINK   |

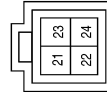


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| Connector No.   | M151  |
| Connector Name  | DISPLAY UNIT (WITH COLOR DISPLAY AND NAVIGATION SYSTEM) |
| Connector Color | GREEN   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 25           | -             | -           |
| 26           | -             | -           |
| 27           | R             | FRONT GVIF+ |
| 28           | W             | FRONT GVIF- |

|                 |  |
|-----------------|--|
| Connector No.   | M161   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM AND NAVIGATION SYSTEM) |
| Connector Color | GREEN  |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 21           | -             | -           |
| 22           | -             | -           |
| 23           | R             | GVIF +      |
| 24           | W             | GVIF -      |

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# COLOR DISPLAY


< WIRING DIAGRAM >

[COLOR DISPLAY - W/BOSE & NAVI]

| Terminal No. | Color of Wire | Signal Name       |
|--------------|---------------|-------------------|
| 52           | G             | IGN               |
| 53           | P/B           | REVERSE SIG       |
| 54           | V/W           | SPEED 8P          |
| 55           | SHIELD        | NAVI COMP1 SHIELD |
| 56           | B             | NAVI COMP1 SYNC   |
| 57           | -             | -                 |
| 58           | -             | -                 |
| 59           | L             | MIC SIG           |
| 60           | SHIELD        | SHIELD            |
| 61           | BR            | DISP IT           |
| 62           | L             | CAN-H             |
| 63           | L             | M-CAN H           |
| 64           | L             | M-CAN H TRM       |

| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 39           | W             | NAVI COMP 1- |
| 40           | R             | NAVI COMP 1+ |
| 41           | -             | -            |
| 42           | -             | -            |
| 43           | SHIELD        | MIC GND      |
| 44           | R             | MIC VCC      |
| 45           | Y             | IT DISP      |
| 46           | P             | CAN-L        |
| 47           | P             | M-CAN L      |
| 48           | P             | M-CAN L TRM  |
| 49           | -             | -            |
| 50           | -             | -            |
| 51           | R/L           | MR OUTPUT    |

|                 |  |
|-----------------|--|
| Connector No.   | M163   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM AND NAVIGATION SYSTEM) |
| Connector Color | WHITE  |




|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33           | -             | -           |
| 34           | -             | -           |
| 35           | -             | -           |
| 36           | -             | -           |
| 37           | G/R           | PKB SIG     |
| 38           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 89           | -             | -           |
| 90           | -             | -           |
| 91           | -             | -           |
| 92           | -             | -           |
| 93           | -             | -           |
| 94           | -             | -           |
| 95           | -             | -           |
| 96           | -             | -           |
| 97           | -             | -           |
| 98           | -             | -           |
| 99           | -             | -           |
| 100          | -             | -           |
| 101          | -             | -           |
| 102          | -             | -           |
| 103          | -             | -           |
| 104          | -             | -           |

| Terminal No. | Color of Wire | Signal Name    |
|--------------|---------------|----------------|
| 72           | -             | -              |
| 73           | -             | -              |
| 74           | -             | -              |
| 75           | V             | AUX VIDEO -    |
| 76           | LG            | AUX VIDEO +    |
| 77           | SHIELD        | VIDEO SHIELD   |
| 78           | -             | -              |
| 79           | -             | -              |
| 80           | -             | -              |
| 81           | BR            | SW GND         |
| 82           | SB            | CD (DVD) EJECT |
| 83           | -             | -              |
| 84           | -             | -              |
| 85           | -             | -              |
| 86           | -             | -              |
| 87           | -             | -              |
| 88           | -             | -              |

|                 |  |
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| Connector No.   | M164   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM AND NAVIGATION SYSTEM) |
| Connector Color | WHITE  |



|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|
| 66 | 68 | 70 | 72 | 74 | 76 | 78 | 80 | 82 | 84 | 86 | 88 | 90 | 92 | 94 | 96 | 98 | 100 | 102 | 104 |
| 65 | 67 | 69 | 71 | 73 | 75 | 77 | 79 | 81 | 83 | 85 | 87 | 89 | 91 | 93 | 95 | 97 | 99  | 101 | 103 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 65           | -             | -           |
| 66           | -             | -           |
| 67           | W             | CAMERA GND  |
| 68           | R             | CAMERA V+   |
| 69           | -             | -           |
| 70           | -             | -           |
| 71           | -             | -           |

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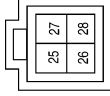


# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/BOSE & NAVI]

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| Connector No.   | M167   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM AND NAVIGATION SYSTEM) |
| Connector Color | GREEN  |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 25           | B             | USB GND     |
| 26           | W             | USB D-      |
| 27           | R             | V BUS       |
| 28           | G             | USB D+      |

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| Connector No.   | M166   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM AND NAVIGATION SYSTEM) |
| Connector Color | GRAY   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 107          | -             | -           |
| 108          | B             | ANT MAIN    |
| 109          | B             | ANT +B      |

|                 |  |
|-----------------|--|
| Connector No.   | M165   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM AND NAVIGATION SYSTEM) |
| Connector Color | GRAY   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 105          | B             | GPS ANT     |
| 106          | SHIELD        | SHIELD      |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 132          | -             | -           |
| 133          | -             | -           |
| 134          | -             | -           |
| 135          | -             | -           |
| 136          | -             | -           |
| 137          | -             | -           |
| 138          | -             | -           |
| 139          | -             | -           |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 119          | -             | -             |
| 120          | -             | -             |
| 121          | -             | -             |
| 122          | -             | -             |
| 123          | -             | -             |
| 124          | -             | -             |
| 125          | -             | -             |
| 126          | -             | -             |
| 127          | -             | -             |
| 128          | SHIELD        | AUX SHIELD    |
| 129          | B             | AUX AUDIO RH+ |
| 130          | R             | AUX GND       |
| 131          | -             | -             |

|                 |  |
|-----------------|--|
| Connector No.   | M168   |
| Connector Name  | AV CONTROL UNIT (COLOR DISPLAY - WITH BOSE AUDIO SYSTEM AND NAVIGATION SYSTEM) |
| Connector Color | WHITE  |



| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 112          | -             | -             |
| 113          | -             | -             |
| 114          | -             | -             |
| 115          | W             | AUX AUDIO LH+ |
| 116          | -             | -             |
| 117          | -             | -             |
| 118          | -             | -             |

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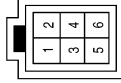
AV

# COLOR DISPLAY

< WIRING DIAGRAM >

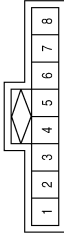
[COLOR DISPLAY - W/BOSE & NAVI]

|                 |              |
|-----------------|--------------|
| Connector No.   | M210         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



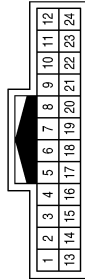
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | R             | -           |
| 3            | W             | -           |
| 4            | G             | -           |

|                 |             |
|-----------------|-------------|
| Connector No.   | M209        |
| Connector Name  | AUX IN JACK |
| Connector Color | WHITE       |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | R             | -           |
| 3            | W             | -           |
| 7            | LG            | -           |
| 8            | V             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M200         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | B             | -           |
| 10           | W             | -           |
| 11           | R             | -           |
| 12           | SHIELD        | -           |
| 21           | LG            | -           |
| 22           | V             | -           |
| 23           | SHIELD        | -           |
| 24           | GR            | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M502         |
| Connector Name  | ANTENNA AMP. |
| Connector Color | GRAY         |



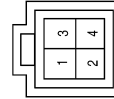
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M501         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

|                 |               |
|-----------------|---------------|
| Connector No.   | M211          |
| Connector Name  | USB INTERFACE |
| Connector Color | GREEN         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | G             | -           |
| 3            | B             | -           |
| 4            | W             | -           |

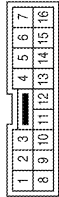
ABNIA5121GB

# COLOR DISPLAY

< WIRING DIAGRAM >

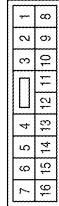
[COLOR DISPLAY - W/BOSE & NAVI]

|                 |              |
|-----------------|--------------|
| Connector No.   | E3           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



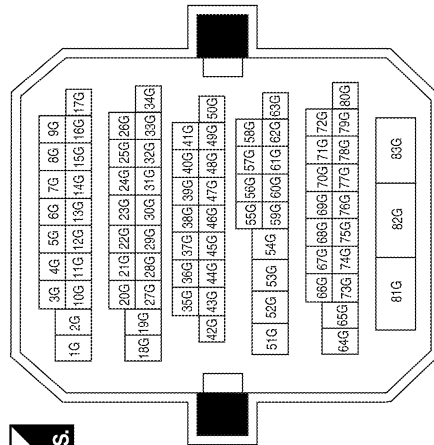
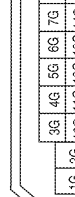
|              |   |   |             |   |
|--------------|---|---|-------------|---|
| Terminal No. | 4 | R | Signal Name | - |
|--------------|---|---|-------------|---|

|                 |              |
|-----------------|--------------|
| Connector No.   | E29          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|              |    |   |             |   |
|--------------|----|---|-------------|---|
| Terminal No. | 15 | W | Signal Name | - |
|--------------|----|---|-------------|---|

|                 |              |
|-----------------|--------------|
| Connector No.   | E30          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|              |     |    |             |   |
|--------------|-----|----|-------------|---|
| Terminal No. | 13G | BR | Signal Name | - |
|              | 24G | P  |             | - |
|              | 53G | GR |             | - |
|              | 54G | BR |             | - |
|              | 64G | V  |             | - |

|                 |                    |
|-----------------|--------------------|
| Connector No.   | E34                |
| Connector Name  | BACK-UP LAMP RELAY |
| Connector Color | BLUE               |



|              |   |    |             |   |
|--------------|---|----|-------------|---|
| Terminal No. | 1 | O  | Signal Name | - |
|              | 2 | R  |             | - |
|              | 3 | W  |             | - |
|              | 5 | LG |             | - |

ABNIA1656GB

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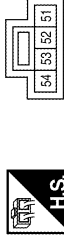
AV

# COLOR DISPLAY

< WIRING DIAGRAM >

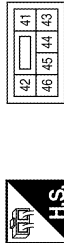
[COLOR DISPLAY - W/BOSE & NAVI]

|                 |                |
|-----------------|----------------|
| Connector No.   | E49            |
| Connector Name  | JUNCTION BLOCK |
| Connector Color | BROWN          |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 51           | LG            | -           |
| 52           | O             | -           |

|                 |                |
|-----------------|----------------|
| Connector No.   | E47            |
| Connector Name  | JUNCTION BLOCK |
| Connector Color | WHITE          |



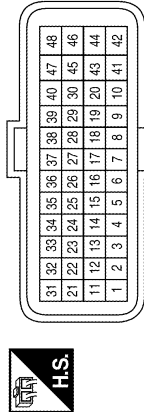
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 45           | BR            | -           |

|                 |                      |
|-----------------|----------------------|
| Connector No.   | E35                  |
| Connector Name  | PARKING BRAKE SWITCH |
| Connector Color | BLACK                |



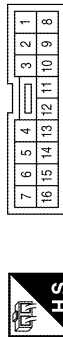
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |

|                 |                                   |
|-----------------|-----------------------------------|
| Connector No.   | F15                               |
| Connector Name  | TCM (TRANSMISSION CONTROL MODULE) |
| Connector Color | BLACK                             |



| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 19           | G/B           | REV LAMP RLY |

|                 |              |
|-----------------|--------------|
| Connector No.   | F1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4            | G/B           | -           |

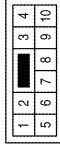
ABNIA1657GB

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/BOSE & NAVI]

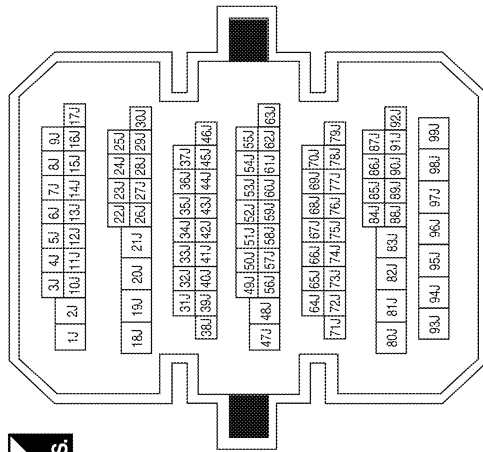
|                 |              |
|-----------------|--------------|
| Connector No.   | B6           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 80J          | O             | -           |
| 81J          | LG            | -           |
| 88J          | V             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

