

# SECTION **AV**

## AUDIO, VISUAL & NAVIGATION SYSTEM

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## PRECAUTION

### PRECAUTIONS

#### Precaution for Technicians Using Medical Electric

INFOID:000000009344854

##### OPERATION PROHIBITION

**WARNING:**

- Parts with strong magnet is used in this vehicle.
- Technicians using a medical electric device such as pacemaker must never perform operation on the vehicle, as magnetic field can affect the device function by approaching to such parts.

##### NORMAL CHARGE PRECAUTION

**WARNING:**

- If a technician uses a medical electric device such as an implantable cardiac pacemaker or an implantable cardioverter defibrillator, the possible effects on the devices must be checked with the device manufacturer before starting the charge operation.
- As radiated electromagnetic wave generated by PDM (Power Delivery Module) at normal charge operation may affect medical electric devices, a technician using a medical electric device such as implantable cardiac pacemaker or an implantable cardioverter defibrillator must not approach motor room [PDM (Power Delivery Module)] at the hood-opened condition during normal charge operation.

##### PRECAUTION AT TELEMATICS SYSTEM OPERATION

**WARNING:**

- If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.
- The electromagnetic wave of TCU might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), when using the service, etc.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of TCU might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before TCU use.

##### PRECAUTION AT INTELLIGENT KEY SYSTEM OPERATION

**WARNING:**

- If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.
- The electromagnetic wave of Intelligent Key might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), at door operation, at each request switch operation, or at engine starting.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of Intelligent Key might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before Intelligent Key use.

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

INFOID:000000009344848

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:**

## PRECAUTIONS

< PRECAUTION >

[DISPLAY AUDIO]

- 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:000000009344847

#### AV COMMUNICATION SYSTEM

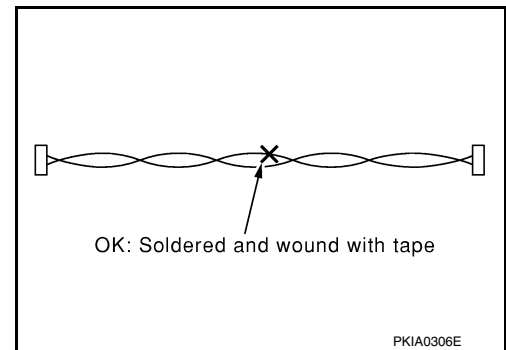
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn power switch OFF and disconnect the battery cable from the negative terminal before checking the circuit. Refer to [AV-10, "Precaution for Removing 12V Battery"](#).

### Precaution for Harness Repair

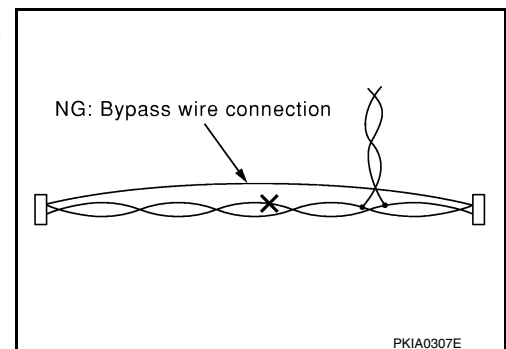
INFOID:000000009344846

#### AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



- 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 Removing 12V Battery

INFOID:000000009344845

1. Check that EVSE is not connected.

#### **NOTE:**

If EVSE is connected, the air conditioning system may be automatically activated by the timer A/C function.

## PRECAUTIONS

< PRECAUTION >

[DISPLAY AUDIO]

2. Turn the power switch OFF → ON → OFF. Get out of the vehicle. Close all doors (including back door).
3. Check that the charge status indicator lamp does not blink and wait for 5 minutes or more.

**NOTE:**

If the battery is removed within 5 minutes after the power switch is turned OFF, plural DTCs may be detected.

4. Remove 12V battery within 1 hour after turning the power switch OFF → ON → OFF.

**NOTE:**

- The 12V battery automatic charge control may start automatically even when the power switch is in OFF state.
- Once the power switch is turned ON → OFF, the 12V battery automatic charge control does not start for approximately 1 hour.

**CAUTION:**

- **After all doors (including back door) are closed, if a door (including back door) is opened before battery terminals are disconnected, start over from Step 1.**
- **After turning the power switch OFF, if “Remote A/C” is activated by user operation, stop the air conditioner and start over from Step 1.**

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## PREPARATION

### PREPARATION

#### Commercial Service Tool

INFOID:000000009344855

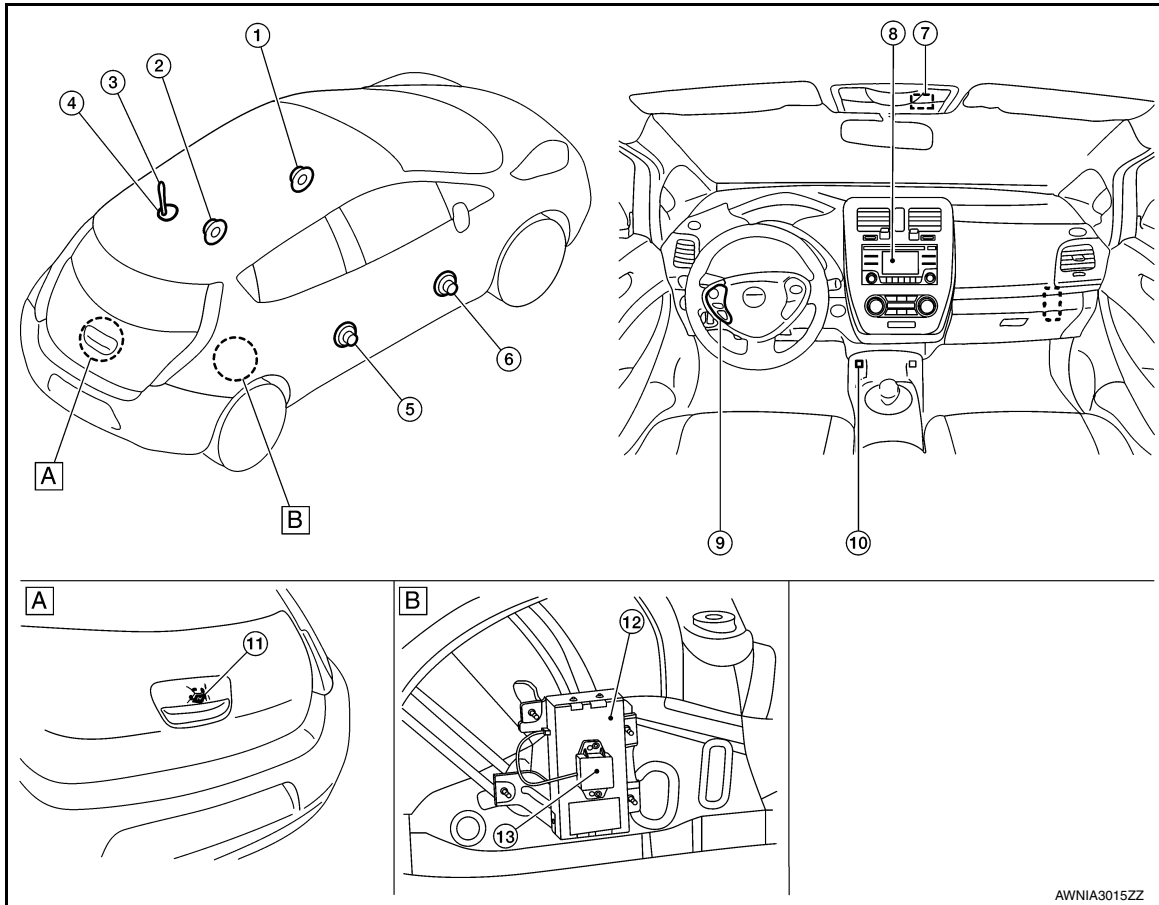
| Tool name  | Description                      |
|--|----------------------------------|
| Power tool   | Loosening nuts, screws and bolts |
|  <p>P11B1407E</p> |                                  |

## SYSTEM DESCRIPTION

### COMPONENT PARTS

#### Component Parts Location

INFOID:000000009343653



A. Center of back door

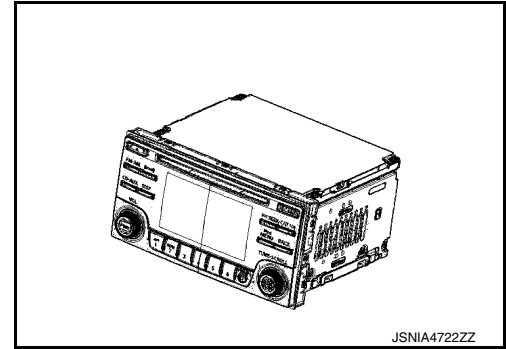
B. Luggage side lower finisher (RH) removed

| No. | Component   | Function   |
|-----|---|--|
| 1.  | Front door speaker LH                                   | Refer to <a href="#">AV-14. "Speaker"</a> .                |
| 2.  | Rear door speaker LH                                    |  |
| 3.  | Rod antenna   | Refer to <a href="#">AV-16. "Antenna"</a> .                |
| 4.  | Antenna base (antenna amp. and satellite radio antenna) |  |
| 5.  | Rear door speaker RH                                    | Refer to <a href="#">AV-14. "Speaker"</a> .                |
| 6.  | Front door speaker RH                                   |  |
| 7.  | Microphone  | Refer to <a href="#">AV-15. "Microphone"</a> .             |
| 8.  | Audio unit  | Refer to <a href="#">AV-14. "Audio Unit"</a> .             |
| 9.  | Steering switch   | Refer to <a href="#">AV-15. "Steering Switch"</a> .        |
| 10. | USB connector   | Refer to <a href="#">AV-15. "USB Connector"</a> .          |
| 11. | Rear view camera  | Refer to <a href="#">AV-16. "Rear View Camera"</a> .       |
| 12. | Bluetooth® Control Unit                                 | Refer to <a href="#">AV-14. "Bluetooth Control Unit"</a> . |
| 13. | Bluetooth® antenna                                      | Refer to <a href="#">AV-15. "Bluetooth Antenna"</a> .      |

## Audio Unit

INFOID:000000009346908

- AM/FM electronic tuner radio, satellite radio tuner, CD drive, auxiliary input jack, and camera controller are integrated into the audio unit.
- The display can show audio status and rear view monitor images.
- Music files stored in iPod®/USB memory can be played by using the separate USB connector.
- Audio played back by external audio equipment is output from the vehicle speakers via the auxiliary input jack.

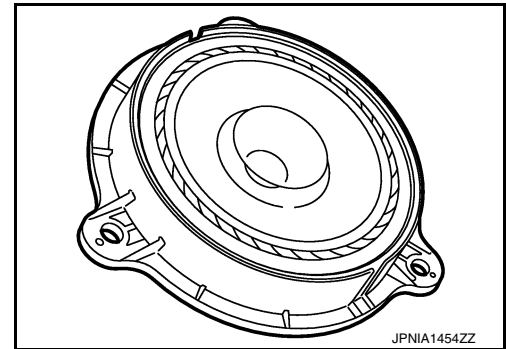


## Speaker

INFOID:000000009346909

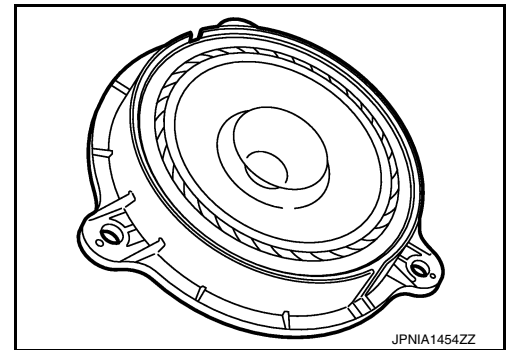
### FRONT DOOR SPEAKER

- 16.5 cm (6.5 in.) speakers are installed in the bottom of the front doors.
- Sound signals are input from the audio unit to output high, mid and low range sounds.



### REAR DOOR SPEAKER

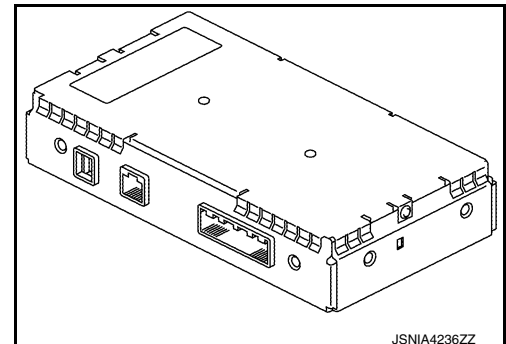
- 16.5 cm (6.5 in.) speakers are installed in the bottom of the rear doors.
- Sound signals are input from the audio unit to output high, mid and low range sounds.



## Bluetooth Control Unit

INFOID:000000009346910

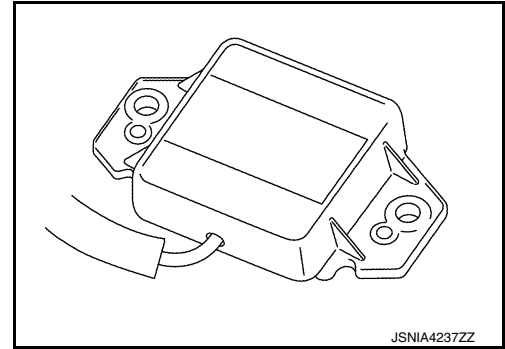
- Inputs the Bluetooth® voice signal from Bluetooth® antenna and outputs it to the audio unit
- Connected to the audio unit via AV communication and controlled by the audio unit.



## Bluetooth Antenna

INFOID:000000009346911

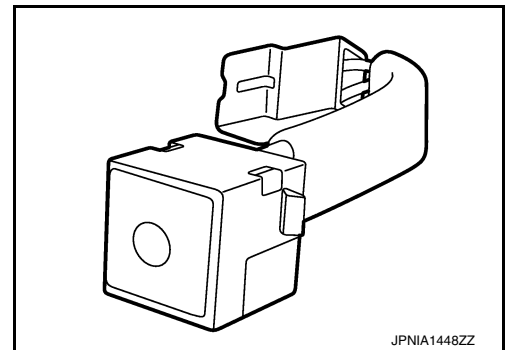
Receives the Bluetooth® voice signal from cellular phone and outputs it to the Bluetooth® control unit.



## Microphone

INFOID:000000009346912

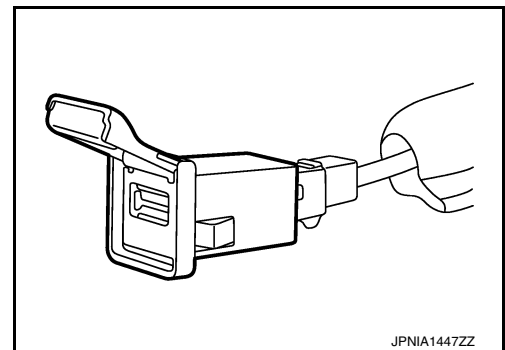
- The microphone is installed on the left side of the map lamp assembly.
- Power is supplied to the microphone from the Bluetooth® control unit. Sound signals are transmitted to the Bluetooth® control unit during hands-free phone communication.



## USB Connector

INFOID:000000009346913

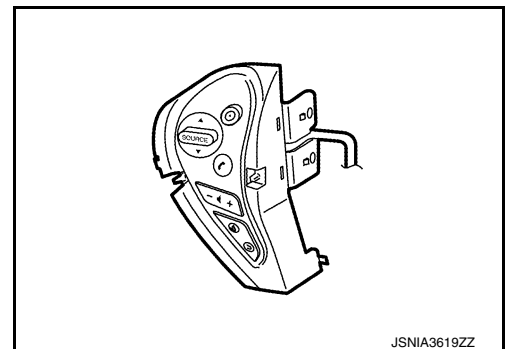
- The USB connector is installed in the console.
- An iPod® or USB memory stick can be connected to the audio unit.



## Steering Switch

INFOID:000000009346914

- Operations for audio and hands-free phone are possible.
- The steering switch is connected to the Bluetooth® control unit. Operation signals are transmitted to the audio unit via the Bluetooth® control unit.



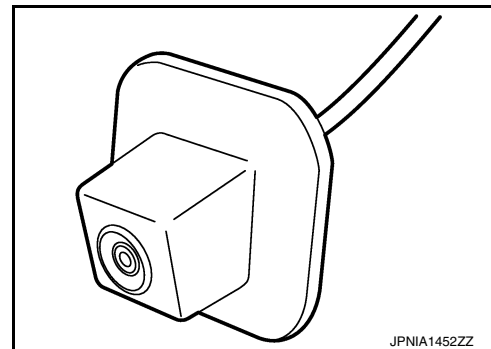
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AV

## Rear View Camera

INFOID:000000009346917

- The rear view camera is installed in the back door finisher.
- Power for the camera is supplied from the audio unit, and the image signal at the rear of the vehicle is sent back to the audio unit.



## Antenna

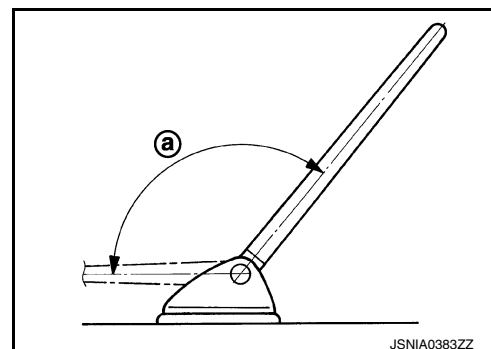
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### RADIO ANTENNA

#### Antenna Rod

A foldable rod antenna is installed in the rear center of the roof.

a : 140°



#### Antenna Base

- An antenna amp. is built into the antenna base.
- Power for the antenna amp. is supplied from the audio unit.
- The radio signals received by the antenna rod are input to the antenna amp. and sent to the audio unit.
- A satellite radio antenna is built into the antenna base.
- Satellite radio signals received by the antenna are sent to the audio unit.



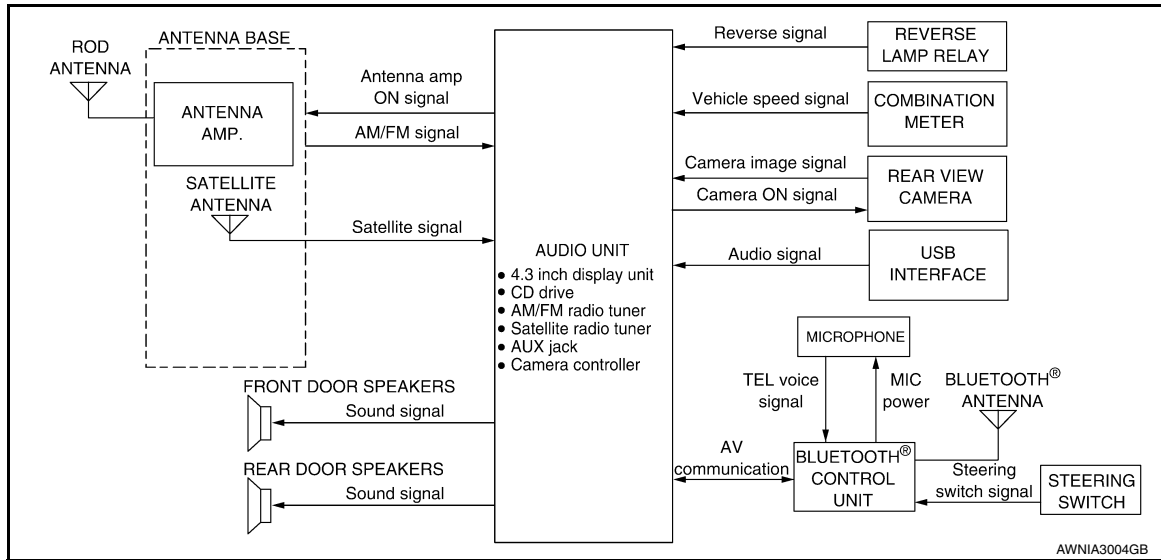
## SYSTEM

## AUDIO UNIT

## AUDIO UNIT : System Description

INFOID:000000009347489

## SYSTEM DIAGRAM



## AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Front door speakers
- Rear door speakers
- Steering switch
- USB interface
- Antenna base (antenna amp. and satellite antenna)
- Rod antenna

When the audio system is on, AM/FM signals received by the rod antenna are amplified by the antenna amp. and sent to the audio unit. The audio unit then sends audio signals to the front door speakers and rear door speakers.

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

## HANDS-FREE PHONE SYSTEM

## System Operation

**NOTE:**

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

The 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.

Refer to the Owner's Manual for Bluetooth® telephone system operating instructions.

## Bluetooth® Control Unit

When the power 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 Switches

When buttons on the steering switches 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 switches:

- 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.

### 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.

### REAR VIEW MONITOR FUNCTION

#### Operation Description

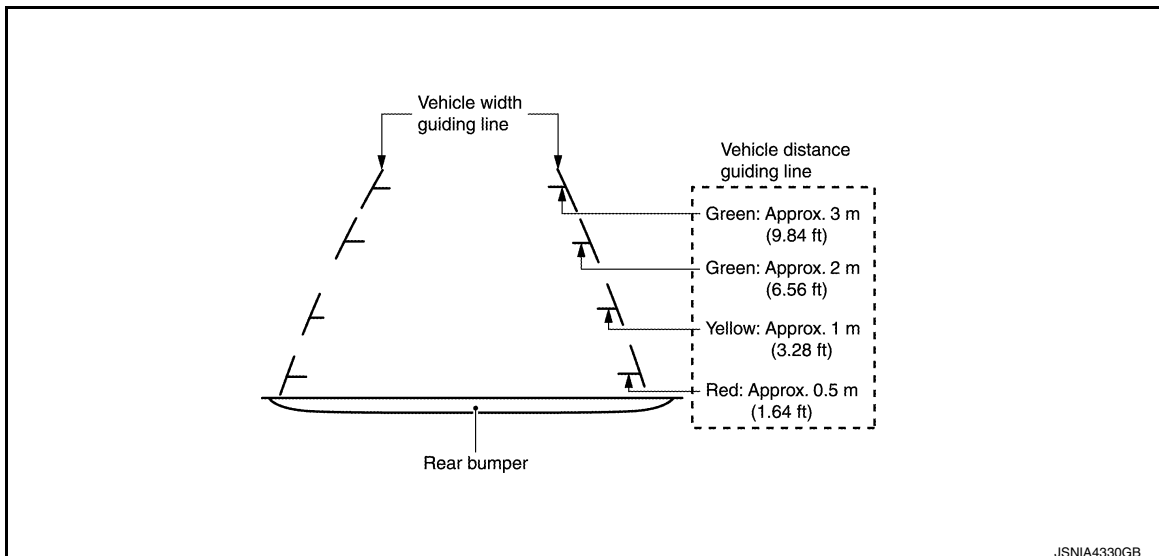
- When the selector lever is shifted to the reverse position, the rear view monitor image is displayed.
- When the selector lever is shifted to any position other than the reverse position, the original image (the image displayed before the rear view monitor image) is displayed.

#### Camera Image Operation Principle

- The audio unit supplies power to the rear view camera when receiving a reverse signal.
- The rear view camera transmits camera images to the audio unit when power is supplied from the audio unit.
- The audio unit combines a warning message and fixed guide lines with an image received from the rear view camera to display a rear view camera image on the screen.

#### Vehicle Width and Distance Guide Lines Display Function at Rear View Monitor Display

- The vehicle width and distance guide lines are displayed at the rear view monitor display to allow the driver to more easily judge distances between the vehicle and objects and help the driver back into a parking space.



#### Side Distance Guide Lines and Possible Route Lines Display Function at Rear View Monitor Display

#### Precautions for Side Distance Guide Lines and predictive course line Display on the Rear View Monitor Display

Side distance guide lines and predictive course line on the display may be different from actual lines depending on vehicle conditions and road conditions.

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AV

# DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO]

## DIAGNOSIS SYSTEM (AUDIO UNIT)

### Description

INFOID:000000009343657

The audio unit on board diagnosis performs the functions listed in the table below:

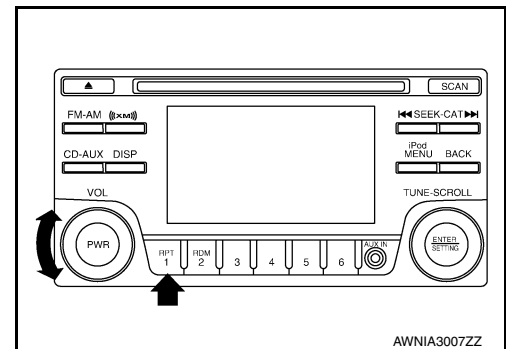
| Mode                        |                            | Description  |
|-----------------------------|----------------------------|--|
| Self Diagnosis              |                            | <ul style="list-style-type: none"><li>• Audio unit diagnosis.</li><li>• Diagnoses the connections across system components.</li></ul>  |
| Confirmation/<br>Adjustment | Display Diagnosis          | The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.   |
|                             | Vehicle Signals            | Diagnosis of signals can be performed for vehicle speed, lights, reverse, EQ pin, destination and camera type.   |
|                             | Speaker Test               | The connection of a speaker can be confirmed by test tone.   |
|                             | 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. |
|                             | Camera System              | Displayed but not used.  |
|                             | AV COMM Diagnosis          | The communication condition of each unit of display audio system can be monitored.   |
|                             | Delete Unit Connection Log | Erase the connection history of unit and error history.  |
|                             | Initialize Setting         | Initializes the audio unit memory.   |

### On Board Diagnosis Function

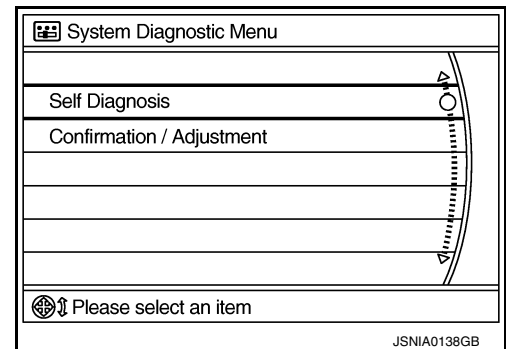
INFOID:000000009343658

#### METHOD OF STARTING

1. Turn the power ON.
2. Turn the audio system OFF.
3. While pressing the preset 1 button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. Shifting from current screen to previous screen is performed by pressing BACK button.



4. The trouble diagnosis initial screen is displayed, and Self Diagnosis or Confirmation/Adjustment can be selected.



#### SELF DIAGNOSIS MODE

Audio Unit Self Diagnosis

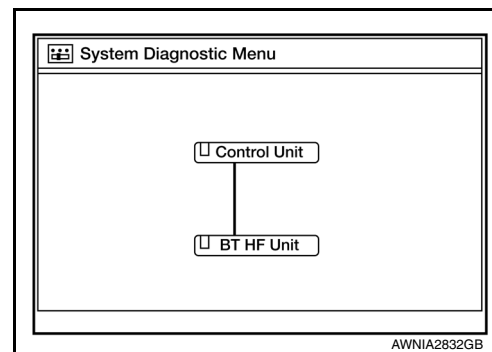
1. Select Self Diagnosis.

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- Self diagnosis screen is displayed. The bar graph visible in center of screen indicates progress of self 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>1</sup> | Red   | Green           |

1: Control unit (audio unit) is displayed in red.

- Replace audio unit if Self Diagnosis did not run because control unit malfunction is indicated. The symptom is audio unit internal error. Refer to [AV-80, "Removal and Installation"](#).
- 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.

## Audio Unit Self Diagnosis Results

| Only Unit Part Is Displayed In Red |   |  |
|------------------------------------|---|--|
| Screen switch                      | Description   | Possible cause   |
| Control unit                       | Malfunction is detected in audio unit power supply and ground circuits. | <ul style="list-style-type: none"> <li>Audio unit power supply or ground circuits. Refer to <a href="#">AV-60, "AUDIO UNIT : Diagnosis Procedure"</a>.</li> <li>If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to <a href="#">AV-80, "Removal and Installation"</a>.</li> </ul> |

| A Connecting Cable Between Units Is Displayed In Yellow |   |  |
|---|---|--|
| Area with yellow connection lines                       | Description   | Possible cause   |
| Control unit ↔ BT HF Unit                               | When one of the following is detected: <ul style="list-style-type: none"> <li>malfunction is detected in Bluetooth® control unit power supply and ground circuits.</li> <li>malfunction is detected in AV communication circuits between audio unit and Bluetooth® control unit.</li> </ul> | <ul style="list-style-type: none"> <li>Bluetooth® control unit power supply or ground circuits. Refer to <a href="#">AV-60, "BLUETOOTH® CONTROL UNIT : Diagnosis Procedure"</a>.</li> <li>AV communication circuits between audio unit and Bluetooth® control unit.</li> </ul> |

## Audio Unit Confirmation/Adjustment

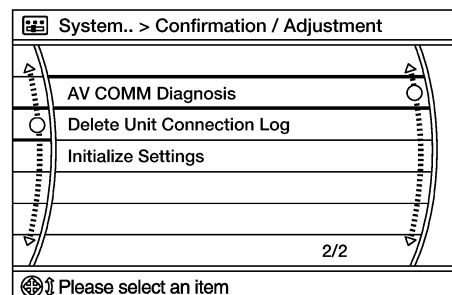
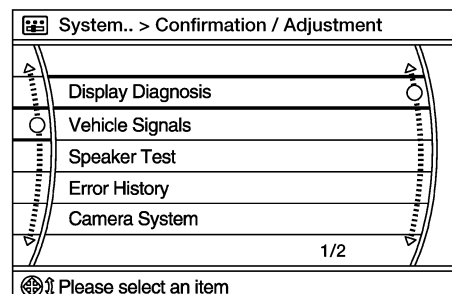
- Select Confirmation/Adjustment.

## DIAGNOSIS SYSTEM (AUDIO UNIT)

[DISPLAY AUDIO]

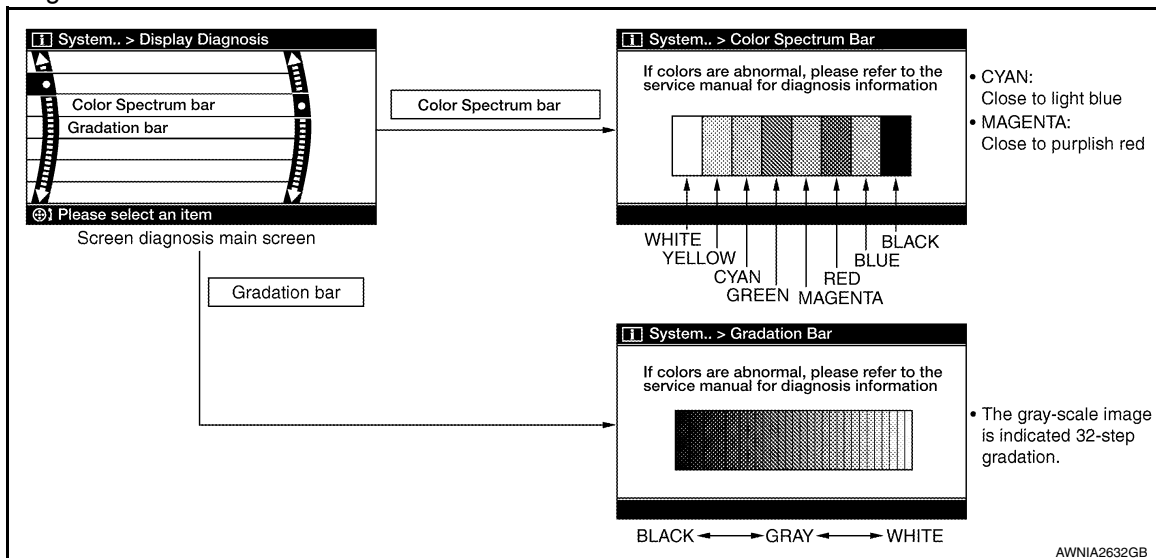
## < SYSTEM DESCRIPTION >

2. Select each switch on the Confirmation/Adjustment screen to display the relevant trouble diagnosis screen. Press the BACK switch to return to the initial Confirmation/Adjustment screen.



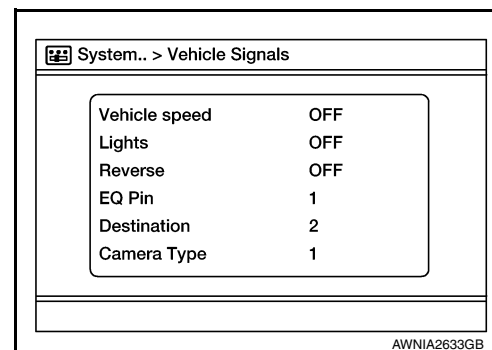
AWNIA2631GB

## Display Diagnosis



## Vehicle Signals

A comparison check can be made of each actual vehicle signal and the signals recognized by the system.



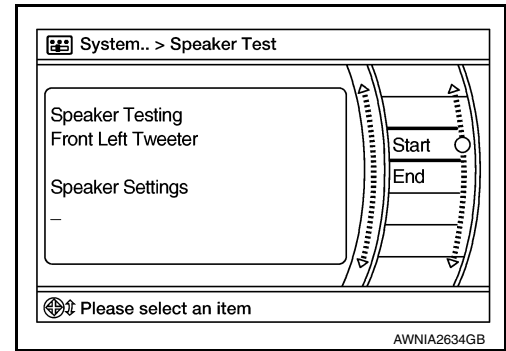
## Speaker Test

# DIAGNOSIS SYSTEM (AUDIO UNIT)

## < SYSTEM DESCRIPTION >

[DISPLAY AUDIO]

Select Speaker Test to display the Speaker Diagnosis screen. Press Start to generate a test tone in a speaker. Press Start again to generate a test tone in the next speaker. Press End to stop the test tones.



### 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 power 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 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 is set to 40 if an error occurs. 1 is subtracted from the counter if the condition is normal at a next power ON cycle.
- The counter lower limit is 1. The counter can be reset (no error record display) with the Delete log switch.

#### Count up method B

- The counter increases by 1 if an error occurs when power switch is ON. The counter will not decrease even if the condition is normal at the next power 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.

| Display type of occurrence frequency | Error history display item               |
|--------------------------------------|--|
| Count up method A                    | 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 cause   |
|-------------------|---|--|
| CONTROL UNIT (AV) | AV communication circuit initial diagnosis malfunction is detected.   | Replace the audio unit if the malfunction occurs constantly.<br>Refer to <a href="#">AV-80, "Removal and Installation"</a>   |
| AV COMM CIRCUIT   | When one of the following is detected: <ul style="list-style-type: none"> <li>• malfunction is detected in Bluetooth® control unit power supply and ground circuits.</li> <li>• malfunction is detected in AV communication circuits between audio unit and Bluetooth® control unit.</li> </ul> | <ul style="list-style-type: none"> <li>• Bluetooth® control unit power supply or ground circuits.<br/>Refer to <a href="#">AV-60, "BLUETOOTH® CONTROL UNIT : Diagnosis Procedure"</a>.</li> <li>• AV communication circuits between audio unit and Bluetooth® control unit.</li> </ul> |

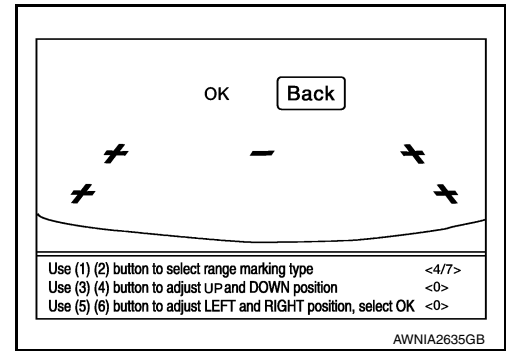
### Camera System

# DIAGNOSIS SYSTEM (AUDIO UNIT)

## < SYSTEM DESCRIPTION >

[DISPLAY AUDIO]

This mode is used to adjust the guide line display position of the rear view camera.



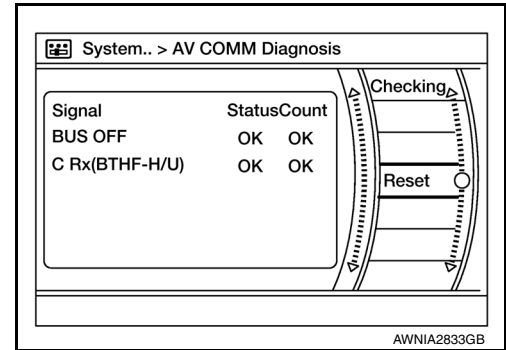
## AV COMM Diagnosis

- Displays the communication status between audio unit (master unit) and Bluetooth® control 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 power 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) |
|----------------|------------------|----------------|
| BUS OFF        | OK / ???         | OK / 0 – 39    |
| C Rx(BTHF-H/U) | OK / ???         | OK / 0 – 39    |

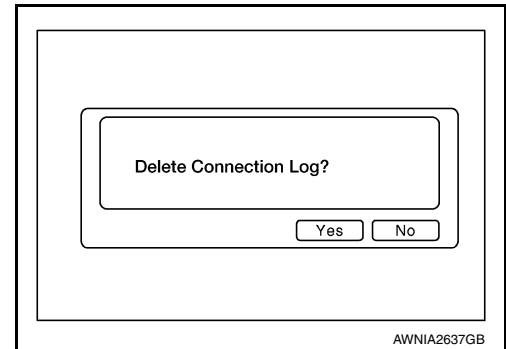
### NOTE:

“???” indicates UNKWN.