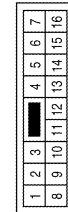


|                 |                     |
|-----------------|---------------------|
| Connector No.   | B20                 |
| Connector Name  | JOINT CONNECTOR-B05 |
| Connector Color | BLUE                |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | V             | -           |
| 7            | V             | -           |
| 8            | V             | -           |
| 9            | V             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B10          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 15           | V             | -           |

ABNIA1658GB

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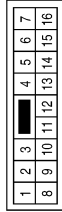
# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/BOSE & NAVI]

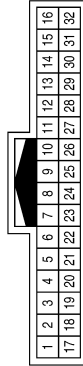
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | B             | -           |
| 10           | R             | -           |
| 11           | BR            | -           |
| 12           | G             | -           |
| 13           | L             | -           |
| 14           | V             | -           |
| 15           | P             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B103         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BROWN        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | V             | -           |
| 4            | G             | -           |
| 5            | W             | -           |
| 6            | SB            | -           |
| 7            | GR            | -           |
| 8            | W             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B102         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 17           | W             | -           |
| 18           | B             | -           |
| 20           | LG            | -           |
| 21           | V             | -           |
| 23           | GR            | -           |
| 24           | L             | -           |
| 26           | BR            | -           |
| 27           | Y             | -           |
| 29           | SB            | -           |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | B107              |
| Connector Name  | REAR SUBWOOFER RH |
| Connector Color | WHITE             |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | BR            | -           |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | B106              |
| Connector Name  | REAR SUBWOOFER LH |
| Connector Color | WHITE             |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | P             | -           |

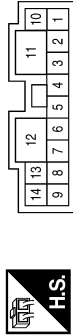
ABNIA5122GB

# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/BOSE & NAVI]

|                 |                   |
|-----------------|-------------------|
| Connector No.   | B110              |
| Connector Name  | BOSE SPEAKER AMP. |
| Connector Color | BROWN             |

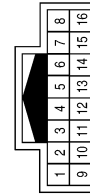


| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 1            | LG            | FR TWDR LH+ OUT |
| 2            | V             | FR TWDR LH- OUT |
| 3            | W             | FR TWDR RH- OUT |
| 4            | G             | FR TWDR RH+ OUT |
| 5            | R             | RH WOOFER+ OUT  |
| 6            | BR            | RH WOOFER- OUT  |
| 7            | B             | GND             |
| 8            | P             | LH WOOFER- OUT  |
| 9            | O             | RR DOOR RH- OUT |
| 10           | SB            | BAT             |
| 11           | GR            | BAT             |
| 12           | B             | GND             |
| 13           | L             | LH WOOFER+ OUT  |
| 14           | LG            | RR DOOR RH+ OUT |

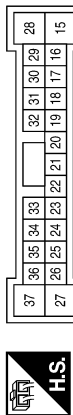
| Terminal No. | Color of Wire | Signal Name    |
|--------------|---------------|----------------|
| 1            | W             | -- (WITH NAVI) |
| 2            | SHIELD        | --             |
| 6            | V/G           | -- (WITH NAVI) |
| 7            | L             | -- (WITH NAVI) |

| Terminal No. | Color of Wire | Signal Name        |
|--------------|---------------|--------------------|
| 25           | Y             | RR RH- IN          |
| 26           | BR            | RR RH+ IN          |
| 27           | --            | --                 |
| 28           | G             | RR DOOR LH+ OUT    |
| 29           | V             | INST CTR TWDR+ OUT |
| 30           | P             | INST CTR TWDR- OUT |
| 31           | R             | FR DOOR RH+ OUT    |
| 32           | BR            | FR DOOR RH- OUT    |
| 33           | LG            | FR RH+ IN          |
| 34           | V             | FR RH- IN          |
| 35           | W             | FR LH+ IN          |
| 36           | B             | FR LH- IN          |
| 37           | --            | --                 |

|                 |              |
|-----------------|--------------|
| Connector No.   | B136         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

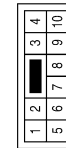


|                 |                   |
|-----------------|-------------------|
| Connector No.   | B109              |
| Connector Name  | BOSE SPEAKER AMP. |
| Connector Color | BROWN             |



| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 15           | L             | RR DOOR LH- OUT |
| 16           | --            | --              |
| 17           | --            | --              |
| 18           | W             | FR DOOR LH+ OUT |
| 19           | B             | FR DOOR LH- OUT |
| 20           | SB            | AMP ON          |
| 21           | --            | --              |
| 22           | --            | --              |
| 23           | L             | RR LH- IN       |
| 24           | GR            | RR LH+ IN       |

|                 |              |
|-----------------|--------------|
| Connector No.   | B134         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | --          |
| 10           | O             | --          |

ABNIA5123GB

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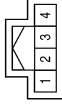
AV

# COLOR DISPLAY

< WIRING DIAGRAM >

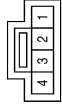
[COLOR DISPLAY - W/BOSE & NAVI]

|                 |                  |
|-----------------|------------------|
| Connector No.   | T101             |
| Connector Name  | REAR VIEW CAMERA |
| Connector Color | WHITE            |



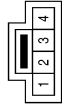
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | W             | -           |
| 3            | B             | -           |
| 4            | GR            | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | T100         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



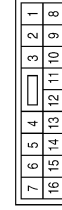
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | W             | -           |
| 3            | B             | -           |
| 4            | SHIELD        | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B139         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



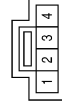
| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 1            | L             | - (WITH NAVI) |
| 2            | V/G           | - (WITH NAVI) |
| 3            | W             | - (WITH NAVI) |
| 4            | SHIELD        | -             |

|                 |              |
|-----------------|--------------|
| Connector No.   | D1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



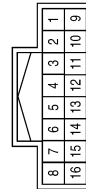
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11           | O             | -           |
| 12           | LG            | -           |

|                 |            |
|-----------------|------------|
| Connector No.   | R7         |
| Connector Name  | MICROPHONE |
| Connector Color | WHITE      |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | SHIELD        | -           |
| 4            | R             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | R1           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | R             | -           |
| 9            | SHIELD        | -           |

ABNIA5124GB



# COLOR DISPLAY

< WIRING DIAGRAM >

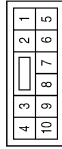
[COLOR DISPLAY - W/BOSE & NAVI]

|                 |                       |
|-----------------|-----------------------|
| Connector No.   | D103                  |
| Connector Name  | FRONT DOOR SPEAKER RH |
| Connector Color | WHITE                 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D101         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | LG            | -           |
| 8            | O             | -           |

|                 |                       |
|-----------------|-----------------------|
| Connector No.   | D3                    |
| Connector Name  | FRONT DOOR SPEAKER LH |
| Connector Color | WHITE                 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |   |
|-----------------|---|
| Connector No.   | D302  |
| Connector Name  | REAR DOOR SPEAKER RH<br>(EXCEPT MONOCHROME<br>DISPLAY WITHOUT BOSE<br>AUDIO SYSTEM) |
| Connector Color | BROWN   |



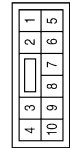
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |   |
|-----------------|---|
| Connector No.   | D202  |
| Connector Name  | REAR DOOR SPEAKER LH<br>(EXCEPT MONOCHROME<br>DISPLAY WITHOUT BOSE<br>AUDIO SYSTEM) |
| Connector Color | BROWN   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | LG            | -           |
| 2            | O             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D201         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

ABNIA5125GB

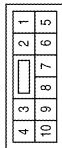
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# COLOR DISPLAY

< WIRING DIAGRAM >

[COLOR DISPLAY - W/BOSE & NAVI]

|                 |              |
|-----------------|--------------|
| Connector No.   | D306         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | LG            | -           |
| 10           | O             | -           |

ABNIA1663GB

# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

## SYMPTOM DIAGNOSIS

### MULTI AV SYSTEM SYMPTOMS

#### Symptom Table

INFOID:000000009471523

#### RELATED TO NAVIGATION

#### Trouble Diagnosis Chart by Symptom

| Symptoms  | Check items   | Probable malfunction location   |
|---|---|---|
| Multifunction switch and preset switch operation does not work. | <ul style="list-style-type: none"> <li>All switches cannot be operated.</li> <li>"MULTI AV" is displayed on system selection screen when the CONSULT is started.</li> </ul>         | <ul style="list-style-type: none"> <li>Multifunction switch power supply and ground circuit. Refer to <a href="#">AV-600, "Diagnosis Procedure"</a>.</li> <li>AV communication circuit between AV control unit and multifunction switch. Perform CONSULT self-diagnosis. Refer to <a href="#">AV-536, "CONSULT Function (MULTI AV)"</a>.</li> </ul> |
|   | <ul style="list-style-type: none"> <li>All switches cannot be operated.</li> <li>"MULTI AV" is not displayed on system selection screen when the CONSULT is initialized.</li> </ul> | AV control unit power supply and ground circuit malfunction. Refer to <a href="#">AV-571, "AV CONTROL UNIT : Diagnosis Procedure"</a> .   |
|   | Only specified switch cannot be operated.   | Multifunction switch or preset switch malfunction. Perform multifunction switch and preset switch self-diagnosis function. Refer to <a href="#">AV-600, "Diagnosis Procedure"</a> .   |
| Fuel economy display is abnormal.                               | There is malfunction in the CONSULT self-diagnosis result.  | Perform detected DTC self-diagnosis. Refer to <a href="#">AV-536, "CONSULT Function (MULTI AV)"</a> .   |
|   | There is no malfunction in the self-diagnosis results.  | Ignition signal circuit malfunction. Refer to <a href="#">PCS-56, "Diagnosis Procedure"</a> .   |
| Start of the AV control unit takes time.                        | —   | Room lamp timer control circuit malfunction.  |
| Guide sound is not heard or too low.                            | On the setting display select "system sound (guide sound volume, etc.)," and confirm that guide sound is ON.  | Voice guidance signal circuit malfunction.  |

#### RELATED TO HANDS-FREE PHONE

- Before performing diagnosis, confirm that the cellular phone being used by the customer is compatible with the vehicle.
- It is possible that a malfunction is occurring due to a version change of the phone even though the phone is a compatible type. This can be confirmed by changing the cellular phone to another compatible type, and checking that it operates normally. It is important to determine whether the cause of the malfunction is the vehicle or the cellular phone.

#### Check Compatibility

- Make sure the customer's Bluetooth<sup>®</sup> related concern is understood.
- Verify the customer's concern.

#### NOTE:

The customer's phone may be required, depending upon their concern.

- Write down the customer's phone brand, model, and service provider.

#### NOTE:

It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.

- Go to "www.nissanusa.com/bluetooth/".
  - Using the website's search engine, find out if the customer's phone is on the approved list.
  - If the customer's phone is NOT on the approved list:
 

Stop diagnosis here. the customer need to obtain a Bluetooth phone that is on the approved list before any further action.
  - If the feature related to the customer's concern shows as "N" (not compatible):

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AV

## MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

Stop diagnosis here. If the customer still wants the feature to function. they will need to get an approved phone showing the feature as "Y"(compatible) in the "Basic features" list.

- d. If the feature related to the customer's concern shows as "Y" (compatible):  
Perform diagnosis as per the following table.