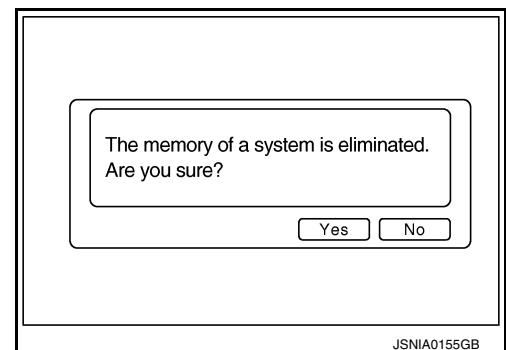
## Delete Unit Connection Log

Deletes any unit connection records and error records from the audio unit memory (clears the records of the unit that has been removed).



## Initialize Settings

Deletes data stored from the audio unit.





# DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO]

## DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

### Diagnosis Description

INFOID:000000009343659

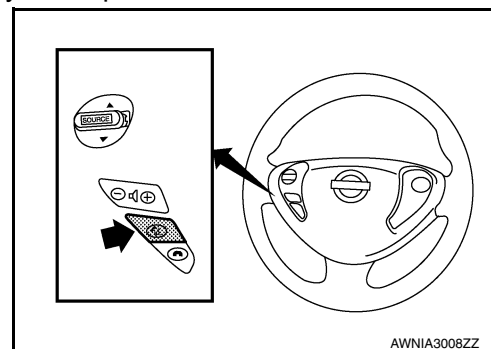
The Bluetooth® control unit has two diagnostic checks. The first diagnostic check is performed automatically every power cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

### Bluetooth® CONTROL UNIT INITIALIZATION CHECKS

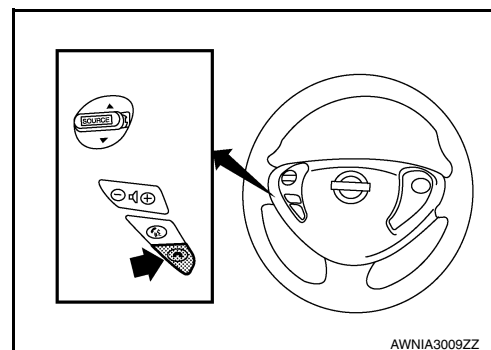
- Internal control unit failure
- Bluetooth® antenna connection open or shorted
- Steering wheel audio control switches [☞ (PHONE/SEND), ☜ (PHONE/END)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth® inquiry check

### OPERATION PROCEDURE

1. Turn power 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-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"](#).



### Work Flow

INFOID:000000009343660

| Failure Message                                | Action  |
|--|---|
| "Internal failure"                             | Replace Bluetooth® control unit. Refer to <a href="#">AV-84, "Removal and Installation"</a> .   |
| "Bluetooth® antenna open"                      | 1. Inspect harness connection.<br>2. Replace Bluetooth® antenna. Refer to <a href="#">AV-84, "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-72, "Diagnosis Procedure"</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-83, "Removal and Installation"</a> . |

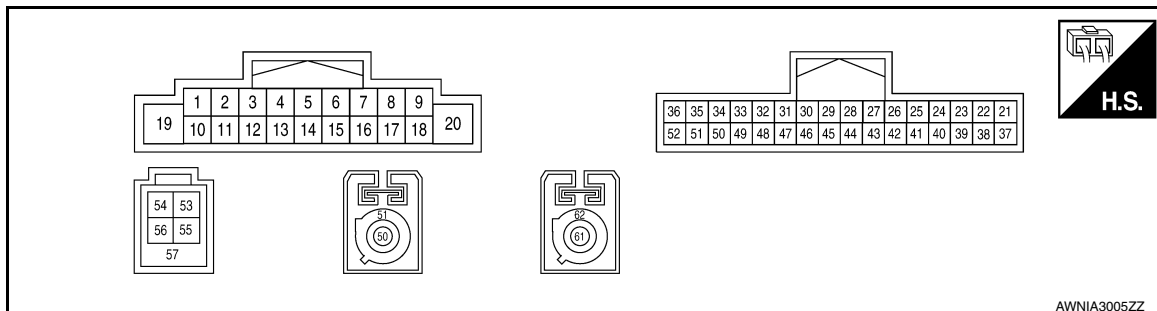
## ECU DIAGNOSIS INFORMATION

### AUDIO UNIT

#### Reference Value

INFOID:000000009343661

#### TERMINAL LAYOUT



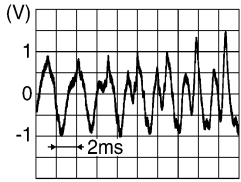
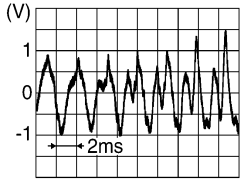
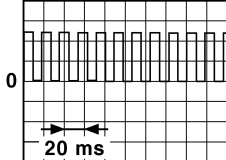
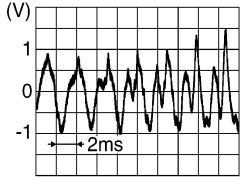
#### PHYSICAL VALUES

| Terminal<br>(Wire color) |            | Description                      |                  | Condition       |                                 | Reference value<br>(Approx.) |
|--------------------------|------------|----------------------------------|------------------|-----------------|---------------------------------|------------------------------|
| +                        | –          | Signal name                      | Input/<br>Output | Power<br>switch | Operation                       |                              |
| 2<br>(L)                 | 3<br>(P)   | Sound signal front speaker<br>LH | Output           | ON              | Sound output                    | <br>SKIB3609E                |
| 4<br>(V)                 | 5<br>(LG)  | Sound signal rear speaker<br>LH  | Output           | ON              | Sound output                    | <br>SKIB3609E                |
| 6<br>(BR)                | 15<br>(SB) | Steering switch signal A         | Input            | ON              | Press SOURCE switch             | 0V                           |
|                          |            |                                  |                  |                 | Press $\Delta$ switch           | 1.0V                         |
|                          |            |                                  |                  |                 | Press $\nabla$ switch           | 2.0V                         |
|                          |            |                                  |                  |                 | Press $\curvearrowright$ switch | 3.0V                         |
|                          |            |                                  |                  |                 | Except above                    | 5.0V                         |
| 7<br>(BR)                | Ground     | ACC power supply                 | Input            | ACC             | —                               | Battery voltage              |
| 9<br>(W)                 | 8<br>(B)   | Illumination control signal      | Input            | ON              | Headlamps ON                    | Battery voltage              |

# AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

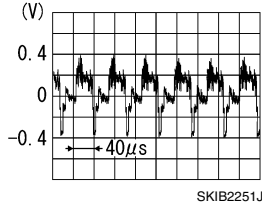
[DISPLAY AUDIO]

| Terminal<br>(Wire color) |            | Description                      |                  | Condition       |   | Reference value<br>(Approx.)   |                  |
|--------------------------|------------|----------------------------------|------------------|-----------------|---|--|------------------|
| +                        | -          | Signal name                      | Input/<br>Output | Power<br>switch | Operation                                       |  |                  |
| 11<br>(G)                | 12<br>(R)  | Sound signal front speaker<br>RH | Output           | ON              | Sound output                                    | <br>SKIB3609E     | A<br>B<br>C<br>D |
| 13<br>(LG)               | 14<br>(P)  | Sound signal rear speaker<br>RH  | Output           | ON              | Sound output                                    | <br>SKIB3609E     | E<br>F           |
| 16<br>(V)                | 15<br>(SB) | Steering switch signal B         | Input            | ON              | Press  switch                                   | 0V   | G                |
|                          |            |                                  |                  |                 | Press  switch                                   | 1.0V   | H                |
|                          |            |                                  |                  |                 | Press  switch                                   | 2.0V   |                  |
|                          |            |                                  |                  |                 | Except above                                    | 5.0V   |                  |
| 18<br>(GR)               | Ground     | Vehicle speed signal             | Input            | ON              | When vehicle speed is approx. 40 km/h (25 MPH)  | <br>JSNIA0012GB | I<br>J           |
| 19<br>(BR)               | Ground     | Battery power supply             | Input            | OFF             | —   | Battery voltage  | K                |
| 20<br>(B)                | Ground     | Ground                           | —                | ON              | —   | 0 V  | L                |
| 24<br>(R)                | 25<br>(G)  | TEL voice signal                 | Input            | ON              | During voice guide output with  switch pressed. | <br>SKIB3609E   | M<br>AV          |
| 26<br>(Shield)           | —          | TEL voice signal shield          | —                | —               | —   | —  | O                |
| 31<br>(r)                | —          | AV communication (H)             | Input/<br>Output | —               | —   | —  | P                |
| 32<br>(G)                | —          | AV communication (L)             | Input/<br>Output | —               | —   | —  |                  |
| 33<br>(B)                | Ground     | Camera ground                    | —                | ON              | —   | 0 V  |                  |
| 34<br>(W)                | Ground     | Camera power supply              | Output           | ON              | Selector lever in "R" position                  | 6.0 V  |                  |

# AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO]

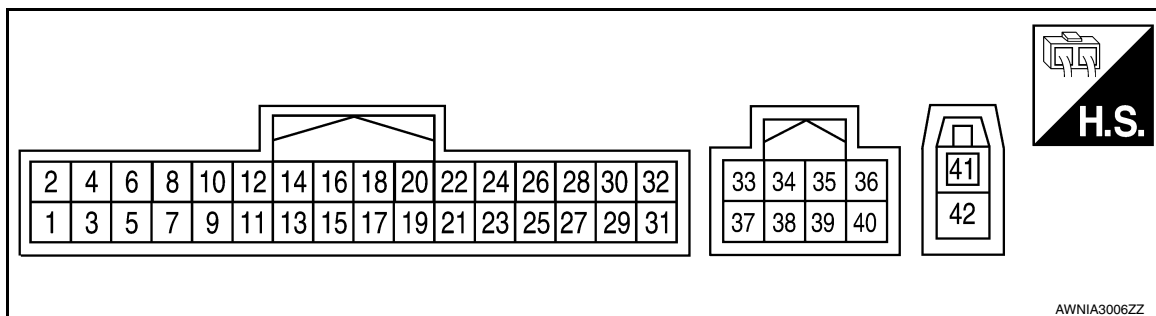
| Terminal<br>(Wire color) |        | Description                        |                  | Condition       |  | Reference value<br>(Approx.)  |
|--------------------------|--------|------------------------------------|------------------|-----------------|--|---|
| +                        | —      | Signal name                        | Input/<br>Output | Power<br>switch | Operation                                    |   |
| 35<br>(R)                | Ground | Camera image signal                | Input            | ON              | Camera image displayed                       |  |
| 36<br>(Shield)           | —      | Camera image signal<br>Shield      | —                | —               | —  | —   |
| 44<br>(B)                | Ground | Camera detection                   | —                | ON              | —  | 0 V   |
| 45<br>(B)                | Ground | EQ1 Ground                         | —                | ON              | —  | 0 V   |
| 48<br>(B)                | Ground | EQ4 Ground                         | —                | ON              | —  | 0 V   |
| 50<br>(G)                | Ground | Reverse signal                     | Input            | ON              | Selector lever in R position.                | Battery voltage   |
|                          |        |                                    |                  |                 | Selector lever in any position other than R. | 0 V   |
| 53<br>(W)                | —      | V BUS signal                       | —                | —               | —  | —   |
| 54<br>(G)                | —      | USB ground                         | —                | —               | —  | —   |
| 55<br>(L)                | —      | USB D+ signal                      | —                | —               | —  | —   |
| 56<br>(R)                | —      | USB D– signal                      | —                | —               | —  | —   |
| 57<br>(Shield)           | —      | USB signal shield                  | —                | —               | —  | —   |
| 58<br>(B)                | Ground | Antenna amp. ON signal             | Output           | ON              | —  | Battery voltage   |
| 59<br>(B)                | Ground | AM/FM antenna signal               | Input            | ON              | —  | 5.0 V   |
| 61<br>(B)                | Ground | Satellite antenna signal           | Input            | ON              | —  | 5.0 V   |
| 62<br>(Shield)           | —      | Satellite antenna signal<br>shield | —                | —               | —  | —   |

## BLUETOOTH® CONTROL UNIT

### Reference Value

INFOID:000000009343662

### TERMINAL LAYOUT



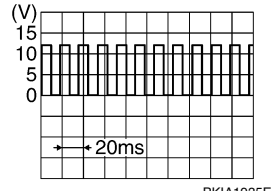
### PHYSICAL VALUES

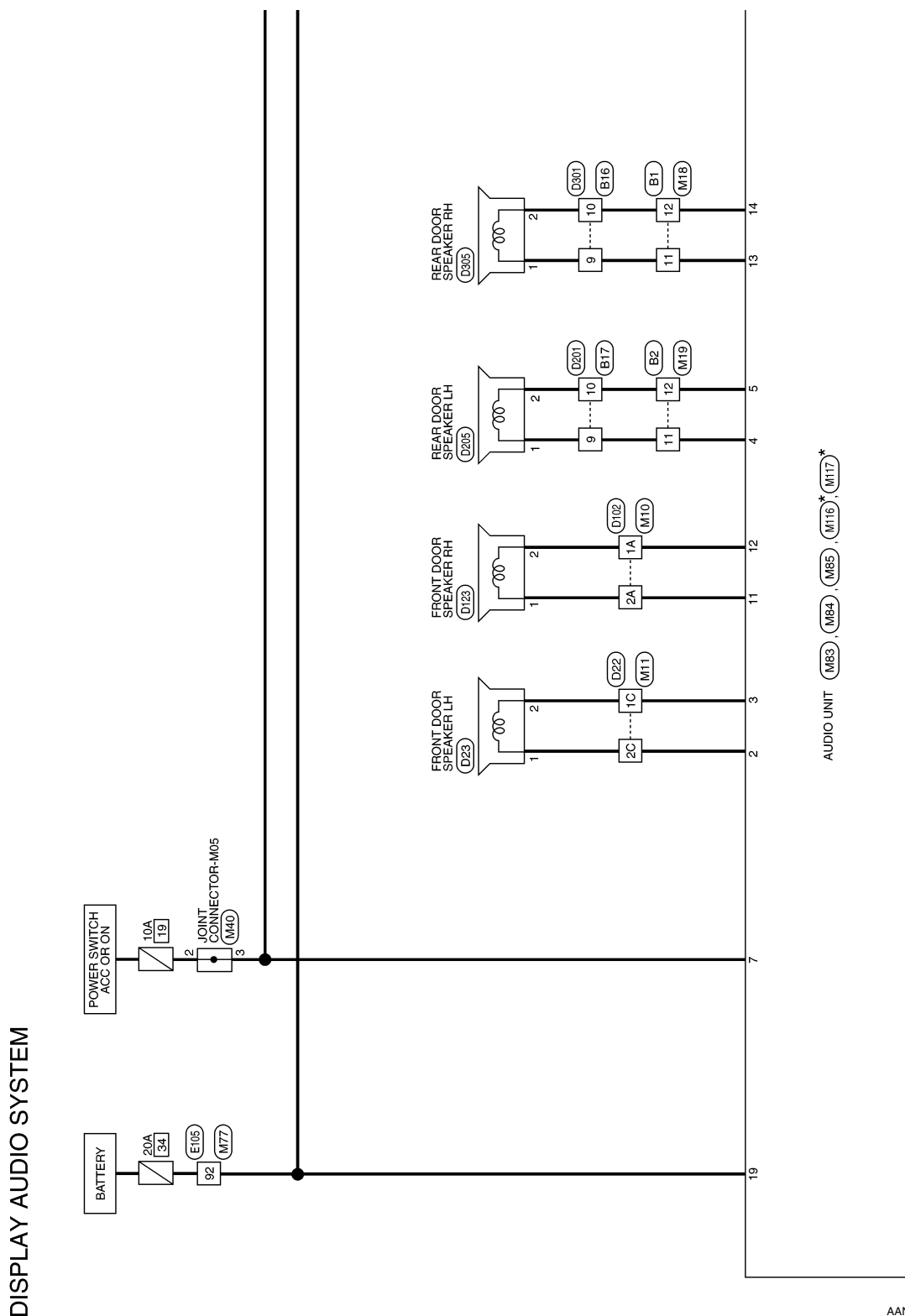
| Terminal<br>(wire color) |               | Description          |                  | Condition         |   | Reference value<br>(Approx.) |
|--------------------------|---------------|----------------------|------------------|-------------------|---|------------------------------|
| +                        | –             | Signal name          | Input/<br>output | Power<br>switch   | Operation                                     |                              |
| 1<br>(BR)                | Ground        | Battery power supply | Input            | –                 | –   | Battery voltage              |
| 2<br>(P)                 | Ground        | ACC power supply     | Input            | ACC<br>or<br>ON   | –   | Battery voltage              |
| 3<br>(G)                 | Ground        | Power signal         | Input            | ON<br>or<br>START | –   | Battery voltage              |
| 4<br>(B)                 | Ground        | Ground               | –                | ON                | –   | 0V                           |
| 7<br>(L)                 | 8<br>(Shield) | MIC in signal        | Input            | –                 | –   | –                            |
| 9<br>(R)                 | 10<br>(L)     | Audio out            | Output           | ACC<br>or<br>ON   | Bluetooth® control unit<br>sends audio signal |                              |
| 12<br>(R)                | 14<br>(B)     | LAD IN 1             | Input            | ON                | Press SOURCE switch                           | 0V                           |
|                          |               |                      |                  |                   | Press △ switch                                | 1.0V                         |
|                          |               |                      |                  |                   | Press ▽ switch                                | 2.0V                         |
|                          |               |                      |                  |                   | Press ↶ ↷ switch                              | 3.0V                         |
|                          |               |                      |                  |                   | Except above                                  | 5.0V                         |
| 13<br>(W)                | 14<br>(B)     | LAD IN 2             | Input            | ON                | Press - 🔊 switch                              | 0V                           |
|                          |               |                      |                  |                   | Press 🔊+ switch                               | 1.0V                         |
|                          |               |                      |                  |                   | Press 🔊 switch                                | 2.0V                         |
|                          |               |                      |                  |                   | Except above                                  | 5.0V                         |

# BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

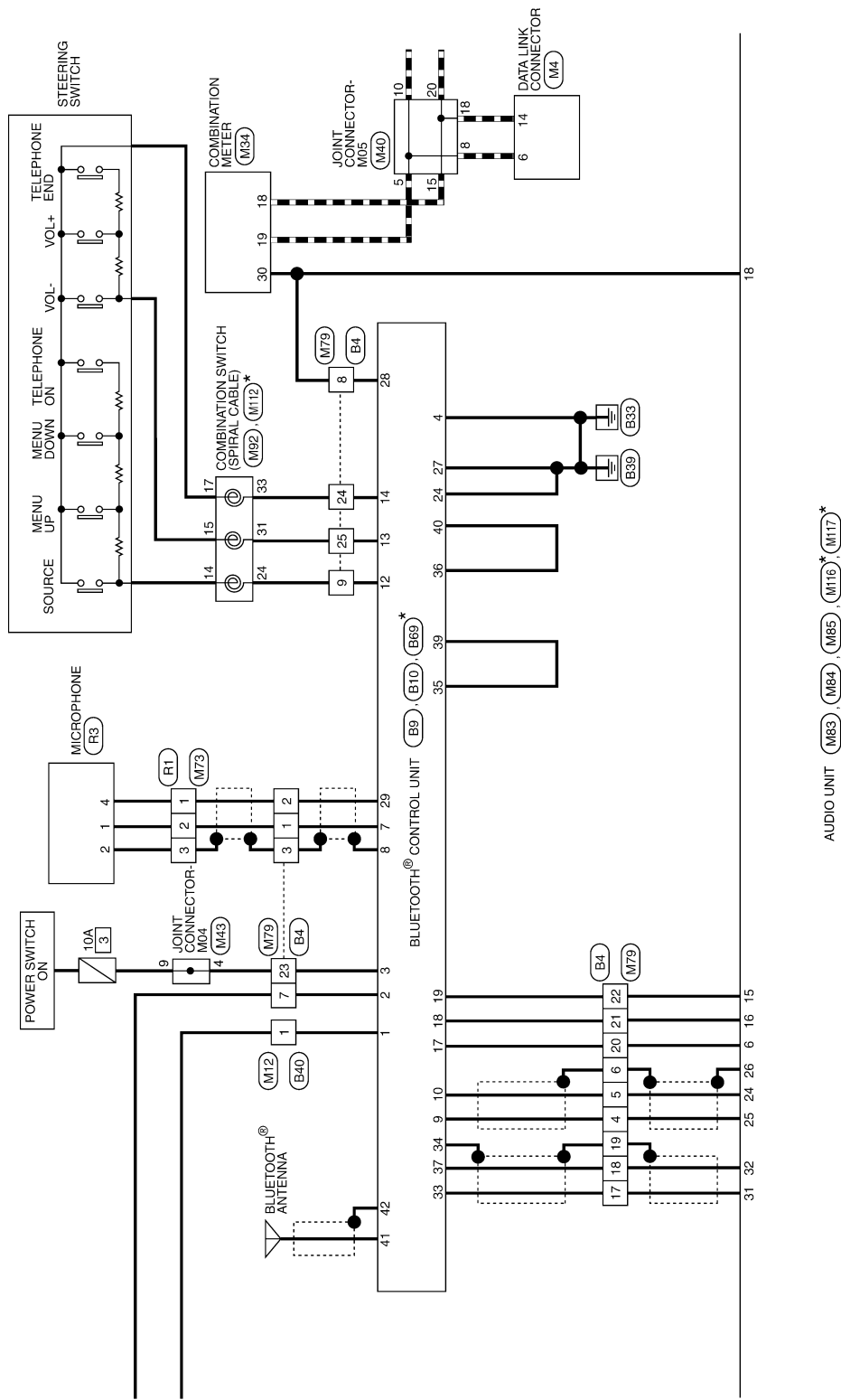
[DISPLAY AUDIO]

| Terminal<br>(wire color) |            | Description                    |                  | Condition       |  | Reference value<br>(Approx.)   |
|--------------------------|------------|--------------------------------|------------------|-----------------|--|--|
| +                        | –          | Signal name                    | Input/<br>output | Power<br>switch | Operation                                      |  |
| 17<br>(LG)               | 19<br>(GR) | LAD OUT 1                      | Output           | ON              | Press SOURCE switch                            | 0V   |
|                          |            |                                |                  |                 | Press $\Delta$ switch                          | 1.0V   |
|                          |            |                                |                  |                 | Press $\nabla$ switch                          | 2.0V   |
|                          |            |                                |                  |                 | Press $\curvearrowright$ switch                | 3.0V   |
|                          |            |                                |                  |                 | Except above                                   | 5.0V   |
| 18<br>(V)                | 19<br>(GR) | LAD OUT 2                      | Output           | ON              | Press $\ominus$ switch                         | 0V   |
|                          |            |                                |                  |                 | Press $\oplus$ switch                          | 1.0V   |
|                          |            |                                |                  |                 | Press $\curvearrowleft$ switch                 | 2.0V   |
|                          |            |                                |                  |                 | Except above                                   | 5.0V   |
| 24<br>(B)                | Ground     | CONT5 Ground                   | –                | ON              | –  | 0V   |
| 27<br>(B)                | Ground     | CONT6 Ground                   | –                | ON              | –  | 0V   |
| 28<br>(SB)               | Ground     | Vehicle speed signal (8-pulse) | Input            | ON              | When vehicle speed is approx. 40 km/h (25 MPH) |  |
| 29<br>(P)                | Ground     | Microphone power               | Output           | ON              | –  | 5V   |
| 33<br>(R)                | –          | AV communication (H)           | –                | –               | –  | —  |
| 34<br>(Shield)           | –          | AV communication shield        | –                | –               | –  | —  |
| 35<br>(SB)               | –          | AV communication jumper (H)    | –                | –               | –  | —  |
| 36<br>(LG)               | –          | AV communication jumper (L)    | –                | –               | –  | —  |
| 37<br>(G)                | –          | AV communication (L)           | –                | –               | –  | —  |
| 39<br>(SB)               | –          | AV communication (H)           | –                | –               | –  | —  |
| 40<br>(LG)               | –          | AV communication (L)           | –                | –               | –  | —  |
| 41<br>(B)                | –          | Bluetooth® antenna             | –                | –               | –  | —  |
| 42<br>(Shield)           | –          | Bluetooth® antenna shield      | –                | –               | –  | —  |



**\* : This connector is not shown in "Harness Layout".**

AANWA0835GB

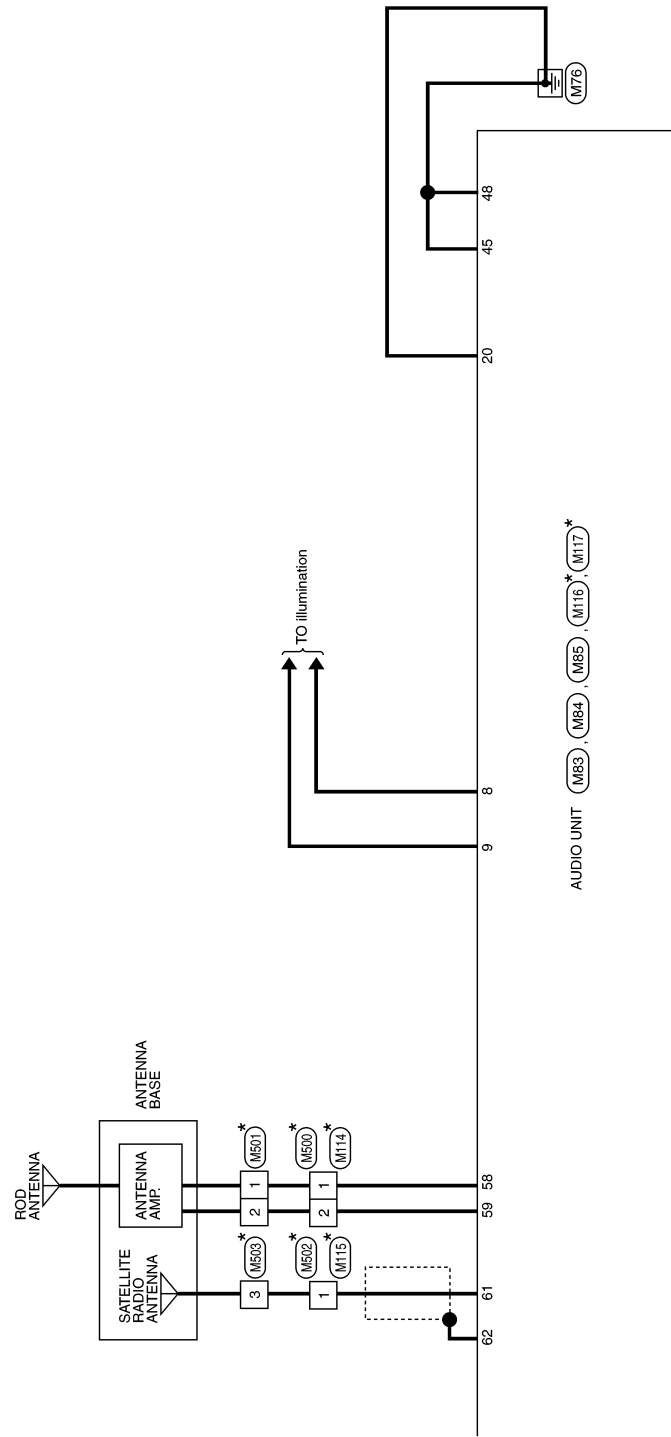


\* : This connector is not shown in "Harness Layout".

AANWA0836GB



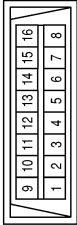
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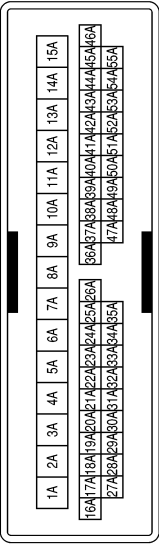
DISPLAY AUDIO SYSTEM - CONNECTORS

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M4                  |
| Connector Name  | DATA LINK CONNECTOR |
| Connector Color | WHITE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | LG            | -           |
| 4            | B             | -           |
| 5            | B             | -           |
| 6            | L             | -           |
| 7            | GR            | -           |
| 8            | G             | -           |
| 9            | -             | -           |
| 10           | -             | -           |
| 11           | SB            | -           |
| 12           | G             | -           |
| 13           | L             | -           |
| 14           | P             | -           |
| 15           | -             | -           |
| 16           | Y             | -           |

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



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1A           | L             | - (WITH BOSE)    |
| 1A           | R             | - (WITHOUT BOSE) |
| 2A           | P             | - (WITH BOSE)    |
| 2A           | G             | - (WITHOUT BOSE) |
| 3A           | SHIELD        | -                |
| 4A           | LG            | -                |
| 5A           | V             | -                |
| 10A          | BR            | -                |
| 11A          | Y             | -                |
| 12A          | B             | -                |
| 13A          | W             | -                |
| 14A          | SB            | -                |
| 15A          | L             | -                |
| 24A          | Y             | -                |
| 25A          | BR            | -                |
| 26A          | SHIELD        | -                |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 36A          | B             | -           |
| 37A          | P             | -           |
| 38A          | Y             | -           |
| 39A          | LG            | -           |
| 43A          | V             | -           |
| 44A          | L             | -           |
| 45A          | LG            | -           |
| 46A          | BR            | -           |
| 47A          | W             | -           |
| 48A          | B             | -           |
| 49A          | R             | -           |
| 50A          | SHIELD        | -           |

# DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 32C          | —             | —           |
| 33C          | —             | —           |
| 34C          | —             | —           |
| 35C          | —             | —           |
| 36C          | LG            | —           |
| 37C          | R             | —           |
| 38C          | GR            | —           |
| 39C          | W             | —           |
| 40C          | P             | —           |
| 41C          | V             | —           |
| 42C          | V             | —           |
| 43C          | B             | —           |
| 44C          | L             | —           |
| 45C          | BR            | —           |
| 46C          | L             | —           |
| 47C          | Y             | —           |
| 48C          | BR            | —           |
| 49C          | B             | —           |
| 50C          | W             | —           |
| 51C          | R             | —           |
| 52C          | SHIELD        | —           |
| 53C          | —             | —           |
| 54C          | R             | —           |
| 55C          | LG            | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9C           | LG            | —           |
| 10C          | Y             | —           |
| 11C          | W             | —           |
| 12C          | SB            | —           |
| 13C          | B             | —           |
| 14C          | L             | —           |
| 15C          | R             | —           |
| 16C          | —             | —           |
| 17C          | —             | —           |
| 18C          | —             | —           |
| 19C          | —             | —           |
| 20C          | —             | —           |
| 21C          | —             | —           |
| 22C          | —             | —           |
| 23C          | —             | —           |
| 24C          | G             | —           |
| 25C          | R             | —           |
| 26C          | SHIELD        | —           |
| 27C          | —             | —           |
| 28C          | —             | —           |
| 29C          | —             | —           |
| 30C          | —             | —           |
| 31C          | —             | —           |

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



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1C  | 2C  | 3C  | 4C  | 5C  | 6C  | 7C  | 8C  | 9C  | 10C | 11C | 12C | 13C | 14C | 15C |
| 16C | 17C | 18C | 19C | 20C | 21C | 22C | 23C | 24C | 25C | 26C | 27C | 28C | 29C | 30C |
| 31C | 32C | 33C | 34C | 35C | 36C | 37C | 38C | 39C | 40C | 41C | 42C | 43C | 44C | 45C |
| 46C | 47C | 48C | 49C | 50C | 51C | 52C | 53C | 54C | 55C |     |     |     |     |     |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1C           | R             | — (WITH BOSE)    |
| 1C           | P             | — (WITHOUT BOSE) |
| 2C           | G             | — (WITH BOSE)    |
| 2C           | L             | — (WITHOUT BOSE) |
| 3C           | SHIELD        | —                |
| 4C           | G             | —                |
| 5C           | V             | —                |
| 6C           | —             | —                |
| 7C           | BR            | —                |
| 8C           | SB            | —                |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 6            | —             | —           |
| 7            | SHIELD        | —           |
| 8            | R             | —           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | P             | — (WITH NAVI)    |
| 1            | BR            | — (WITHOUT NAVI) |
| 2            | SHIELD        | —                |
| 3            | G             | —                |
| 4            | L             | —                |
| 5            | —             | —                |

|                 |              |
|-----------------|--------------|
| Connector No.   | M12          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

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



AANIA2027GB

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10           | R             | -           |
| 11           | LG            | -           |
| 12           | P             | -           |
| 13           | W             | -           |
| 14           | Y             | -           |
| 15           | LG            | -           |
| 16           | L             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M18          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | -           |
| 2            | -             | -           |
| 3            | GR            | -           |
| 4            | L             | -           |
| 5            | G             | -           |
| 6            | V             | -           |
| 7            | P             | -           |
| 8            | P             | -           |
| 9            | B             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | -             | -           |
| 10           | V             | -           |
| 11           | V             | -           |
| 12           | LG            | -           |
| 13           | BR            | -           |
| 14           | SB            | -           |
| 15           | L             | -           |
| 16           | G             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M19          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | LG            | -           |
| 3            | P             | -           |
| 4            | GR            | -           |
| 5            | GR            | -           |
| 6            | W             | -           |
| 7            | -             | -           |
| 8            | -             | -           |

AANIA2028GB

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|-----------------|--------------|
| Connector No.   | M21          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | -             | -           |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | -             | -           |

|                 |                           |
|-----------------|---------------------------|
| Connector No.   | M24                       |
| Connector Name  | BCM (BODY CONTROL MODULE) |
| Connector Color | BLACK                     |

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 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            |
|--------------|---------------|------------------------|
| 2            | L             | COMBINATION SW INPUT 5 |
| 3            | GR            | COMBINATION SW INPUT 4 |
| 4            | BR            | COMBINATION SW INPUT 3 |
| 5            | G             | COMBINATION SW INPUT 2 |
| 6            | V             | COMBINATION SW INPUT 1 |
| 7            | GR            | KEY CYLINDER UNLOCK SW |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | B             | -           |
| 8            | SHIELD        | -           |
| 9            | R             | -           |
| 10           | SB            | -           |
| 11           | P             | -           |
| 12           | V             | -           |
| 13           | GR            | -           |
| 14           | P             | -           |
| 15           | L             | -           |
| 16           | G             | -           |
| 17           | -             | -           |
| 18           | -             | -           |
| 19           | -             | -           |

| Terminal No. | Color of Wire | Signal Name                               |
|--------------|---------------|---|
| 8            | R             | KEY CYLINDER LOCK SW                      |
| 9            | BR            | BRAKE SW1                                 |
| 12           | Y             | CENTRAL DOOR LOCK SW                      |
| 13           | BR            | CENTRAL DOOR UNLOCK SW                    |
| 14           | G             | AUTO LIGHT SENSOR INPUT                   |
| 15           | W             | REAR DEFOGGER SW                          |
| 16           | R             | MR OUTPUT                                 |
| 17           | Y             | AUTO LIGHT SENSOR POWER SUPPLY OUTPUT     |
| 18           | L             | KEYLESS TUNER, AUTO LIGHT SENSOR GND      |
| 21           | P             | IMMOBILIZER ONE WAY COMMUNICATION (CLOCK) |
| 23           | R             | SECURITY INDICATOR OUTPUT                 |
| 24           | SB            | DONGLE LINK                               |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 20           | -             | -           |
| 21           | -             | -           |
| 22           | -             | -           |
| 23           | -             | -           |
| 24           | W             | -           |
| 25           | B             | -           |
| 26           | W             | -           |
| 27           | Y             | -           |
| 28           | -             | -           |
| 29           | W             | -           |
| 30           | L             | -           |
| 31           | L             | -           |
| 32           | P             | -           |

| Terminal No. | Color of Wire | Signal Name                           |
|--------------|---------------|---------------------------------------|
| 25           | LG            | IMMOBILIZER TWO WAY COMMUNICATION     |
| 29           | G             | HAZARD SW                             |
| 30           | V             | TRUNK/BACK DOOR OPENER SW             |
| 31           | W             | DOOR LOCK STATUS SW (DR)              |
| 32           | GR            | COMBINATION SW OUTPUT 5               |
| 33           | Y             | COMBINATION SW OUTPUT 4               |
| 34           | W             | COMBINATION SW OUTPUT 3               |
| 35           | BG            | COMBINATION SW OUTPUT 2               |
| 36           | P             | COMBINATION SW OUTPUT 1               |
| 37           | V             | SHIFT P POSITION, PARKING POSITION SW |
| 38           | SB            | INTELLIGENT TUNER                     |
| 39           | L             | CAN-H                                 |
| 40           | P             | CAN-L                                 |

AANIA2029GB

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 24           | BG            | PKB SW          |
| 25           | SB            | BRAKE OIL       |
| 26           | B             | ILL CONT OUT    |
| 27           | R             | A/BAG WARN      |
| 28           | R             | SECURITY        |
| 29           | -             | -               |
| 30           | GR            | 8 P/R O/P       |
| 31           | -             | -               |
| 32           | W             | SDA (12C)       |
| 33           | G             | SCL (12C)       |
| 34           | L             | CHARGE LAMP     |
| 35           | -             | -               |
| 36           | -             | -               |
| 37           | -             | -               |
| 38           | V             | LED H LAMP R    |
| 39           | LG            | LED H LAMP L    |
| 40           | W             | BUCKLE SW FR DR |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 8            | Y             | WASHER SW       |
| 9            | BR            | CHARGE CONNECT  |
| 10           | -             | -               |
| 11           | -             | -               |
| 12           | V             | SW GND          |
| 13           | G             | MODE B SW       |
| 14           | Y             | MODE A SW       |
| 15           | BR            | TRIP RESET SW   |
| 16           | P             | ILL CONT UP     |
| 17           | G             | UPPER ILL CONT  |
| 18           | P             | CAN-H           |
| 19           | L             | CAN-L           |
| 20           | LG            | AS SEATBELT W/L |
| 21           | -             | -               |
| 22           | GR            | GND (FOR UPPER) |
| 23           | -             | -               |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | M34               |
| Connector Name  | COMBINATION METER |
| Connector Color | WHITE             |