Trouble Diagnosis Chart by Symptom

| Symptoms  | Check items   | Probable malfunction location  |
|---|---|--|
| Does not recognize cellular phone connection. (no connection is displayed on the display at the guide.) | Repeat the registration of cellular phone.  |  |
| Hands-free phone cannot be established.   | <ul style="list-style-type: none"> <li>Hands-free phone operation can be made, but the communication cannot be established.</li> <li>Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.</li> </ul> | AV control unit malfunction.<br>Replace AV control unit. Refer to <a href="#">AV-652, "Removal and Installation"</a> . |
| The other party's voice cannot be heard by hands-free phone.  | Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.   |  |
| Originating sound is not heard by the other party with hands-free phone communication.                  | Sound operation function is normal.   |  |
|   | Sound operation function does not work.   | Microphone signal circuit malfunction.<br>Refer to <a href="#">AV-582, "Diagnosis Procedure"</a> .                     |
| The system cannot be operated.  | <ul style="list-style-type: none"> <li>The voice recognition can be controlled.</li> <li>Steering switch's "VOL UP", "VOL DOWN", "↶" switch works, but "↷" it does not work.</li> </ul>   | Steering switch malfunction. Replace steering wheel.<br>Refer to <a href="#">AV-667, "Removal and Installation"</a>    |
|   | <ul style="list-style-type: none"> <li>The voice recognition can be controlled.</li> <li>Steering switch's "↷", "VOL UP", "VOL DOWN", "↶" switches do not work.</li> </ul>  | Steering switch signal B circuit malfunction.<br>Refer to <a href="#">AV-600, "Diagnosis Procedure"</a> .              |
|   | All steering switches do not work.  | Steering switch ground circuit malfunction.<br>Refer to <a href="#">AV-600, "Diagnosis Procedure"</a> .                |

### RELATED TO RGB IMAGE

Trouble Diagnosis Chart by Symptom

| Symptoms                | Check items | Probable malfunction location                 |
|-------------------------|-------------|---|
| RGB image is not shown. | —           | RGB digital image signal circuit malfunction. |

### RELATED TO VOICE CONTROL

Trouble Diagnosis Chart by Symptom

| Symptoms  | Check items  | Probable malfunction location  |
|---|--|--|
| The voice cannot be controlled even if the voice control screen is displayed. | Voice sounds at "Voice Microphone Test" of Confirmation/Adjustment mode.         | AV control unit malfunction.<br>Replace AV control unit. Refer to <a href="#">AV-652, "Removal and Installation"</a> . |
|   | Voice does not sound at "Voice Microphone Test" of Confirmation/Adjustment mode. | Microphone circuit malfunction.<br>Refer to <a href="#">AV-582, "Diagnosis Procedure"</a> .                            |

# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

| Symptoms  | Check items  | Probable malfunction location  |
|---|--|--|
| The voice cannot be controlled (Voice control screen is not displayed). | <ul style="list-style-type: none"> <li>Steering switch's "SOURCE", "MENU UP", "MENU DOWN", "ENTER" switch works, but "⏪" does not work.</li> <li>Hands-free phone system can be operated.</li> </ul> | Steering switch malfunction.   |
|   | Steering switch's "SOURCE", "MENU UP", "MENU DOWN", "⏪", "ENTER" switches do not work.   | Steering switch signal A circuit malfunction. Refer to <a href="#">AV-600. "Diagnosis Procedure"</a> . |
|   | All steering switches do not work.   | Steering switch ground circuit malfunction. Refer to <a href="#">AV-600. "Diagnosis Procedure"</a> .   |

## RELATED TO AUDIO

| Symptoms                    | Check items     | Probable malfunction location  |
|-----------------------------|-----------------|--|
| The disk cannot be removed. | AV control unit | Malfunction in AV control unit. Refer to <a href="#">AV-525. "On Board Diagnosis Function"</a> . |

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# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

| Symptoms  | Check items   | Probable malfunction location  |
|---|---|--|
| <p>No sound comes out or the level of the sound is low.</p> | <p>No sound from all speakers.</p>  | <ul style="list-style-type: none"> <li>• Speaker circuit shorted to ground. Refer to <a href="#">AV-614, "Wiring Diagram - With BOSE audio system With Navigation System"</a>.</li> <li>• Bose amp. ON signal circuit malfunction. Refer to <a href="#">AV-584, "Diagnosis Procedure"</a>.</li> <li>• Bose speaker amp. power supply and ground circuits malfunction. Refer to <a href="#">AV-574, "BOSE SPEAKER AMP : Diagnosis Procedure"</a>.</li> </ul>  |
|   | <p>Only a certain speaker (front door speaker LH, front door speaker RH, tweeter LH, tweeter RH, center speaker, rear door speaker LH, rear door speaker RH, rear subwoofer LH, rear subwoofer RH) does not output sound.</p> | <ul style="list-style-type: none"> <li>• Poor connector connection of speaker.</li> <li>• Sound signal circuit malfunction between AV control unit and Bose speaker amp. Refer to:                             <ul style="list-style-type: none"> <li>- <a href="#">AV-585, "Diagnosis Procedure"</a> (front door speaker).</li> <li>- <a href="#">AV-588, "Diagnosis Procedure"</a> (tweeter).</li> <li>- <a href="#">AV-591, "Diagnosis Procedure"</a> (center speaker).</li> <li>- <a href="#">AV-594, "Diagnosis Procedure"</a> (rear door speaker).</li> <li>- <a href="#">AV-597, "Diagnosis Procedure"</a> (subwoofer).</li> </ul> </li> <li>• Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to:                             <ul style="list-style-type: none"> <li>- <a href="#">AV-585, "Diagnosis Procedure"</a> (front door speaker).</li> <li>- <a href="#">AV-588, "Diagnosis Procedure"</a> (tweeter).</li> <li>- <a href="#">AV-591, "Diagnosis Procedure"</a> (center speaker).</li> <li>- <a href="#">AV-594, "Diagnosis Procedure"</a> (rear door speaker).</li> <li>- <a href="#">AV-597, "Diagnosis Procedure"</a> (subwoofer).</li> </ul> </li> <li>• Malfunction in speaker. Refer to:                             <ul style="list-style-type: none"> <li>- <a href="#">AV-661, "Removal and Installation"</a> (front door speaker).</li> <li>- <a href="#">AV-659, "Removal and Installation"</a> (tweeter).</li> <li>- <a href="#">AV-660, "Removal and Installation"</a> (center speaker).</li> <li>- <a href="#">AV-662, "Removal and Installation"</a> (rear door speaker).</li> <li>- <a href="#">AV-663, "Removal and Installation"</a> (subwoofer).</li> </ul> </li> <li>• Malfunction in AV control unit. Refer to <a href="#">AV-525, "On Board Diagnosis Function"</a>.</li> <li>• Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to <a href="#">AV-664, "Removal and Installation"</a>.</li> </ul> |

# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

| Symptoms                   | Check items  | Probable malfunction location   |
|----------------------------|--|---|
|                            | Noise comes out from all speakers.   | <ul style="list-style-type: none"> <li>• Malfunction in AV control unit. Refer to <a href="#">AV-525. "On Board Diagnosis Function"</a>.</li> <li>• Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to <a href="#">AV-664. "Removal and Installation"</a>.</li> </ul>  |
| Noise is mixed with audio. | Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, tweeter LH, tweeter RH, center speaker, rear door speaker LH, rear door speaker RH, rear subwoofer LH, rearsubwoofer RH). | <ul style="list-style-type: none"> <li>• Poor connector connection of speaker.</li> <li>• Sound signal circuit malfunction between AV control unit and Bose speaker amp. Refer to:                             <ul style="list-style-type: none"> <li>- <a href="#">AV-585. "Diagnosis Procedure"</a> (front door speaker).</li> <li>- <a href="#">AV-588. "Diagnosis Procedure"</a> (tweeter).</li> <li>- <a href="#">AV-591. "Diagnosis Procedure"</a> (center speaker).</li> <li>- <a href="#">AV-594. "Diagnosis Procedure"</a> (rear door speaker).</li> <li>- <a href="#">AV-597. "Diagnosis Procedure"</a> (subwoofer).</li> </ul> </li> <li>• Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to:                             <ul style="list-style-type: none"> <li>- <a href="#">AV-585. "Diagnosis Procedure"</a> (front door speaker).</li> <li>- <a href="#">AV-588. "Diagnosis Procedure"</a> (tweeter).</li> <li>- <a href="#">AV-591. "Diagnosis Procedure"</a> (center speaker).</li> <li>- <a href="#">AV-594. "Diagnosis Procedure"</a> (rear door speaker).</li> <li>- <a href="#">AV-597. "Diagnosis Procedure"</a> (subwoofer).</li> </ul> </li> <li>• Malfunction in speaker.</li> <li>• Poor Installation of speaker (e.g. backlash and looseness). Refer to:                             <ul style="list-style-type: none"> <li>- <a href="#">AV-661. "Removal and Installation"</a> (front door speaker).</li> <li>- <a href="#">AV-659. "Removal and Installation"</a> (tweeter).</li> <li>- <a href="#">AV-660. "Removal and Installation"</a> (center speaker).</li> <li>- <a href="#">AV-662. "Removal and Installation"</a> (rear door speaker).</li> <li>- <a href="#">AV-663. "Removal and Installation"</a> (subwoofer).</li> </ul> </li> <li>• Malfunction in AV control unit. Refer to <a href="#">AV-525. "On Board Diagnosis Function"</a>.</li> <li>• Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to <a href="#">AV-664. "Removal and Installation"</a>.</li> </ul> |
|                            | Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)  | <ul style="list-style-type: none"> <li>• Poor connector connection of antenna or antenna feeder. Refer to <a href="#">AV-668. "Location of Antenna"</a>.</li> </ul>   |

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## MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

| Symptoms                              | Check items  | Probable malfunction location  |
|---------------------------------------|--|--|
| No radio reception or poor reception. | <ul style="list-style-type: none"> <li>Other audio sounds are normal.</li> <li>Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).</li> </ul> | <ul style="list-style-type: none"> <li>Antenna amp. ON signal circuit malfunction. Refer to <a href="#">AV-602, "Reference Value"</a>.</li> <li>Poor connector connection of antenna or antenna feeder. Refer to <a href="#">AV-668, "Location of Antenna"</a>.</li> </ul> |
| Buzz/rattle sound from speaker        | The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.   | Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.   |

### RELATED TO USB

#### NOTE:

Check that there is no malfunction of USB equipment main body before performing a diagnosis.

#### Trouble Diagnosis Chart by Symptom

| Symptoms                                   | Check items | Possible malfunction location / Action to take   |
|--|-------------|--|
| iPod® or USB memory can not be recognized. | —           | <ul style="list-style-type: none"> <li>USB harness malfunction.</li> <li>USB connector malfunction.</li> </ul> |

iPod® is a trademark of Apple inc., registered in the U.S. and other countries.

### RELATED TO DVD MODE

| Symptoms                    | Check items                               | Probable malfunction location  |
|-----------------------------|---|--|
| The DVD cannot be removed.  | —   | Disk eject signal circuit malfunction between AV control unit and preset switch. Refer to <a href="#">AV-581, "Diagnosis Procedure"</a> .  |
| DVD image is not displayed. | —   | Perform CONSULT self-diagnosis. Refer to <a href="#">AV-536, "CONSULT Function (MULTI AV)"</a> . When detecting no malfunction in those components, the following items are a possible cause. <ul style="list-style-type: none"> <li>Composite image signal circuits malfunction. Refer to <a href="#">AV-579, "Diagnosis Procedure"</a>.</li> </ul> |
| Audio sound is not heard.   | No sound from all speakers.               | Perform CONSULT self-diagnosis. Refer to <a href="#">AV-536, "CONSULT Function (MULTI AV)"</a> .   |
|                             | Sound is heard only from specific places. | Perform CONSULT self-diagnosis. Refer to <a href="#">AV-536, "CONSULT Function (MULTI AV)"</a> .   |

### RELATED TO STEERING SWITCH

#### Trouble Diagnosis Chart by Symptom

| Symptoms   | Probable malfunction location  |
|--|--|
| None of the steering switch operations work.   | Steering switch ground circuit malfunction. Refer to <a href="#">AV-600, "Diagnosis Procedure"</a> .   |
| Only specified switch cannot be operated.  | Steering switch malfunction.   |
| Steering switch's "SOURCE", "MENU UP", "MENU DOWN", "↙", "ENTER" switches do not work. | Steering switch signal A circuit malfunction. Refer to <a href="#">AV-600, "Diagnosis Procedure"</a> . |
| Steering switch's "↻", "VOL UP", "VOL DOWN", "↶" switches do not work.                 | Steering switch signal B circuit malfunction. Refer to <a href="#">AV-600, "Diagnosis Procedure"</a> . |

### RELATED TO AUXILIARY INPUT

#### NOTE:

Check that there is no malfunction of AUX equipment main body before performing a diagnosis.



# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

Trouble diagnosis chart by symptom

| Symptoms   | Check items   | Probable malfunction location   |
|--|---|---|
| No voice sound is heard when AUX mode is selected. | Voice sound is heard when other modes are selected. | AUX sound signal circuit.   |
| Image is not displayed when AUX mode is selected.  | DVD image is displayed.                             | AUX image signal circuit malfunction.<br>Refer to <a href="#">AV-580. "Diagnosis Procedure"</a> .       |
|  | DVD image is not displayed.                         | Composite image signal circuit malfunction.<br>Refer to <a href="#">AV-579. "Diagnosis Procedure"</a> . |

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## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

### NORMAL OPERATING CONDITION

#### Description

INFOID:000000009471524

**NOTE:**

For Navigation system operation information, refer to Navigation system Owner's Manual.