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

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 1            | LG            | BAT             |
| 2            | Y             | BAT (FOR UPPER) |
| 3            | GR            | IGN             |
| 4            | BG            | IGN (FOR UPPER) |
| 5            | B             | GND1 (ILL)      |
| 6            | B             | GND2 (POWER)    |
| 7            | -             | -               |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 8            | L             | -           |
| 9            | L             | -           |
| 10           | L             | -           |
| 11           | LG            | -           |
| 12           | LG            | -           |
| 13           | L             | -           |
| 14           | R             | -           |
| 15           | P             | -           |
| 16           | P             | -           |
| 17           | P             | -           |
| 18           | P             | -           |
| 19           | P             | -           |
| 20           | P             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M40                 |
| Connector Name  | JOINT CONNECTOR-M05 |
| Connector Color | BLUE                |



|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 10 | 9  | 8  | 7  | 6  | 5  | 4  | 3  | 2  | 1  |
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | L             | -           |
| 3            | BR            | -           |
| 4            | GR            | -           |
| 5            | L             | -           |
| 6            | L             | -           |
| 7            | L             | -           |

AANIA2030GB

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# DISPLAY AUDIO

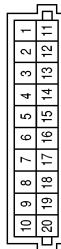
< WIRING DIAGRAM >

[DISPLAY AUDIO]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 12           | LG            | —           |
| 13           | LG            | —           |
| 14           | LG            | —           |
| 15           | P             | —           |
| 16           | P             | —           |
| 17           | P             | —           |
| 18           | P             | —           |
| 19           | P             | —           |
| 20           | P             | —           |

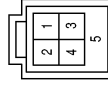
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | L             | —           |
| 6            | L             | —           |
| 7            | L             | —           |
| 8            | L             | —           |
| 9            | L             | —           |
| 10           | L             | —           |
| 11           | LG            | —           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M41                 |
| Connector Name  | JOINT CONNECTOR-M06 |
| Connector Color | BLUE                |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | SB            | —           |
| 2            | SB            | —           |
| 3            | SB            | —           |
| 4            | SB            | —           |

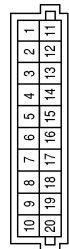
|                 |               |
|-----------------|---------------|
| Connector No.   | M53           |
| Connector Name  | USB CONNECTOR |
| Connector Color | GREEN         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | —           |
| 2            | W             | —           |
| 3            | R             | —           |
| 4            | L             | —           |
| 5            | SHIELD        | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | W             | —           |
| 6            | Y             | —           |
| 7            | Y             | —           |
| 8            | G             | —           |
| 9            | W             | —           |
| 10           | W             | —           |
| 11           | Y             | —           |
| 12           | Y             | —           |
| 13           | —             | —           |
| 14           | —             | —           |
| 15           | —             | —           |
| 16           | —             | —           |
| 17           | —             | —           |
| 18           | B             | —           |
| 19           | B             | —           |
| 20           | B             | —           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M43                 |
| Connector Name  | JOINT CONNECTOR-M04 |
| Connector Color | GRAY                |



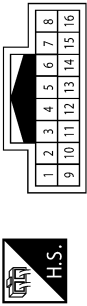
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | —           |
| 2            | Y             | —           |
| 3            | W             | —           |
| 4            | W             | —           |

AANIA2031GB



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10           | B             | -           |
| 11           | W             | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M73          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | L             | -           |
| 3            | SHIELD        | -           |
| 4            | -             | -           |
| 5            | B             | -           |
| 6            | BR            | -           |
| 7            | P             | -           |
| 8            | Y             | -           |
| 9            | R             | -           |

AANIA2032GB

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DISPLAY AUDIO

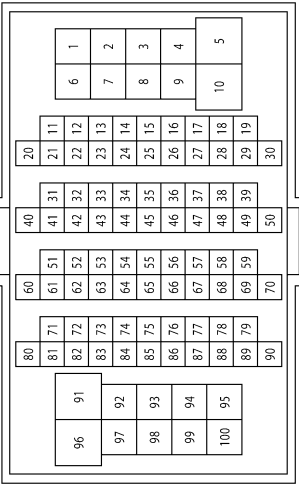
< WIRING DIAGRAM >

[DISPLAY AUDIO]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 60           | Y             | -           |
| 61           | GR            | -           |
| 62           | W             | -           |
| 63           | BR            | -           |
| 64           | SHIELD        | -           |
| 65           | W             | -           |
| 66           | LG            | -           |
| 67           | R             | -           |
| 68           | G             | -           |
| 69           | BG            | -           |
| 70           | GR            | -           |
| 71           | R             | -           |
| 72           | R             | -           |
| 73           | B             | -           |
| 74           | W             | -           |
| 76           | L             | -           |
| 80           | W             | -           |
| 81           | LG            | -           |
| 83           | GR            | -           |
| 84           | L             | -           |
| 85           | Y             | -           |
| 86           | SB            | -           |
| 88           | R             | -           |
| 89           | G             | -           |
| 90           | SHIELD        | -           |
| 91           | Y             | -           |
| 92           | BR            | -           |
| 93           | W             | -           |
| 94           | P             | -           |
| 95           | L             | -           |
| 96           | P             | -           |
| 97           | G             | -           |
| 98           | V             | -           |
| 99           | LG            | -           |
| 100          | R             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 22           | B             | -           |
| 23           | BG            | -           |
| 24           | B             | -           |
| 26           | G             | -           |
| 27           | B             | -           |
| 28           | B             | -           |
| 25           | W             | -           |
| 29           | R             | -           |
| 31           | R             | -           |
| 32           | W             | -           |
| 33           | GR            | -           |
| 34           | BR            | -           |
| 35           | BR            | -           |
| 36           | W             | -           |
| 37           | L             | -           |
| 38           | LG            | -           |
| 39           | SB            | -           |
| 40           | V             | -           |
| 41           | P             | -           |
| 42           | SB            | -           |
| 43           | G             | -           |
| 44           | LG            | -           |
| 45           | Y             | -           |
| 46           | R             | -           |
| 47           | W             | -           |
| 48           | L             | -           |
| 49           | G             | -           |
| 50           | L             | -           |
| 51           | SB            | -           |
| 52           | L             | -           |
| 54           | B             | -           |
| 55           | R             | -           |
| 56           | V             | -           |
| 57           | Y             | -           |
| 58           | L             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M77          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | L             | -           |
| 3            | V             | -           |
| 4            | LG            | -           |
| 6            | P             | -           |
| 7            | GR            | -           |
| 9            | G             | -           |
| 10           | L             | -           |
| 11           | L             | -           |
| 12           | Y             | -           |
| 13           | V             | -           |
| 14           | R             | -           |
| 15           | G             | -           |
| 16           | W             | -           |
| 17           | R             | -           |
| 18           | G             | -           |
| 19           | W             | -           |
| 20           | GR            | -           |
| 21           | P             | -           |

AANIA2033GB

|                 |              |
|-----------------|--------------|
| Connector No.   | M79          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | P             | -           |
| 3            | SHIELD        | -           |
| 4            | G             | -           |
| 5            | R             | -           |
| 6            | SHIELD        | -           |
| 7            | L             | -           |
| 8            | GR            | -           |
| 9            | R             | -           |
| 10           | BR            | -           |
| 11           | L             | -           |
| 12           | BR            | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | B             | -           |
| 14           | -             | -           |
| 15           | R             | -           |
| 16           | G             | -           |
| 17           | R             | -           |
| 18           | G             | -           |
| 19           | SHIELD        | -           |
| 20           | BR            | -           |
| 21           | V             | -           |
| 22           | SB            | -           |
| 23           | W             | -           |
| 24           | B             | -           |
| 25           | W             | -           |
| 26           | R             | -           |
| 27           | -             | -           |
| 28           | -             | -           |
| 29           | W             | -           |
| 30           | R             | -           |
| 31           | G             | -           |
| 32           | -             | -           |

|                 |            |
|-----------------|------------|
| Connector No.   | M83        |
| Connector Name  | AUDIO UNIT |
| Connector Color | WHITE      |



|    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  |    |    |
| 19 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 20 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | L             | FR LH SP+   |
| 3            | P             | FR LH SP-   |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4            | V             | RR LH SP+   |
| 5            | LG            | RR LH SP-   |
| 6            | BR            | STRG SW A   |
| 7            | BR            | ACC         |
| 8            | B             | ILL (-)     |
| 9            | W             | ILL (+)     |
| 10           | -             | -           |
| 11           | G             | FR RH SP+   |
| 12           | R             | FR RH SP-   |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | LG            | RR RH SP+   |
| 14           | P             | RR RH SP-   |
| 15           | SB            | STRG SW GND |
| 16           | V             | STRG SW B   |
| 17           | -             | -           |
| 18           | GR            | SPD         |
| 19           | BR            | +B          |
| 20           | B             | GND         |

AANIA2034GB

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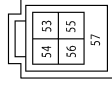
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# DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

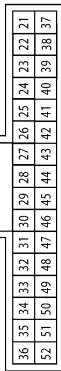
|                 |            |
|-----------------|------------|
| Connector No.   | M85        |
| Connector Name  | AUDIO UNIT |
| Connector Color | BLUE       |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 53           | W             | VBUS        |
| 54           | G             | USB GND     |
| 55           | L             | USB D+      |
| 56           | R             | USB D-      |
| 57           | SHIELD        | SHIELD      |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 32           | G             | MCAN1 L     |
| 33           | B             | CAM GND     |
| 34           | W             | CAM 6.2V    |
| 35           | R             | CAM VIDEO   |
| 36           | SHIELD        | VIDEO GND   |
| 37           | -             | -           |
| 38           | -             | -           |
| 39           | -             | -           |
| 40           | -             | -           |
| 41           | -             | -           |
| 42           | -             | -           |
| 43           | -             | -           |
| 44           | B             | CAM DET     |
| 45           | B             | EQ1         |
| 46           | -             | -           |
| 47           | -             | -           |
| 48           | B             | EQ4         |
| 49           | -             | -           |
| 50           | G             | REVERSE     |
| 51           | -             | -           |
| 52           | -             | -           |

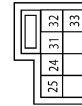
|                 |            |
|-----------------|------------|
| Connector No.   | M84        |
| Connector Name  | AUDIO UNIT |
| Connector Color | WHITE      |



| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 21           | -             | -             |
| 22           | -             | -             |
| 23           | -             | -             |
| 24           | R             | TEL VOICE -   |
| 25           | G             | TEL VOICE +   |
| 26           | SHIELD        | TEL VOICE GND |
| 27           | -             | -             |
| 28           | -             | -             |
| 29           | -             | -             |
| 30           | -             | -             |
| 31           | R             | MCAN1 H       |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 24           | R             | -           |
| 25           | LG            | -           |
| 27           | -             | -           |
| 31           | W             | -           |
| 32           | SB            | -           |
| 33           | B             | -           |

|                 |                    |
|-----------------|--------------------|
| Connector No.   | M92                |
| Connector Name  | COMBINATION SWITCH |
| Connector Color | GRAY               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 21           | -             | -           |
| 22           | -             | -           |

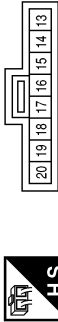
AANIA2035GB

# DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

|                 |                                      |
|-----------------|--------------------------------------|
| Connector No.   | M112                                 |
| Connector Name  | COMBINATION SWITCH<br>(SPIRAL CABLE) |
| Connector Color | GRAY                                 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | R             | -           |
| 14           | W             | -           |
| 15           | L             | -           |
| 16           | B             | -           |
| 17           | BR            | -           |
| 18           | B             | -           |
| 19           | Y             | -           |
| 20           | Y             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M114         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

|                 |              |
|-----------------|--------------|
| Connector No.   | M115         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

|                 |   |
|-----------------|---|
| Connector No.   | M116                                      |
| Connector Name  | AUDIO UNIT (WITH<br>DISPLAY AUDIO SYSTEM) |
| Connector Color | GRAY                                      |



| Terminal No. | Color of Wire | Signal Name               |
|--------------|---------------|---------------------------|
| 58           | B             | ANTENNA<br>AMP. ON SIGNAL |
| 59           | B             | RADIO<br>ANTENNA SIGNAL   |
| 60           | -             | -                         |

|                 |   |
|-----------------|---|
| Connector No.   | M117                                      |
| Connector Name  | AUDIO UNIT (WITH<br>DISPLAY AUDIO SYSTEM) |
| Connector Color | PURPLE                                    |



| Terminal No. | Color of Wire | Signal Name       |
|--------------|---------------|-------------------|
| 61           | B             | SATELLITE ANTENNA |
| 62           | SHIELD        | SHIELD            |

|                 |              |
|-----------------|--------------|
| Connector No.   | M500         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

AANIA2036GB

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# DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

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



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

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



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

|                 |              |
|-----------------|--------------|
| Connector No.   | M503         |
| Connector Name  | ANTENNA BASE |
| Connector Color | GRAY         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3            | B             | —           |

|                 |  |
|-----------------|--|
| Connector No.   | E15  |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE  |



| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 47           | —             | —            |
| 48           | —             | —            |
| 49           | Y             | H/LAMP HI RH |
| 50           | G             | H/LAMP HI LH |
| 51           | L             | H/LAMP LO LH |
| 52           | P             | H/LAMP LO RH |
| 53           | —             | —            |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 54           | —             | —                |
| 55           | LG            | FAST CHARGE      |
| 56           | —             | —                |
| 57           | R             | VCM IGN          |
| 58           | O             | REVERSE LAMP IGN |
| 59           | BR            | ABS ECU IGN      |
| 60           | GR            | F/S RLY CONT     |
| 61           | —             | —                |
| 62           | V             | E-ACT/HAS IGN    |

|                 |                    |
|-----------------|--------------------|
| Connector No.   | E27                |
| Connector Name  | REVERSE LAMP RELAY |
| Connector Color | BLUE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | O             | —           |
| 2            | SB            | —           |
| 3            | O             | —           |
| 5            | G             | —           |

AANIA2185GB

# DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 108          | R             | ACCELERATOR PEDAL POSITION SENSOR 2                 |
| 109          | B             | REFRIGERANT PRESSURE SENSOR                         |
| 110          | Y             | COOLANT TEMPERATURE SENSOR                          |
| 111          | SB            | ASCD STEERING SWITCH                                |
| 112          | B             | P POSITION SW NO.2                                  |
| 113          | O             | BRAKE PEDAL POSITION SWITCH                         |
| 115          | V             | CHARGING STATUS INDICATOR 1                         |
| 116          | SB            | A/C RELAY   |
| 117          | LG            | CHARGE CONNECTOR LOCK ACTUATOR (+)                  |
| 118          | B             | VCM GROUND  |
| 120          | L             | SENSOR GROUND (BATTERY CURRENT SENSOR)              |
| 121          | W             | SENSOR GROUND (COOLANT TEMPERATURE SENSOR)          |
| 122          | B             | SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2) |
| 123          | BR            | SENSOR GROUND (REFRIGERANT PRESSURE SENSOR)         |
| 124          | W/L           | ELECTRIC SHIFT SENSOR GND 2                         |
| 125          | BR            | ASCD STEERING SWITCH GROUND                         |
| 126          | B/R           | VCM GROUND  |
| 128          | V             | COOLING FAN CONTROL SIGNAL                          |
| 129          | Y             | IMMEDIATE CHARGING SWITCH                           |
| 130          | W             | CHARGE CONNECTOR LOCK ACTUATOR (-)                  |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 85           | G             | ELECTRIC SHIFT SENSOR NO.4                                |
| 86           | G             | ELECTRIC SHIFT SENSOR NO.6                                |
| 87           | V             | CHARGE CONNECTOR LOCK SWITCH INDICATOR (LOCK)             |
| 88           | SB            | M/C RELAY   |
| 89           | BR            | CHARGING STATUS INDICATOR 2                               |
| 90           | G             | CHARGING STATUS INDICATOR 3                               |
| 91           | O             | CHARGE CONNECTOR LOCK SWITCH INDICATOR (AUTO)             |
| 93           | BR            | CHARGE PORT LID OPENER SWITCH                             |
| 94           | O             | CHARGE CONNECTOR LOCK SWITCH (LOCK)                       |
| 95           | Y             | BATTERY CURRENT SENSOR                                    |
| 96           | R             | SENSOR POWER SUPPLY (BATTERY CURRENT SENSOR)              |
| 97           | W             | SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2) |
| 98           | L             | SENSOR POWER SUPPLY (REFRIGERANT PRESSURE SENSOR)         |
| 99           | R             | P POSITION SW NO.1  |
| 101          | P             | STOP LAMP SWITCH  |
| 103          | L             | PLUG IN INDICATOR LAMP                                    |
| 104          | R             | CHARGE CONNECTOR LOCK RELAY POWER SUPPLY                  |
| 107          | L             | BATTERY TEMPERATURE SENSOR                                |

|                 |       |
|-----------------|-------|
| Connector No.   | E62   |
| Connector Name  | VCM   |
| Connector Color | BROWN |



|     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 66  | 67  | 68  | 69  | 70  | 71  | 72  | 73  | 74  | 75  | 76  | 77  | 78  |
| 79  | 80  | 81  | 82  | 83  | 84  | 85  | 86  | 87  | 88  | 89  | 90  | 91  |
| 92  | 93  | 94  | 95  | 96  | 97  | 98  | 99  | 100 | 101 | 102 | 103 | 104 |
| 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 |
| 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 |

| Terminal No. | Color of Wire | Signal Name                               |
|--------------|---------------|---|
| 70           | SB            | REVERSE LAMP RELAY                        |
| 72           | P             | CONNECTION DETECTING CIRCUIT SIGNAL       |
| 73           | O             | CONNECTION DETECTING CIRCUIT POWER SUPPLY |
| 74           | SB            | POWER ON POWER SUPPLY                     |
| 75           | L             | CAN-H                                     |
| 76           | P             | CAN-L                                     |
| 78           | SB            | CHARGE CONNECTOR LOCK RELAY               |
| 79           | R             | 12V BATTERY POWER SUPPLY                  |
| 81           | L             | CHARGE CONNECTOR LOCK SWITCH (AUTO)       |
| 82           | GR            | CHARGE PORT LIGHT                         |
| 83           | W             | ELECTRIC SHIFT SENSOR POWER SUPPLY 2      |
| 84           | W             | ELECTRIC SHIFT SENSOR NO.2                |

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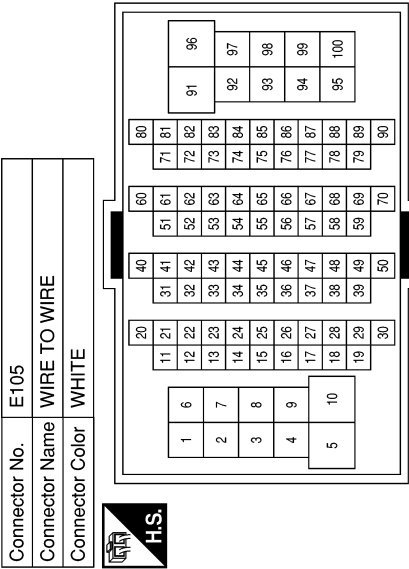
DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

|     |        |   |
|-----|--------|---|
| 58  | L      | - |
| 60  | LG     | - |
| 61  | GR     | - |
| 62  | W      | - |
| 63  | SB     | - |
| 64  | SHIELD | - |
| 65  | W      | - |
| 66  | G      | - |
| 67  | V      | - |
| 68  | R      | - |
| 69  | B      | - |
| 70  | BR     | - |
| 71  | LG     | - |
| 72  | R      | - |
| 73  | B      | - |
| 74  | O      | - |
| 76  | L      | - |
| 77  | Y      | - |
| 80  | P      | - |
| 81  | SB     | - |
| 83  | GR     | - |
| 84  | L      | - |
| 85  | O      | - |
| 86  | BR     | - |
| 88  | B      | - |
| 89  | W      | - |
| 90  | SHIELD | - |
| 91  | Y      | - |
| 92  | BR     | - |
| 93  | O      | - |
| 94  | R      | - |
| 95  | V      | - |
| 96  | P      | - |
| 97  | G      | - |
| 98  | W      | - |
| 99  | O      | - |
| 100 | SB     | - |

|    |     |   |
|----|-----|---|
| 20 | BR  | - |
| 21 | R   | - |
| 22 | B   | - |
| 23 | LG  | - |
| 24 | B   | - |
| 25 | W   | - |
| 26 | W   | - |
| 27 | B   | - |
| 28 | O/L | - |
| 29 | W   | - |
| 31 | R   | - |
| 32 | W   | - |
| 33 | G   | - |
| 34 | BR  | - |
| 35 | V   | - |
| 36 | O   | - |
| 37 | L   | - |
| 38 | SB  | - |
| 39 | P   | - |
| 40 | V   | - |
| 41 | O   | - |
| 42 | Y   | - |
| 43 | BR  | - |
| 44 | W   | - |
| 45 | G   | - |
| 46 | P   | - |
| 47 | LG  | - |
| 47 | R   | - |
| 48 | B   | - |
| 49 | L   | - |
| 50 | G   | - |
| 51 | W   | - |
| 52 | O   | - |
| 54 | B   | - |
| 55 | R   | - |
| 56 | Y   | - |
| 57 | Y   | - |



| Terminal No. | Color of Wire | Signal Name                |
|--------------|---------------|----------------------------|
| 1            | R             | -                          |
| 2            | L             | -                          |
| 3            | BW            | -(WITHOUT FRONT FOG LAMPS) |
| 3            | R             | -(WITH LED HEADLAMPS)      |
| 4            | LG            | -(WITH LED HEADLAMPS)      |
| 4            | B/W           | -(WITHOUT FRONT FOG LAMPS) |
| 6            | B/R           | -                          |
| 7            | W             | -                          |
| 9            | G             | -                          |
| 10           | R             | -                          |
| 11           | L             | -                          |
| 12           | Y             | -                          |
| 13           | W             | -                          |
| 14           | R             | -                          |
| 15           | G             | -                          |
| 16           | G             | -                          |
| 17           | R             | -                          |
| 18           | O             | -                          |
| 19           | W/L           | -                          |

AANIA2187GB



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10           | W             | -           |
| 11           | LG            | -           |
| 12           | P             | -           |
| 13           | V             | -           |
| 14           | Y             | -           |
| 15           | W             | -           |
| 16           | L             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B1           |
| 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 |
|--------------|---------------|-------------|
| 1            | G             | -           |
| 2            | -             | -           |
| 3            | GR            | -           |
| 4            | L             | -           |
| 5            | G             | -           |
| 6            | R             | -           |
| 7            | BR            | -           |
| 8            | SB            | -           |
| 9            | GR            | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 8            | -             | -           |
| 9            | -             | -           |
| 10           | SB            | -           |
| 11           | V             | -           |
| 12           | LG            | -           |
| 13           | SB            | -           |
| 14           | Y             | -           |
| 15           | L             | -           |
| 16           | G             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B2           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | LG            | -           |
| 3            | P             | -           |
| 4            | GR            | -           |
| 5            | GR            | -           |
| 6            | W             | -           |
| 7            | -             | -           |

AANIA2188GB

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# DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

|                 |              |
|-----------------|--------------|
| Connector No.   | B3           |
| Connector Name  | WIRE TO WIRE |
| 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 |

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

|                 |              |
|-----------------|--------------|
| Connector No.   | B4           |
| Connector Name  | WIRE TO WIRE |
| 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 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | P             | -           |
| 3            | SHIELD        | -           |
| 4            | R             | -           |
| 5            | L             | -           |
| 6            | SHIELD        | -           |
| 7            | P             | -           |
| 8            | SB            | -           |
| 9            | R             | -           |
| 10           | BR            | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | -             | -           |
| 6            | -             | -           |
| 7            | B             | -           |
| 8            | SHIELD        | -           |
| 9            | B             | -           |
| 10           | SB            | -           |
| 11           | P             | -           |
| 12           | BR            | -           |
| 13           | GR            | -           |
| 14           | P             | -           |
| 15           | L             | -           |
| 16           | G             | -           |
| 17           | -             | -           |
| 18           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11           | GR            | -           |
| 12           | BR            | -           |
| 13           | B             | -           |
| 14           | -             | -           |
| 15           | R             | -           |
| 16           | G             | -           |
| 17           | R             | -           |
| 18           | G             | -           |
| 19           | SHIELD        | -           |
| 20           | LG            | -           |
| 21           | V             | -           |
| 22           | GR            | -           |
| 23           | G             | -           |
| 24           | B             | -           |
| 25           | W             | -           |
| 26           | R             | -           |
| 27           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 19           | -             | -           |
| 20           | -             | -           |
| 21           | -             | -           |
| 22           | -             | -           |
| 23           | -             | -           |
| 24           | R             | -           |
| 25           | W             | -           |
| 26           | LG            | -           |
| 27           | Y             | -           |
| 28           | -             | -           |
| 29           | R             | -           |
| 30           | GR            | -           |
| 31           | L             | -           |
| 32           | P             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 28           | -             | -           |
| 29           | W             | -           |
| 30           | V             | -           |
| 31           | LG            | -           |
| 32           | SHIELD        | -           |

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| Terminal No. | Color of Wire | Signal Name        |
|--------------|---------------|--------------------|
| 19           | GR            | LADDER OUT 3 (GND) |
| 20           | -             | -                  |
| 21           | -             | -                  |
| 22           | -             | -                  |
| 23           | -             | -                  |
| 24           | B             | CONT5              |
| 25           | -             | -                  |
| 26           | -             | -                  |
| 27           | B             | CONT6              |
| 28           | SB            | SPEED              |
| 29           | P             | MIC POWER          |
| 30           | -             | -                  |
| 31           | -             | -                  |
| 32           | -             | -                  |

| Terminal No. | Color of Wire | Signal Name       |
|--------------|---------------|-------------------|
| 5            | -             | -                 |
| 6            | -             | -                 |
| 7            | L             | MIC IN +          |
| 8            | SHIELD        | MIC IN -(GND)     |
| 9            | R             | AUDIO OUT +       |
| 10           | L             | AUDIO OUT -       |
| 11           | -             | -                 |
| 12           | R             | LADDER IN 1       |
| 13           | W             | LADDER IN 2       |
| 14           | B             | LADDER IN 3 (GND) |
| 15           | -             | -                 |
| 16           | -             | -                 |
| 17           | LG            | LADDER OUT 1      |
| 18           | V             | LADDER OUT 2      |

| Connector No.   | B9                      |
|-----------------|-------------------------|
| Connector Name  | BLUETOOTH® CONTROL UNIT |
| Connector Color | WHITE                   |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | BR            | B+          |
| 2            | P             | ACC         |
| 3            | G             | IGN         |
| 4            | B             | GND         |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 9            | L             | - (WITH BOSE)    |
| 9            | LG            | - (WITHOUT BOSE) |
| 10           | P             | - (WITH BOSE)    |
| 10           | P             | - (WITHOUT BOSE) |
| 11           | SHIELD        | -                |
| 12           | -             | -                |

| Connector No.   | B16          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|    |    |    |   |   |
|----|----|----|---|---|
| 5  | 4  | 3  | 2 | 1 |
| 12 | 11 | 10 | 9 | 8 |
| 7  | 6  |    |   |   |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | W             | -           |
| 3            | R             | -           |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | Y             | -           |
| 7            | -             | -           |
| 8            | G             | -           |

| Connector No.   | B10                     |
|-----------------|-------------------------|
| Connector Name  | BLUETOOTH® CONTROL UNIT |
| Connector Color | WHITE                   |



|    |    |    |    |
|----|----|----|----|
| 33 | 34 | 35 | 36 |
| 37 | 38 | 39 | 40 |

| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 33           | R             | CAN H1       |
| 34           | SHIELD        | CAN SHIELD 1 |
| 35           | SB            | CAN JUMPER 1 |
| 36           | LG            | CAN JUMPER 2 |
| 37           | G             | CAN L1       |
| 38           | -             | -            |
| 39           | SB            | CAN H2       |
| 40           | LG            | CAN L2       |

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# DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 14           | L             | –           |
| 15           | LG            | –           |
| 16           | –             | –           |
| 17           | SHIELD        | –           |
| 18           | B             | –           |
| 19           | –             | –           |
| 20           | GR            | –           |

| Connector No.   | B18          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |    |    |    |    |
|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  |
| 7  | 8  | 9  | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 |    |    |    |    |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | –             | –           |
| 2            | –             | –           |
| 3            | –             | –           |
| 4            | P             | –           |
| 5            | P             | –           |
| 6            | BR            | –           |
| 7            | –             | –           |
| 8            | –             | –           |
| 9            | P             | –           |
| 10           | Y             | –           |
| 11           | B             | –           |
| 12           | W             | –           |
| 13           | R             | –           |

| Connector No.   | B17          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |    |   |   |
|----|----|----|---|---|
| 5  | 4  | 3  | 2 | 1 |
| 12 | 11 | 10 | 9 | 8 |
| 7  | 6  |    |   |   |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | Y             | –                |
| 2            | L             | –                |
| 3            | W             | –                |
| 4            | –             | –                |
| 5            | –             | –                |
| 6            | SB            | –                |
| 7            | –             | –                |
| 8            | GR            | –                |
| 9            | R             | – (WITH BOSE)    |
| 9            | V             | – (WITHOUT BOSE) |
| 10           | G             | – (WITH BOSE)    |
| 10           | LG            | – (WITHOUT BOSE) |
| 11           | SHIELD        | –                |
| 12           | –             | –                |

| Connector No.   | B69                     |
|-----------------|-------------------------|
| Connector Name  | BLUETOOTH® CONTROL UNIT |
| Connector Color | GRAY                    |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 41           | B             | BT ANTENNA  |
| 42           | SHIELD        | BT SHIELD   |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2            | SHIELD        | –           |
| 3            | G             | –           |
| 4            | L             | –           |
| 5            | –             | –           |
| 6            | –             | –           |
| 7            | SHIELD        | –           |
| 8            | R             | –           |

| Connector No.   | B40          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

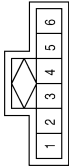
|   |   |   |
|---|---|---|
| 1 | 2 | 3 |
| 4 | 5 | 6 |
| 7 | 8 |   |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | P             | – (WITH NAVI)    |
| 1            | BR            | – (WITHOUT NAVI) |

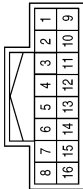
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|                 |            |
|-----------------|------------|
| Connector No.   | R3         |
| Connector Name  | MICROPHONE |
| Connector Color | WHITE      |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | SHIELD        | -           |
| 3            | -             | -           |
| 4            | P             | -           |
| 5            | -             | -           |
| 6            | -             | -           |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | L             | -           |
| 3            | GR            | -           |
| 4            | -             | -           |
| 5            | B             | -           |
| 6            | R             | -           |
| 7            | Y             | -           |
| 8            | -             | -           |
| 9            | V             | -           |
| 10           | G             | -           |
| 11           | B/R           | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |

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DISPLAY AUDIO

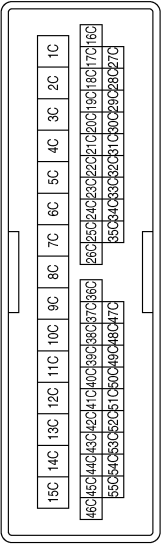
< WIRING DIAGRAM >

[DISPLAY AUDIO]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33C          | —             | —           |
| 34C          | —             | —           |
| 35C          | —             | —           |
| 36C          | LG            | —           |
| 37C          | R             | —           |
| 38C          | L             | —           |
| 39C          | G             | —           |
| 40C          | P             | —           |
| 41C          | —             | —           |
| 42C          | P             | —           |
| 43C          | GR            | —           |
| 44C          | L             | —           |
| 45C          | BR            | —           |
| 46C          | L             | —           |
| 47C          | Y             | —           |
| 48C          | BR            | —           |
| 49C          | B             | —           |
| 50C          | W             | —           |
| 51C          | R             | —           |
| 52C          | SHIELD        | —           |
| 53C          | —             | —           |
| 54C          | V             | —           |
| 55C          | LG            | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9C           | LG            | —           |
| 10C          | Y             | —           |
| 11C          | W             | —           |
| 12C          | SB            | —           |
| 13C          | B             | —           |
| 14C          | V             | —           |
| 15C          | R             | —           |
| 16C          | —             | —           |
| 17C          | —             | —           |
| 18C          | —             | —           |
| 19C          | —             | —           |
| 20C          | —             | —           |
| 21C          | —             | —           |
| 22C          | —             | —           |
| 23C          | —             | —           |
| 24C          | G             | —           |
| 25C          | R             | —           |
| 26C          | SHIELD        | —           |
| 27C          | —             | —           |
| 28C          | —             | —           |
| 29C          | —             | —           |
| 30C          | —             | —           |
| 31C          | —             | —           |
| 32C          | —             | —           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D22          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1C           | R             | — (WITH BOSE)    |
| 1C           | L             | — (WITHOUT BOSE) |
| 2C           | G             | — (WITH BOSE)    |
| 2C           | V             | — (WITHOUT BOSE) |
| 3C           | SHIELD        | —                |
| 4C           | SB            | —                |
| 5C           | V             | —                |
| 6C           | —             | —                |
| 7C           | P             | —                |
| 8C           | BR            | —                |

ABNIA5863GB

DISPLAY AUDIO

< WIRING DIAGRAM >

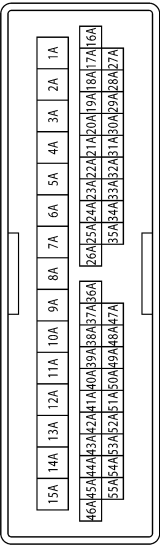
[DISPLAY AUDIO]

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

|                 |   |
|-----------------|---|
| Connector No.   | D23   |
| Connector Name  | FRONT DOOR SPEAKER<br>LH (WITHOUT BOSE<br>AUDIO SYSTEM) |
| Connector Color | WHITE   |



|                 |              |
|-----------------|--------------|
| Connector No.   | D102         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1A           | L             | - (WITH BOSE)    |
| 1A           | BR            | - (WITHOUT BOSE) |
| 2A           | P             | - (WITH BOSE)    |
| 2A           | R             | - (WITHOUT BOSE) |
| 3A           | SHIELD        | -                |
| 4A           | Y             | -                |
| 5A           | V             | -                |
| 6A           | -             | -                |
| 7A           | -             | -                |
| 8A           | -             | -                |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9A           | -             | -           |
| 10A          | BR            | -           |
| 11A          | Y             | -           |
| 12A          | B             | -           |
| 13A          | W             | -           |
| 14A          | SB            | -           |
| 15A          | R             | -           |
| 16A          | -             | -           |
| 17A          | -             | -           |
| 18A          | -             | -           |
| 19A          | -             | -           |
| 20A          | -             | -           |
| 21A          | -             | -           |
| 22A          | -             | -           |
| 23A          | -             | -           |
| 24A          | Y             | -           |
| 25A          | BR            | -           |
| 26A          | SHIELD        | -           |
| 27A          | -             | -           |
| 28A          | -             | -           |
| 29A          | -             | -           |
| 30A          | -             | -           |
| 31A          | -             | -           |
| 32A          | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33A          | -             | -           |
| 34A          | -             | -           |
| 35A          | -             | -           |
| 36A          | B             | -           |
| 37A          | P             | -           |
| 38A          | Y             | -           |
| 39A          | LG            | -           |
| 40A          | -             | -           |
| 41A          | -             | -           |
| 42A          | -             | -           |
| 43A          | V             | -           |
| 44A          | V             | -           |
| 45A          | W             | -           |
| 46A          | BG            | -           |
| 47A          | W             | -           |
| 48A          | B             | -           |
| 49A          | R             | -           |
| 50A          | SHIELD        | -           |
| 51A          | -             | -           |
| 52A          | -             | -           |
| 53A          | -             | -           |
| 54A          | -             | -           |
| 55A          | -             | -           |

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|-----------------|---|
| Connector No.   | D123  |
| Connector Name  | FRONT DOOR SPEAKER<br>RH (WITHOUT BOSE<br>AUDIO SYSTEM) |
| Connector Color | WHITE   |



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

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



|   |   |   |   |    |    |    |
|---|---|---|---|----|----|----|
| 1 | 2 | 3 |   |    | 4  | 5  |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | Y             | -                |
| 2            | L             | -                |
| 3            | V             | -                |
| 4            | -             | -                |
| 5            | -             | -                |
| 6            | BR            | -                |
| 7            | -             | -                |
| 8            | G             | -                |
| 9            | R             | - (WITH BOSE)    |
| 9            | V             | - (WITHOUT BOSE) |
| 10           | G             | - (WITH BOSE)    |
| 10           | LG            | - (WITHOUT BOSE) |
| 11           | SHIELD        | -                |
| 12           | -             | -                |

|                 |                      |
|-----------------|----------------------|
| Connector No.   | D205                 |
| Connector Name  | REAR DOOR SPEAKER LH |
| Connector Color | WHITE                |



|   |   |
|---|---|
| 2 | 1 |
|---|---|

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | R             | - (WITH BOSE)    |
| 1            | V             | - (WITHOUT BOSE) |
| 2            | G             | - (WITH BOSE)    |
| 2            | LG            | - (WITHOUT BOSE) |

|                 |              |
|-----------------|--------------|
| Connector No.   | D301         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|   |   |   |   |    |    |    |
|---|---|---|---|----|----|----|
| 1 | 2 | 3 | 4 | 5  |    |    |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | LG            | -           |
| 3            | V             | -           |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | Y             | -           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 7            | -             | -                |
| 8            | G             | -                |
| 9            | L             | - (WITH BOSE)    |
| 9            | LG            | - (WITHOUT BOSE) |
| 10           | P             | -                |
| 11           | SHIELD        | -                |
| 12           | -             | -                |

|                 |                      |
|-----------------|----------------------|
| Connector No.   | D305                 |
| Connector Name  | REAR DOOR SPEAKER RH |
| Connector Color | WHITE                |



|   |   |
|---|---|
| 2 | 1 |
|---|---|

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | L             | - (WITH BOSE)    |
| 1            | LG            | - (WITHOUT BOSE) |
| 2            | P             | -                |

AANIA2360GB



# DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

|                 |              |
|-----------------|--------------|
| Connector No.   | D505         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |    |   |   |   |   |
|----|----|----|---|---|---|---|
| 5  | 4  |    |   | 3 | 2 | 1 |
| 12 | 11 | 10 | 9 | 8 | 7 | 6 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | -           |
| 2            | R             | -           |
| 3            | P             | -           |
| 4            | W             | -           |
| 5            | R             | -           |
| 6            | SHIELD        | -           |
| 7            | Y             | -           |
| 8            | P             | -           |
| 9            | L             | -           |
| 10           | SB            | -           |
| 11           | LG            | -           |
| 12           | GR            | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | P             | -           |
| 10           | SB            | -           |
| 11           | B             | -           |
| 12           | W             | -           |
| 13           | R             | -           |
| 14           | L             | -           |
| 15           | LG            | -           |
| 16           | -             | -           |
| 17           | SHIELD        | -           |
| 18           | Y             | -           |
| 19           | -             | -           |
| 20           | GR            | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D504         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |    |    |    |    |    |   |   |
|----|----|----|----|----|----|----|---|---|
| 6  | 5  | 4  | 3  |    | 2  | 1  |   |   |
| 20 | 19 | 13 | 12 | 11 | 10 | 9  | 8 | 7 |
|    |    | 18 | 17 | 16 | 15 | 14 |   |   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | -             | -           |
| 4            | P             | -           |
| 5            | W             | -           |
| 6            | R             | -           |

|                 |  |
|-----------------|--|
| Connector No.   | D556   |
| Connector Name  | REAR VIEW CAMERA (WITHOUT AROUND VIEW MONITOR) |
| Connector Color | WHITE  |

|   |   |   |   |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
|---|---|---|---|



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | W             | -           |
| 3            | B             | -           |
| 4            | SHIELD        | -           |

| Terminal No. | Color of Wire | Signal Name                     |
|--------------|---------------|---------------------------------|
| 3            | P             | -                               |
| 4            | W             | -                               |
| 5            | R             | -                               |
| 6            | SHIELD        | -                               |
| 7            | Y             | - (WITHOUT AROUND VIEW MONITOR) |
| 7            | R             | - (WITH AROUND VIEW MONITOR)    |
| 8            | P             | -                               |
| 9            | L             | -                               |
| 10           | SB            | -                               |
| 11           | LG            | -                               |
| 12           | GR            | -                               |

|                 |              |
|-----------------|--------------|
| Connector No.   | D555         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|   |   |   |   |    |    |    |
|---|---|---|---|----|----|----|
| 1 | 2 | 3 | 4 | 5  |    |    |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |



| Terminal No. | Color of Wire | Signal Name                     |
|--------------|---------------|---------------------------------|
| 1            | W             | - (WITHOUT AROUND VIEW MONITOR) |
| 1            | B             | - (WITH AROUND VIEW MONITOR)    |
| 2            | R             | - (WITHOUT AROUND VIEW MONITOR) |
| 2            | W             | - (WITH AROUND VIEW MONITOR)    |

AANIA2361GB

A B C D E F G H I J K L M N O P

AV

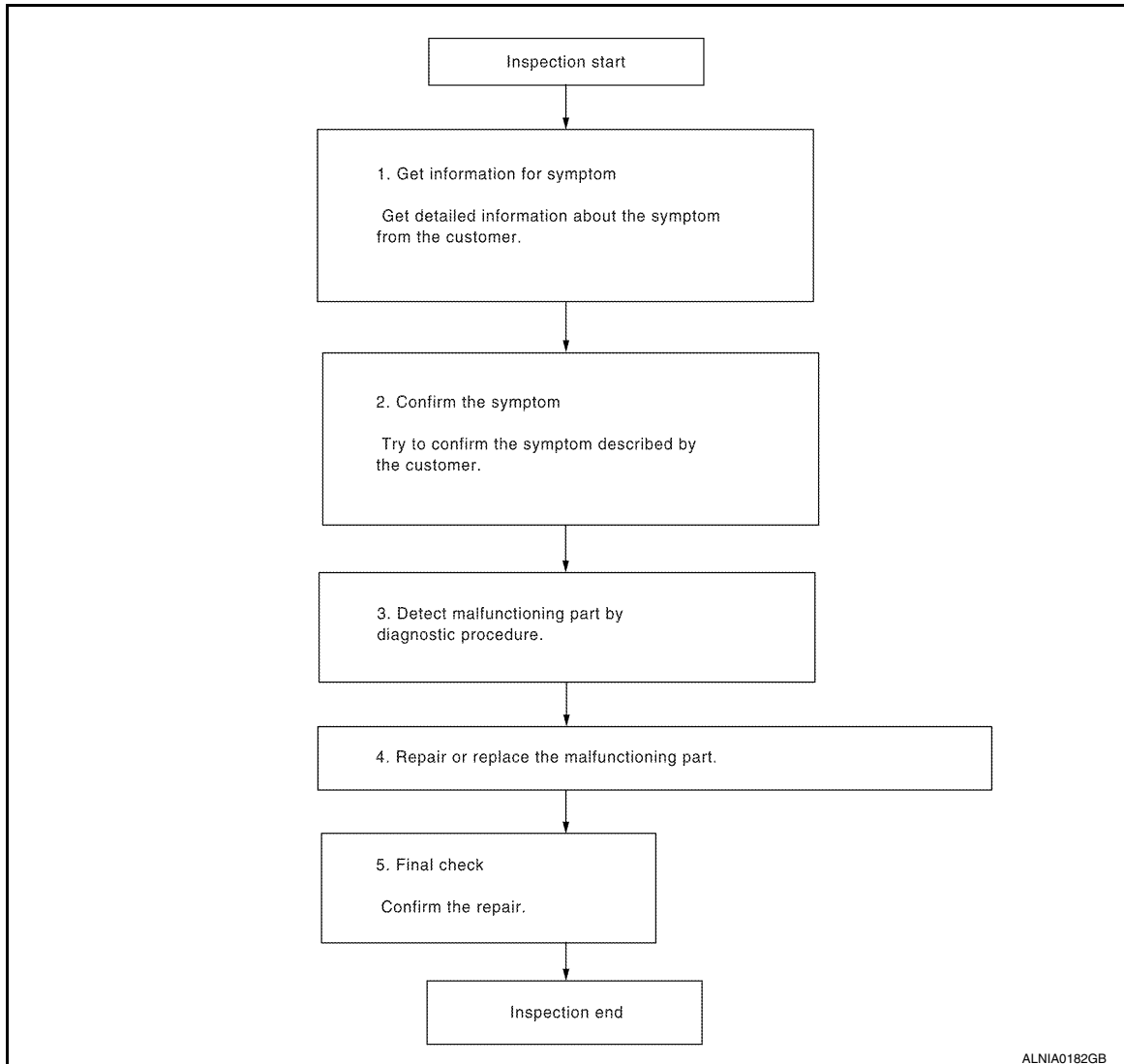
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

#### Work Flow

INFOID:000000009343664

#### 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.

## DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[DISPLAY AUDIO]

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.

Was the repair confirmed?

YES >> Inspection End.

NO >> GO TO 2.

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# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

## DTC/CIRCUIT DIAGNOSIS

### POWER SUPPLY AND GROUND CIRCUIT

#### AUDIO UNIT

#### AUDIO UNIT : Diagnosis Procedure

INFOID:000000009343665

#### 1.CHECK FUSE

Check that the following fuses are not blown.

| Terminal No. | Signal name          | Fuse No. |
|--------------|----------------------|----------|
| 7            | ACC power supply     | 19 (10A) |
| 19           | Battery power supply | 34 (20A) |

#### Are the fuses blown?

YES >> Replace the blown fuse after repairing the affected circuit.  
NO >> GO TO 2.

#### 2.CHECK POWER SUPPLY CIRCUIT

1. Turn power switch OFF.
2. Disconnect audio unit connector M83.
3. Check voltage between audio unit connector M83 and ground.

| Audio unit |          | Ground | Condition         | Voltage (Approx.) |
|------------|----------|--------|-------------------|-------------------|
| Connector  | Terminal |        |                   |                   |
| M83        | 7        | —      | Power switch: ON  | Battery voltage   |
|            | 19       |        | Power switch: OFF |                   |

#### Is the inspection result normal?

YES >> GO TO 3.  
NO >> Repair or replace harness or connectors.

#### 3.CHECK GROUND CIRCUIT

1. Turn power switch OFF.
2. Disconnect audio unit connector M84.
3. Check continuity between audio unit connectors and ground.

| Audio unit |          | Ground | Continuity |
|------------|----------|--------|------------|
| Connector  | Terminal |        |            |
| M83        | 20       | —      | Yes        |
| M84        | 45       |        |            |
|            | 48       |        |            |

#### Is the inspection result normal?

YES >> Inspection End.  
NO >> Repair or replace harness or connectors.

## BLUETOOTH® CONTROL UNIT

#### BLUETOOTH® CONTROL UNIT : Diagnosis Procedure

INFOID:000000009343666

#### 1.CHECK FUSE

Check that the following fuses are not blown.

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

| Terminal No. | Signal name          | Fuse No. |
|--------------|----------------------|----------|
| 1            | Battery power supply | 34 (20A) |
| 2            | ACC power supply     | 19 (10A) |
| 3            | Power signal         | 3 (10A)  |

Are the fuses blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

## 2.CHECK POWER SUPPLY CIRCUIT

1. Turn power switch OFF.
2. Disconnect Bluetooth® control unit connector B9.
3. Check voltage between Bluetooth® control unit connector B9 and ground.

| Bluetooth® control unit |          | Ground | Condition         | Voltage (Approx.) |
|-------------------------|----------|--------|-------------------|-------------------|
| Connector               | Terminal |        |                   |                   |
| B9                      | 1        | —      | Power switch: OFF | Battery voltage   |
|                         | 2        |        | Power switch: ACC |                   |
|                         | 3        |        | Power switch: ON  |                   |

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

## 3.CHECK GROUND CIRCUIT

1. Turn power switch OFF.
2. Check continuity between Bluetooth® control unit connector B9 and ground.

| Bluetooth® control unit |          | Ground | Continuity |
|-------------------------|----------|--------|------------|
| Connector               | Terminal |        |            |
| B9                      | 4        | —      | Yes        |
|                         | 24       |        |            |
|                         | 27       |        |            |

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

AV

# FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

## FRONT DOOR SPEAKER

### Diagnosis Procedure

INFOID:000000009343667

#### 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 terminals or connectors.

#### 2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M83 and suspect front door speaker connector.
2. Check continuity between audio unit connector M83 and suspect front door speaker connector.

| Audio unit |          | Front door speaker |          | Continuity |
|------------|----------|--------------------|----------|------------|
| Connector  | Terminal | Connector          | Terminal |            |
| M83        | 2        | D23 (LH)           | 1        | Yes        |
|            | 3        |                    | 2        |            |
|            | 11       | D123 (RH)          | 1        |            |
|            | 12       |                    | 2        |            |

3. Check continuity between audio unit connector M83 and ground.

| Audio unit |          | Ground | Continuity |
|------------|----------|--------|------------|
| Connector  | Terminal |        |            |
| M83        | 2        | —      | No         |
|            | 3        |        |            |
|            | 11       |        |            |
|            | 12       |        |            |

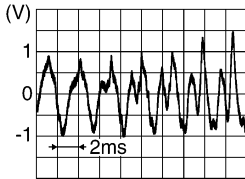
Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

#### 3.CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect audio unit connector M83 and suspect front door speaker connector.
2. Turn power switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M83.

| Audio unit connector M83 |                 | Condition           | Reference value   |
|--------------------------|-----------------|---------------------|---|
| (+)<br>Terminal          | (-)<br>Terminal |                     |   |
| 2                        | 3               | Audio signal output |  |
| 11                       | 12              |                     |   |

SKIB3609E

## FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

Is the inspection result normal?

YES >> Replace front door speaker. Refer to [AV-81, "Removal and Installation"](#).

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

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# REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

## REAR DOOR SPEAKER

### Diagnosis Procedure

INFOID:000000009343669

#### 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 terminals or connectors.

#### 2.CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M83 and suspect rear door speaker connector.
2. Check continuity between audio unit connector M83 and suspect rear door speaker connector.

| Audio unit |          | Rear speaker |          | Continuity |
|------------|----------|--------------|----------|------------|
| Connector  | Terminal | Connector    | Terminal |            |
| M83        | 4        | D205 (LH)    | 1        | Yes        |
|            | 5        |              | 2        |            |
|            | 13       | D305 (RH)    | 1        |            |
|            | 14       |              | 2        |            |

3. Check continuity between audio unit connector M83 and ground.

| Audio unit |          | Ground | Continuity |
|------------|----------|--------|------------|
| Connector  | Terminal |        |            |
| M83        | 4        | —      | No         |
|            | 5        |        |            |
|            | 13       |        |            |
|            | 14       |        |            |

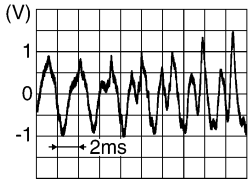
Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

#### 3.CHECK REAR DOOR SPEAKER SIGNAL

1. Connect audio unit connector M83 and suspect rear door speaker connector.
2. Turn power switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M83.

| Audio unit connector M83 |                 | Condition           | Reference value   |
|--------------------------|-----------------|---------------------|---|
| (+)<br>Terminal          | (-)<br>Terminal |                     |   |
| 4                        | 5               | Audio signal output |  |
| 13                       | 14              |                     |   |

SKIB3609E



## REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

Is the inspection result normal?

YES >> Replace rear door speaker. Refer to [AV-82, "Removal and Installation"](#).

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

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# CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

## CAMERA IMAGE SIGNAL CIRCUIT

### Diagnosis Procedure

INFOID:000000009347497

#### 1.CHECK REVERSE INPUT SIGNAL

1. Turn power switch ON.
2. Shift the selector lever to R (reverse).
3. Check voltage between audio unit connector M84 and ground.

| Audio unit |          | Ground | Condition                      | Voltage<br>(Approx.) |
|------------|----------|--------|--------------------------------|----------------------|
| (+) (–)    |          | (–)    |                                |                      |
| Connector  | Terminal |        |                                |                      |
| M84        | 50       | —      | Selector lever in R (re-verse) | Battery Voltage      |

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

#### 2.CHECK CAMERA POWER SUPPLY CIRCUIT CONTINUITY

1. Turn power switch OFF.
2. Disconnect audio unit connector M84 and rear view camera connector.
3. Check continuity between audio unit connector M84 and rear view camera connector D556.

| Audio unit |          | Rear view camera |          | Continuity |
|------------|----------|------------------|----------|------------|
| Connector  | Terminal | Connector        | Terminal |            |
| M84        | 34       | D556             | 1        | Yes        |

4. Check continuity between audio unit connector M84 and ground.

| Audio unit |          | Ground | Continuity |
|------------|----------|--------|------------|
| Connector  | Terminal |        |            |
| M84        | 34       |        | No         |

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

#### 3.CHECK CAMERA POWER SUPPLY VOLTAGE

1. Connect audio unit connector M84 and rear view camera connector.
2. Turn power switch ON.
3. Shift the selector lever to "R".
4. Check voltage between audio unit connector M84 and ground.

| Audio unit |          | Ground | Condition                 | Voltage<br>(Approx.) |
|------------|----------|--------|---------------------------|----------------------|
| (+) (–)    |          | (–)    |                           |                      |
| Connector  | Terminal |        |                           |                      |
| M84        | 34       | —      | Selector lever is in “R”. | 6.0 V                |

Is inspection result normal?

YES >> GO TO 4.

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

#### 4.CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn power switch OFF.
2. Disconnect audio unit connector M84 and rear view camera connector.

# CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

- Check continuity between audio unit connector M84 and rear view camera connector D556.

| Audio unit |          | Rear view camera |          | Continuity |
|------------|----------|------------------|----------|------------|
| Connector  | Terminal | Connector        | Terminal |            |
| M84        | 35       | D556             | 3        | Yes        |

- Check continuity between audio unit connector M84 and ground.

| Audio unit |          | Ground | Continuity |
|------------|----------|--------|------------|
| Connector  | Terminal |        |            |
| M84        | 35       |        | No         |

Is inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

## 5.CHECK CAMERA GROUND CIRCUIT CONTINUITY

Check continuity between audio unit connector M84 and rear view camera connector D556.

| Audio unit |          | Rear view camera |          | Continuity |
|------------|----------|------------------|----------|------------|
| Connector  | Terminal | Connector        | Terminal |            |
| M84        | 33       | D556             | 2        | Yes        |

Is inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness or connectors.

## 6.CHECK CAMERA IMAGE SIGNAL

- Connect audio unit connector M84 and rear view camera connector.
- Turn power switch ON.
- Shift the selector lever to "R".
- Check signal between audio unit connector M84 and ground.

| Audio unit |          | Ground | Condition               | Reference value  |
|------------|----------|--------|-------------------------|--|
| (+) (–)    |          | (–)    |                         |  |
| Connector  | Terminal |        |                         |  |
| M84        | 35       | —      | Camera image displayed. | <div><div><div>(V)</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div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|

Is inspection result normal?

YES >> Replace audio unit. Refer to [AV-80, "Removal and Installation"](#).

NO >> Replace rear view camera. Refer to [AV-88, "Removal and Installation"](#).

# BLUETOOTH® VOICE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

## BLUETOOTH® VOICE SIGNAL CIRCUIT

### Diagnosis Procedure

INFOID:000000009343670

#### 1.CHECK BLUETOOTH® VOICE SIGNAL CIRCUIT CONTINUITY

1. Turn power switch OFF.
2. Disconnect audio unit connector M84 and Bluetooth® control unit connector B9.
3. Check continuity between audio unit connector M84 and Bluetooth® control unit connector B9.

| Audio unit |          | Bluetooth® control unit |          | Continuity |
|------------|----------|-------------------------|----------|------------|
| Connector  | Terminal | Connector               | Terminal |            |
| M84        | 25       | B9                      | 9        | Yes        |

4. Check continuity between audio unit connector M84 and ground.

| Audio unit |          | Ground | Continuity |
|------------|----------|--------|------------|
| Connector  | Terminal |        |            |
| M84        | 25       | —      | No         |

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

#### 2.CHECK BLUETOOTH® VOICE SIGNAL GROUND CIRCUIT CONTINUITY

Check continuity between audio unit connector M84 and Bluetooth® control unit connector B9.


| Audio unit |          | Bluetooth® control unit |          | Continuity |
|------------|----------|-------------------------|----------|------------|
| Connector  | Terminal | Connector               | Terminal |            |
| M84        | 24       | B9                      | 10       | Yes        |


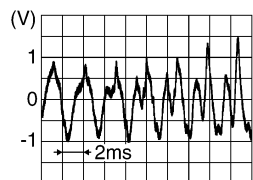
Is inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

#### 3.CHECK BLUETOOTH® VOICE SIGNAL

1. Connect audio unit connector M84 and Bluetooth® control unit connector B9.
2. Turn power switch to ACC.
3. Press  switch.
4. Check signal between the terminals of audio unit connector M84.

| Audio unit connector M84 |                 | Condition   | Reference value  |
|--------------------------|-----------------|---|--|
| (+)<br>Terminal          | (-)<br>Terminal |   |  |
| 25                       | 24              | During voice guide output with<br> switch pressed. | <br>SKIB3609E |

Is the inspection result normal?

YES >> Replace Bluetooth® control unit. Refer to [AV-84. "Removal and Installation"](#).

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

# BLUETOOTH® CONTROL SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

## BLUETOOTH® CONTROL SIGNAL CIRCUIT

### Diagnosis Procedure

INFOID:000000009343671

#### 1.CHECK CONTROL SIGNAL CIRCUIT CONTINUITY

1. Turn power switch OFF.
2. Disconnect Bluetooth® control unit connector B9.
3. Check continuity between Bluetooth® control unit connector B9 and ground.

| Bluetooth® control unit |           | Ground | Continuity |
|-------------------------|-----------|--------|------------|
| Connector               | Terminals |        |            |
| B9                      | 24        | —      | Yes        |
|                         | 27        |        |            |

Is the inspection result normal?

- YES >> Replace Bluetooth® control unit. Refer to [AV-84, "Removal and Installation"](#).
- NO >> Repair or replace harness or connectors.

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

## MICROPHONE SIGNAL CIRCUIT

### Diagnosis Procedure

INFOID:000000009343672

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

1. Turn power switch OFF.
2. Disconnect Bluetooth® control unit connector B9 and microphone connector R3.
3. Check continuity between Bluetooth® control unit connector B9 and microphone connector R3.

| Bluetooth® control unit |          | Microphone |          | Continuity |
|-------------------------|----------|------------|----------|------------|
| Connector               | Terminal | Connector  | Terminal |            |
| B9                      | 7        | R3         | 1        | Yes        |
|                         | 8        |            | 2        |            |
|                         | 29       |            | 4        |            |

4. Check continuity between Bluetooth® control unit connector B9 and ground.

| Bluetooth® control unit |          | Ground | Continuity |
|-------------------------|----------|--------|------------|
| Connector               | Terminal |        |            |
| B9                      | 7        | —      | No         |
|                         | 29       |        |            |

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair harness or connectors.

#### 2.CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth® control unit connector B9 and microphone connector R3.
2. Turn power switch ON.
3. Check voltage between microphone connector R3 and ground.

| Microphone |          | Ground | Voltage<br>(Approx.) |
|------------|----------|--------|----------------------|
| (+)        |          | (-)    |                      |
| Connector  | Terminal |        |                      |
| R3         | 4        | —      | 5V                   |

Is the inspection result normal?

YES >> GO TO 3

NO >> Replace Bluetooth® control unit. Refer to [AV-84. "Removal and Installation"](#).

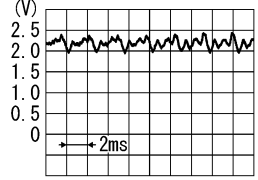
#### 3.CHECK MICROPHONE SIGNAL

Check signal between terminals of Bluetooth® control unit connector B9.

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

| Bluetooth® control unit connector B9 |          | Condition              | Reference value  |
|--------------------------------------|----------|------------------------|--|
| (+)                                  | (-)      |                        |  |
| Terminal                             | Terminal |                        |  |
| 7                                    | 8        | Speak into microphone. |  <p>PKIB5037J</p> |

Is the inspection result normal?

YES >> Replace Bluetooth® control unit. Refer to [AV-84. "Removal and Installation"](#).

NO >> Replace microphone. Refer to [AV-83. "Removal and Installation"](#).

AV





## STEERING SWITCH

## Diagnosis Procedure

INFOID:000000009343673

**1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE**

1. Turn power switch OFF.
2. Disconnect combination switch connector M112.
3. Check resistance between the terminals of combination switch connector M112.

| Combination switch connector M112 |          | Condition   | Resistance $\Omega$<br>(Approx.) |
|-----------------------------------|----------|---|----------------------------------|
| Terminal                          | Terminal |   |                                  |
| 14                                | 17       | Depress SOURCE switch.  | 1                                |
|                                   |          | Depress $\triangle$ switch.   | 121                              |
|                                   |          | Depress $\nabla$ switch.  | 321                              |
|                                   |          | Depress  switch.     | 723                              |
| 15                                |          | Depress $-$  switch. | 1                                |
|                                   |          | Depress  $+$ switch. | 121                              |
|                                   |          | Depress  switch.     | 321                              |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering switches. Refer to [AV-86, "Removal and Installation"](#).

**2. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND COMBINATION SWITCH**

1. Disconnect Bluetooth® control unit connector B9 and combination switch connector M92.
2. Check continuity between Bluetooth® control unit connector B9 and combination switch connector M92.

| Bluetooth® control unit |          | Combination switch |          | Continuity |
|-------------------------|----------|--------------------|----------|------------|
| Connector               | Terminal | Connector          | Terminal |            |
| B9                      | 12       | M92                | 24       | Yes        |
|                         | 13       |                    | 31       |            |
|                         | 14       |                    | 33       |            |

3. Check continuity between Bluetooth® control unit connector B9 and ground.

| Bluetooth® control unit |          | Ground | Continuity |
|-------------------------|----------|--------|------------|
| Connector               | Terminal |        |            |
| B9                      | 12       | —      | No         |
|                         | 13       |        |            |
|                         | 14       |        |            |

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

**3. CHECK COMBINATION SWITCH**

Check continuity between combination switch connectors M112 and M92.



# STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

| Combination switch |          |           |          | Continuity |
|--------------------|----------|-----------|----------|------------|
| Connector          | Terminal | Connector | Terminal |            |
| M112               | 14       | M92       | 24       | Yes        |
|                    | 15       |           | 31       |            |
|                    | 17       |           | 33       |            |

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace spiral cable. Refer to [SR-23, "Removal and Installation"](#).

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

1. Disconnect audio unit connector M83.
2. Check continuity between Bluetooth® control unit connector B9 and audio unit connector M83.

| Bluetooth® control unit |          | Audio unit |          | Continuity |
|-------------------------|----------|------------|----------|------------|
| Connector               | Terminal | Connector  | Terminal |            |
| B9                      | 17       | M83        | 6        | Yes        |
|                         | 18       |            | 16       |            |
|                         | 19       |            | 15       |            |

3. Check continuity between Bluetooth® control unit connector B9 and ground.

| Bluetooth® control unit |          | Ground | Continuity |
|-------------------------|----------|--------|------------|
| Connector               | Terminal |        |            |
| B9                      | 17       | —      | No         |
|                         | 18       |        |            |
|                         | 19       |        |            |

Is the inspection result normal?

YES >> Replace audio unit. Refer to [AV-80, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

AV

# USB CONNECTOR

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

## USB CONNECTOR

### Diagnosis Procedure

INFOID:000000009343674

#### 1. CHECK USB HARNESS CONTINUITY

1. Turn power switch OFF.
2. Disconnect audio unit connector M85 and USB connector M53.
3. Check continuity between audio unit connector M85 and USB connector M53.

| Audio unit |          | USB       |          | Continuity |
|------------|----------|-----------|----------|------------|
| Connector  | Terminal | Connector | Terminal |            |
| M85        | 53       | M53       | 2        | Yes        |
|            | 54       |           | 1        |            |
|            | 55       |           | 4        |            |
|            | 56       |           | 3        |            |
|            | 57       |           | 5        |            |

4. Check continuity between audio unit connector M85 and ground.

| Audio unit |          | —      | Continuity |
|------------|----------|--------|------------|
| Connector  | Terminal |        |            |
| M85        | 53       | Ground | No         |
|            | 55       |        |            |

#### Is the inspection result normal?

- YES >> Replace the USB connector. Refer to [AV-87. "Removal and Installation"](#).  
NO >> Repair or replace harness or connectors.

## SYMPTOM DIAGNOSIS

### AUDIO SYSTEM

#### Symptom Table

INFOID:000000009343675

#### RELATED TO AUDIO

| Symptoms   | Check items  | Probable malfunction location  |
|--|--|--|
| The disk cannot be removed.                          | Audio unit   | Malfunction in audio unit.<br>Refer to <a href="#">AV-20, "On Board Diagnosis Function"</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. Refer to <a href="#">AV-31, "Wiring Diagram"</a>.</li> <li>Audio unit power supply and ground circuits malfunction. Refer to <a href="#">AV-60, "AUDIO UNIT : Diagnosis Procedure"</a>.</li> </ul>   |
|  | Only a certain speaker (front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker 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. Refer to: <ul style="list-style-type: none"> <li><a href="#">AV-62, "Diagnosis Procedure"</a> (front door speaker).</li> <li><a href="#">AV-64, "Diagnosis Procedure"</a> (rear door speaker).</li> </ul> </li> <li>Malfunction in speaker. Refer to: <ul style="list-style-type: none"> <li><a href="#">AV-81, "Removal and Installation"</a> (front door speaker).</li> <li><a href="#">AV-82, "Removal and Installation"</a> (rear door speaker).</li> </ul> </li> <li>Malfunction in audio unit. Refer to <a href="#">AV-20, "On Board Diagnosis Function"</a>.</li> </ul>  |
| Noise is mixed with audio.                           | Noise comes out from all speakers.   | Malfunction in audio unit.<br>Refer to <a href="#">AV-20, "On Board Diagnosis Function"</a> .  |
|  | Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker RH).  | <ul style="list-style-type: none"> <li>Poor connector connection of speaker.</li> <li>Sound signal circuit malfunction between audio unit and speaker. Refer to: <ul style="list-style-type: none"> <li><a href="#">AV-62, "Diagnosis Procedure"</a> (front door speaker).</li> <li><a href="#">AV-64, "Diagnosis Procedure"</a> (rear door speaker).</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-81, "Removal and Installation"</a> (front door speaker).</li> <li><a href="#">AV-82, "Removal and Installation"</a> (rear door speaker).</li> </ul> </li> <li>Malfunction in audio unit. Refer to <a href="#">AV-20, "On Board Diagnosis Function"</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.  |

## AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO]

| 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> | Poor connector connection of antenna or antenna feeder.  |
| No satellite radio reception.         | Satellite radio antenna malfunction.   | <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.</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

- Make sure the customer's Bluetooth® 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 needs 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):  
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".
  - If the feature related to the customer's concern shows as "Y" (compatible):  
Perform diagnosis as per the following table.

# AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO]

| 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.   | Malfunction in audio unit.<br>Replace audio unit. Refer to <a href="#">AV-80, "Removal and Installation"</a> .        |
| 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>  |   |
| 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.  |   |
| The system cannot be operated.   | Sound operation function does not work.  | Microphone signal circuit malfunction.<br>Refer to <a href="#">AV-70, "Diagnosis Procedure"</a> .                     |
|  | <ul style="list-style-type: none"> <li>The voice recognition can be controlled.</li> <li>Steering switch's , , and  switch works, but  does not work.</li> </ul> | Steering switch malfunction.<br>Replace steering switch. Refer to <a href="#">AV-86, "Removal and Installation"</a> . |
|  | Steering switch's  ,  , and  switches do not work.  | Steering switch signal circuit malfunction.<br>Refer to <a href="#">AV-72, "Diagnosis Procedure"</a> .                |
|  | All steering switches do not work.   | Steering switch ground circuit malfunction.<br>Refer to <a href="#">AV-86, "Removal and Installation"</a> .           |

## RELATED TO REAR VIEW CAMERA

| Symptoms                         | Check items                              | Probable malfunction location   |
|----------------------------------|--|---|
| Rear view camera is inoperative. | Reverse signal circuit malfunction.      | Reverse signal circuit malfunction between reverse lamp relay and audio unit.<br>Refer to <a href="#">AV-66, "Diagnosis Procedure"</a> .    |
|                                  | Camera image signal circuit malfunction. | Camera image signal circuit malfunction between rear view camera and audio unit.<br>Refer to <a href="#">AV-66, "Diagnosis Procedure"</a> . |
|                                  | Rear view camera malfunction.            | Replace rear view camera. Refer to <a href="#">AV-88, "Removal and Installation"</a> .  |

## NORMAL OPERATING CONDITION

### Description

INFOID:000000009343676

#### RELATED TO NOISE

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

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, power 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>• Power 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). | <p>Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module.</p> <p>Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in <a href="#">AV-75, "Symptom Table"</a>.</p>   |
| 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 >

[DISPLAY AUDIO]

| 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. |

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## REMOVAL AND INSTALLATION

### AUDIO UNIT

#### Removal and Installation

INFOID:000000009344856

#### REMOVAL

1. Disconnect the 12V negative battery terminal. Refer to [PG-65, "Removal and Installation"](#).
2. Remove cluster lid C. Refer to [IP-17, "Removal and Installation"](#).
3. Remove the audio unit screws, disconnect the harness connectors from the audio unit and remove with the brackets attached.
4. Remove the bracket screws and the brackets from audio unit (if necessary).

#### INSTALLATION

Note the following, and install in the reverse order of removal.

**CAUTION:**

- If the audio unit is replaced, input of the user ID and password and time adjustment with VCM are required.
- If the audio unit is not replaced, time adjustment with VCM is required.

Input Method of User ID and Password:

1. Turn power switch ON.
2. Select "Sign in" from the CARWINGS screen.
3. Enter the user ID and password.

**NOTE:**

Since the user ID and password are determined by the user in advance, they are input by the user.

Time Adjustment and Check Method with VCM

Refer to [AV-58, "Work Flow"](#).



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FRONT DOOR SPEAKER

## Removal and Installation

INFOID:000000009344857

## REMOVAL

1. Remove the front door finisher. Refer to [INT-19, "Removal and Installation"](#).
2. Remove the screws and disconnect the connector to remove the front door speaker.

## INSTALLATION

Install in the reverse order of removal.

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### REAR DOOR SPEAKER

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#### Removal and Installation

INFOID:000000009344858

#### REMOVAL

1. Remove the rear door finisher. Refer to [INT-22, "Removal and Installation"](#).
2. Remove the screws and disconnect the connector to remove the rear door speaker.

#### INSTALLATION

Install in the reverse order of removal.

## MICROPHONE

## Removal and Installation

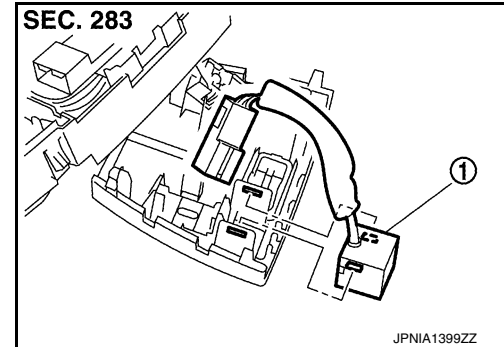
INFOID:000000009344859

## REMOVAL

1. Remove the map lamp assembly. Refer to [INL-73, "Removal and Installation"](#).
2. Press the pawl to remove the microphone (1) from the map lamp assembly.

**CAUTION:**

Use care when handling the microphone pawl to avoid damaging.



## INSTALLATION

Install in the reverse order of removal.

**NOTE:**

Check the microphone for looseness after the installation.

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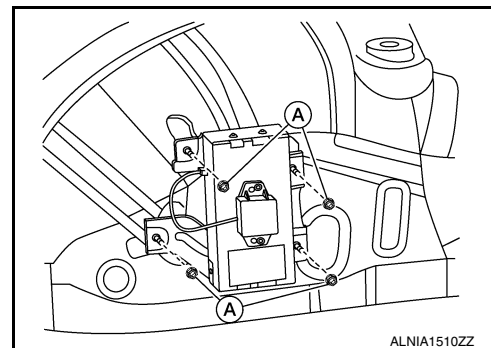
## BLUETOOTH CONTROL UNIT

### Removal and Installation

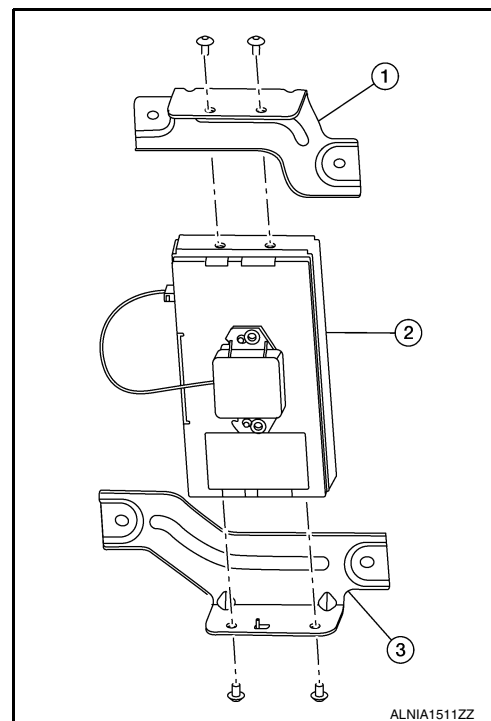
INFOID:000000009345472

#### REMOVAL

1. Remove the luggage side lower finisher (RH). Refer to [INT-43. "LUGGAGE SIDE LOWER FINISHER : Removal and Installation"](#).
2. Remove the four Bluetooth control unit nuts (A).



3. Disconnect the harness connectors from the Bluetooth control unit and remove.
4. Remove the Bluetooth control unit bracket screws and the brackets (1, 3) from the Bluetooth control unit (2).



#### INSTALLATION

Install in the reverse order of removal.