#### BASIC OPERATIONS

| Symptom  | Possible cause  | Possible solution  |
|--|---|--|
| No image is displayed.   | The brightness is at the lowest setting.  | Adjust the brightness of the display.  |
|  | The systems in the video mode.  | Press "DISC-AUX" to change the mode.   |
|  | The display is turned off.  | Press "☀/☾" to turn on the display.  |
|  | The interior of the vehicle becomes the a little less than 80°C (176°F) or high temperature, and the protection of the display acts, and a display is turned off. | Wait until the interior of the vehicle has cooled down.                      |
| Screen not clear.  | Contrast setting is not appropriate.  | Adjust the contrast of the display.  |
| No voice guidance is available. Or<br>The volume is too high or too low. | The volume is not set correctly, or it is turned off.   | Adjust the volume of voice guidance.   |
|  | Voice guidance is not provided for certain streets (roads displayed in gray).   | This is not a malfunction.   |
| No map is displayed on the screen.                                       | A screen other than map screen is displayed.  | Press "MAP".   |
| The screen is too dim. The movement is slow.                             | The temperature in the interior of the vehicle is high.   | Wait until the interior of the vehicle has cooled down.                      |
| Some pixels in the display are darker or brighter than others.           | This condition is an inherent characteristic of liquid crystal displays.  | This is not a malfunction.   |
| Some menu items cannot be selected.                                      | Some menu items become unavailable while the vehicle is driven.   | Park the vehicle in a safe location, and then operate the navigation system. |

**NOTE:**

Locations stored in the Address Book and other memory functions may be lost if the vehicle's battery is disconnected or becomes discharged. If this occurs, service the vehicle's battery as necessary and re-enter the information in the Address Book.

#### RELATED TO HANDS-FREE PHONE

| Symptom  | Cause and Counter measure   |
|--|---|
| Does not recognize cellular phone connection (No connection is displayed on the display at the guide). | Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module.<br>Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in <a href="#">AV-635. "Symptom Table"</a> .  |
| Cannot use hands-free phone.   | Customer will not be able to use a hands-free phone under the following conditions: <ul style="list-style-type: none"> <li>• The vehicle is outside of the telephone service area.</li> <li>• The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area.</li> <li>• The cellular phone is locked to prevent it from being dialed.</li> </ul> <p><b>NOTE:</b><br/>While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.</p> |
| The other party's voice cannot be heard by hands-free phone.   | When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.  |
| Poor sound quality.  | Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.   |




## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

### RELATED TO VOICE RECOGNITION

#### Related to Basic Operation

| Symptom   | Possible cause  | Possible solution  |
|---|---|--|
| The system does not recognize your command.<br>or<br>The system recognizes your command incorrectly | The interior of the vehicle is too noisy.   | Close the windows or have other occupants quiet.   |
|   | The volume of your voice is too low.  | Speak louder.  |
|   | The volume if your voice is too loud.   | Speak softer.  |
|   | Your pronunciation is unclear.  | Speak clearly.   |
|   | You are speaking before the voice recognition is ready  | Press and release “  ” switch on the steering switch, and speak a command after the tone sounds.              |
|   | 8 seconds or more have passed after you pressed and released “  ” switch on the steering switch. | Make sure to speak a command within 8 seconds after you press and release “  ” switch on the steering switch. |
|   | Only a limited range of voice commands is usable for each screen.   | Use a correct voice command appropriate for the current screen.  |
| The fan of the air conditioner is too loud.   | Lower the fan speed as necessary as voice commands can be recognized more easily.   |  |

#### Related to Item Choice

The system should respond correctly to all voice commands without difficulty. If problems are encountered, follow the solutions given in this guide for the appropriate error.

Where the solutions are listed by number, try each solution in turn, starting with number one, until the problem is resolved.

| Symptom/ error message  | Solution   |
|---|--|
| Displays “COMMAND NOT RECOGNIZED” or the system fails to interpret the command correctly. | 1. Ensure that the command format is valid.  |
|   | 2. Speak clearly without pausing between words and at a level appropriate to the ambient noise level.  |
|   | 3. Ensure that the ambient noise level is not excessive, for example, windows open or defrost on.<br><b>NOTE:</b><br>If it is too noisy to use the phone, it is likely that voice commands will not be recognized. |
|   | 4. If optional words of the command have been omitted, then command should be tried with these in place.   |
| The system consistently selects the wrong voicetag  | 1. Ensure that the voicetag requested matches what was originally stored. This can be confirmed by giving the “Addressbook” Directory or Phone Directory command.  |
|   | 2. Replace one of the voicetags being confused with a different voicetag.  |

#### Related to Telephone

The system should respond correctly to all voice commands without difficulty. If problems are encountered, try the following solutions.

Where the solutions are listed by number, try each solution in turn, starting with number 1, until the problem is resolved.

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

| Symptom  | Solution  |
|--|---|
| System fails to interpret the command correctly.   | 1. Ensure that the command is valid.  |
|  | 2. Ensure that the command is spoken after the tone.  |
|  | 3. Speak clearly without pausing between words and at level appropriate to the ambient noise level in the vehicle.  |
|  | 4. Ensure that the ambient noise level is not excessive (for example, windows open or defroster on).  |
|  | <b>NOTE:</b><br>If it is too noisy to use the phone, it is likely that the voice commands will not be recognized.   |
|  | 5. If more than one command was said at a time, try saying the commands separately.   |
| The system consistently selects the wrong voicetag | 6. If the system consistently fails to recognize commands, the voice training procedure should be carried out to improve the recognition response for the speaker. See "Speaker adaptation (SA) mode" earlier in this section. Refer to "OWNER'S MANUAL". |
|  | 1. Ensure that the phone book entry name requested matches what was originally stored. This can be confirmed by using the "List Names" command.   |
|  | 2. Replace one of the names being confused with a new name.   |

### RELATED TO AUDIO

- The majority of the audio malfunctions are the result of outside causes (bad CD/cassette, electromagnetic interference, etc.). Check the symptoms below to diagnose the malfunction.
- The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and then determine the cause.

**NOTE:**

- CD-R is not guaranteed to play because they can contain compressed audio (MP3, WMA, AAC, M4A) or could be incorrectly mastered by the customer on a computer.
- Check if the CDs carry the Compact Disc Logo. If not, the disc is not mastered to the "red book" Compact Disc Standard and may not play.

| Symptom  | Cause and Counter measure   |
|--|---|
| Cannot play  | Check if the CD was inserted correctly.   |
|  | Check if the CD is scratched or dirty.  |
|  | Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.  |
|  | If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.  |
|  | If there is a mixture of music CD files (CD-DA data) and MP3/WMA/AAC/M4A files on a CD, only the music CD files (CD-DA data) will be played.  |
|  | Files with extensions other than ".MP3", ".WMA", ".AAC", ".M4A" ".mp3", ".wma", ".aac" or ".m4a" cannot be played. In addition, the character codes and number of characters for folder names and file names should be in compliance with the specifications. |
|  | Check if the disc or the file is generated in an irregular format, This may occur depending on the variation or the setting of MP3/WMA/AAC/M4A writing applications or other text editing applications.   |
|  | Check if the finalization process, such as session close and disc close, is done for the disc.  |
| Poor sound quality   | Check if the CD is scratched or dirty.  |
|  | Check if the CD is protected by copyright.  |
| It takes a relatively long time before the music starts playing. | If there are many folder or file levels on the MP3/WMA/AAC/M4A CD, or if it is a multisession disc, some time may be required before the music starts playing.  |
| Music cuts off or skips  | The writing software and hardware combination might not match, or the writing speed, writing depth, writing width might not match the specifications. Try using the slowest writing speed.  |
| Skipping with high bit rate files                                | Skipping may occur with large quantities if data such as for high bit rate data.  |

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

| Symptom  | Cause and Counter measure  |
|--|--|
| Move immediately to the next song when playing   | When a non-MP3/WMA/AAC file has been given an extension of “.MP3”, “.WMA”, “.AAC”, “.M4A”, “.mp3”, “.wma”, “.aac” or “.m4a” or when play is prohibited by copyright protection, the player will skip to the next song. |
| The songs do not play back in the desired order. | The playback order is the order in which the files were written by the software, so the files might not play in the desired order.   |

Noise resulting from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources, is not a malfunction.

**NOTE:**

- Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
- Multi-path noise: This noise results from a time difference between the broadcast waves directly from the station arriving at the antenna and the waves reflected by mountains or buildings.

## RELATED TO DVD

| Symptom  | Possible cause   | Possible solution   |
|--|--|---|
| Not working as operated  | Some operations may be rejected or may not function as intended because of the manufacturer's intent, depending on DVD.                | This is not a malfunction.  |
| Operation not accepted   | If a requested operation is prohibited, then a message is displayed on the screen. (Message display depends on DVD.)                   | This is not a malfunction.  |
| DVD can not be played  | Check that the DVD is inserted in the right place.   | Upturn the DVD (facing the title upward).   |
|  | Check if there is condensation inside the player.  | wait until the condensation is gone (about 1 hour) before using the player.   |
|  | DVD menu is displayed.   | Select item to touch “ENTER”  |
|  | Insertion of a DVD with a different region code.   | DVDs with a different region code can not be played. Check DVD.   |
|  | Some DVD softwares may not be played because not all DVD softwares fully comply in the standard.                                       | This is not a malfunction.  |
| Interruption during playback or flicker in the display                                 | Check that the DVD has no scratches and dirt.  | Errors may not be corrected depending on the size of scratches.   |
| Low sound quality  |  | Wipe and clean the dirt on the disc.  |
| Distortion in picture  | In the process of fast-forward or fast-reverse.  | This is not a malfunction.  |
| Subtitles not shown  | Subtitle setting is OFF.   | Set subtitle.   |
|  | Subtitle is not included in the software.  | Check DVD.  |
| Not played in set language   | If a language is not included in the DVD, then the DVD is played in a recommended language.  | Check DVD.  |
| Not played with set subtitle   | If a set subtitle is not included in the DVD, then the DVD is played with a recommended subtitle.                                      | Check DVD.  |
| Subtitle and language not selectable (not played with set subtitle or in set language) | The DVD is not multilanguage-capable.  | The inclusion of the number of languages depends on DVD. Languages may be selectable on the Menu screen. Check DVD. |
|  | The DVD has a priority language or setting.  | If the DVD has a priority language or settings, then settings changed with this device are not reflected.           |
| Angle unchangeable   | Plural angles are not recorded in the software.  | Check if the DVD is multi-angle-capable.  |
| Unusual screen display   | Display mode to the output aspect ratio for the DVD software is inappropriate.   | Switch to the appropriate display mode.   |
| Playback time is indicated, but no sound comes out.                                    | Playback of Mix mode Truck 1. (Mix mode: Format including Truck 1 with data other than music and Trucks from Truck 2 with music data.) | Play music data included in trucks from Truck 2.  |

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

### RELATED TO VEHICLE ICON

| Symptom  | Possible cause   | Possible solution  |
|--|--|--|
| Names of roads differ between Plan View and Birdview™.   | This is because the quantity of the displayed information is reduced so that the screen does not become too crowded. There is also a chance that names of the roads may be displayed multiple times, and the names appearing on the screen may be different because of a processing procedure. | This is not a malfunction.   |
| The vehicle icon is not displayed in the correct position.                                       | The vehicle was transported after the ignition switch was pressed off, for example, by a ferry or car transporter.   | Drive the vehicle for a while on a road where GPS signals can be received.   |
|  | The position and direction of the vehicle icon may be incorrect depending on the driving environments and the levels of positioning accuracy of the navigation system.   | This is not a malfunction. Drive the vehicle for a while to automatically correct the position and direction of the vehicle icon.  |
| When the vehicle is traveling on a new road, the vehicle icon is located on another road nearby. | Because the new road is not stored in the map data, the system automatically places the vehicle icon on the nearest road available.  | Updated road information will be included in the next version of the map data.   |
| The screen does not switch to the night screen even after turning on the headlights.             | The daytime screen was set the last time the headlights were turned on.  | Set the screen to the night screen mode using <Day/Night> when you turn on the headlights.   |
| The map does not scroll even when the vehicle is moving.   | The current location map screen is not displayed.  | Press "MAP".   |
| The vehicle icon is not displayed.   | The current location map screen is not displayed.  | Press "MAP".   |
| The location of the vehicle icon is misaligned from the actual position.                         | When using tire chains or replacing the tires, speed calculations based on the speed sensor may be incorrect.  | Drive the vehicle for a while [at approximately 30 km/h (19 MPH) for about 30 minutes] to automatically correct the vehicle icon position.<br>If this does not correct the vehicle icon position, contact a NISSAN/ INFINITI dealer. |
|  | The map data has a mistake or is incomplete (the vehicle icon position is always misaligned in the same area).   | Updated road information will be included in the next version of the map data.   |