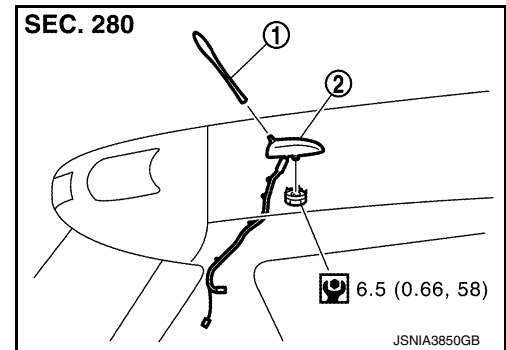
## ANTENNA BASE

### Removal and Installation

INFOID:000000009344861

#### REMOVAL

1. Partially remove the headlining (rear side) to obtain space to work between vehicle and headlining. Refer to [INT-37, "Removal and Installation"](#).
2. Disconnect the antenna feeder connector.
3. Remove the nut and the antenna base (2) from the vehicle.  
(1): Antenna rod



#### INSTALLATION

Install in the reverse order of removal.

#### CAUTION:

- Do not bend headlining when pulling down.
- Tighten the antenna base nut to specification.
- If the antenna base nut is less than the specified torque, it could affect the performance of the antenna sensitivity.
- If the antenna base nut is greater than the specified torque, it could damage the roof panel.

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## STEERING SWITCH

### Exploded View

INFOID:000000009344862

Refer to [SR-20, "Exploded View"](#).

### Removal and Installation

INFOID:000000009344863

#### REMOVAL

Refer to [SR-20, "Removal and Installation"](#).

#### INSTALLATION

Install in the reverse order of removal.

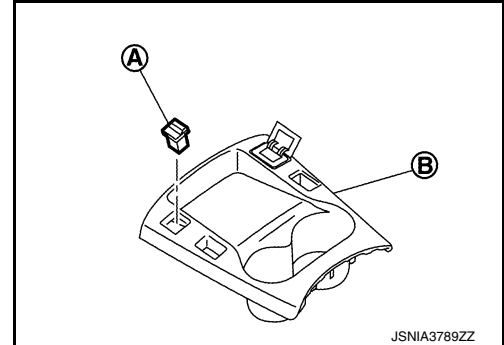
## USB CONNECTOR

### Removal and Installation

INFOID:000000009344864

#### REMOVAL

1. Remove the instrument lower center cover. Refer to [IP-17. "Removal and Installation"](#).
2. Press the tab from the rear of the instrument lower center cover (B) and remove the USB connector (A).



#### INSTALLATION

Install in the reverse order of removal.

#### **NOTE:**

Align the notch of the instrument panel center lower cover and assemble it.

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## REAR VIEW CAMERA

### Removal and Installation

INFOID:000000009344865

#### REMOVAL

1. Remove the back door opener switch assembly. Refer to [DLK-226. "Removal and Installation"](#).
2. Remove the screws and the rear view camera from the switch finisher.

#### INSTALLATION

Install in the reverse order of removal.

**NOTE:**

If the side distance guiding lines are dislocated after installation of the rear view camera, refer to [AV-317. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#) and correct the side distance guiding lines.



## PRECAUTION

### PRECAUTIONS

#### Precaution for Technicians Using Medical Electric

INFOID:000000009344972

##### OPERATION PROHIBITION

**WARNING:**

- Parts with strong magnet is used in this vehicle.
- Technicians using a medical electric device such as pacemaker must never perform operation on the vehicle, as magnetic field can affect the device function by approaching to such parts.

##### NORMAL CHARGE PRECAUTION

**WARNING:**

- If a technician uses a medical electric device such as an implantable cardiac pacemaker or an implantable cardioverter defibrillator, the possible effects on the devices must be checked with the device manufacturer before starting the charge operation.
- As radiated electromagnetic wave generated by PDM (Power Delivery Module) at normal charge operation may affect medical electric devices, a technician using a medical electric device such as implantable cardiac pacemaker or an implantable cardioverter defibrillator must not approach motor room [PDM (Power Delivery Module)] at the hood-opened condition during normal charge operation.

##### PRECAUTION AT TELEMATICS SYSTEM OPERATION

**WARNING:**

- If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.
- The electromagnetic wave of TCU might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), when using the service, etc.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of TCU might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before TCU use.

##### PRECAUTION AT INTELLIGENT KEY SYSTEM OPERATION

**WARNING:**

- If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.
- The electromagnetic wave of Intelligent Key might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), at door operation, at each request switch operation, or at engine starting.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of Intelligent Key might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before Intelligent Key use.

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

INFOID:000000009344934

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:**

# PRECAUTIONS

< PRECAUTION >

[NAVIGATION WITHOUT BOSE]

- 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:000000009344935

## AV COMMUNICATION SYSTEM

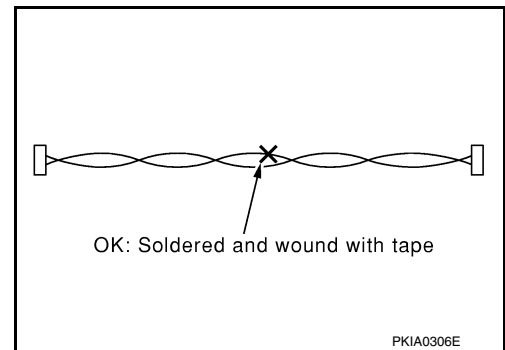
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn power switch OFF and disconnect the battery cable from the negative terminal before checking the circuit. Refer to [AV-90, "Precaution for Removing 12V Battery"](#).

## Precaution for Harness Repair

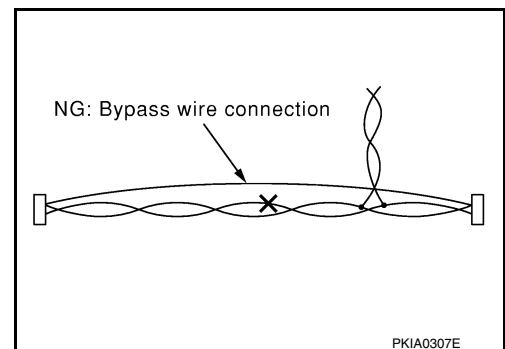
INFOID:000000009344936

## AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



- 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 Removing 12V Battery

INFOID:000000009344937

1. Check that EVSE is not connected.

### NOTE:

If EVSE is connected, the air conditioning system may be automatically activated by the timer A/C function.

## PRECAUTIONS

< PRECAUTION >

[NAVIGATION WITHOUT BOSE]

2. Turn the power switch OFF → ON → OFF. Get out of the vehicle. Close all doors (including back door).
3. Check that the charge status indicator lamp does not blink and wait for 5 minutes or more.

**NOTE:**

If the battery is removed within 5 minutes after the power switch is turned OFF, plural DTCs may be detected.

4. Remove 12V battery within 1 hour after turning the power switch OFF → ON → OFF.

**NOTE:**

- The 12V battery automatic charge control may start automatically even when the power switch is in OFF state.
- Once the power switch is turned ON → OFF, the 12V battery automatic charge control does not start for approximately 1 hour.

**CAUTION:**

- **After all doors (including back door) are closed, if a door (including back door) is opened before battery terminals are disconnected, start over from Step 1.**
- **After turning the power switch OFF, if “Remote A/C” is activated by user operation, stop the air conditioner and start over from Step 1.**

### Cautions in Removing AV Control Unit (Models with AV Control Unit)

INFOID:0000000009344938

**CAUTION:**

**Remove AV control unit after a lapse of 30 seconds or more after turning the power switch OFF.**

**NOTE:**

After the power switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if 12V battery voltage is cut off within 30 seconds.

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## PREPARATION

### PREPARATION

#### Commercial Service Tool

INFOID:000000009344933

| Tool name  | Description                             |
|--|---|
| <p>Power tool</p>  <p>P11B1407E</p> | <p>Loosening nuts, screws and bolts</p> |

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

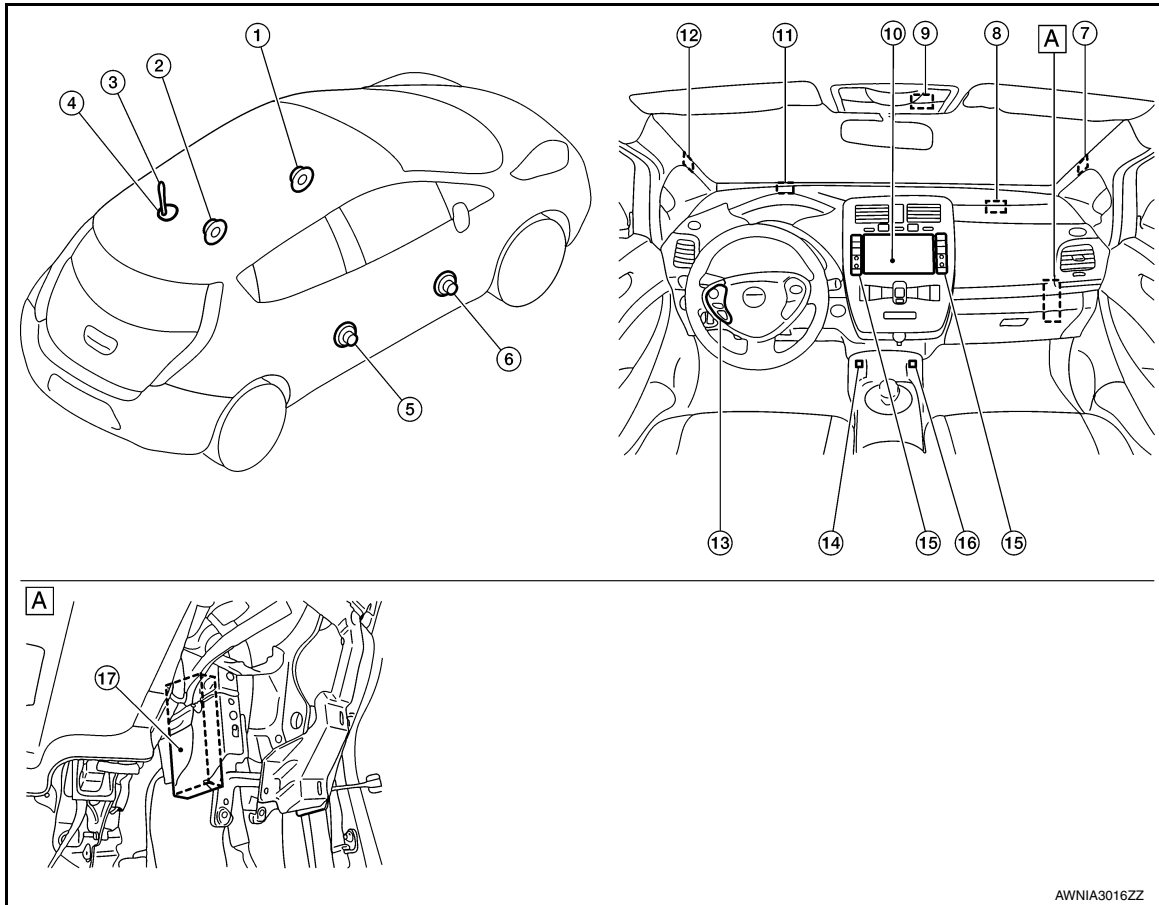
[NAVIGATION WITHOUT BOSE]

## SYSTEM DESCRIPTION

### COMPONENT PARTS

#### Component Parts Location

INFOID:000000008743646



A. Glove box cover assembly is removed.

| No. | Component   | Function  |
|-----|---|---|
| 1.  | Front door speaker LH                                   | Refer to <a href="#">AV-95. "Speaker".</a>                          |
| 2.  | Rear door speaker LH                                    |   |
| 3.  | Antenna rod   |   |
| 4.  | Antenna base (antenna amp. and satellite radio antenna) | Refer to <a href="#">AV-96. "Radio Antenna and Antenna Feeder".</a> |
| 5.  | Rear door speaker RH                                    | Refer to <a href="#">AV-95. "Speaker".</a>                          |
| 6.  | Front door speaker RH                                   |   |
| 7.  | Tweeter RH  |   |
| 8.  | TEL antenna   | Refer to <a href="#">AV-99. "TEL Antenna".</a>                      |
| 9.  | Microphone  | Refer to <a href="#">AV-99. "Microphone".</a>                       |
| 10. | AV control unit   | Refer to <a href="#">AV-94. "AV Control Unit".</a>                  |
| 11. | GPS antenna   | Refer to <a href="#">AV-98. "GPS Antenna".</a>                      |
| 12. | Tweeter LH  | Refer to <a href="#">AV-95. "Speaker".</a>                          |
| 13. | Steering switch   | Refer to <a href="#">AV-98. "Steering Switch".</a>                  |

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

| No. | Component            | Function   |
|-----|----------------------|--|
| 14. | USB connector        | Refer to <a href="#">AV-99. "USB Connector"</a>          |
| 15. | Multifunction switch | Refer to <a href="#">AV-98. "Multifunction Switch"</a> . |
| 16. | AUX jack             | Refer to <a href="#">AV-99. "Auxiliary Input Jack"</a> . |
| 17. | TCU                  | Refer to <a href="#">AV-98. "TCU"</a> .                  |

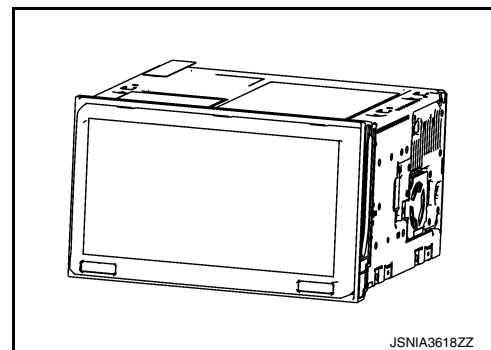
## AV Control Unit

INFOID:000000008743647

### DESCRIPTION

- High-resolution 7-inch wide VGA display integrated AV control unit is installed at the center of the instrument panel.
- The AV control unit is equipped with the following parts. It is the master unit integrated with functions and controls the multi-AV system.

| Units equipped                              |
|---|
| SD card slot                                |
| High resolution 7-inch wide VGA LCD monitor |
| Audio amplifier                             |
| AM/FM electronic tuner                      |
| Satellite radio tuner                       |
| CD drive                                    |
| USB interface                               |
| Bluetooth® module                           |



- Signals necessary for the vehicle information display function are received from ECM and the combination meter via CAN communication.
- It is connected to TCU in USB communication, and signals necessary for the Telematics function and CAR-WINGS function are sent and received.
- Signals necessary for vehicle setting functions are sent and received with BCM via CAN communication.
- It inputs the signal for driving status recognition (vehicle speed signal, reverse signal, and parking brake signal).
- It has the built-in gyro sensor and acceleration sensor as a vehicle position calculation sensor. Map data is read from an SD card in the SD slot.
  - SD card
- It records the map data, traffic control data, and guide information, etc.
  - Gyroscope
- Detects vehicle cornering condition.
  - Acceleration sensor
- Detects the inclination angle and height variation of the vehicle.

### NOTE:

For details of each function, refer to [AV-102. "MULTI AV SYSTEM : System Description"](#).

### SD Card Slot

With the display opened, the map card slot is located on the right (main slot), and the card slot used for import/export of stored location is located on the left (sub slot).

### Display

- High resolution 7-inch wide VGA LCD monitor is adopted to display a high definition image including digital image signals.
- Touch panel function is adopted to improve operability.
- RGB digital image signals (navigation image/menu image) are displayed.

### Audio Amplifier

- 45W x 4ch amplifiers are installed.
- Audio sound, TEL voice and guiding voice are output to each speaker.

### AM/FM Electronic Tuner

# COMPONENT PARTS

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITHOUT BOSE]

- The AM/FM electric tuner includes the PLL frequency synthesizer system.

### Satellite Radio Tuner

- The adoption of the PPL synthesizer method allows the signal reception at more accurate frequencies.
- The satellite radio tuner receives a satellite radio antenna signal and converts the signal into an audio sound signal and a data signal.
- The audio sound signal is transmitted to the audio amplifier and the data signal is transmitted to the display.

### CD Drive

- It is CD-R/CD-RW compliant and enables MP3 and WMA files to play music.
- It displays the artist name, album title or song title recorded to the file by the ID3 tag/WMA tag display function.

### USB Interface

- Music can be played by connecting an iPod® or USB memory.

### Bluetooth® Module

- Wireless connection to the audio device equipped with Bluetooth® communication can play music.
- Once a Bluetooth® communication compliant phone has been registered in the AV control unit, hands-free phone communication and connection to the CARWINGS information center can be carried out without connecting the cellular phone to the TEL harness.
- Five units of Bluetooth® communication devices including audio devices and cellular phones can be registered to the AV control unit.

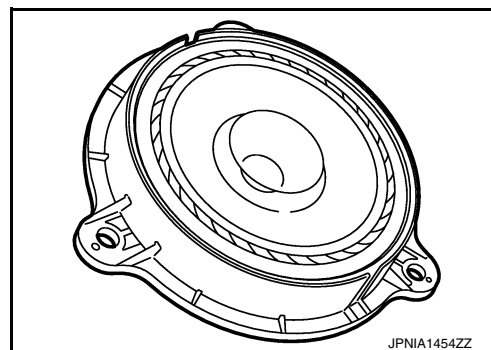
## Speaker

INFOID:000000008743648

The 6-speaker system is adopted.

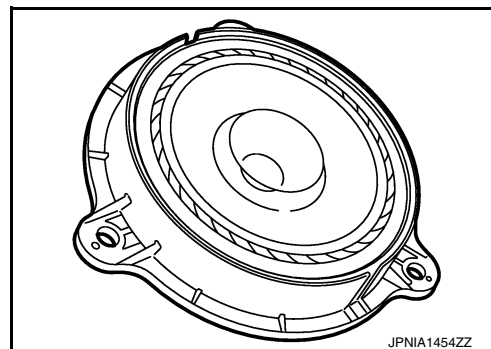
### Front door speaker

- $\phi 16.5$  cm (6.5 in) speaker is installed to the bottom of the front door.
- Sound signal is input from the AV control unit to output mid and low range sounds.



### Rear door speaker

- $\phi 16.5$  cm (6.5 in) speaker is installed to the bottom of the rear door.
- Sound signal is input from the AV control unit to output high, mid and low range sounds.



### Tweeter

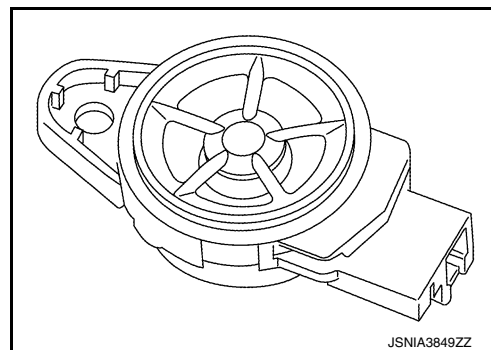
- $\phi 2.5$  cm (1 in) tweeter for high-range sounds is installed in the front pillar.

## COMPONENT PARTS

### < SYSTEM DESCRIPTION >

### [NAVIGATION WITHOUT BOSE]

- Sound signal is input from the AV control unit to output high range sounds.



INFOID:000000008743649

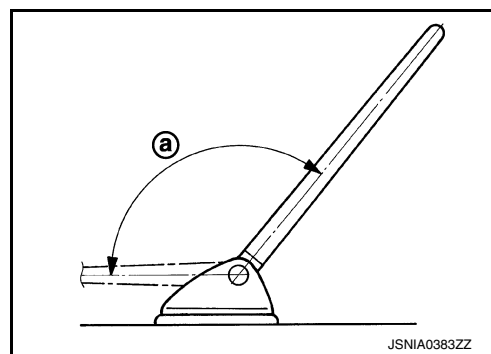
## Radio Antenna and Antenna Feeder

### RADIO ANTENNA

#### Antenna Rod

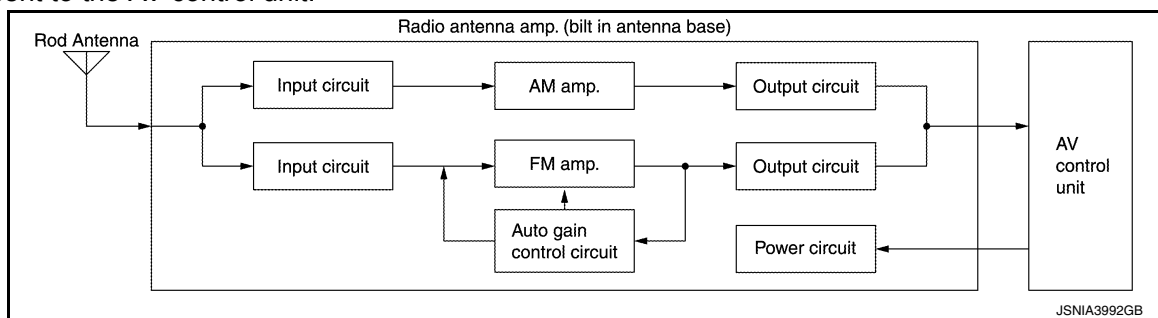
Foldable rod antenna is installed to the rear center of the roof.

a : 140°



#### Antenna Base

- To obtain sufficient reception sensitivity, an antenna amplifier is built into the antenna base.
- Power of the antenna amplifier is supplied from the AV control unit.
- The radio signal received by the antenna rod is input to the antenna base and the antenna signal is amplified and sent to the AV control unit.



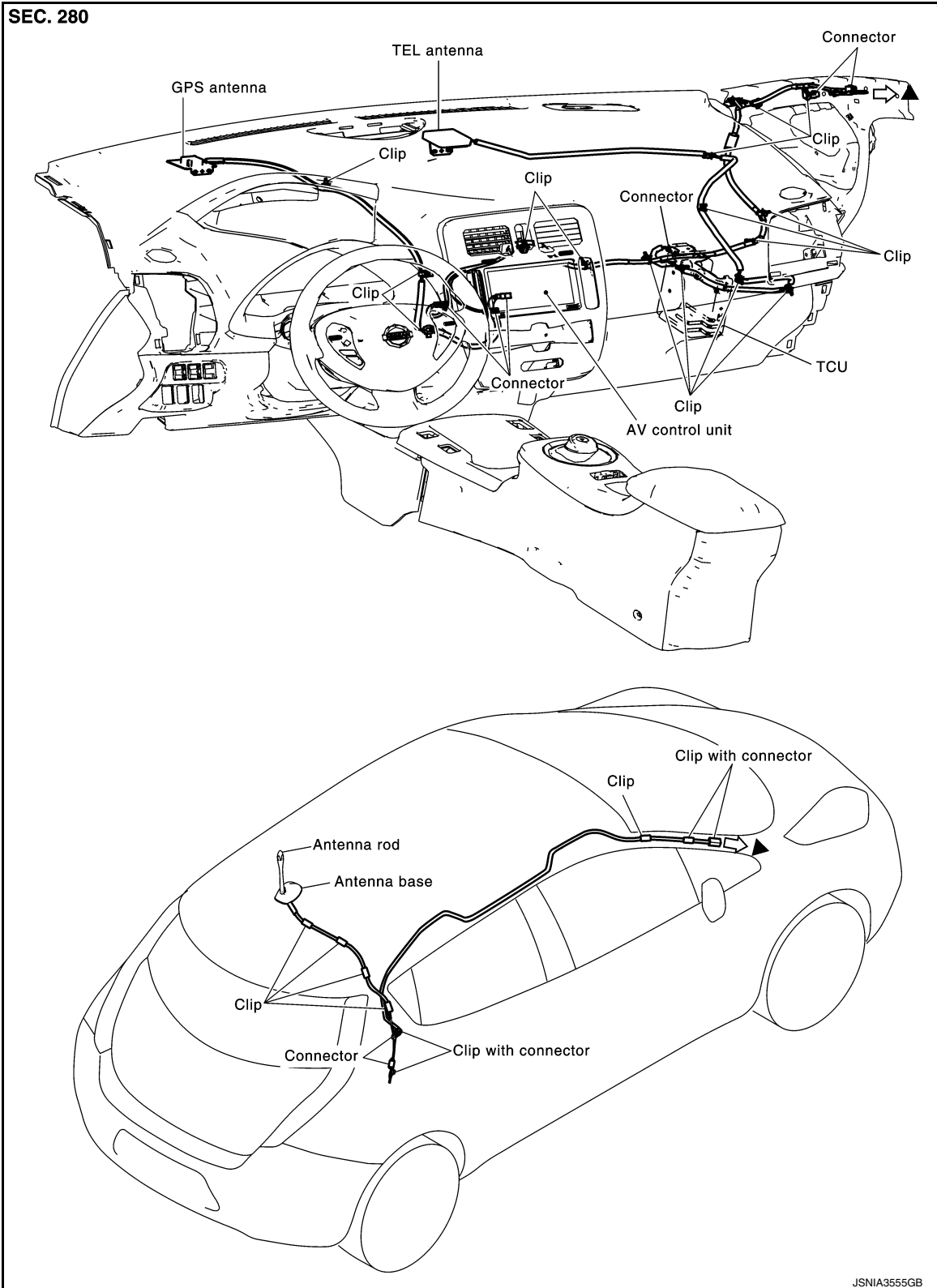
#### Satellite radio Antenna

- Receives satellite radio waves and outputs it to AV control unit.

#### Antenna circuit



## SEC. 280

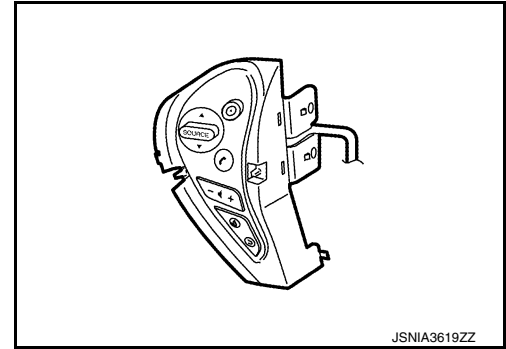


▲: Indicates that the part is connected at points with same symbol in actual vehicle.

## Steering Switch

INFOID:000000008743650

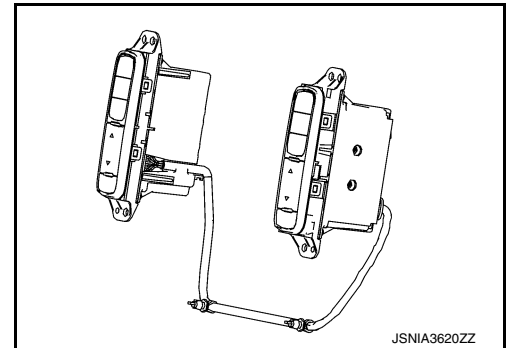
- Hands-free phone, possible driving distance display, voice control, and audio operations can be performed.
- This switch is connected to the AV control unit, and the switch operation signal is transmitted to the AV control unit via voltage multiplex communication.



## Multifunction Switch

INFOID:000000008743651

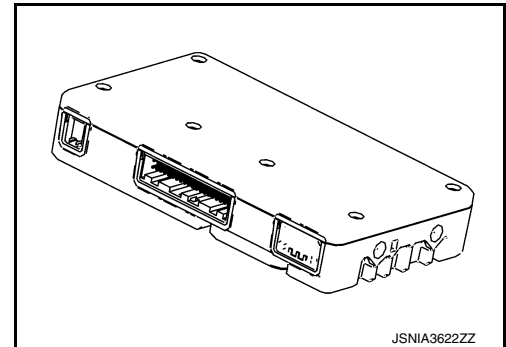
- Audio, navigation, Telematics, etc. can be controlled.
- Switch operation signals are input to the AV control unit via AV communication.



## TCU

INFOID:000000008743652

- TCU is installed on the lower right of the instrument panel.
- A radio communication terminal is built into the unit, and data is sent and received in SMS and packet communication with the NIS-SAN CARWINGS Data Center through the TEL antenna.
- VIN information necessary for the Telematics service is memorized.



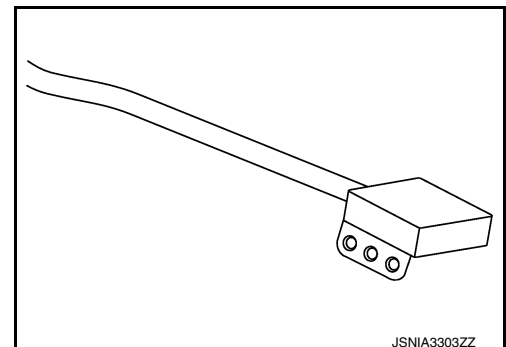
## GPS Antenna

INFOID:000000008743653

- GPS antenna is installed in the instrument panel.
- Power is supplied from the AV control unit.
- This antenna amplifies radio waves received from the GPS satellite and transmits the GPS signal to the AV control unit.

### NOTE:

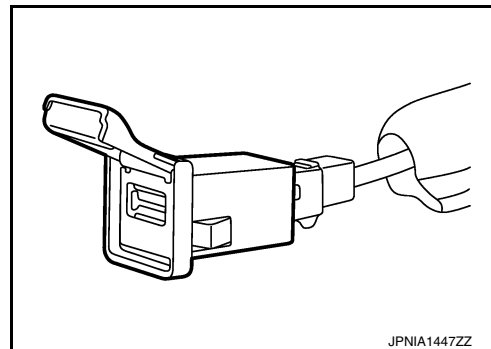
An object on the instrument panel may cause the reception sensitivity to be decreased.



## USB Connector

INFOID:000000008743654

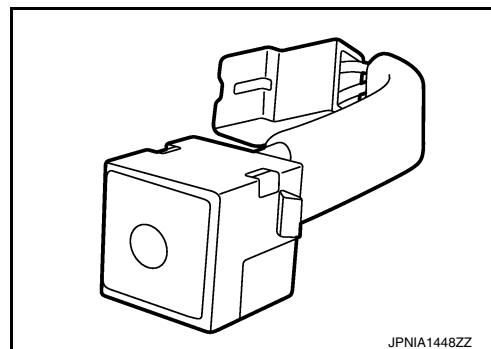
- USB connector is installed on the lower left side of the instrument panel.
- iPod® and USB memory can be connected to the AV control unit.



## Microphone

INFOID:000000008743655

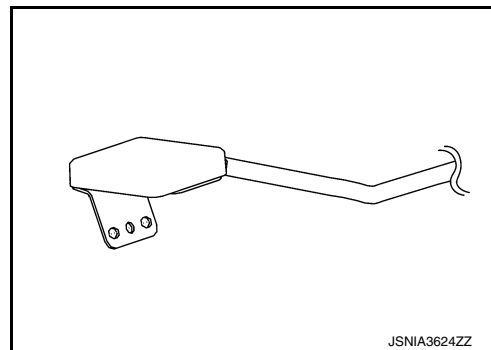
- The voice control/TEL microphone is installed on the right side of the map lamp assembly.
- The power is supplied from the AV control unit to the microphone, transmitting sound signals to the AV control unit at the voice control or during hands-free phone communication.



## TEL Antenna

INFOID:000000008743656

- The TEL antenna is installed in the instrument panel.
- Power is supplied with TCU activated.



## Auxiliary Input Jack

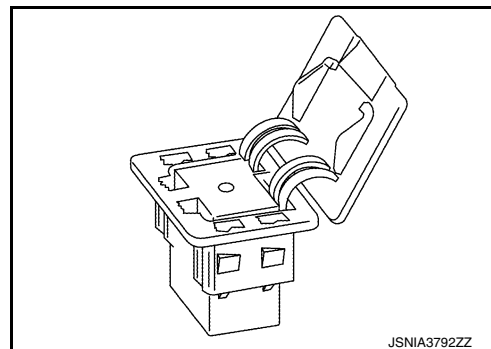
INFOID:000000008743659

- AUX jack is installed at the lower right of the instrument panel.
- Connection to an external audio device can provide sound output.

External input terminal for connection     $\phi$ 3.5 mm stereo mini-jack

### NOTE:

When connected to monaural mini-jack plug cable, sound may not be output.



## SD Card

INFOID:000000008743660

- Map data is memorized in an 8 GB SDHC\* card.
- Map data is sent to the AV control unit from the SD slot.

### NOTE:

## COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

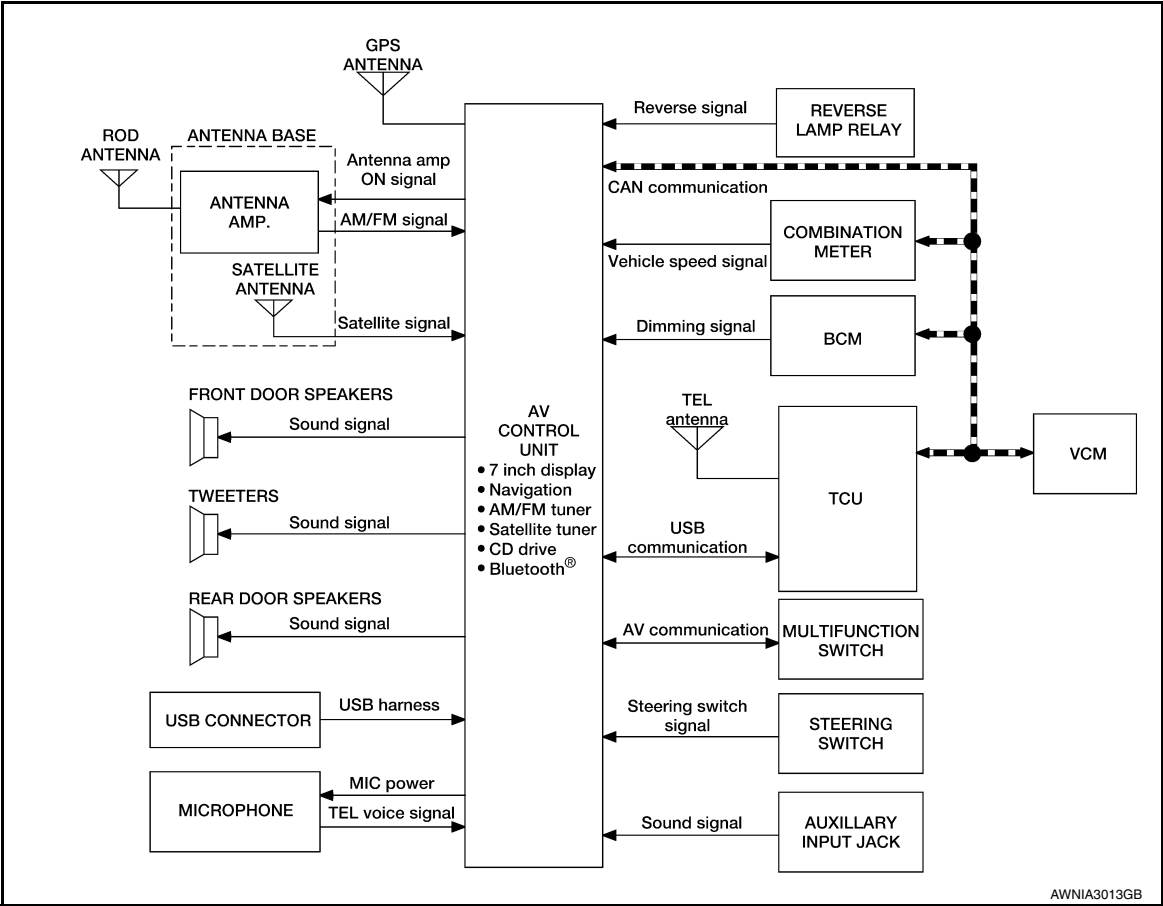
\*SDHC: Abbreviation of SD High-Capacity. It is the upper level standard of the SD memory card. A large quantity of data can be memorized, and the transfer speed of data is high.

SYSTEM

MULTI AV SYSTEM

MULTI AV SYSTEM : System Diagram

INFOID:000000008743661



CAN communication

AV control unit Input Signal

| Transmit unit     | Signal name  |
|-------------------|--|
| Combination meter | Odometer signal  |
|                   | A/C OFF average electricity consumption for driving range signal |
|                   | A/C ON average electricity consumption for driving range signal  |
|                   | Driving range difference signal                                  |

AV

# SYSTEM

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITHOUT BOSE]

| Transmit unit | Signal name  |
|---------------|--|
| VCM           | A/C consumption power status display signal        |
|               | A/C consumption signal                             |
|               | Current motor power signal                         |
|               | ECO tree signal                                    |
|               | Li-ion battery charging data signal                |
|               | Others consumption signal                          |
|               | Pre-A/C priority signal                            |
|               | Pre-A/C timer signal                               |
|               | Remaining time to charge completion (200 V) signal |
|               | Remaining time to charge completion (100 V) signal |
|               | Traction motor consumption signal                  |
|               | VCM activation/deactivation command signal         |
|               | VCM status signal                                  |

### TCU Input Signal

| Transmit unit    | Signal name  |
|------------------|--|
| VCM              | A/C expected consumption signal                    |
|                  | Charge status signal                               |
|                  | Pre-A/C status signal                              |
|                  | Remaining time to charge completion (200 V) signal |
|                  | Remaining time to charge completion (100 V) signal |
|                  | VCM activation/deactivation command signal         |
|                  | VCM status signal                                  |
|                  | Li-ion battery available charge signal             |
|                  | Li-ion battery capacity signal                     |
|                  | Li-battery gradual capacity loss signal            |
| On board charger | AC input type signal                               |

## MULTI AV SYSTEM : System Description

INFOID:000000008743662

- AV control unit is connected to the following parts. It performs power supply, signal input and communication, and it controls the multi-AV system.
  - GPS antenna
  - Radio antenna (radio antenna amplifier)
  - USB connector
  - Auxiliary input jack
  - BCM
  - VCM
  - Combination meter
  - Steering switch
  - Multifunction switch
  - Microphone
  - TCU
  - Speakers
  - Vehicle signals (reverse signal, vehicle speed signal and illumination signal)
- Data of external device connected to the USB connector is played and transferred.
- Dimming signal is input from BCM to adjust the brightness of the display.