### RELATED TO ROUTE CALCULATION AND VISUAL GUIDANCE

| Symptom   | Possible cause   | Possible solution   |
|---|--|---|
| Waypoints are not included in the auto reroute calculation.   | Waypoints that you have already passed are not included in the auto reroute calculation.           | If you want to go to that waypoint again, you need to edit the route.   |
| Route information is not displayed.   | Route calculation has not yet been performed.  | Set the destination and perform route calculation.  |
|   | You are not driving on the suggested route.  | Drive on the suggested route.   |
|   | Route guidance is set to off.  | Turn on route guidance.   |
|   | Route information is not provided for certain types of roads (roads displayed in gray).            | This is not a malfunction.  |
| The auto reroute calculation (or detour calculation) suggests the same route as the one previously suggested. | Route calculations took priority conditions into consideration, but the same route was calculated. | This is not a malfunction.  |
| A waypoint cannot be added.   | Five waypoints are already set on the route, including ones that you have already passed.          | A maximum of 5 waypoints can be set on the route. If you want to go to 6 or more waypoints, perform route calculations multiple times as necessary. |

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

| Symptom  | Possible cause   | Possible solution  |   |
|--|--|--|---|
| The suggested route is not displayed.  | Roads near the destination cannot be calculated.   | Reset the destination to a main or ordinary road, and recalculate the route.                                       | A |
|  | The starting point and destination are too close.  | Set a more distant destination.  | B |
|  | The starting point and destination are too far away.   | Divide your trip by selecting one or two intermediate destinations, and perform route calculations multiple times. | C |
|  | There are time restricted roads (by the day of the week, by time) near the current vehicle location or destination.  | Set [Use Time Restricted Roads] to off.  |   |
| The part of the route that you have already passed is deleted.                                 | A route is managed by sections between waypoints. If you passed the first waypoint, the section between the starting point and the waypoint is deleted. (It may not be deleted depending on the area.) | This is not a malfunction.   | D |
| An indirect route is suggested.  | If there are restrictions (such as one-way streets) on roads close to the starting point or destination, the system may suggest an indirect route.   | Adjust the location of the starting of the starting point or destination.  | E |
|  | The system may suggest an indirect route because route calculation does not take into consideration some areas such as narrow streets (gray roads.)  | Reset the destination to a main or ordinary road, and recalculate the route.                                       | F |
| The landmark information does not correspond to the actual information.                        | This may be caused by insufficient or incorrect map data.  | Updated information will be included in the next version of the data.  | G |
| The suggested route does not exactly connect to the starting point, waypoints, or destination. | There is no data for route calculation closes to these locations.  | Set the starting point, waypoints and destination on a main road, and perform route calculation.                   | H |

### RELATED TO VOICE GUIDANCE

| Symptom   | Possible cause   | Possible solution   |   |
|---|--|---|---|
| Voice guidance is not available                                   | Voice guidance is only available at certain intersections marked with? In some case, voice guidance is not available even when the vehicle should make a turn. | This is not a malfunction.  | J |
|   | The vehicle has deviated from the suggested route.   | Go back to the suggested route or request route calculation again | K |
|   | Voice guide is set to off.   | Turn on voice guidance.   |   |
|   | Route guidance is set to off.  | Turn on voice guidance.   | L |
| The guidance contact does not correspond to the actual condition. | The contact of voice guidance may vary, depending on the types of intersections at which turn are made.  | Follow all traffic rules and regulations.                         | M |

### RELATED TO TRAFFIC INFORMATION

| Symptom   | Possible cause   | Possible solution   |    |
|---|--|---|----|
| The traffic information is not displayed  | The traffic information is not set to on.  | Set the traffic information to on.  | AV |
|   | You are in an area where traffic information is not available  | Scroll to an area where traffic information is available  | O  |
|   | You have not subscribed to XM NavTraffic or, your subscription to XM NavTraffic has expired.               | Check your subscription status of XM NavTraffic.  |    |
|   | The map scale is set at a level where the display of icons is impossible.                                  | Check that the map scale is set at a level in which the display of icons is possible.   | P  |
| With the automatic detour route search ON, no detour route is set to avoid congested areas. | There is no faster route compared to the current route, based on the road network and traffic information. | The automatic detour search is not intended for avoiding traffic jams. It searches for the fastest route taking into consideration such things as traffic jams. |    |

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[COLOR DISPLAY - W/BOSE & NAVI]

| Symptom   | Possible cause   | Possible solution  |
|---|--|--|
| The route does not avoid road section with traffic information stating it is closed due to road construction. | The navigation system is designed not to avoid this event because the actual period of closure may differ from the declared roadwork period. | Observe the actual road condition and follow the instructions on road for detour when necessary. If the road closure is for certain, use detour function and set the detour distance to avoid the closed road section. |
| Traffic information displayed differs from information from other media (e.g. radio).                         | Other media may use different information sources.   | Observe the actual road conditions and regulations. Always observe safe driving practices and follow all traffic regulations.  |



PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000010136910

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

**WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

**WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.

Precaution for Trouble Diagnosis

INFOID:000000009471526

AV COMMUNICATION SYSTEM

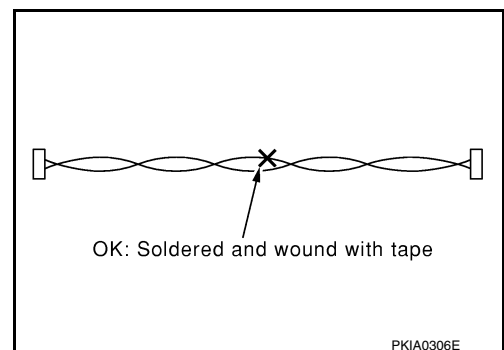
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

INFOID:000000009471527

AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



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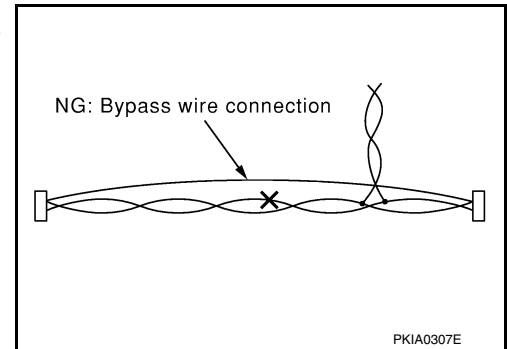
AV

## PRECAUTIONS

< PRECAUTION >

[COLOR DISPLAY - W/BOSE & NAVI]

- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)



### Precaution for Work

INFOID:000000009471528

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
  - Water soluble dirt:
    - Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
    - Then rub with a soft, dry cloth.
  - Oily dirt:
    - Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
    - Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
    - Then rub with a soft, dry cloth.
  - Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
  - For genuine leather seats, use a genuine leather seat cleaner.

# PREPARATION

< PREPARATION >

[COLOR DISPLAY - W/BOSE & NAVI]

## PREPARATION

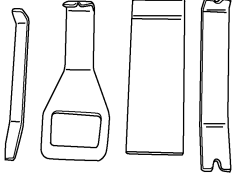
### PREPARATION

#### Special Service Tool

INFOID:000000009471529

The actual shape of the tools may differ from those illustrated here.

| Tool number<br>(TechMate No.)<br>Tool name | Description              |
|--|--------------------------|
| —<br>(J-46534)<br>Trim Tool Set            | Removing trim components |




AWJIA0483ZZ

#### Commercial Service Tools

INFOID:000000009471530

| Tool name  | Description                      |
|------------|----------------------------------|
| Power tool | Loosening nuts, screws and bolts |



PIIB1407E

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# AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

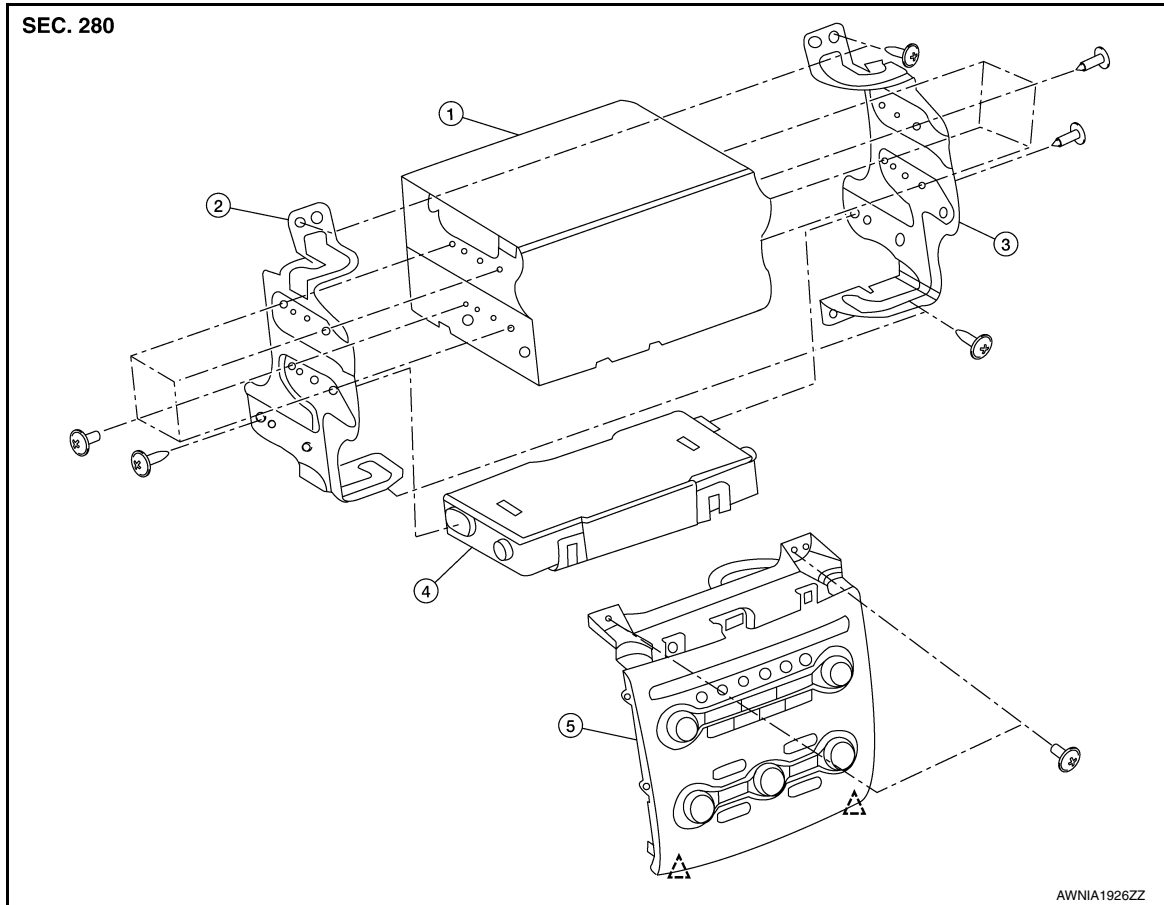
[COLOR DISPLAY - W/BOSE & NAVI]

## REMOVAL AND INSTALLATION

### AV CONTROL UNIT

#### Removal and Installation

INFOID:000000009471531



- |                    |   |                                 |
|--------------------|---|---------------------------------|
| 1. AV control unit | 2. AV control unit bracket (LH)                             | 3. AV control unit bracket (RH) |
| 4. A/C auto amp.   | 5. Cluster lid C (with A/C and AV switch assembly attached) | △ Clip                          |

### AV CONTROL UNIT

#### Removal

#### **CAUTION:**

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to [AV-337, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

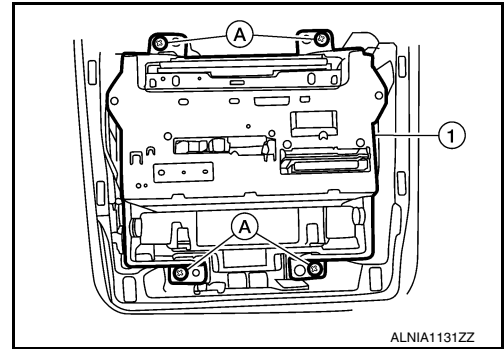
1. Disconnect the battery negative terminal. Refer to [PG-67, "Removal and Installation \(Battery\)"](#).
2. Remove cluster lid D. Refer to [IP-18, "Removal and Installation"](#).
3. Remove cluster lid C. Refer to [IP-10, "Exploded View"](#).

# AV CONTROL UNIT

## < REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

4. Remove the AV control unit screws (A), then pull out the AV control unit (1), disconnect the AV control unit connectors and remove the AV control unit (1).



### Installation

Installation is in the reverse order of removal.

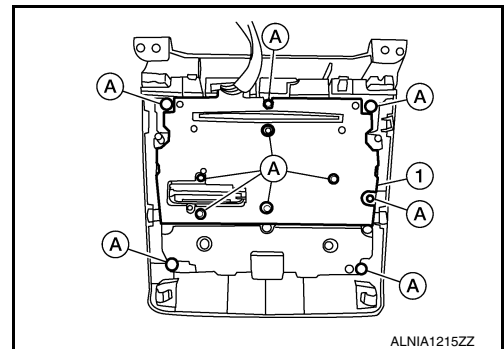
### CAUTION:

- When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to [AV-337, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

## A/C AND AV SWITCH ASSEMBLY

### Removal

1. Remove cluster lid D. Refer to [IP-18, "Removal and Installation"](#).
2. Remove cluster lid C. Refer to [IP-10, "Exploded View"](#).
3. Remove the A/C and AV switch assembly screws (A), then pull out the A/C and AV switch assembly (1) from cluster lid C.



### Installation

Installation is in the reverse order of removal.

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AV

# MULTIFUNCTION SWITCH

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

## MULTIFUNCTION SWITCH

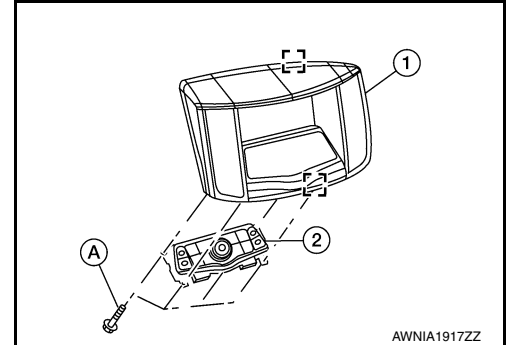
### Removal and Installation

INFOID:000000009471532

#### REMOVAL

1. Remove cluster lid D. Refer to [IP-18. "Removal and Installation"](#).
2. Remove the four multifunction switch screws (A) and the multifunction switch (2) from cluster lid D (1).

[ ]: Metal clip



#### INSTALLATION

Installation is in the reverse order of removal.

# AUDIO DISPLAY UNIT

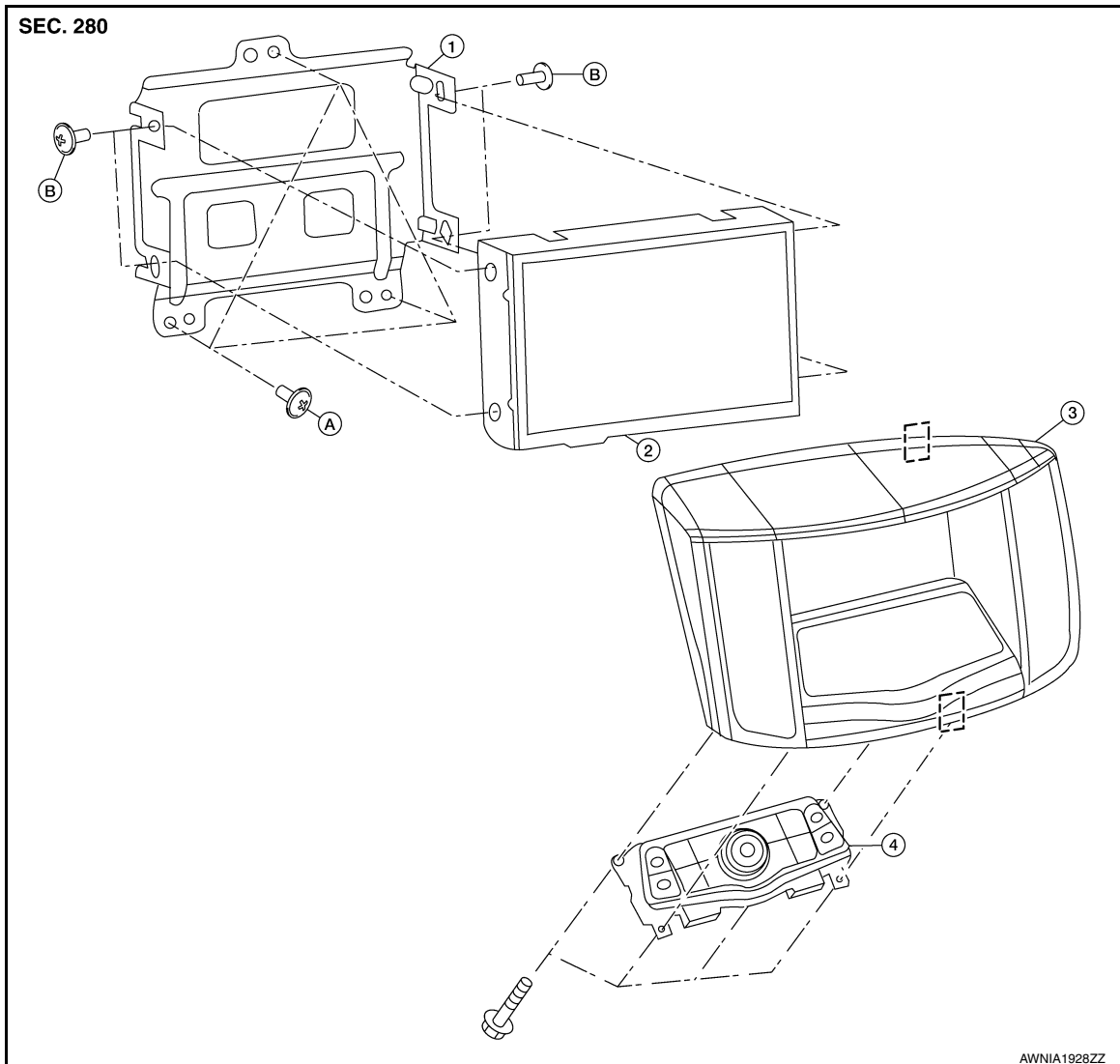
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

## AUDIO DISPLAY UNIT

### Removal and Installation

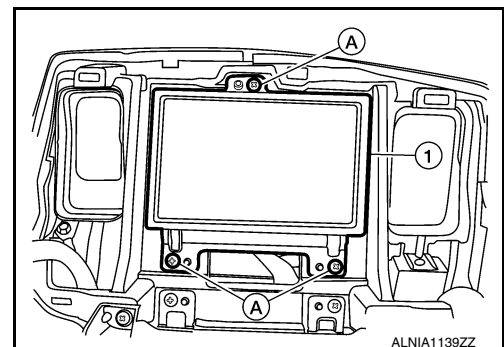
INFOID:000000009471533



- |                               |                                      |                              |
|-------------------------------|--------------------------------------|------------------------------|
| 1. Audio display unit bracket | 2. Audio display unit                | 3. Cluster lid D             |
| 4. Multifunction switch       | A. Audio display unit bracket screws | B. Audio display unit screws |
- ☐ Metal Clip

### REMOVAL

1. Remove cluster lid D. Refer to [IP-18, "Removal and Installation"](#).
2. Remove the audio display unit bracket screws (A).
3. Pull out the audio display unit and bracket assembly (1).
4. Disconnect the harness connectors from the audio display unit and bracket assembly (1) and remove.



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## AUDIO DISPLAY UNIT

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

5. Remove the audio display unit screws on the sides and the audio display unit from the audio display unit brackets.

### INSTALLATION

Installation is in the reverse order of removal.



# USB CONNECTOR

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

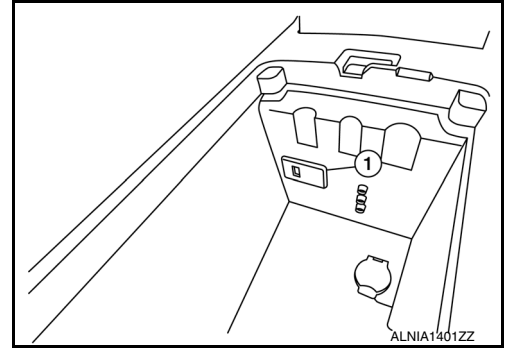
## USB CONNECTOR

### Removal and Installation

INFOID:000000009471534

#### REMOVAL

1. Remove the center console assembly. Refer to [IP-14. "Removal and Installation"](#).
2. Push the pawl from the back of the center console to remove the USB interface (1).



#### INSTALLATION

Installation is in the reverse order of removal.

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## AUX IN JACK

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

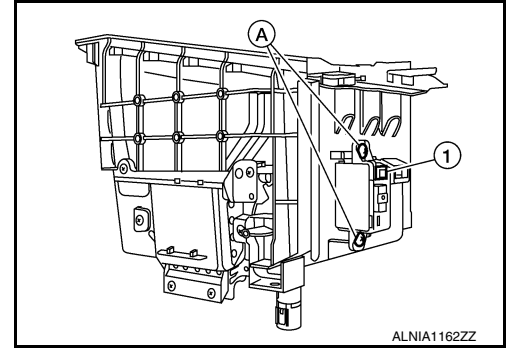
### AUX IN JACK

#### Removal and Installation

INFOID:000000009471535

#### REMOVAL

1. Remove the center console assembly. Refer to [IP-14. "Removal and Installation"](#).
2. Remove the auxiliary input jacks screws (A) and auxiliary input jacks (1).



#### INSTALLATION

Installation is in the reverse order of removal.

# FRONT TWEETER

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

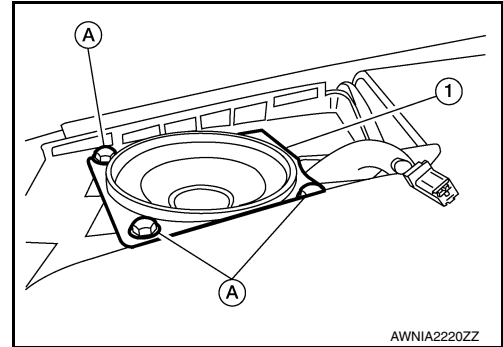
## FRONT TWEETER

### Removal and Installation

INFOID:000000009471536

#### REMOVAL

1. Remove the front pillar finisher. Refer to [INT-24, "Removal and Installation"](#).
2. Remove the front tweeter speaker grille. Refer to [IP-10, "Exploded View"](#).
3. Remove the front tweeter speaker screws (A).
4. Pull out front tweeter speaker (1), disconnect the harness connector from the front tweeter speaker and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

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## CENTER SPEAKER

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

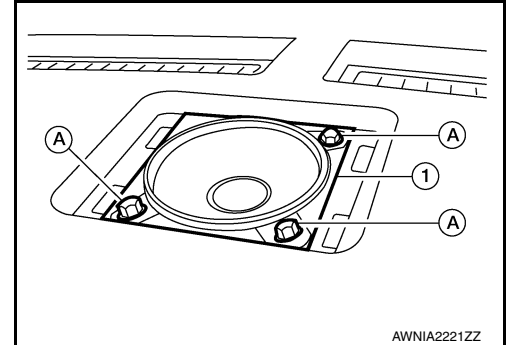
### CENTER SPEAKER

#### Removal and Installation

INFOID:000000009471537

#### REMOVAL

1. Remove the center speaker grille, using a suitable tool.
2. Remove the center speaker screws (A).
3. Pull out the center speaker (1), disconnect the harness connector from the center speaker and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

# FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

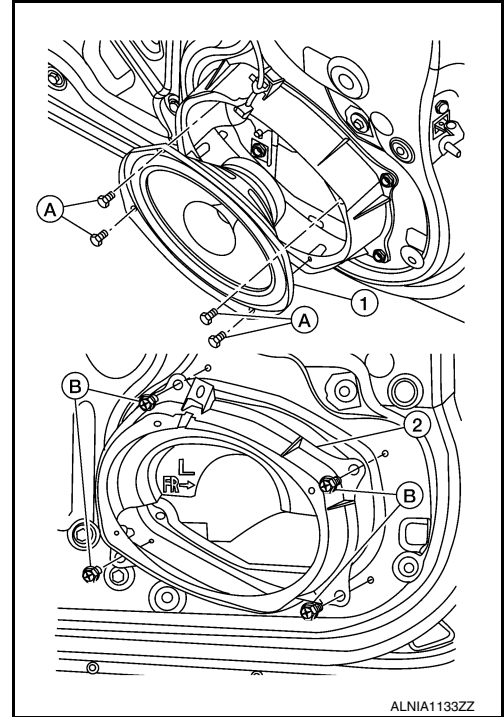
## FRONT DOOR SPEAKER

### Removal and Installation

INFOID:000000009471538

#### REMOVAL

1. Remove the front door finisher. Refer to [INT-18, "Removal and Installation"](#).
2. Remove the front door speaker screws (A).
3. Disconnect the harness connector from the front door speaker (1) and remove.
4. Remove the front door speaker spacer screws (B) and remove the front door speaker spacer (2).