## COMMUNICATION SIGNAL

## &lt; SYSTEM DESCRIPTION &gt;

AV control unit is connected to TCU via USB communication, and it receives the Telematics information received by TCU and gives the display and sound output. Telematics operation signals and sound signals are also sent to TCU.

## Auto light adjustment function

Auto light adjustment function automatically dims/brightens the display according to the ambient light when the lighting switch is in the 1st or 2nd position. Whether or not the display is dimmed when the lighting switch is in the 1st position or 2nd position is determined by the output condition of the dimming signal output from the BCM to the AV control unit. Even if the lighting switch is in the 1st position or 2nd position, the display may not be dimmed depending on the ambient light sensed by the auto light sensor. For details, refer to [INL-10, "ILLUMINATION CONTROL SYSTEM : System Description"](#).

## CAN COMMUNICATION

- AV control unit is connected via CAN communication, receives data signal from VCM and combination meter, and indicates power consumption information, etc. on the display based on the information obtained.
- The AV control unit, which has the vehicle setting function, transmits and receives data on vehicle setting condition via CAN communication with the BCM.
- AV control unit receives and sends signals necessary for timer charge and A/C-heater timer operation with VCM via CAN communication.

## Energy Flow Display Function

The AV control unit receives data signals from the VCM and combination meter via CAN communication and computes each value using the obtained information to display it.

| Display function                        | Receiving signal (transmit unit)   | Display method  |
|---|--|---|
| Instantaneous power consumption display | <ul style="list-style-type: none"> <li>• Battery consumption monitor signal (VCM)</li> <li>• Vehicle speed signal (combination meter)</li> </ul> | Computes the instantaneous power consumption using the vehicle speed and battery consumption monitor signals, and displays the instantaneous power consumption bar.   |
| Possible driving distance display       | <ul style="list-style-type: none"> <li>• Possible driving distance signal (Combination meter)</li> </ul>   | Displays a possible driving distance, based on a possible driving distance signal. When the meter indication of a possible driving distance is "----", it is displayed by "****" on the NAVI screen. Data is retained even with the power switch OFF.   |
| Average power consumption display       | <ul style="list-style-type: none"> <li>• Battery consumption monitor signal (VCM)</li> <li>• Vehicle speed signal (combination meter)</li> </ul> | Computes the average power consumption using the battery consumption monitor and vehicle speed signals, and displays it. The average power consumption is displayed only when 30 seconds have elapsed and the vehicle has been driven 500 m after the average power consumption was reset. Data is retained even with the power switch OFF. |

## Vehicle Setting Function

The AV control unit transmits and receives data signals via CAN communication with the BCM, allowing the following vehicle settings.

- To turn on the automatic interior room lamp (ON/OFF) when the door is unlocked
- To adjust the auto light sensitivity (+/-)
- To operate the intermittent wiper linked with the vehicle speed (ON/OFF)
- Vehicle setting initialization

**NOTE:**

The setting items vary depending on the vehicle specification

## TYPE OF VOICE SIGNAL

## Reception Voice Signal

- Hands-free phone reception voice is output from the cellular phone through the AV control unit to the front speaker via Bluetooth® communication.
- If the hands-free phone is used while the audio is ON and/or the voice guidance is being output, these sounds are muted and only the reception voice is output.

## Speech Sound Signal

Hands-free phone speech sound is transmitted from the microphone via the AV control unit and Bluetooth® communication to the cellular phone.

## CARWINGS Reading Voice Signal

- In the case of the CARWINGS reading voice, the AV control unit receives text data from the NISSAN CARWINGS Data Center through the USB harness and outputs them to the front speaker.
- If CARWINGS data is read while the audio is ON and/or the voice guidance is being output, these audio sounds are muted and only the CARWINGS reading voice is output.
- Depending on the information from the NISSAN CARWINGS Data Center, not only the CARWINGS reading voice but also background music may be output. In this case, audio output of the front speaker is turned down 10 dB and then the CARWINGS reading voice is output.

### Guide Sound Signal

- Voice signals output during the route guidance of the navigation system are output from the AV control unit to the front speaker.
- If the voice guidance is output with the audio ON, audio output of the front speaker is turned down 10 dB and then voice guidance is output.
- Adjusting the volume while the voice guidance is being output can change the volume of the guidance.

### AUDIO FUNCTION

- The MP3/WMA playback function enables music to play for a long time: the user need not change the CD during a long trip. The text display function is also adopted so that the title name and artist name of the ID3 tag/WMA tag can be displayed.
- Bluetooth® audio function is adopted to play music data in the portable audio via wireless communication.
- The adoption of the vehicle speed interlock sound volume function reduces the burden of the volume adjustment by the difference between the noises when the vehicle is stopped or running. In addition, the vehicle speed interlock sound volume function can perform ON/OFF setting and sound volume adjustment on a scale of one to five.

### MP3/WMA Playback Function

This function enables the playback of compressed music files, such as MP3 music files used for the most widespread broadband music distribution and WMA music files played back with a music player generally built in Windows® personal computers.

### Vehicle Speed Interlock Volume Function

- The AV control unit receives the vehicle speed signal from the combination meter via CAN communication and changes the sound volume in conjunction with the vehicle speed.
- Using the vehicle speed interlock sound volume function, ON/OFF setting can be carried out as preferred by users, and sound volume variation caused by vehicle speed change can be adjusted on a scale of one to three.

### Bluetooth® Audio Function

- Bluetooth® audio function is adopted to play music data in the portable audio in wireless communication.
- Five units of Bluetooth® communication devices including audio devices and cellular phones can be registered to the AV control unit.
- When the Bluetooth® audio is connected to the portable audio through Bluetooth®, it can play the music data in the portable audio.
- When the Bluetooth® audio is playing the data, operations of the other applications are as shown in the following table.

| Cellular phone operation (control) status |                                | Bluetooth® audio playback status   |
|---|--------------------------------|--|
| Hands-free phone communication            | Hands-free phone incoming call | Answering the call stops audio playback temporarily.   |
| CARWINGS service                          | Information channel and E-mail | Audio playback does not stop.  |
|   |                                | Audio playback stops temporarily during data communication.<br>After the communication has been completed, playback resumes. |
| Telephone book transfer                   |                                | Audio playback does not stop.  |
|   |                                | For Bluetooth® audio, audio playback stops temporarily.<br>After the telephone book has been transferred, playback resumes.  |



Bluetooth® compliant profile

| Profile name                        | Abbreviation | Version  |
|-------------------------------------|--------------|----------|
| Advanced Audio Distribution Profile | A2DP         | Ver. 1.2 |
| Audio Video Remote Control Profile  | AVRCP        | Ver. 1.3 |

### Satellite Radio

- Satellite radio tuner is built into AV control unit.
- Audio signal and data signal (satellite radio) are received by satellite antenna. There are input to AV control unit. AV control unit outputs audio signal to each speaker and data signal to display unit.

### USB CONNECTING FUNCTION

USB connector enables iPod® compliant and playback of music files in the USB memory.

\*: iPod® is the trademark of Apple Inc. registered in the United States and other countries.

### iPod® Compliant

- By connecting a user's iPod® to the USB connector, music can be played.
- While iPod® is connected, iPod® is charged.
- It is compliant with various playback methods.

### NAVIGATION SYSTEM FUNCTION

#### Description

- The AV control unit controls navigation function while GPS tuner has built-in map data, GYRO (angle speed sensor), on the SD card.
- The AV control unit inputs operation signal with communication signal, through front display unit (touch panel) and multifunction switch and steering switch.
- Guide sound is output to front speaker through from AV control unit when operating navigation system.
- A vehicle position is calculated with the GYRO (angle speed sensor), vehicle sensor, signal from GPS satellite and map data stored on SD card, and transmits the map image signal (RGB image, RGB area, RGB image synchronizing) to the display.

#### Position Detection Principle

The navigation system periodically calculates the current vehicle position according to the following three types of signals.

- Travel distance of the vehicle as determined by the vehicle speed sensor
- Vehicle turning angle determined by the gyroscope (angular speed sensor)
- The travel direction of the vehicle 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, which is stored in the SD card (map-matching), and indicated on the screen with a current location mark. More accurate data is used by comparing position detection results from GPS to the map-matching.

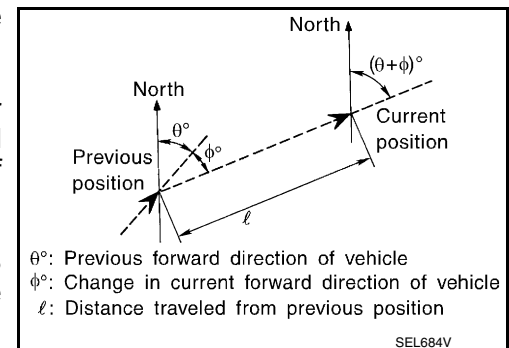
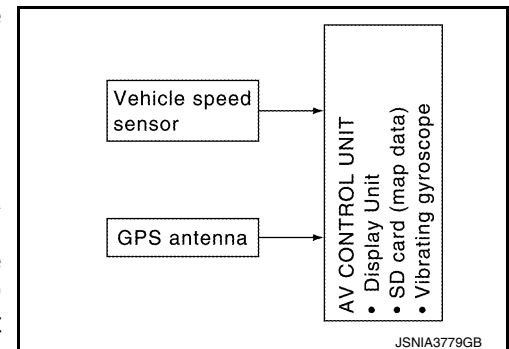
The current position is calculated by detecting the travel distance from the previous calculation point, and its direction change.

- Travel distance

The travel distance is generated from the vehicle speed sensor input signal. The automatic distance correction function is adopted for preventing a miss-detection of the travel distance because of tire wear etc.

- Travel direction

The gyroscope (angular velocity sensor) and GPS antenna (GPS information) generate the change of the travel direction. Both have advantages and disadvantages as per the following descriptions.

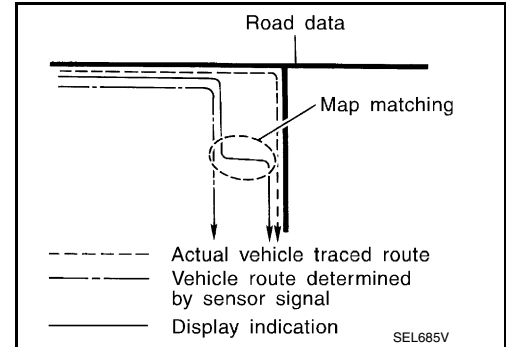


| Type                                | Advantage   | Disadvantage  |
|-------------------------------------|---|---|
| Gyroscope (angular velocity sensor) | The turning angle is precisely detected.                  | Errors are accumulated when driving a long distance without stopping. |
| GPS antenna (GPS information)       | The travel direction (North/South/East/West) is detected. | The travel direction is not precisely detected when driving slowly.   |

Input signals 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.

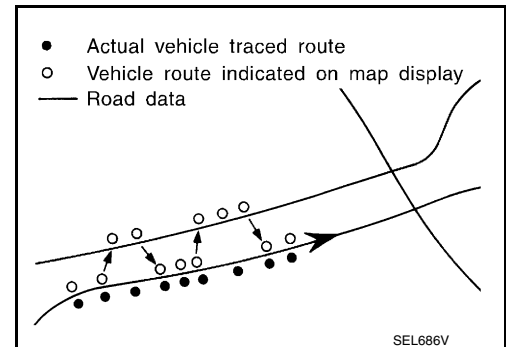
### Map-matching

Map-matching repositions the vehicle on the road map when a new location is judged to be more accurate. This is done by comparing the current vehicle position (calculated by the normal position detection method) from the map data stored in the SD card.



There is a possibility that the vehicle position may not be corrected in the following case, and when vehicle is driven over a certain distance or time in which GPS information is hard to receive. Correct manually the current location mark on the screen.

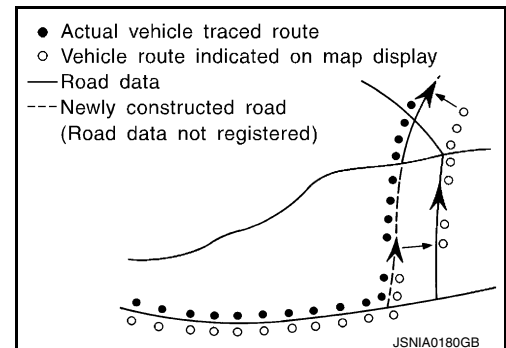
- In map-matching, several alternative routes are prepared and prioritized in addition to the road judged as currently driving on. Therefore, due to errors in the distance and/or direction, an incorrect road may be prioritized, and the current location mark may be repositioned to the incorrect road. 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, etc.



- Map-matching does not function correctly when road on which the vehicle is driving is new, etc. and not recorded in the map data. Also, map-matching does not function correctly when road pattern stored in the map data and the actual road pattern are different due to repair, etc.

Therefore, the map-matching function judges other road as a currently driving road if the road is not in the map, and displays the current location mark on it. Later, the current location mark may be repositioned to the road if the correct road is detected.

- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data is limited. Therefore, correction by map-matching is not possible when there is an excessive gap between current vehicle position and the position on the map.



GPS (Global Positioning System)

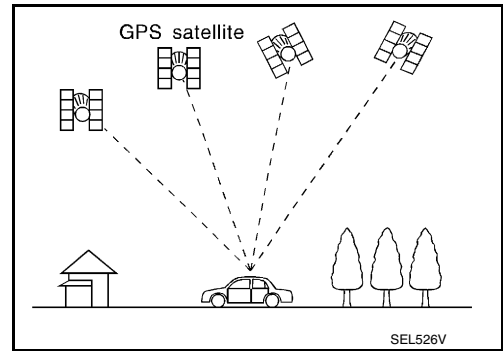
# SYSTEM

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITHOUT BOSE]

GPS (Global Positioning System) is developed for and is controlled by the US Department of Defense. The system utilizes GPS satellites (NAVSTAR), transmitting out radio waves while flying on an orbit around the earth at an altitude of approximately 21,000 km (13,049 mile).

The receiver calculates the travel position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves that four or more GPS satellites transmit (three-dimensional positioning). The GPS receiver calculates the travel position in two dimensions (latitude/longitude) with the previous altitude data if the GPS receiver receives only three radio waves (two-dimensional positioning). GPS position correction is not performed while stopping the vehicle.



Accuracy of the GPS will deteriorate under the following conditions:

- In two-dimensional positioning, GPS accuracy will deteriorate when altitude of the vehicle position changes.
- The position of GPS satellite affects GPS detection precision. The position detection may not be precisely performed.
- The position detection is not performed if GPS receiver does not receive radio waves from GPS satellites. (Inside a tunnel, parking in a building, under an elevated highway etc.) GPS receiver may not receive radio waves from GPS satellites if any object is placed on the GPS antenna.

### NOTE:

- The detection result has an error of approximately 10 m (32.81 ft) even with a high-precision three dimensional positioning.
- There may be cases when the accuracy is lowered and radio waves are stopped intentionally because the GPS satellite signal is controlled by the US trace control center.


## BLUETOOTH® HANDS-FREE PHONE FUNCTION

- When the cellular phone is connected to the AV control unit in Bluetooth® communication, hands-free phone communication can be performed.
- Simply operating the steering switch without releasing hands from the steering wheel allows the driver to make a phone call or receive a phone call.
- For the available cellular phone support model, refer to "Compliant model list" on the CARWINGS site.
- When a Bluetooth® communication compliant phone is registered to the AV control unit, hands-free phone communication can be performed. Five units of Bluetooth® communication devices including audio devices and cellular phones can be registered to the AV control unit.
- The content of the memory (telephone book) of the cellular phone can be recorded in the AV control unit.

### Bluetooth® compliant profile

| Profile name               | Abbreviation | Version |
|----------------------------|--------------|---------|
| Hands-Free Profile         | HFP          | 1.5     |
| Dial-Up Networking Profile | DUN          | 1.1     |
| Object Push Profile        | OPP          | 1.1     |

## VOICE RECOGNITION FUNCTION

- By speaking a command, operations of navigation and hands-free phone can be performed.
- To perform the voice control, press the  switch of the steering switch. The system changes to the speech reception status. When a command is spoken, the speech recognition result is displayed, and the operation is executed.
- The voice control cannot be performed under the conditions listed below.
  - When the hand-free phone is used
  - When the vehicle is moving backwards

### Major Functions

With this function, the list of commands used for telephone, and navigation operation can be checked.

## TIMER CHARGE AND A/C-HEATER TIMER FUNCTION

- Time for timer charge and A/C-heater timer can be set from the navigation setting screen.
- The AV control unit sends the current time signal received with GPS antenna to VCM via CAN communication, and it compensates the current VCM time.

### Timer Charge Function

- Set the timer charge start time on the navigation setting screen. When the charging plug is connected, the time mode is activated.
- If the charging plug fitting is not sufficient, unplugged status is notified. For details of unplugged status notification, refer to [AV-404. "TELEMATICS SYSTEM : System Description"](#).
- After the power switch is OFF, VCM is activated at the set charge start time and charge is started. (The time of the timer function is controlled by VCM.)
- VCM sends the VCM status signal and VCM wake-up signal to TCU via CAN communication to notify that VCM is activated. For details of the charging function, refer to [VC-17. "VEHICLE CHARGING SYSTEM : System Description"](#).
- Charge is completed.

#### NOTE:

Information of charge completion sent to the user is also given if charge is abnormally completed for some reason (e.g. disconnection of charging plug).

### A/C-Heater Timer Function

- Set the A/C-heater timer start time on the navigation setting screen. When the charging plug is connected, the time mode is activated.
- After the power switch is OFF, VCM is activated at the set air conditioning start time and air conditioning is started. (The time of the timer function is controlled by VCM.)
- VCM sends the VCM status signal and VCM wake-up signal to TCU via CAN communication to notify that VCM is activated. For details of air conditioner system, refer to [HAC-30. "AUTOMATIC AIR CONDITIONING SYSTEM : System Description"](#).

#### NOTE:

- A/C-heater timer performs air conditioning with the settings of temperature 25°C, AUTO, fan AUTO and REC.
- Power consumption of the compressor or the PTC heater is limited according to allowable power from VCM. Sufficient air conditioning may not be performed if charge has priority or 100 V charge is performed.

## MULTI AV SYSTEM : Map Data Update

INFOID:000000008743663

To update map data, use an SD card including new map data.

## MULTI AV SYSTEM : Fail-safe

INFOID:000000008743664

When a malfunction occurs within the system, the AV control unit outputs a message on the display, and it restricts the AV control unit functions.

### FAIL-SAFE CONDITIONS

SD card not inserted, SD card malfunction, internal malfunction of navigation, etc.

#### Display Indication

- When the system is in the fail-safe status at the start of the AV control unit, an error message is shown on the display.
- When the system is in the fail-safe status after the start of the AV control unit, an error message is not shown on the display. The MULTI AV system may be rebooted in the fail-safe state. If the fail-safe state is maintained after the system is rebooted, an applicable message is shown.

| Cause                                   | Display monitor    |
|---|--------------------|
| Malfunction of flash ROM information    | TARGET INFO NG     |
| No SD card                              | NO SD CARD         |
| Unsuccessful security unlock            | SD UNLOCK NG       |
| Malfunction of SD card mount            | SD INIT NG         |
| Malfunction of SD card access           | SD ACCESS NG       |
| No program data                         | NO NAVI-2 DATA     |
| Malfunction of program data (SUM NG)    | NAVI-2DATA READ NG |
| Inconsistent program version (Flash/SD) | NAVI VERSION NG    |
| Difference of map destination           | DIFFERENT MAP CODE |

# SYSTEM

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITHOUT BOSE]

| Cause                                   | Display monitor       |
|---|-----------------------|
| Not compliant with map database version | MAP DATA BASE UNMATCH |
| Malfunction of navigation               | NAVI STARTUP NG       |

## CONTROL

When the system is in the fail-safe status at or after start of the AV control unit, the following functions are restricted.

| Function                       |            | In fail-safe mode                     |
|--------------------------------|------------|---------------------------------------|
| A/C                            | Dis-play   | No display (fail-safe status display) |
| Audio                          | Opera-tion | Mute audio                            |
|                                | Dis-play   | No display (fail-safe status display) |
| Hands-free phone               | Opera-tion | It cannot be operated                 |
| Navigation                     | Opera-tion | It cannot be operated                 |
| Display                        | Opera-tion | Open/close operation is available     |
|                                | Dis-play   | Fail-safe factors are displayed       |
| Self-diagnosis                 |            | It cannot be diagnosed                |
| CONSULT diagnosis              |            | It cannot be diagnosed                |
| AV communication diagnosis     |            | It cannot be diagnosed                |
| Frequency transmission for VCM |            | Normal                                |
| SD read access                 |            | Access cannot be gained.              |
| SD write access                |            | Access cannot be gained.              |

## CANCELLATION CONDITIONS

The fail-safe status is canceled under the following conditions, and then the system returns to the normal mode.

- When the SD card is not inserted, the SD card is inserted and the power of the AV control unit is turned ON again.
- When the SD card is not functional at the start of navigation due to a malfunction of the SD card, a normal SD card is inserted and the power of the AV control unit is turned ON again.

AV

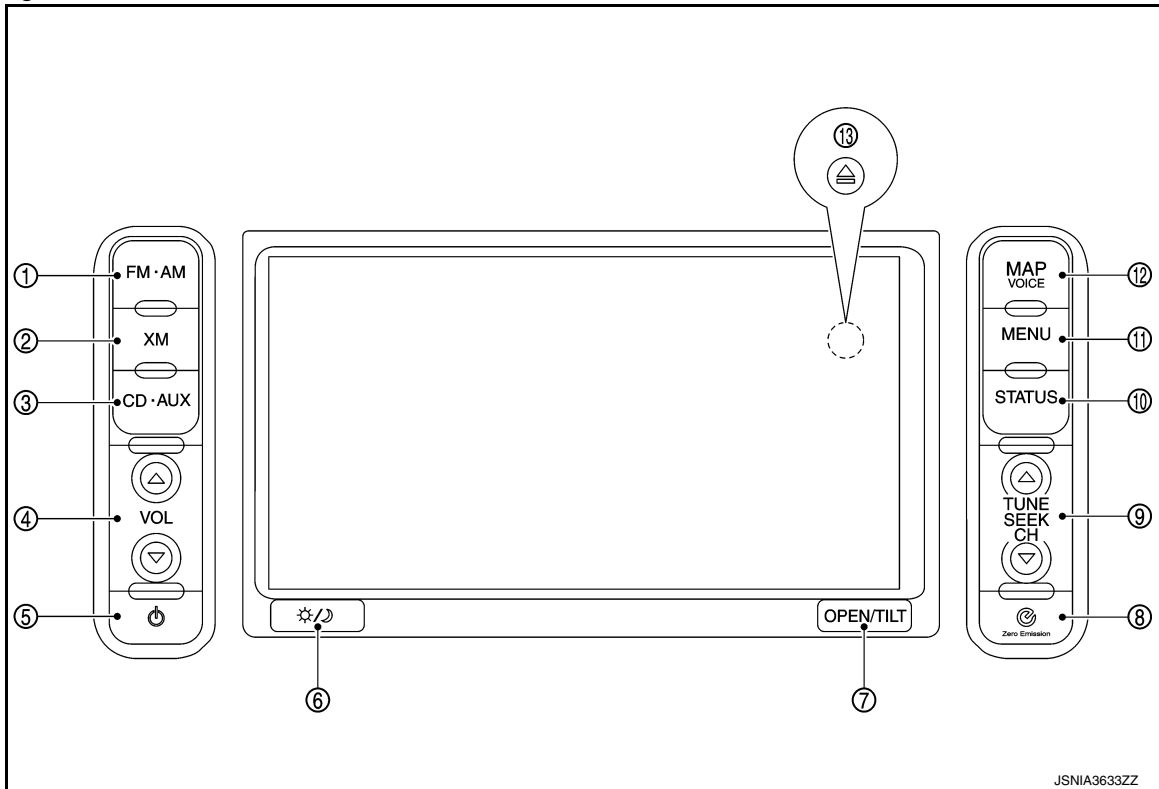
## OPERATION

### Switch name and Function

INFOID:000000008743666

#### Names and functions of AV control unit switches

##### 1. Design




##### 2. Switch name and function

| No. | Switch name             | Function   |
|-----|-------------------------|--|
| 1   | FM·AM                   | Press to switch between the FM radio band and the AM radio band.   |
| 2   | XM                      | Press to switch to an XM satellite radio band.   |
| 3   | CD·AUX                  | Press to switch between USB memory/iPod player <sup>*1</sup> /CD/Bluetooth <sup>®</sup> streaming audio <sup>*2</sup> / AUX screens.   |
| 4   | VOL (volume control)    | Press to adjust the volume of the stereo.  |
| 5   | ⏻ (audio system ON-OFF) | Press to turn the audio system ON or OFF.  |
| 6   | ☀/☾ (Day/Night)         | <ul style="list-style-type: none"> <li>Press to switch between the day screen (bright) and the night screen (dark).</li> <li>Press and hold to turn off the display, then press again to turn on the display.</li> </ul> |
| 7   | OPEN/TILT               | <ul style="list-style-type: none"> <li>Press to open the monitor to access the CD slot and the SD card slot.</li> <li>Press and hold to adjust the monitor angle. (6 angles)</li> </ul>                                  |
| 8   | ⓪ (Zero emission)       | Press to display the setting screen where several useful functions for electric vehicle driving are determined.  |
| 9   | TUNE/SEEK/CH            | <ul style="list-style-type: none"> <li>Press to select a track/station.</li> <li>Press and hold to search for a track/station automatically or to fast-forward/back-forward when listening to music.</li> </ul>          |
| 10  | STATUS                  | Press to display the current status of the air conditioner, radio, audio, vehicle information (estimated distance, drivable distance and average energy economy) and navigation systems.                                 |
| 11  | MENU                    | Press to display the setting menu (destination, route, information, settings, phone and car-wings) screen.   |

# OPERATION

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITHOUT BOSE]

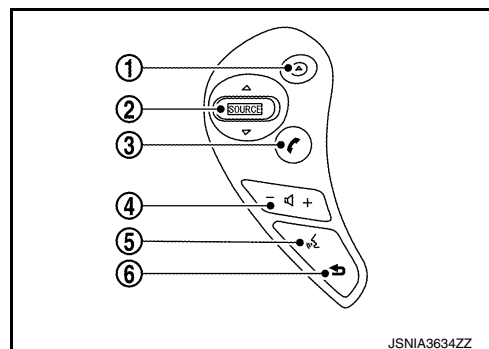
| No. | Switch name  | Function  |
|-----|--|---|
| 12  | MAP/VOICE  | <ul style="list-style-type: none"> <li>Press to display the current location map screen.</li> <li>Press and hold to repeat voice guidance.</li> </ul> |
| 13  |  (Disk eject) | Press to eject a disk.  |

- \*1: Displayed when iPod® is connected.
- \*2: Displayed when Bluetooth® audio is registered and "Bluetooth connection" setting is ON.






### Names and functions of steering switch

By using the steering switch, various operations on the audio, navigation, telephone, and others can be performed without releasing hands from the steering wheel.

#### 1. Design



#### 2. Switch name and function

| No. | switch name  | Major functions   |
|-----|--|---|
| 1   |  (Driving range)      | Press to display the driving range screen. Press again to return to the previous screen.  |
| 2   | SOURCE   | Press to change source menu.  |
|     |  | Tilt up/down for a short period of time <ul style="list-style-type: none"> <li>During the radio switches the preset channel.</li> <li>During the CD mode, USB mode, iPod mode, and Bluetooth audio mode selects the track.</li> </ul>   |
|     |  | Tilt up/down for a long period of time <ul style="list-style-type: none"> <li>During the radio mode, good sensitivity frequency is automatically selected.</li> <li>The CD mode, iPod mode, or Bluetooth audio mode allows the fast-forwarding and rewinding of a music file.</li> <li>During the CD mode, a folder selection can be made when an MP3/WMA disc contains a folder.</li> <li>The USB mode allows folder selection.</li> </ul> |
| 3   |  (Phone)              | <ul style="list-style-type: none"> <li>Displays the hands-free phone menu.</li> <li>When this is pressed during call, telephone communication can be started.</li> </ul>  |
| 4   | -  + (Volume control) | <ul style="list-style-type: none"> <li>Adjust the audio volume.</li> <li>Other than the audio volume, the volume levels of guide sound (at guide interruption), hands-free phone, and others can be adjusted.</li> </ul>  |
| 5   |  (Talk)               | Press to enter the voice recognition mode.  |
| 6   |  (Cancel)             | Press to cancel the voice command.  |

### Menu Display by Pressing Each Switch

INFOID:0000000008743667

#### NOTE:

For Navigation system and Telematics system operation detailed information, refer to Navigation system Owner's Manual.

#### MENU

# OPERATION

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITHOUT BOSE]

When the MENU switch is pressed, the menu screen is displayed.



| Menu list   |                            | Description  |
|-------------|----------------------------|--|
| Destination | Change Country             | When setting a destination, the country can be selected. The country that was last selected is automatically selected by the system as the default.                          |
|             | New Address                | Searches for a destination by address.   |
|             | Home                       | Searches for a route from the current location to the previously stored home destination.  |
|             | Points of interest         | Searches for a destination from various categories of businesses or locations.   |
|             | Charging Station           | Searches for the charging stations near the current vehicle location.  |
|             | Quick Stop                 | Searches for points of interest near the current vehicle location, such as restaurants and charging stations, etc.   |
|             | Address Book               | Searches for a destination from the list of the stored locations.  |
|             | History                    | <ul style="list-style-type: none"> <li>• Sets the previous starting point as destination.</li> <li>• Searches for the destination from the previous destinations.</li> </ul> |
|             | M-way Entrance/Exit        | Searches for a destination from a motorway entrance/exit.  |
|             | Stored Routes              | Selects a stored route.  |
|             | Latitude/Longitude         | Searches for a destination by entering the latitude and the longitude.   |
|             | Junction                   | Searches for a destination from junctions.   |
| Route       | Cancel Route/Resume Route  | Cancels the current route guidance. A canceled route can also be reactivated. If the suggested route is canceled, "Cancel Route" changes to "Resume Route".                  |
|             | Edit Route                 | Edit or add a destination or waypoints to the route that is already set.   |
|             | Route Info                 | Confirm the route by the route information or simulation. The confirmed route can also be stored.  |
|             | Guidance Voice             | Activates or deactivates route, voice guidance and/or traffic announcement and adjust the volume level of voice guidance.  |
|             | Recalculate                | Manually search for the route again after changing the search condition and have the system calculate a route.   |
|             | Detour                     | A detour of a specified distance can be calculated.  |
|             | Traffic Detour             | Manually search for an alternative detour route taking the traffic information into consideration.   |
|             | Route Calculation Criteria | Changes the route calculation conditions anywhere along the route.   |




# OPERATION

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITHOUT BOSE]


| Menu list |                       | Description   |
|-----------|-----------------------|---|
| Info.     | Traffic Information   | Displays the Traffic Information.   |
|           | Energy Info.          | Energy information is displayed on the screen.  |
|           | Maintenance           | Displays the vehicle maintenance information.   |
|           | Charging Station Info | Displays charging station information for the current location.   |
|           | Where am I?           | Displays information regarding the current vehicle location.  |
|           | Voice Recognition     | Displays the voice command list.  |
|           | GPS Position          | Displays GPS information regarding the current vehicle location.  |
|           | Navigation Version    | Displays the current navigation system version.   |
| Settings  |                       | The system can be customized the following items.   |
| Phone     | Phonebook             | Select a telephone number from the phone book, and then make a call. Before making a call, the telephone number must be registered in the phone book.   |
|           | Call History          | Select a telephone number from the incoming or outgoing history lists, and then make a call.  |
|           | Handset Memory        | Download the phone book from a cellular phone that is connected to the vehicle, select a telephone number from the phone book, and then make a call. Phone book data should be registered in the system after downloading the phone book from the cellular phone that is connected to the vehicle. If the phone book is not registered, a message that reminds you of phone book data download will be displayed. |
|           | Keypad                | Input the phone number manually using the keypad displayed on the screen.   |
|           | Volume                | Adjust various settings of phone volume.  |
|           | Pair Phone            | <ul style="list-style-type: none"> <li>When a PIN code appears on the screen, operate the compatible Bluetooth® cellular phone to enter the PIN code.</li> <li>When the connection process is completed, the screen will return to the Phone menu display.</li> </ul>   |
|           | Paired Phone          | The list of the registered cellular phones is displayed.  |
| CARWINGS  | Favorite Channels     | A maximum of 16 favorite channels selected from the information channels can be stored in a folder.   |
|           | Information Channels  | Touch the preferred folder. An information channel list is displayed.   |
|           | CARWINGS Records      | The information channels that were referred to previously are displayed. A maximum of 3 channels are stored in the history.   |
|           | Update Stations       | Charging station information is updated through connection to the NISSAN CARWINGS Data Center.  |
|           | CARWINGS Settings     | The CARWINGS system can be customized.  |

## ZERO EMISSION MENU

When the  ZERO EMISSION switch is pressed, the menu screen is displayed.



AVA1283

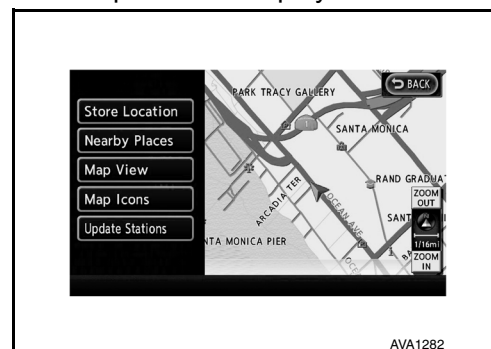
| Menu list  | Description   |
|--|---|
| Driving Range  | The estimated driving area within range, including the current position is displayed on the map screen. |
| Nearby Stations  | Charging station information for the current position area is displayed.                                |
| Update Stations  | Charging station information is updated through connection to the NISSAN CARWINGS Data Center.          |
| Energy Info.   | Energy information is displayed on the screen.  |
| Charging Timer   | The timer charge function can be set.   |
| A/C-Heater Timer (Climate Ctrl. Timer)   | The A/C-Heater Timer (Climate Ctrl. Timer) function can be set.   |
|  CARWINGS | Information channels are displayed and settings for CARWINGS can be performed.                          |
| Settings   | Setting of the warning message display or the charging status notification can be performed.            |

### MAP MENU

Map menu at current location

If the following operation is performed at the current location, the available map menu is displayed.

- Touch the “Map Menu” switch on the map.



AVA1282

| Menu item      |              | Description  |
|----------------|--------------|--|
| Store Location |              | Stores the current vehicle location in the Address Book. The stored location can be retrieved as necessary to set it as a destination (waypoint).  |
| Quick Stop     |              | Searches for points of interest near the current vehicle location, such as restaurants and charging stations, etc.   |
| Map Settings   | Map View     | The screen display [Plan view, Birdview <sup>®</sup> , split screen (2D/2D), split screen (2D/2D)] can be changed.   |
|                | Split Screen |  |
|                | Map Settings | Map Orientation (sets the map direction to North Up or Heading Up), Long Range (on/off), Birdview Angle (Changes the Birdview <sup>®</sup> angle), Left Settings (sets the map settings for the left screen of the split map) and Automatic Display of Highway Mode (on/off) can be set. |
|                | Back to Map. | Return to the current position screen.   |
| Landmark Icons |              | Displays map icons of certain points of interest (such as restaurants and charging stations, etc.) on the map around the current vehicle location  |
| Update Station |              | Charging station information is updated through connection to the NISSAN CARWINGS Data Center.   |

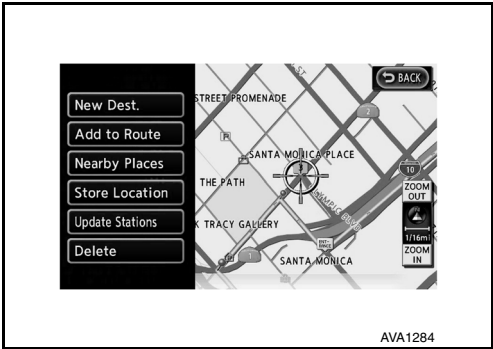
Map menu after scroll of map

If the following operation is performed after scrolling the map, the available map menu is displayed.