#### INSTALLATION

Installation is in the reverse order of removal.

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## REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

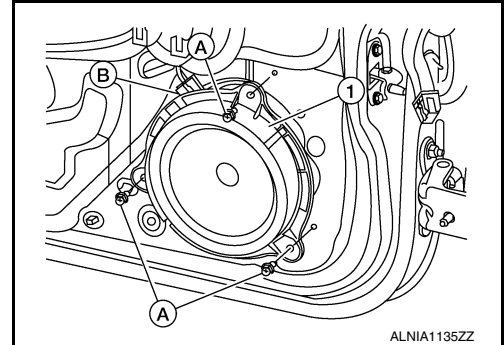
### REAR DOOR SPEAKER

#### Removal and Installation

INFOID:000000009471539

#### REMOVAL

1. Remove the rear door finisher. Refer to [INT-21. "Removal and Installation"](#).
2. Remove the rear door speaker screws (A).
3. Disconnect the harness connector (B) from the rear door speaker (1) and remove.



#### INSTALLATION

Installation is in the reverse order of removal.

# SUBWOOFER

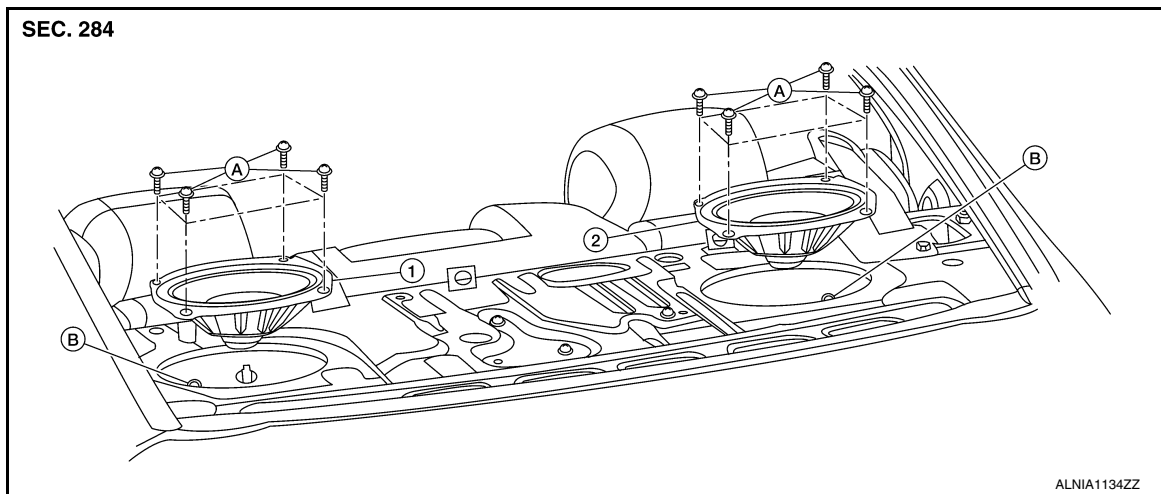
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

## SUBWOOFER

### Removal and Installation

INFOID:000000009471540



- 1. Subwoofer (LH)
- 2. Subwoofer (RH)
- A. Subwoofer screws
- B. Subwoofer connectors

### REMOVAL

1. Remove the rear parcel shelf finisher. Refer to [INT-28. "Removal and Installation"](#).
2. Remove the subwoofer screws.
3. Pull out the subwoofer, disconnect the harness connector from the subwoofer and remove.

### INSTALLATION

Installation is in the reverse order of removal.

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# BOSE SPEAKER AMP

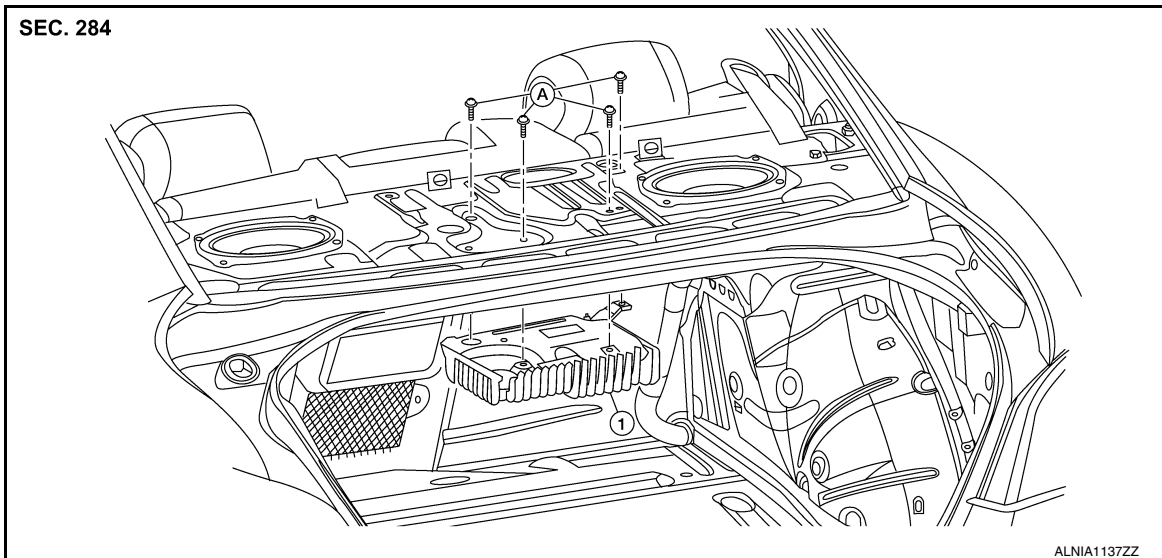
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

## BOSE SPEAKER AMP

### Removal and Installation

INFOID:00000009471541



1. Bose speaker amp.

A. Screws

### REMOVAL

#### NOTE:

If removing the BOSE speaker amp. bracket, it is necessary to remove the parcel shelf finisher. The BOSE speaker amp. can be removed without removing the BOSE speaker amp. bracket.

1. Disconnect the battery negative terminal. Refer to [PG-67, "Removal and Installation \(Battery\)"](#).
2. Remove the trunk upper finisher. Refer to [INT-36, "Exploded View"](#).
3. Remove the Bose speaker amp. screws.
4. Disconnect the harness connector from the BOSE speaker amp. and remove.

### INSTALLATION

Installation is in the reverse order of removal.



# SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

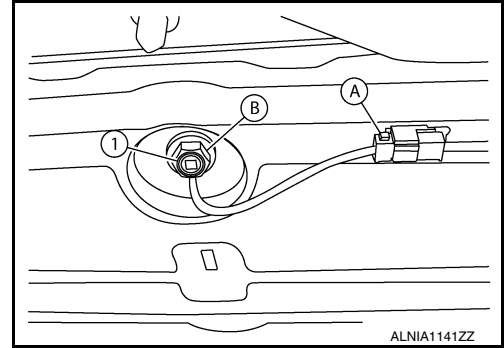
## SATELLITE RADIO ANTENNA

### Removal and Installation

INFOID:000000009471542

#### REMOVAL

1. Lower the headlining at the rear. Refer to [INT-33, "Exploded View"](#).
2. Disconnect the harness connector (A) from satellite radio antenna.
3. Remove the satellite radio antenna nut (B) and the satellite radio antenna (1).



#### INSTALLATION

Installation is in the reverse order of removal.

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# GPS ANTENNA

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

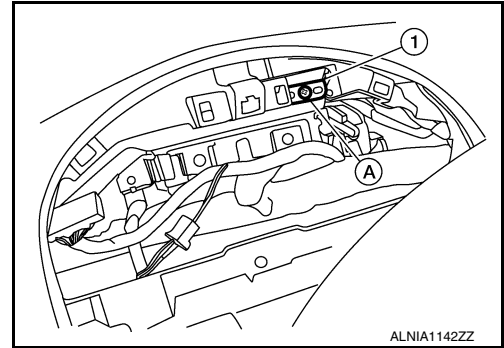
## GPS ANTENNA

### Removal and Installation

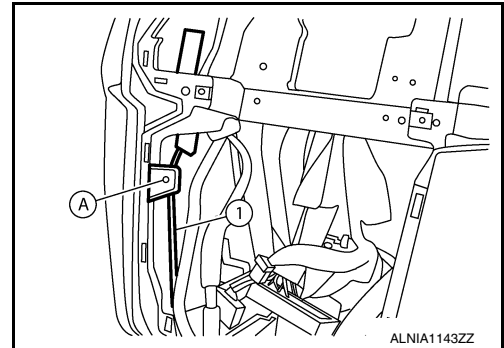
INFOID:000000009471543

#### REMOVAL

1. Remove cluster lid A. Refer to [IP-10, "Exploded View"](#).
2. Remove the audio unit. Refer to [AV-652, "Removal and Installation"](#).
3. Remove the GPS antenna screw (A).
  - GPS antenna (1)



4. Detach the GPS antenna cable clip (A), then fish the GPS antenna connector and harness (1), through the cluster lid A instrument panel opening and remove the GPS antenna.



#### INSTALLATION

Installation is in the reverse order of removal.

# STEERING SWITCH

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

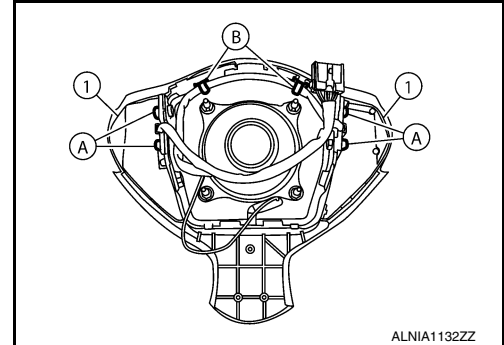
## STEERING SWITCH

### Removal and Installation

INFOID:000000009471544

#### REMOVAL

1. Remove the driver airbag module. Refer to [SR-12. "Removal and Installation"](#).
2. Remove the steering wheel audio control switch screws (A).
3. Release the steering wheel audio control switch harness clips (B).
4. Remove the steering wheel audio control switches (1).



#### INSTALLATION

Installation is in the reverse order of removal.