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

- Touch the “Map Menu” switch on the map.



| Menu item       | Description   |
|-----------------|---|
| New Dest.       | Sets the destination to the map location where [New Dest.] was touched. If a destination is already set, the location will be set as the new destination.   |
| Add to Route    | Sets the map location where [Add to Route] was touched as the destination or a waypoint. This is available only when a suggested route is already set.      |
| Quick Stop      | Searches for points of interest such as restaurants and charging stations, etc. near the location by scrolling the map.                                     |
| Store Location  | Store the map location where [Store location] was touched in the Address Book. The stored location can be retrieved to set it as a destination or waypoint. |
| Update Stations | Contact the NISSAN CARWINGS Data Center to update charging station around the point of the cursor.  |
| Delete          | Deletes a destination, waypoint or stored location. To delete, place the cross pointer over the corresponding icon.   |

AV

## HANDLING PRECAUTION

## Display

INFOID:000000008743668

- When the compartment temperature is low, the display images may look slower because the LCD response is deteriorated. The system will recover its normal operation when the cabin temperature increases to an appropriate level.
- When the compartment temperature is low (0°C or less), the display images may look slower. It is characteristic of the LCD monitor and should not be considered to be a malfunction. When the temperature is at the operating temperature (0°C to 50°C), the display returns to normal.
- There may be small dark or bright dots in the screen or remaining display content may be found (image lag). These are inherent symptoms to any LCD monitor and should not be considered to be a malfunction.
- The image may look bright or dark when viewed obliquely from the rear. It is inherent to any LCD monitor and should not be considered to be a malfunction.
- Do not apply pressure on the LCD monitor. Doing so may cause irregularities in the screen image or render it inoperative.
- Do not use hard cloth, organic solvent (alcohol, benzene, and thinner), or chemical wipe to clean the LCD monitor. Doing so may affect the panel surface. When cleaning the LCD monitor, always wipe it with a soft cloth after shutting off the power. For severe contamination, use a soft cloth dampened with mild detergent (no droplets can be present).

## Audio

INFOID:000000008743669

- When an MP3/WMA disc is replayed, it may take some time to start the playback after the disc is inserted, because the contents of the disc files must be analyzed.
- The extensions for MP3/WMA files are ".MP3", ".WMA", ".mp3", and ".wma". Any file with a different extension or no extension cannot be played back.
- If trying to play a music CD (CD-DA) containing MP3/WMA file, MP3/WMA file is not played.
- The compatibility of a CD-R depends on the combination of the writing software/hardware and the writing rate. The disc has digital pulse signals written on it. If the specifications for writing depth and width (area) are not compatible, these signals may not be played back correctly or the sounds may be lost or skipped.
- The file recorded with high bit rate\* may have sound skipping.
- The playback order of MP3/WMA files may differ from the intended order because the writing software could change the folder and file positions when writing data to a CD-R/CD-RW disc.
- For an MP3 file, the folder name and file name can be displayed as the title on the condition that each name string consists of up to 16 alphanumeric letters (except for the extension). Any MP3 file with a name containing other letters or that is longer than the maximum length cannot be displayed correctly.
- Some MP3/WMA making software, text information editing software, writing software, or software configurations may create files and discs in a format different from the proper specifications. In such a case, the text information display or the playback function may not be available.
- A disc for which no session close or disc close process has been finished may not be played back.
- Some files may have incorrect playback time displays and therefore a part of the music cannot be played back.
- 8 cm disc cannot be used.
- When playing back a Bluetooth® audio data, the sound may be interrupted for a moment. This is due to data communication and should not be considered to be a malfunction. After the data communication finishes, the playback will restart normally.
- If any CARWINGS operation or incoming call takes place during Bluetooth® audio playback, the screen changes to the relevant mode and the audio playback is interrupted.
- Sound skipping may occur depending on the location where the Bluetooth audio device is installed.
- If any operation for traffic information reception is performed during Bluetooth® audio playback, the audio playback is interrupted.
- Music data stored in a Bluetooth® audio device at low bit rate has poor sound quality.
- Radio reception may decrease in performance during charge.

**NOTE:**

\*: Bit rate means how many bits of data are processed or transmitted per the unit time.

## iPod®

INFOID:000000008743670

- If a headphone is connected to the iPod®, the iPod® may not be controlled.

## HANDLING PRECAUTION

### < SYSTEM DESCRIPTION >

### [NAVIGATION WITHOUT BOSE]

- Some iPod® may not be compliant with connection. It is necessary to check compliant models of iPod®.
- If a USB extension cable is used for iPod® connection, iPod® may not be recognized or sound skipping may occur in playback.
- In playing back iPod® audio, if the EQ function (equalizer function) of the iPod® is ON, sound may be distorted.
- If the number of music in one category is increased to a large number, response may be poor. If the number of music is large and shuffle is ON, operation of the iPod® itself may be slower.

### RESTRICTIONS ON iPod®

The following symptoms may occur, but the functions are not compliant and they should not be considered to be a malfunction.

- When a Podcast divided into chapters is played back with iPod nano 3G, the play time may be displayed incorrectly.
- The number of Audiobook is not displayed normally. When iPod® is disconnected and reset, it is displayed.
- When jacket photos are played with iPod nano 3G and iPod Classic, iPod® may be frozen or reset.

### USB Connection

INFOID:0000000008743671

If a USB-HUB or USB extension cable is used when a USB is connected, USB is not recognized.

### CARWINGS

INFOID:0000000008743672

Refer to [AV-414, "Telematics&CARWINGS"](#).

### Hands-Free Phone

INFOID:0000000008743673

- In the following cases, the hands-free telephone function is not available.
  - When the vehicle moves out of the communication zone of the cellular phone.
  - When the vehicle is in a location that may block radio waves such as in an underground parking lot, behind a building, or in mountainous areas.
  - When the cellular phone is subject to dial-up limitations such as dial lock, and auto lock, transmission restriction.
- It is not compliant with call waiting function and three-party call function.
- No incoming call can be received just after the key switch is turned to ON.
- For further details about the supported models, consult the Supported Cellular Phone Models in the CARWINGS site.
- Depending on the cellular phone connected, the ring volume may decrease.
- Before connecting a cellular phone, make sure that the operation limitations such as dial lock, auto lock and transmission restriction are cancelled. If any of these settings is found to remain active, disconnect the phone, cancel the setting, and reconnect it.
- When a menu or information is displayed on a cellular phone or when application of standby tool is activated, the function may not be used. Use the cellular phone in the standby status.
- Once a cellular phone is removed, wait at least 10 seconds before reconnecting it.
- When attempting to use a cellular phone, always make sure that the battery charge level is sufficient.
- A snap sound may be heard or the audio signal may be interrupted during a call. This is not a malfunction. It is caused by a switchover to an adjacent cellular zone due to weakening radio waves.
- When the reception status is poor or the surrounding sound level is too large, the voice on the phone may be hard to hear.
- Because the system uses a digital line, the voice on the phone may be distorted or have unpleasant noises due to the surrounding sounds.
- If the vehicle is equipped with a speed trap tracker (radar detector), the speaker may generate noises.
- This unit cannot be used to charge a cellular phone.

### SD Card

INFOID:0000000008743675

To remove the SD card, wait for 15 seconds or more after turning the power switch OFF.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

### Diagnosis Description

INFOID:000000008743676

- Diagnosis is performed with the on board diagnosis and CONSULT. Select an appropriate function based on the condition. Perform the on board diagnosis if it starts. If the on board diagnosis does not start such as no display, perform diagnosis with CONSULT.
- In the on board diagnosis, a multifunction switch operation starts the AV (NAVI) control unit diagnosis function and AV control unit performs a diagnosis for each system unit. Diagnosis results are displayed on the screen.
- In the CONSULT diagnosis, a communication signal starts the AV control unit diagnosis function and the AV control unit performs a diagnosis for each system unit.

### On Board Diagnosis Function

INFOID:000000008743677

#### ON BOARD DIAGNOSIS ITEM

- The on board 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 diagnosis at the AV control unit, connections between each unit that composes the system, and connections between AV control unit and GPS antenna. It displays the 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 check, modify or adjust actions generally require human intervention and judgment (the system cannot judge automatically).

| 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> |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

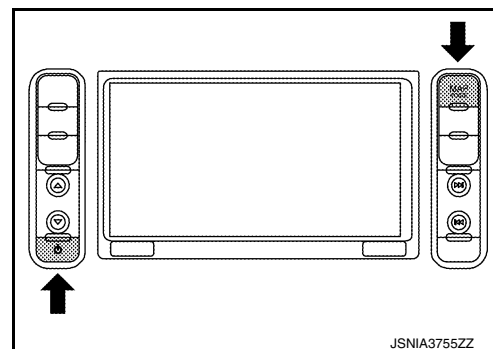
| Mode                        |                            | Description  |
|-----------------------------|----------------------------|--|
| Confirmation/<br>Adjustment | Display Diagnosis          | The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display and touch panel calibration response check.                            |
|                             | Vehicle Signals            | Diagnosis of signals can be performed for vehicle speed, parking brake, lights, power switch and reverse.  |
|                             | Navigation                 | Steering Angle Adjustment<br>When there is a difference between the actual turning angle and the vehicle mark turning angle, it can be adjusted.   |
|                             |                            | Speed Calibration<br>When there is a difference between the current location mark and the actual location, it can be adjusted.   |
|                             |                            | Sensor information<br>Displays the reception status of the GPS antenna connector.  |
|                             |                            | XM SAT Subscription Status<br>The XM NavTraffic subscription status can be checked.  |
|                             | Error location display     | 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.               |
|                             | AV COMM Diagnosis          | The communication condition of each unit of Multi AV system can be monitored.  |
|                             | Hands-free Phone, CARWINGS | <ul style="list-style-type: none"> <li>The received volume adjustment of hands-free phone and microphone speaker check can be performed.</li> <li>Mileage display of remote maintenance can be turned ON/OFF.</li> </ul> |
|                             | Clock setting              | The current time can be set.   |
|                             | Delete Unit Connection Log | Erase the connection history of unit and error history.  |
|                             | User Data Initialisation   | Initializes the AV control unit memory.  |
|                             | Version Information        | Version information of the AV control unit is displayed.   |
|                             | XM                         | Change Channel<br>Any necessary channels required to receive traffic information etc. from the satellite radio system can be set.  |
|                             |                            | Change Application ID<br>Any application ID's required to receive traffic information etc. from the satellite radio system can be set.   |
|                             |                            | Diag<br>XM authentication diagnosis.   |

## Starting procedure

1. Turn the power switch ON.
2. Turn the audio system off.
3. Press the "MAP" switch 3 times. Press the "PWR" switch 2 times. Press the "MAP" switch once.

### NOTE:

If the on board self-diagnosis does not start, perform diagnosis using CONSULT. Refer to [AV-127, "CONSULT Function"](#).



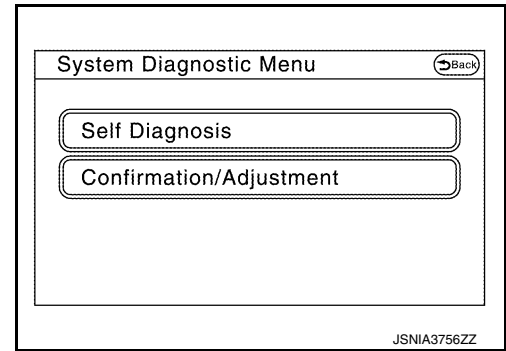
JSNIA3755ZZ

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

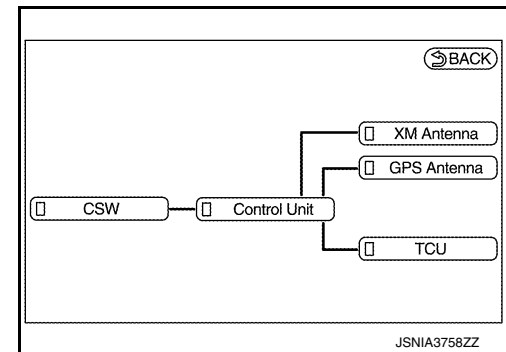
[NAVIGATION WITHOUT BOSE]

4. The initial trouble diagnosis screen displays two choices: "Self-Diagnosis" and "Confirmation/Adjustment".



## SELF-DIAGNOSIS MODE

1. 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.
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.

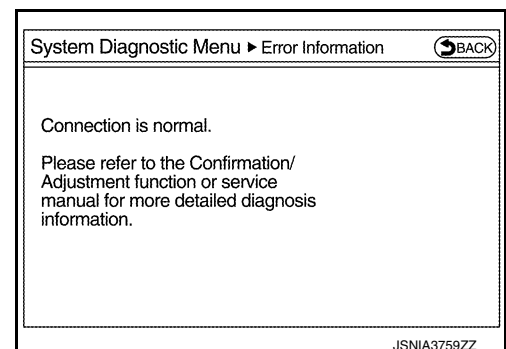


| Diagnosis results                | Unit  | Connection line |
|----------------------------------|-------|-----------------|
| Normal                           | Green | Green           |
| Connection malfunction           | Gray  | Yellow          |
| Unit malfunction <sup>Note</sup> | Red   | Green           |

### NOTE:

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. Refer to [AV-205. "Removal and Installation"](#).
- 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.



## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

### < SYSTEM DESCRIPTION >

### [NAVIGATION WITHOUT BOSE]

- 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.

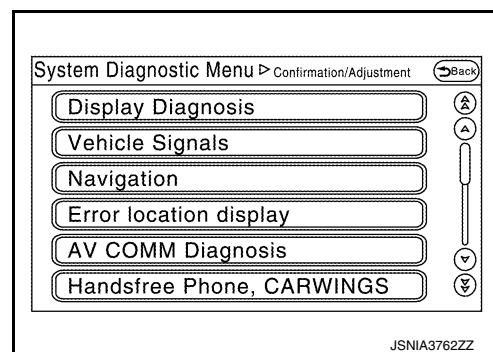
| Screen switch | Description  | Possible malfunction location / Action to take  |
|---------------|--|---|
| Control Unit  | Malfunction is detected in AV control unit power supply and ground circuits. | <ul style="list-style-type: none"><li>Check the power supply and ground circuit.<br/>Refer to <a href="#">AV-180, "AV CONTROL UNIT : Diagnosis Procedure"</a>.</li><li>When the power switch is OFF, remove and insert the SD card to check for contact malfunction of the SD card, and check for an error again.</li><li>If there is no malfunction, poor contact of the SD card may be possible. Wait and see the condition.</li><li>If a malfunction is found, replace the AV control unit.<br/>Refer to <a href="#">AV-205, "Removal and Installation"</a>.</li></ul> |

A Connecting Cable Between Units Is Displayed In Yellow.

| Area with yellow connection lines | Description  | Possible malfunction location / Action to take          |
|-----------------------------------|--|---|
| Control unit ↔ GPS Antenna        | GPS antenna connection malfunctions detected.                                      | GPS antenna   |
| Control unit ↔ TCU                | Malfunction is detected in communication circuits between AV control unit and TCU. | Communication circuits between AV control unit and TCU. |
| Control unit ↔ SAT Antenna        | Satellite radio antenna connection malfunction is detected.                        | Satellite radio antenna disconnection                   |

### CONFIRMATION/ADJUSTMENT MODE

- Start the diagnosis function and select "Confirmation/Adjustment". The confirmation/adjustment mode indicates where each item can be checked or adjusted.
- 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.

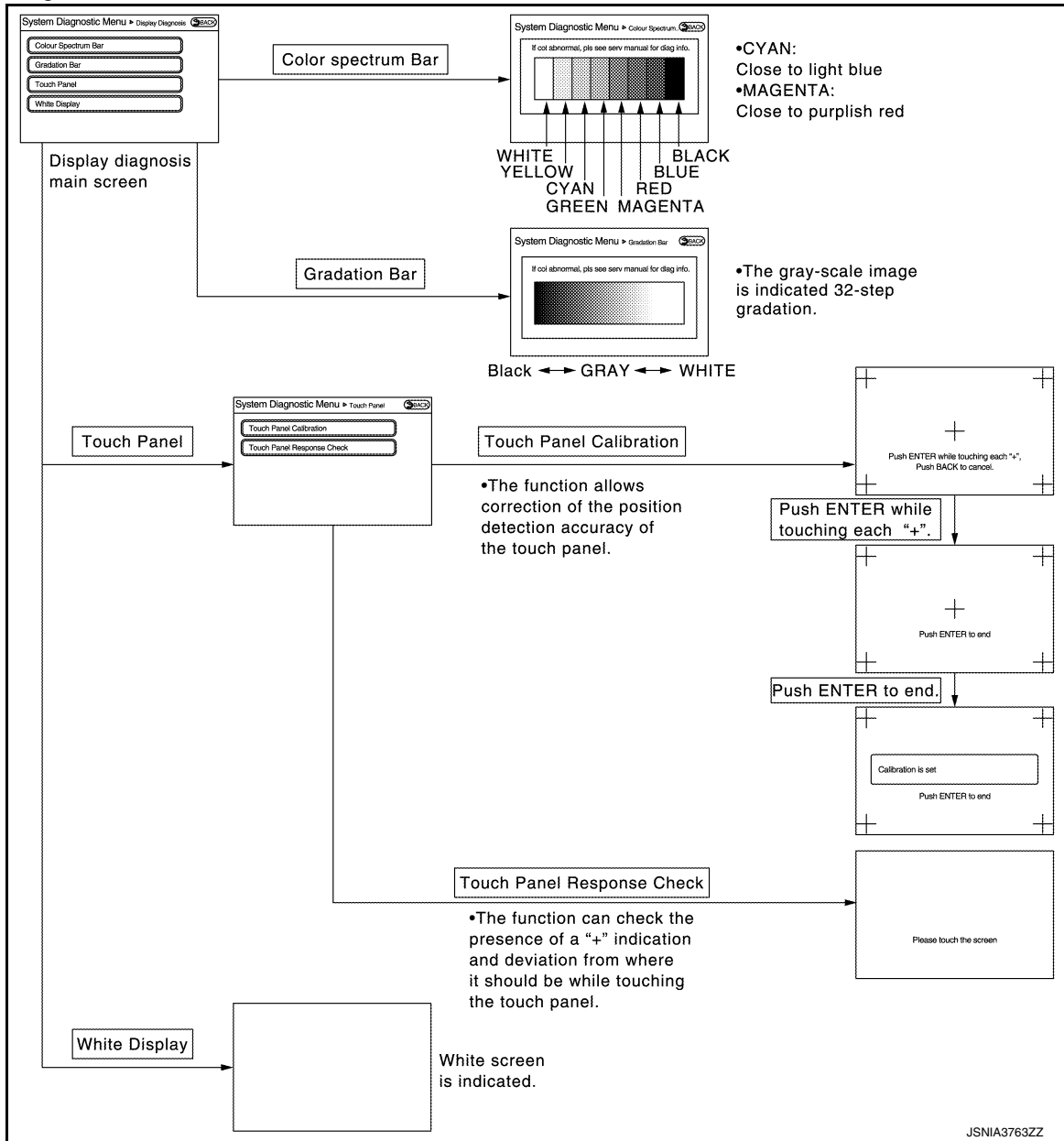


# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

## Display Diagnosis



## Vehicle Signals

A comparison check can be made of each actual vehicle signal and the signals recognized by the system.

| System Diagnostic Menu ▶ Vehicle Signals |     | Back |
|--|-----|------|
| Vehicle speed                            | -   |      |
| Parking brake                            | OFF |      |
| Lights                                   | OFF |      |
| Power button                             | OFF |      |
| Reverse                                  | -   |      |

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# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

| 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      | Block the light beam from the auto light optical sensor when the light switch is ON.  | —   |
|                | OFF     | Either of the following conditions<br>• Lighting switch OFF<br>• Expose the auto light optical sensor to light when the light switch is ON. |   |
| Power bottun   | ON      | Power bottun ON   | —   |
|                | OFF     | Power bottun 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  |   |

## Navigation

### STEERING ANGLE ADJUSTMENT

- The steering angle output value detected with the gyroscope is adjusted.

System Diagnostic Menu > Steering Angle\_ (Back)

Set

Left turn < 0.0% >

Right turn < 0.0% >

JSNIA3765ZZ

### 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.

System Diagnostic Menu > Speed Calibration (Back)

Set

Speed Calibration < 0.0% >

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### SENSOR INFORMATION

- Displays the reception status of the GPS antenna connector.

### XM SAT SUBSCRIPTION STATUS

- The XM NavTraffic subscription status can be checked.

### Error location display

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.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITHOUT BOSE]

However, the diagnosis results are judged normal if an error has occurred before the power 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.

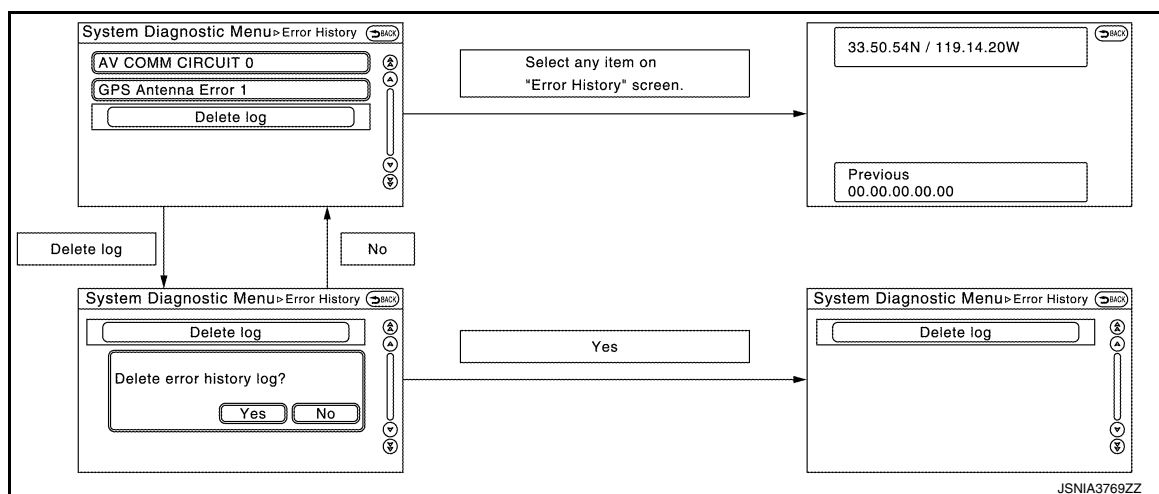
The error record displays the time and place of the most recent occurrence of that error. However, take note of the following points.

- 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 power switch is turned ON. The counter increases by 1 if the condition is normal at a next power 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.

| 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) |



### 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-127, "CONSULT Function"</a> . |
| CONTROL UNIT (CAN)                 | CAN initial diagnosis malfunction is detected.  | Replace the AV control unit if the malfunction occurs constantly.   |
| CONTROL UNIT (AV)                  | AV communication circuit initial diagnosis malfunction is detected.                           | Refer to <a href="#">AV-205, "Removal and Installation"</a> .   |
| Control Unit Internal Error        | AV control unit malfunction is detected.  | Replace the AV control unit or multifunction switch if the malfunction occurs constantly.   |
| Switch Initial Communication Error | AV control unit or multifunction switch internal malfunction are detected.                    | Refer to <a href="#">AV-205, "Removal and Installation"</a> (AV control unit), <a href="#">AV-206, "Removal and Installation"</a> (multifunction switch).             |
| Steer. Angle Sensor Calibration    | 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.<br>Refer to <a href="#">AV-127, "CONSULT Function"</a> .                              |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITHOUT BOSE]

| 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.  |
| XM Antenna Connection Error  | Satellite radio antenna connection malfunction is detected.  | Satellite radio antenna disconnection.  |
| USB electric current error   | Detection of overcurrent in USB connector.   | Check USB harness between the AV control unit and USB connector.  |
| TCU Connection Error   | TCU connection malfunction is detected.  | Check that the connection to the TCU connector is normal.   |
| <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> |

### 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 power 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:

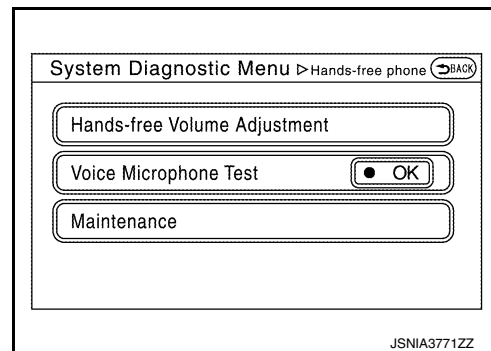
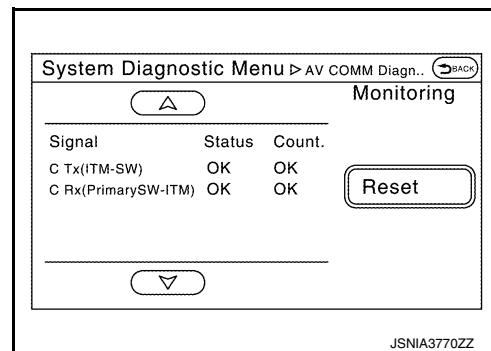
"???" indicates UNKWN

### Hands-Free Phone, CARWINGS

The hands-free phone reception volume adjustment and microphone and speaker test functions are also available.

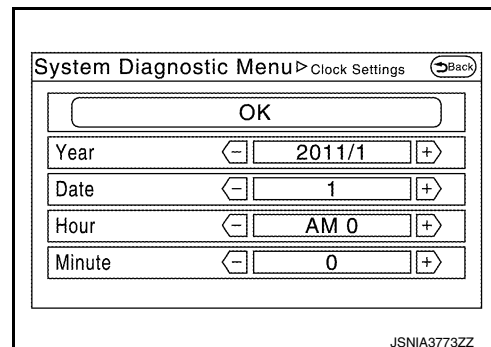
#### NOTE:

If voice cannot be output when the Voice Microphone Test is started, stop and restart the test again.



### Clock Setting

The clock can be set.



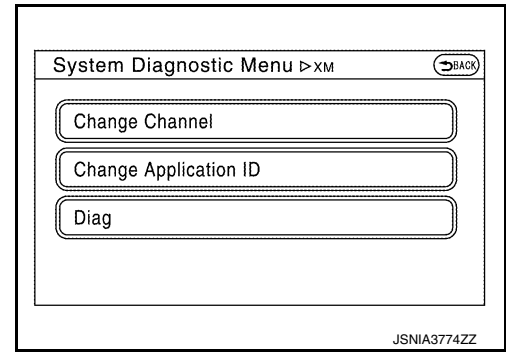
# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITHOUT BOSE]

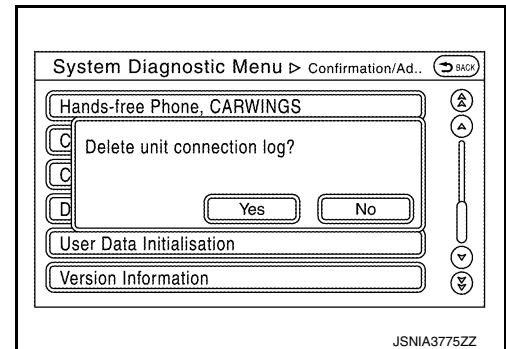
### XM

- 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.
- Diag
- XM authentication diagnosis.



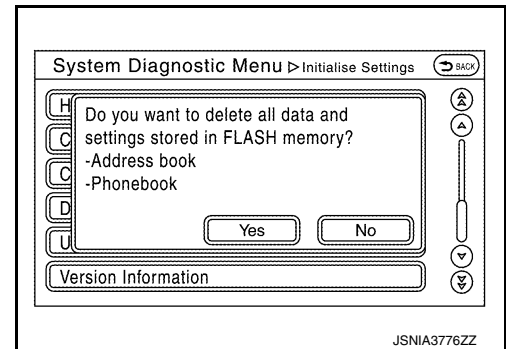
### Delete Unit Connection Log

Deletes any unit connection records and error records from the AV control unit memory. (Clear the records of the unit that has been removed.)



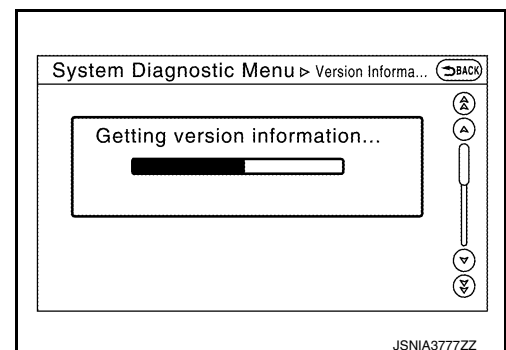
### User Data Initialization

Initializes the AV control unit memory.



### Version Information

Version information of the AV control unit is displayed.



### Software Update

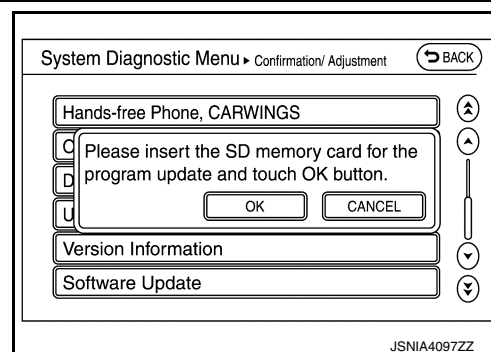
Software version of the AV control unit can be update.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

For detail of the operation, refer to [AV-166. "SOFTWARE UPDATE \(AV CONTROL UNIT\) : Work Procedure"](#).



INFOID:000000008743678

## CONSULT Function

### CONSULT FUNCTIONS

CONSULT performs the following functions via communication with the AV control unit.

| Direct Diagnostic Mode | Description  |
|------------------------|--|
| Ecu Identification     | The AV control unit part number is displayed.  |
| Self Diagnostic Result | The AV control unit self diagnostic results are displayed.   |
| Data Monitor           | The AV control unit input/output data is displayed in real time.   |
| Work support           | The settings for AV control unit functions can be changed.   |
| Configuration          | <ul style="list-style-type: none"><li>The vehicle specification can be read and saved.</li><li>The vehicle specification can be written when replacing AV control unit.</li></ul>                              |
| CAN Diag Support Mntr  | <ul style="list-style-type: none"><li>The result of transmit/receive diagnosis of AV communication is displayed.</li><li>The result of transmit/receive diagnosis of CAN communication is displayed.</li></ul> |

### ECU IDENTIFICATION

The part number of AV control unit is displayed.

### SELF DIAGNOSTIC RESULT

Refer to [AV-133. "DTC Index"](#).

### DATA MONITOR

| Monitor Item [Unit]   | Description   |
|-----------------------|---|
| VHCL SPD SIG [On/Off] | Indicates vehicle speed signal received from combination meter on CAN communication line. |
| PKB SIG [On/Off]      | Indicates condition of park brake signal.   |
| ILLUM SIG [On/Off]    | Indicates condition of illumination signal for the A/C and AV switch assembly.            |
| IGN SIG [On/Off]      | Indicates condition of power signal.  |
| REV SIG [On/Off]      | Indicates condition of reverse signal received from BCM.                                  |

### CONFIGURATION

Refer to [AV-169. "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

### CAN DIAG SUPPORT MNTR

Refer to [LAN-13. "CAN Diagnostic Support Monitor"](#).

## ECU DIAGNOSIS INFORMATION

### AV CONTROL UNIT

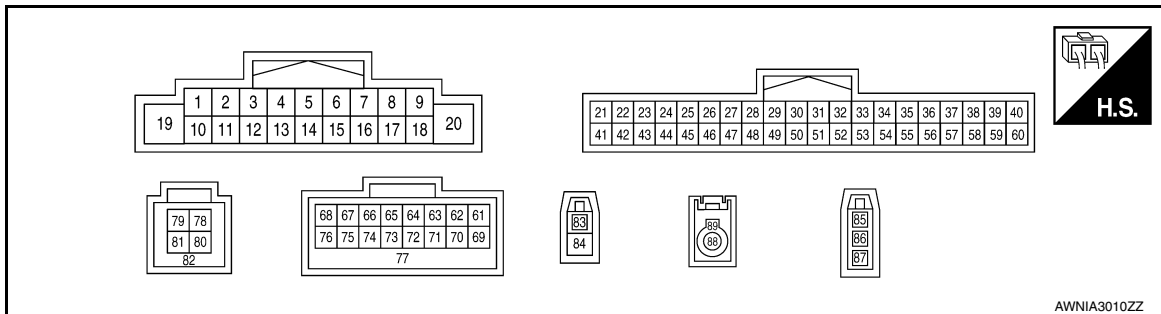
#### Reference Value

INFOID:000000008743679

#### VALUES ON THE DIAGNOSIS TOOL

| Monitor Item | Condition                                    | Value/Status |
|--------------|--|--------------|
| VHCL SPD SIG | Vehicle speed = 0 km/h (0 MPH).              | Off          |
|              | Vehicle speed > 0 km/h (0 MPH).              | On           |
| PKB SIG      | Parking brake released.                      | Off          |
|              | Parking brake applied.                       | On           |
| ILLUM SIG    | Illumination signal is not received.         | Off          |
|              | Illumination signal is received.             | On           |
| IGN SIG      | Power switch OFF or ACC.                     | Off          |
|              | Power switch ON.                             | On           |
| REV SIG      | Selector lever in any position other than R. | Off          |
|              | Selector lever in R position.                | On           |

#### TERMINAL LAYOUT



#### PHYSICAL VALUES



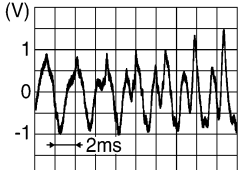
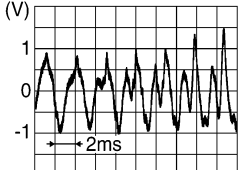




| Terminal<br>(Wire color) |           | Description           |                  | Condition       |              | Reference value<br>(Approx.) |
|--------------------------|-----------|-----------------------|------------------|-----------------|--------------|------------------------------|
| +                        | -         | Signal name           | Input/<br>Output | Power<br>switch | Operation    |                              |
| 2<br>(L)                 | 3<br>(P)  | Sound signal front LH | Output           | ON              | Sound output | <p>SKIB3609E</p>             |
| 4<br>(V)                 | 5<br>(LG) | Sound signal rear LH  | Output           | ON              | Sound output | <p>SKIB3609E</p>             |



# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

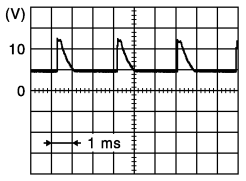
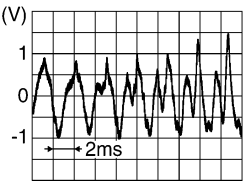
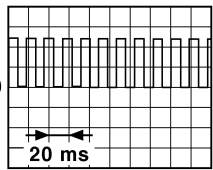
| Terminal<br>(Wire color) |           | Description                 |                  | Condition       |   | Reference value<br>(Approx.)   |
|--------------------------|-----------|-----------------------------|------------------|-----------------|---|--|
| +                        | —         | Signal name                 | Input/<br>Output | Power<br>switch | Operation   |  |
| 6<br>(R)                 | 15<br>(B) | Steering switch signal A    | Input            | ON              | Press SOURCE switch.  | 0 V  |
|                          |           |                             |                  |                 | Press ▲ switch.   | 1.0 V  |
|                          |           |                             |                  |                 | Press ▼ switch.   | 2.0 V  |
|                          |           |                             |                  |                 | Press  switch.   | 3.0 V  |
|                          |           |                             |                  |                 | Press  switch.   | 4.0 V  |
|                          |           |                             |                  |                 | Except above.   | 5.0 V  |
| 7<br>(BR)                | Ground    | ACC power supply            | Input            | ACC             | —   | Battery voltage  |
| 8<br>(B)                 | —         | Illumination ground         | —                | —               | —   | —  |
| 9<br>(W)                 | Ground    | Illumination signal         | Input            | ON              | Lighting switch ON.   | Battery voltage  |
|                          |           |                             |                  |                 | Lighting switch OFF.  | 0 V  |
| 11<br>(G)                | 12<br>(R) | Sound signal front RH       | Output           | ON              | Sound output  | <br>SKIB3609E   |
| 13<br>(LG)               | 14<br>(P) | Sound signal rear RH        | Output           | ON              | Sound output  | <br>SKIB3609E |
| 16<br>(W)                | 15<br>(B) | Steering switch signal B    | Input            | ON              | Press  switch. | 0 V  |
|                          |           |                             |                  |                 | Press  switch. | 1.0 V  |
|                          |           |                             |                  |                 | Press  switch. | 2.0 V  |
|                          |           |                             |                  |                 | Press  switch. | 3.0 V  |
|                          |           |                             |                  |                 | Except above.   | 5.0 V  |
| 19<br>(BR)               | Ground    | Battery power supply        | Input            | OFF             | —   | Battery voltage  |
| 21<br>(LG)               | —         | AV communication signal (L) | Input/<br>Output | —               | —   | —  |
| 22<br>(LG)               | —         | AV communication signal (L) | Input/<br>Output | —               | —   | —  |
| 23<br>(P)                | —         | CAN L                       | Input/<br>Output | —               | —   | —  |

A  
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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

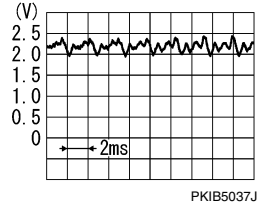
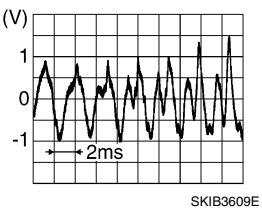
[NAVIGATION WITHOUT BOSE]

| Terminal<br>(Wire color) |        | Description                    |                  | Condition       |  | Reference value<br>(Approx.)  |
|--------------------------|--------|--------------------------------|------------------|-----------------|--|---|
| +                        | —      | Signal name                    | Input/<br>Output | Power<br>switch | Operation  |   |
| 25<br>(Y)                | Ground | Parking brake signal           | Input            | ON              | Parking brake applied.   | 0 V   |
|                          |        |                                |                  |                 | Parking brake released.  | <br>JSNIA1938ZZ  |
| 26<br>(V)                | Ground | Power signal                   | Input            | ON              | —  | Battery voltage   |
|                          |        |                                |                  | OFF             | —  | 0 V   |
| 34<br>(P)                | Ground | Microphone VCC                 | Output           | ON              | —  | 5 V   |
| 35<br>(R)                | Ground | AUX sound signal LH            | Input            | ON              | AUX mode selected.   | <br>SKIB3609E  |
| 36<br>(B)                | Ground | AUX ground                     | —                | ON              | —  | 0 V   |
| 41<br>(SB)               | —      | AV communication signal (H)    | Input/<br>Output | —               | —  | —   |
| 42<br>(SB)               | —      | AV communication signal (H)    | Input/<br>Output | —               | —  | —   |
| 43<br>(L)                | —      | CAN H                          | Input/<br>Output | —               | —  | —   |
| 44<br>(GR)               | Ground | Vehicle speed signal (8-pulse) | Input            | ON              | When vehicle speed is approx. 40 km/h (25 MPH)   | <b>NOTE:</b><br>The maximum voltage varies depending on the specification (destination unit).<br><br>JSNIA0012GB |
| 45<br>(G)                | Ground | Reverse signal                 | Input            | ON              | Selector lever in R (reverse) position   | Battery voltage   |
|                          |        |                                |                  |                 | Selector lever in other than R (reverse) position  | 0 V   |
| 46<br>(R)                | Ground | Dimmer signal                  | Input            | ON              | One of the following conditions:<br>• Lighting switch OFF<br>• Auto light ON with optical sensor exposed to light. | 0 V   |
|                          |        |                                |                  |                 | Auto light ON with optical sensor not exposed to light.  | Battery voltage   |

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

| Terminal<br>(Wire color) |        | Description                                       |                  | Condition       |                       | Reference value<br>(Approx.)  |
|--------------------------|--------|---|------------------|-----------------|-----------------------|---|
| +                        | —      | Signal name                                       | Input/<br>Output | Power<br>switch | Operation             |   |
| 53<br>(L)                | Ground | Microphone signal                                 | Input            | ON              | Speak into microphone |  |
| 54<br>(Shield)           | —      | Microphone signal shield                          | —                | —               | —                     | —   |
| 55<br>(W)                | Ground | AUX sound signal RH                               | Input            | ON              | AUX mode selected.    |  |
| 56<br>(Shield)           | —      | AUX sound signal shield                           | —                | —               | —                     | —   |
| 58<br>(B)                | —      | Ground  | —                | —               | —                     | —   |
| 61<br>(L)                | Ground | USB D- signal<br>(Telematics)                     | Input/<br>Output | —               | —                     | —   |
| 62<br>(BR)               | Ground | USB V BUS signal<br>(Telematics)                  | Output           | ON              | —                     | —   |
| 63<br>(V)                | —      | Manufacturer specific sig-<br>nal<br>(Telematics) | —                | —               | —                     | —   |
| 67<br>(B)                | —      | VOICE ground<br>(Telematics)                      | —                | —               | —                     | —   |
| 68<br>(Y)                | Ground | U-VOICE signal<br>(Telematics)                    | Output           | ON              | —                     | —   |
| 69<br>(R)                | Ground | USB D+ signal<br>(Telematics)                     | Input/<br>Output | —               | —                     | —   |
| 70<br>(Shield)           | —      | USB signal shield<br>(Telematics)                 | —                | —               | —                     | —   |
| 76<br>(G)                | Ground | D-VOICE signal<br>(Telematics)                    | Input            | —               | —                     | —   |
| 77<br>(Shield)           | —      | USB signal shield<br>(Telematics)                 | —                | —               | —                     | —   |
| 78<br>(W)                | Ground | V BUS signal<br>(USB connector)                   | Output           | ON              | —                     | 5 V   |
| 79<br>(G)                | —      | USB ground<br>(USB connector)                     | —                | —               | —                     | —   |
| 80<br>(L)                | Ground | USB D+ signal<br>(USB connector)                  | Input/<br>Output | —               | —                     | —   |
| 81<br>(R)                | Ground | USB D- signal<br>(USB connector)                  | Input/<br>Output | —               | —                     | —   |
| 82<br>(Shield)           | —      | USB signal shield<br>(USB connector)              | —                | —               | —                     | —   |

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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

| Terminal<br>(Wire color) |        | Description                           |                  | Condition       |                                 | Reference value<br>(Approx.) |
|--------------------------|--------|---------------------------------------|------------------|-----------------|---------------------------------|------------------------------|
| +                        | —      | Signal name                           | Input/<br>Output | Power<br>switch | Operation                       |                              |
| 83<br>(B)                | Ground | GPS antenna signal                    | Input            | ACC             | GPS antenna disconnected.       | 5 V                          |
| 84<br>(Shield)           | —      | GPS antenna signal shield             | —                | —               | —                               | —                            |
| 85<br>(B)                | Ground | Antenna amp. ON signal                | Output           | ACC             | —                               | Battery voltage              |
| 86<br>(B)                | —      | AM-FM main                            | Input            | —               | —                               | —                            |
| 88<br>(B)                | Ground | Satellite radio antenna signal        | Input            | ON              | Satellite antenna disconnected. | 5 V                          |
| 89<br>(Shield)           | —      | Satellite radio antenna signal shield | —                | —               | —                               | —                            |

## Fail-safe

INFOID:000000008743680

When a malfunction occurs within the system, the AV control unit outputs a message on the display, and it restricts the AV control unit functions.