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# AUDIO ANTENNA

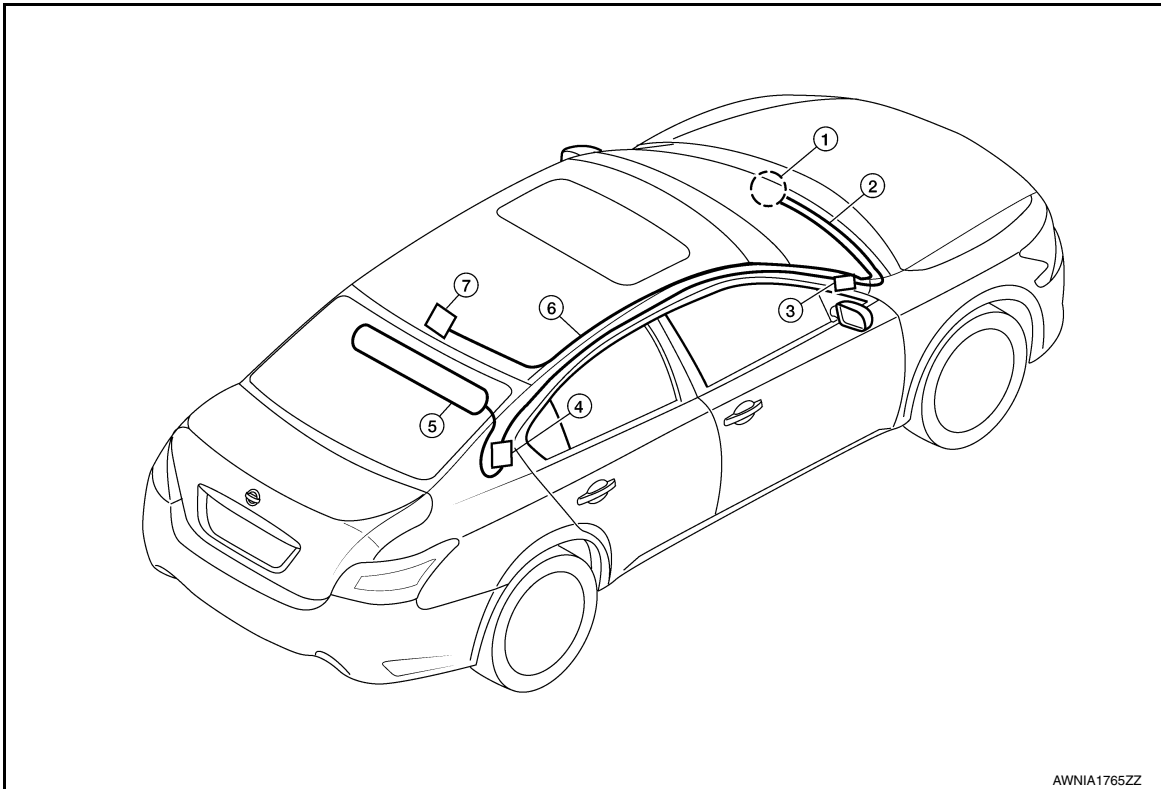
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

## AUDIO ANTENNA

### Location of Antenna

INFOID:000000009471545



AWNIA1765ZZ

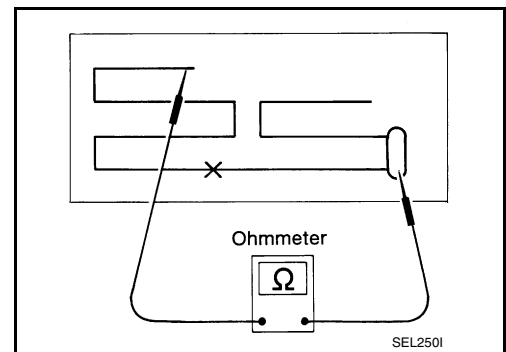
- |                            |                                   |                                   |
|----------------------------|-----------------------------------|-----------------------------------|
| 1. AV control unit         | 2. AV control unit antenna feeder | 3. In-line connectors M103, M501  |
| 4. Antenna amp.            | 5. Window antenna                 | 6. Satellite radio antenna feeder |
| 7. Satellite radio antenna |                                   |                                   |

### Window Antenna Repair

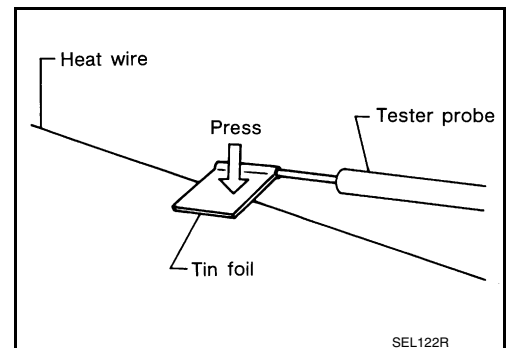
INFOID:000000009471546

#### ELEMENT CHECK

1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



- When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.

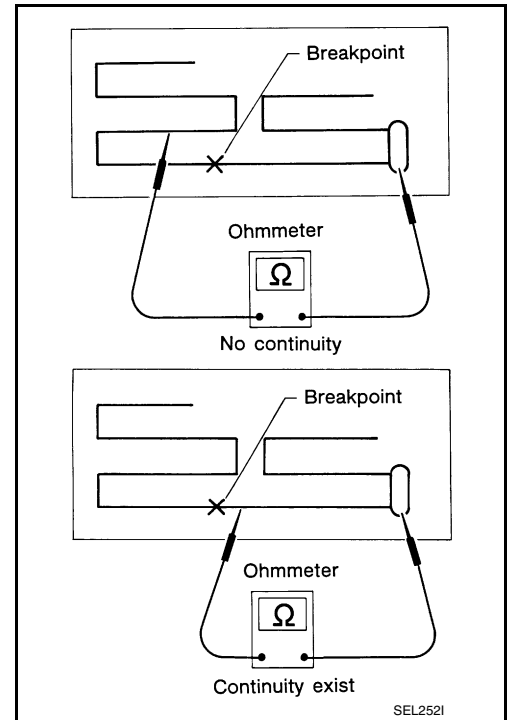


# AUDIO ANTENNA

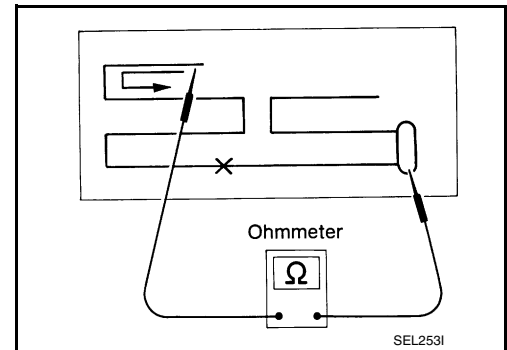
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

- If an element is broken, no continuity will exist.



- To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.

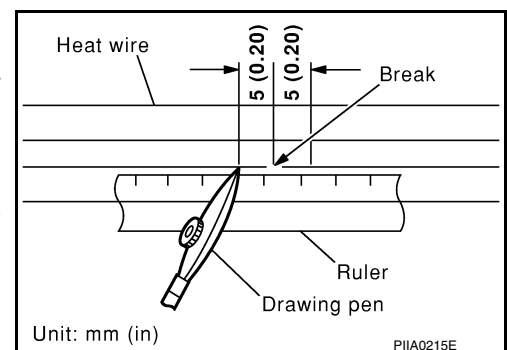


## REPAIR EQUIPMENT

- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

## REPAIRING PROCEDURE

- Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
- Apply a small amount of conductive silver composition to tip of drawing pen.  
**NOTE:**  
Shake silver composition container before use.
- Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.

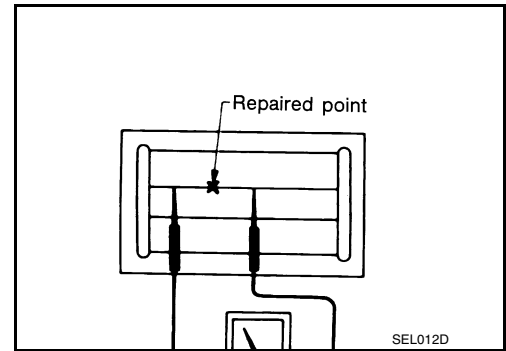


## AUDIO ANTENNA

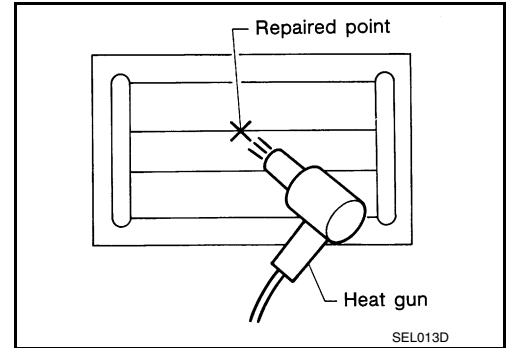
< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.  
Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet.  
If a heat gun is not available, let the repaired area dry for 24 hours.



## ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

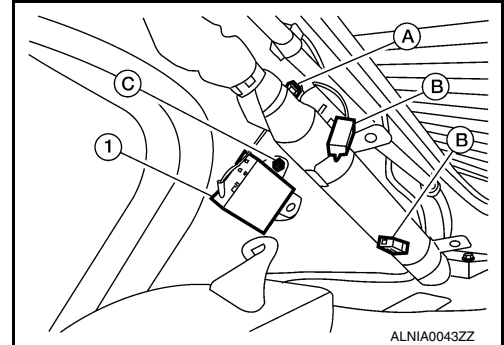
### ANTENNA AMP.

#### Removal and Installation

INFOID:000000009471547

#### REMOVAL

1. Remove the rear pillar finisher RH. Refer to [INT-23, "Exploded View"](#).
2. Detach the antenna amp. harness clip (A).
3. Disconnect the harness connectors (B) from the antenna amp. (1).
4. Remove the antenna amp. screw (C) and the antenna amp. (1).



#### INSTALLATION

Installation is in the reverse order of removal.

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# MICROPHONE

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

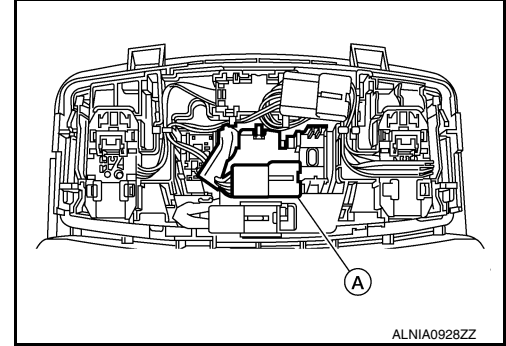
## MICROPHONE

### Removal and Installation

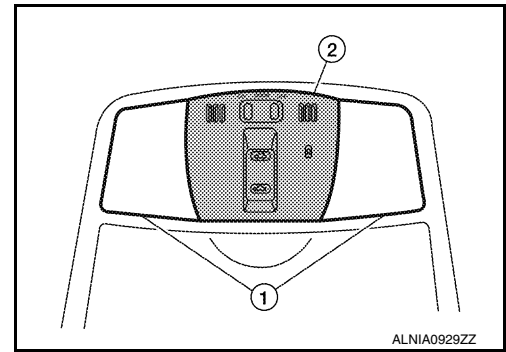
INFOID:000000009471548

#### REMOVAL

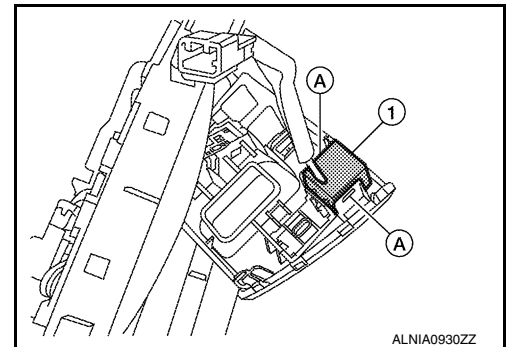
1. Remove the front room/map lamp assembly. Refer to [INL-84. "Removal and Installation"](#).
2. Detach the microphone connector (A).



3. Remove the front room/map lamp covers (1), then remove the map lamp assembly cover (2).



4. Release the microphone tabs (A), then remove the microphone (1).



#### INSTALLATION

Installation is in the reverse order of removal.



# REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

[COLOR DISPLAY - W/BOSE & NAVI]

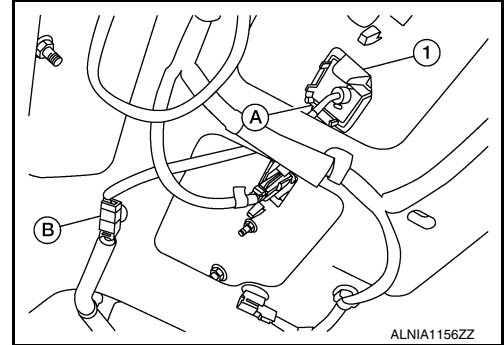
## REAR VIEW CAMERA

### Removal and Installation

INFOID:000000009471549

#### REMOVAL

1. Remove the license plate finisher. Refer to [EXL-166, "Removal and Installation"](#).
2. Remove trunk lid finisher. Refer to [INT-36, "Exploded View"](#).
3. Disconnect the rear view camera connector (B), press the rear view camera tab (A) and remove the rear view camera (1).



#### INSTALLATION

Installation is in the reverse order of removal.

#### Adjustment

INFOID:000000009471550

#### REAR VIEW CAMERA

For adjustment on the rear view camera, refer to [DLK-12, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

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