### FAIL-SAFE CONDITIONS

SD card not inserted, SD card malfunction, internal malfunction of navigation, etc.

#### Display Indication

- When the system is in the fail-safe status at the start of the AV control unit, an error message is shown on the display.
- When the system is in the fail-safe status after the start of the AV control unit, an error message is not shown on the display. The MULTI AV system may be rebooted in the fail-safe state. If the fail-safe state is maintained after the system is rebooted, an applicable message is shown.

| Cause                                   | Display monitor       |
|---|-----------------------|
| Malfunction of flash ROM information    | TARGET INFO NG        |
| No SD card                              | NO SD CARD            |
| Unsuccessful security unlock            | SD UNLOCK NG          |
| Malfunction of SD card mount            | SD INIT NG            |
| Malfunction of SD card access           | SD ACCESS NG          |
| No program data                         | NO NAVI-2 DATA        |
| Malfunction of program data (SUM NG)    | NAVI-2DATA READ NG    |
| Inconsistent program version (Flash/SD) | NAVI VERSION NG       |
| Difference of map destination           | DIFFERENT MAP CODE    |
| Not compliant with map database version | MAP DATA BASE UNMATCH |
| Malfunction of navigation               | NAVI STARTUP NG       |

## CONTROL

When the system is in the fail-safe status at or after start of the AV control unit, the following functions are restricted.

| Function |         | In fail-safe mode                     |
|----------|---------|---------------------------------------|
| A/C      | Display | No display (fail-safe status display) |

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

| Function                       |           | In fail-safe mode                     |
|--------------------------------|-----------|---------------------------------------|
| Audio                          | Operation | Mute audio                            |
|                                | Display   | No display (fail-safe status display) |
| Hands-free phone               | Operation | It cannot be operated                 |
| Navigation                     | Operation | It cannot be operated                 |
| Display                        | Operation | Open/close operation is available     |
|                                | Display   | Fail-safe factors are displayed       |
| Self-diagnosis                 |           | It cannot be diagnosed                |
| CONSULT diagnosis              |           | It cannot be diagnosed                |
| AV communication diagnosis     |           | It cannot be diagnosed                |
| Frequency transmission for VCM |           | Normal                                |
| SD read access                 |           | Access cannot be gained.              |
| SD write access                |           | Access cannot be gained.              |

## CANCELLATION CONDITIONS

The fail-safe status is canceled under the following conditions, and then the system returns to the normal mode.

- When the SD card is not inserted, the SD card is inserted and the power of the AV control unit is turned ON again.
- When the SD card is not functional at the start of navigation due to a malfunction of the SD card, a normal SD card is inserted and the power of the AV control unit is turned ON again.

## DTC Index

INFOID:000000008743681

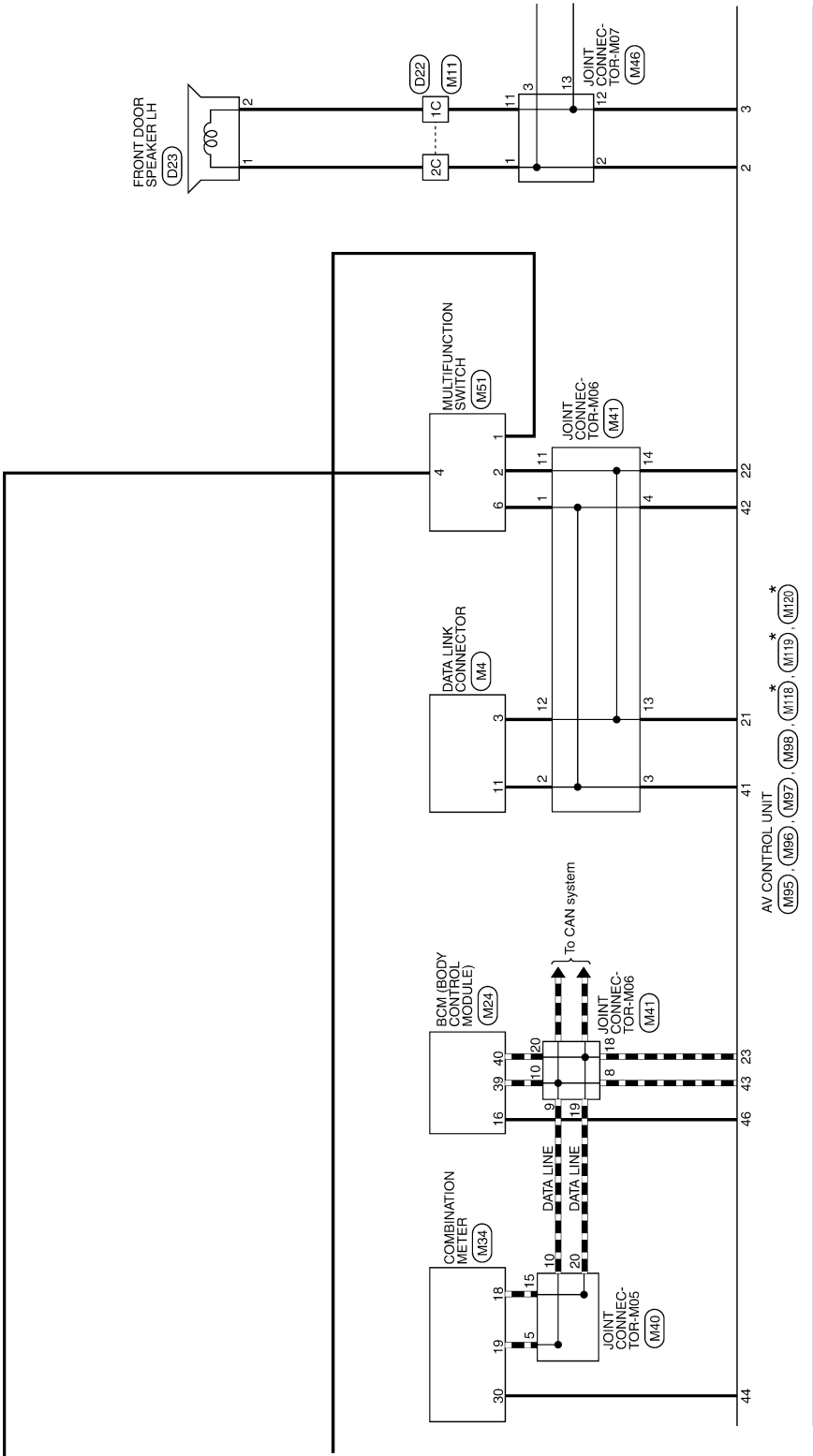
| DTC            | Display item   | Refer to                                      |
|----------------|--|---|
| U1000          | CAN COMM CIRC [U1000]  | <a href="#">AV-171. "Diagnosis Procedure"</a> |
| U1010          | CONTROL UNIT (CAN) [U1010]   | <a href="#">AV-172. "DTC Logic"</a>           |
| U121F          | CONTROL UNIT [U121F]   | <a href="#">AV-173. "DTC Logic"</a>           |
| U1244          | GPS ANTENNA CONN [U1244]   | <a href="#">AV-174. "Diagnosis Procedure"</a> |
| U1258          | XM ANTENNA CONN [U1258]  | <a href="#">AV-175. "Diagnosis Procedure"</a> |
| U1263          | USB OVERCURRENT [U1263]  | <a href="#">AV-176. "Diagnosis Procedure"</a> |
| U1266          | TCU CONN[U1266]  | <a href="#">AV-177. "DTC Logic"</a>           |
| U1310          | CONTROL UNIT (AV) [U1310]  | <a href="#">AV-179. "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-178. "Description"</a>         |



NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

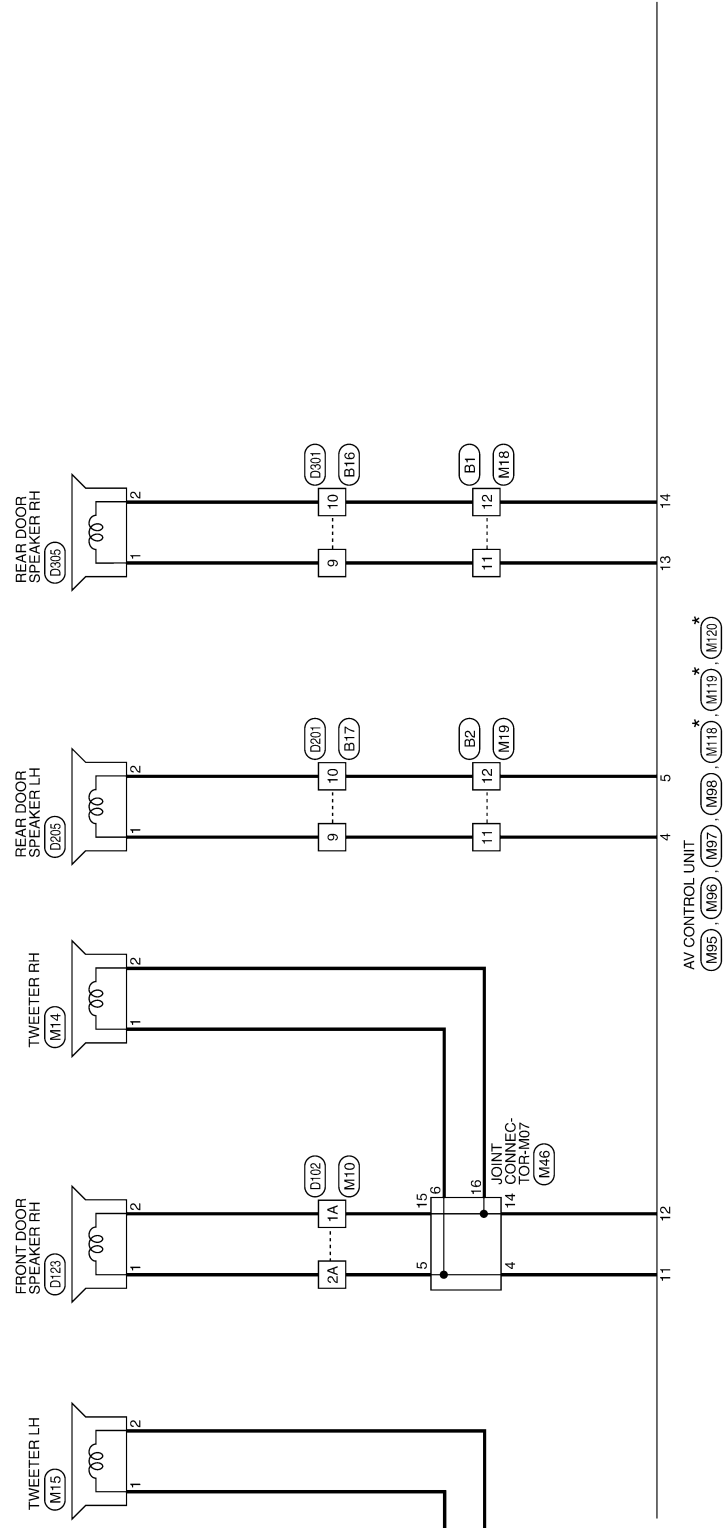
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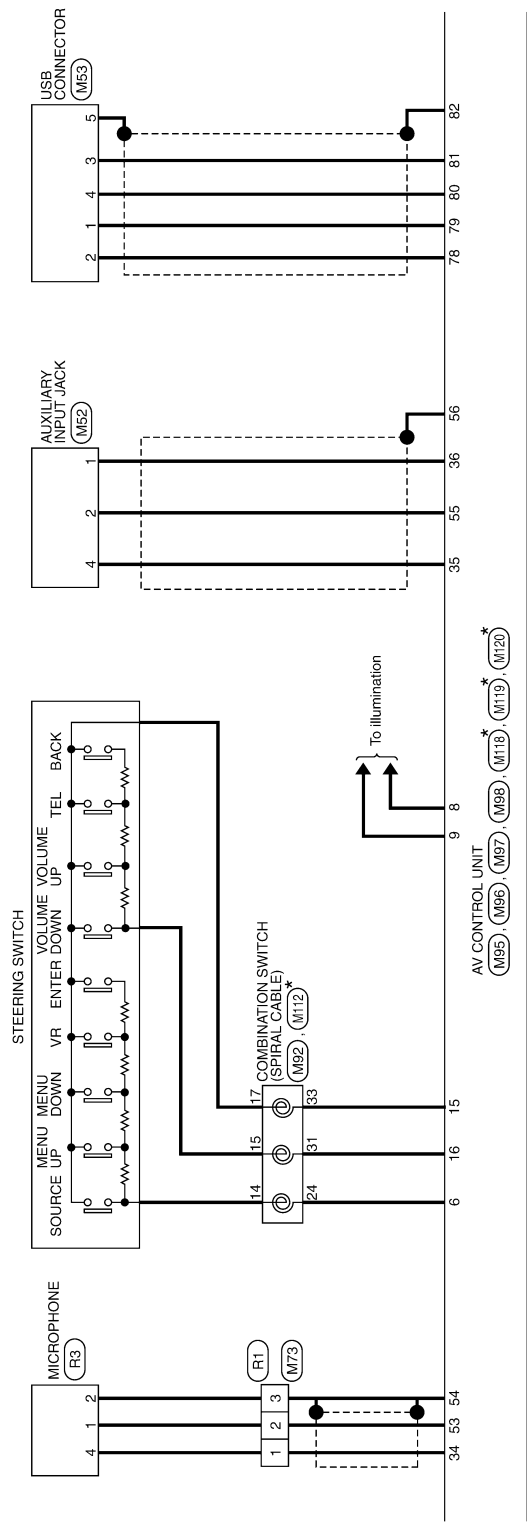
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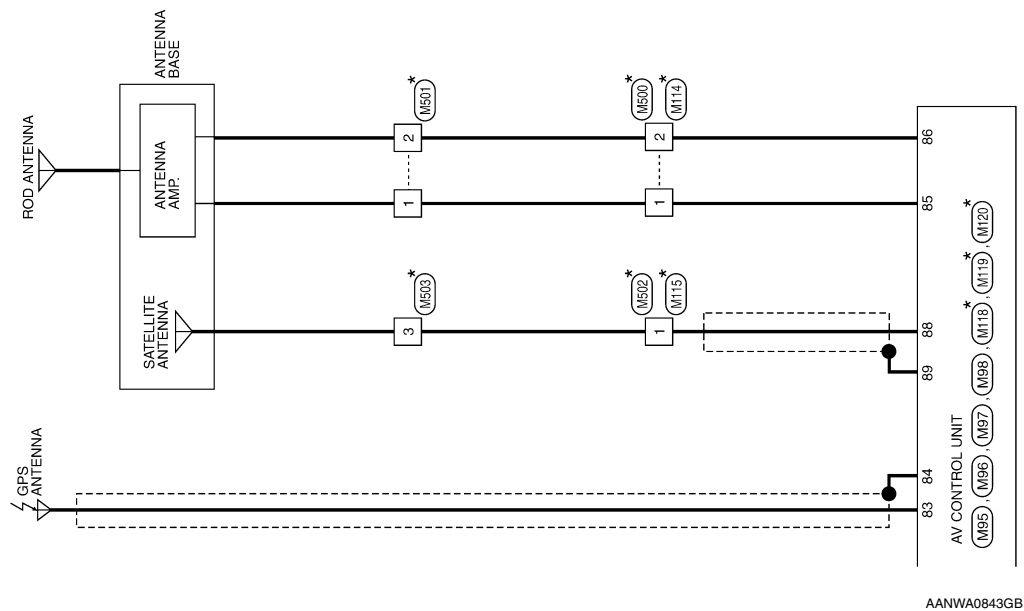




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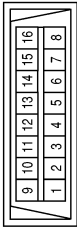
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NAVIGATION SYSTEM - WITHOUT BOSE AUDIO SYSTEM - CONNECTORS

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M4                  |
| Connector Name  | DATA LINK CONNECTOR |
| Connector Color | WHITE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | LG            | -           |
| 4            | B             | -           |
| 5            | B             | -           |
| 6            | L             | -           |
| 7            | GR            | -           |
| 8            | G             | -           |
| 9            | -             | -           |
| 10           | -             | -           |
| 11           | SB            | -           |
| 12           | G             | -           |
| 13           | L             | -           |
| 14           | P             | -           |
| 15           | -             | -           |
| 16           | Y             | -           |

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



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1A  | 2A  | 3A  | 4A  | 5A  | 6A  | 7A  | 8A  | 9A  | 10A | 11A | 12A | 13A | 14A | 15A |
| 16A | 17A | 18A | 19A | 20A | 21A | 22A | 23A | 24A | 25A | 26A | 27A | 28A | 29A | 30A |
| 31A | 32A | 33A | 34A | 35A | 36A | 37A | 38A | 39A | 40A | 41A | 42A | 43A | 44A | 45A |
| 46A | 47A | 48A | 49A | 50A | 51A | 52A | 53A | 54A | 55A | 56A | 57A | 58A | 59A | 60A |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1A           | L             | - (WITH BOSE)    |
| 1A           | R             | - (WITHOUT BOSE) |
| 2A           | P             | - (WITH BOSE)    |
| 2A           | G             | - (WITHOUT BOSE) |
| 3A           | SHIELD        | -                |
| 4A           | LG            | -                |
| 5A           | V             | -                |
| 10A          | BR            | -                |
| 11A          | Y             | -                |
| 12A          | B             | -                |
| 13A          | W             | -                |
| 14A          | SB            | -                |
| 15A          | L             | -                |
| 24A          | Y             | -                |
| 25A          | BR            | -                |
| 26A          | SHIELD        | -                |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 36A          | B             | -           |
| 37A          | P             | -           |
| 38A          | Y             | -           |
| 39A          | LG            | -           |
| 43A          | V             | -           |
| 44A          | L             | -           |
| 45A          | LG            | -           |
| 46A          | BR            | -           |
| 47A          | W             | -           |
| 48A          | B             | -           |
| 49A          | R             | -           |
| 50A          | SHIELD        | -           |

# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 32C          | –             | –           |
| 33C          | –             | –           |
| 34C          | –             | –           |
| 35C          | –             | –           |
| 36C          | LG            | –           |
| 37C          | R             | –           |
| 38C          | GR            | –           |
| 39C          | W             | –           |
| 40C          | P             | –           |
| 41C          | V             | –           |
| 42C          | V             | –           |
| 43C          | B             | –           |
| 44C          | L             | –           |
| 45C          | BR            | –           |
| 46C          | L             | –           |
| 47C          | Y             | –           |
| 48C          | BR            | –           |
| 49C          | B             | –           |
| 50C          | W             | –           |
| 51C          | R             | –           |
| 52C          | SHIELD        | –           |
| 53C          | –             | –           |
| 54C          | R             | –           |
| 55C          | LG            | –           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9C           | LG            | –           |
| 10C          | Y             | –           |
| 11C          | W             | –           |
| 12C          | SB            | –           |
| 13C          | B             | –           |
| 14C          | L             | –           |
| 15C          | R             | –           |
| 16C          | –             | –           |
| 17C          | –             | –           |
| 18C          | –             | –           |
| 19C          | –             | –           |
| 20C          | –             | –           |
| 21C          | –             | –           |
| 22C          | –             | –           |
| 23C          | –             | –           |
| 24C          | G             | –           |
| 25C          | R             | –           |
| 26C          | SHIELD        | –           |
| 27C          | –             | –           |
| 28C          | –             | –           |
| 29C          | –             | –           |
| 30C          | –             | –           |
| 31C          | –             | –           |

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



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1C  | 2C  | 3C  | 4C  | 5C  | 6C  | 7C  | 8C  | 9C  | 10C | 11C | 12C | 13C | 14C | 15C |
| 16C | 17C | 18C | 19C | 20C | 21C | 22C | 23C | 24C | 25C | 26C | 27C | 28C | 29C | 30C |
| 31C | 32C | 33C | 34C | 35C | 36C | 37C | 38C | 39C | 40C | 41C | 42C | 43C | 44C | 45C |
| 46C | 47C | 48C | 49C | 50C | 51C | 52C | 53C | 54C | 55C |     |     |     |     |     |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1C           | R             | – (WITH BOSE)    |
| 1C           | P             | – (WITHOUT BOSE) |
| 2C           | G             | – (WITH BOSE)    |
| 2C           | L             | – (WITHOUT BOSE) |
| 3C           | SHIELD        | –                |
| 4C           | G             | –                |
| 5C           | V             | –                |
| 6C           | –             | –                |
| 7C           | BR            | –                |
| 8C           | SB            | –                |

|                 |            |
|-----------------|------------|
| Connector No.   | M14        |
| Connector Name  | TWEETER RH |
| Connector Color | BROWN      |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | V             | – (WITH BOSE)    |
| 1            | G             | – (WITHOUT BOSE) |
| 2            | SB            | – (WITH BOSE)    |
| 2            | R             | – (WITHOUT BOSE) |

AANIA2052GB

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10           | R             | -           |
| 11           | LG            | -           |
| 12           | P             | -           |
| 13           | W             | -           |
| 14           | Y             | -           |
| 15           | LG            | -           |
| 16           | L             | -           |

| Connector No.   | M18          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | -           |
| 2            | -             | -           |
| 3            | GR            | -           |
| 4            | L             | -           |
| 5            | G             | -           |
| 6            | V             | -           |
| 7            | P             | -           |
| 8            | P             | -           |
| 9            | B             | -           |

| Connector No.   | M15        |
|-----------------|------------|
| Connector Name  | TWEETER LH |
| Connector Color | BROWN      |

|   |   |
|---|---|
| 2 | 1 |
|---|---|



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | G             | - (WITH BOSE)    |
| 1            | W             | - (WITHOUT BOSE) |
| 2            | R             | - (WITH BOSE)    |
| 2            | P             | - (WITHOUT BOSE) |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | -             | -           |
| 10           | V             | -           |
| 11           | V             | -           |
| 12           | LG            | -           |
| 13           | BR            | -           |
| 14           | SB            | -           |
| 15           | L             | -           |
| 16           | G             | -           |

| Connector No.   | M19          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | LG            | -           |
| 3            | P             | -           |
| 4            | GR            | -           |
| 5            | GR            | -           |
| 6            | W             | -           |
| 7            | -             | -           |
| 8            | -             | -           |

AANIA2053GB

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# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | M21          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | -             | -           |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | -             | -           |

|                 |                           |
|-----------------|---------------------------|
| Connector No.   | M24                       |
| Connector Name  | BCM (BODY CONTROL MODULE) |
| Connector Color | BLACK                     |

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 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            |
|--------------|---------------|------------------------|
| 2            | L             | COMBINATION SW INPUT 5 |
| 3            | GR            | COMBINATION SW INPUT 4 |
| 4            | BR            | COMBINATION SW INPUT 3 |
| 5            | G             | COMBINATION SW INPUT 2 |
| 6            | V             | COMBINATION SW INPUT 1 |
| 7            | GR            | KEY CYLINDER UNLOCK SW |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | B             | -           |
| 8            | SHIELD        | -           |
| 9            | R             | -           |
| 10           | SB            | -           |
| 11           | P             | -           |
| 12           | V             | -           |
| 13           | GR            | -           |
| 14           | P             | -           |
| 15           | L             | -           |
| 16           | G             | -           |
| 17           | -             | -           |
| 18           | -             | -           |
| 19           | -             | -           |

| Terminal No. | Color of Wire | Signal Name                               |
|--------------|---------------|---|
| 8            | R             | KEY CYLINDER LOCK SW                      |
| 9            | BR            | BRAKE SW1                                 |
| 12           | Y             | CENTRAL DOOR LOCK SW                      |
| 13           | BR            | CENTRAL DOOR UNLOCK SW                    |
| 14           | G             | AUTO LIGHT SENSOR INPUT                   |
| 15           | W             | REAR DEFOGGER SW                          |
| 16           | R             | MR OUTPUT                                 |
| 17           | Y             | AUTO LIGHT SENSOR POWER SUPPLY OUTPUT     |
| 18           | L             | KEYLESS TUNER, AUTO LIGHT SENSOR GND      |
| 21           | P             | IMMOBILIZER ONE WAY COMMUNICATION (CLOCK) |
| 23           | R             | SECURITY INDICATOR OUTPUT                 |
| 24           | SB            | DONGLE LINK                               |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 20           | -             | -           |
| 21           | -             | -           |
| 22           | -             | -           |
| 23           | -             | -           |
| 24           | W             | -           |
| 25           | B             | -           |
| 26           | W             | -           |
| 27           | Y             | -           |
| 28           | -             | -           |
| 29           | W             | -           |
| 30           | L             | -           |
| 31           | L             | -           |
| 32           | P             | -           |

| Terminal No. | Color of Wire | Signal Name                           |
|--------------|---------------|---------------------------------------|
| 25           | LG            | IMMOBILIZER TWO WAY COMMUNICATION     |
| 29           | G             | HAZARD SW                             |
| 30           | V             | TRUNK/BACK DOOR OPENER SW             |
| 31           | W             | DOOR LOCK STATUS SW (DR)              |
| 32           | GR            | COMBINATION SW OUTPUT 5               |
| 33           | Y             | COMBINATION SW OUTPUT 4               |
| 34           | W             | COMBINATION SW OUTPUT 3               |
| 35           | BG            | COMBINATION SW OUTPUT 2               |
| 36           | P             | COMBINATION SW OUTPUT 1               |
| 37           | V             | SHIFT P POSITION, PARKING POSITION SW |
| 38           | SB            | INTELLIGENT TUNER                     |
| 39           | L             | CAN-H                                 |
| 40           | P             | CAN-L                                 |

AANIA2054GB

# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 24           | BG            | PKB SW          |
| 25           | SB            | BRAKE OIL       |
| 26           | B             | ILL CONT OUT    |
| 27           | R             | A/BAG WARN      |
| 28           | R             | SECURITY        |
| 29           | -             | -               |
| 30           | GR            | 8 P/R O/P       |
| 31           | -             | -               |
| 32           | W             | SDA (12C)       |
| 33           | G             | SCL (12C)       |
| 34           | L             | CHARGE LAMP     |
| 35           | -             | -               |
| 36           | -             | -               |
| 37           | -             | -               |
| 38           | V             | LED H LAMP R    |
| 39           | LG            | LED H LAMP L    |
| 40           | W             | BUCKLE SW FR DR |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 8            | Y             | WASHER SW       |
| 9            | BR            | CHARGE CONNECT  |
| 10           | -             | -               |
| 11           | -             | -               |
| 12           | V             | SW GND          |
| 13           | G             | MODE B SW       |
| 14           | Y             | MODE A SW       |
| 15           | BR            | TRIP RESET SW   |
| 16           | P             | ILL CONT UP     |
| 17           | G             | UPPER ILL CONT  |
| 18           | P             | CAN-H           |
| 19           | L             | CAN-L           |
| 20           | LG            | AS SEATBELT W/L |
| 21           | -             | -               |
| 22           | GR            | GND (FOR UPPER) |
| 23           | -             | -               |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | M34               |
| Connector Name  | COMBINATION METER |
| Connector Color | WHITE             |



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

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 1            | LG            | BAT             |
| 2            | Y             | BAT (FOR UPPER) |
| 3            | GR            | IGN             |
| 4            | BG            | IGN (FOR UPPER) |
| 5            | B             | GND1 (ILL)      |
| 6            | B             | GND2 (POWER)    |
| 7            | -             | -               |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 8            | L             | -           |
| 9            | L             | -           |
| 10           | L             | -           |
| 11           | LG            | -           |
| 12           | LG            | -           |
| 13           | L             | -           |
| 14           | R             | -           |
| 15           | P             | -           |
| 16           | P             | -           |
| 17           | P             | -           |
| 18           | P             | -           |
| 19           | P             | -           |
| 20           | P             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M40                 |
| Connector Name  | JOINT CONNECTOR-M05 |
| Connector Color | BLUE                |



|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 10 | 9  | 8  | 7  | 6  | 5  | 4  | 3  | 2  | 1  |
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | L             | -           |
| 3            | BR            | -           |
| 4            | GR            | -           |
| 5            | L             | -           |
| 6            | L             | -           |
| 7            | L             | -           |

AANIA2055GB

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# NAVIGATION WITHOUT BOSE

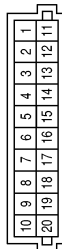
< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 12           | LG            | -           |
| 13           | LG            | -           |
| 14           | LG            | -           |
| 15           | P             | -           |
| 16           | P             | -           |
| 17           | P             | -           |
| 18           | P             | -           |
| 19           | P             | -           |
| 20           | P             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | L             | -           |
| 6            | L             | -           |
| 7            | L             | -           |
| 8            | L             | -           |
| 9            | L             | -           |
| 10           | L             | -           |
| 11           | LG            | -           |

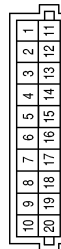
|                 |                     |
|-----------------|---------------------|
| Connector No.   | M41                 |
| Connector Name  | JOINT CONNECTOR-M06 |
| Connector Color | BLUE                |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | W             | -           |
| 6            | Y             | -           |
| 7            | Y             | -           |
| 8            | G             | -           |
| 9            | W             | -           |
| 10           | W             | -           |
| 11           | Y             | -           |
| 12           | Y             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |
| 17           | -             | -           |
| 18           | B             | -           |
| 19           | B             | -           |
| 20           | B             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M43                 |
| Connector Name  | JOINT CONNECTOR-M04 |
| Connector Color | GRAY                |



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

AANIA2056GB



NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

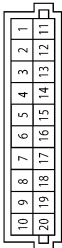
[NAVIGATION WITHOUT BOSE]

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M50                 |
| Connector Name  | JOINT CONNECTOR-M03 |
| Connector Color | PINK                |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |
| 3            | B             | -           |
| 4            | B             | -           |
| 5            | B             | -           |
| 6            | B             | -           |
| 7            | B             | -           |
| 8            | B             | -           |
| 9            | B             | -           |
| 10           | B             | -           |
| 11           | G             | -           |
| 12           | G             | -           |
| 13           | G             | -           |
| 14           | G             | -           |
| 15           | G             | -           |
| 16           | L             | -           |
| 17           | L             | -           |
| 18           | L             | -           |
| 19           | L             | -           |
| 20           | L             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M46                 |
| Connector Name  | JOINT CONNECTOR-M07 |
| Connector Color | ORANGE              |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | L             | -           |
| 3            | W             | -           |
| 4            | G             | -           |
| 5            | G             | -           |
| 6            | G             | -           |
| 7            | BR            | -           |
| 8            | GR            | -           |
| 9            | BR            | -           |
| 10           | BR            | -           |
| 11           | P             | -           |
| 12           | P             | -           |
| 13           | P             | -           |
| 14           | R             | -           |
| 15           | R             | -           |
| 16           | R             | -           |
| 17           | -             | -           |
| 18           | SB            | -           |
| 19           | SB            | -           |
| 20           | SB            | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M44                 |
| Connector Name  | JOINT CONNECTOR-M01 |
| Connector Color | GRAY                |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | -             | -           |
| 3            | -             | -           |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | -             | -           |
| 7            | -             | -           |
| 8            | B             | -           |
| 9            | B             | -           |
| 10           | B             | -           |
| 11           | P             | -           |
| 12           | P             | -           |
| 13           | W             | -           |
| 14           | W             | -           |
| 15           | LG            | -           |
| 16           | R             | -           |
| 17           | R             | -           |
| 18           | W             | -           |
| 19           | W             | -           |
| 20           | W             | -           |

AANIA2057GB

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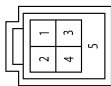
AV

# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

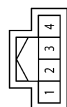
[NAVIGATION WITHOUT BOSE]

|                 |               |
|-----------------|---------------|
| Connector No.   | M53           |
| Connector Name  | USB CONNECTOR |
| Connector Color | GREEN         |



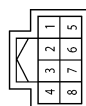
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | -           |
| 2            | W             | -           |
| 3            | R             | -           |
| 4            | L             | -           |
| 5            | SHIELD        | -           |

|                 |                      |
|-----------------|----------------------|
| Connector No.   | M52                  |
| Connector Name  | AUXILIARY INPUT JACK |
| Connector Color | WHITE                |



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

|                 |                      |
|-----------------|----------------------|
| Connector No.   | M51                  |
| Connector Name  | MULTIFUNCTION SWITCH |
| Connector Color | WHITE                |

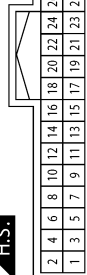


| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | LG            | -           |
| 3            | -             | -           |
| 4            | L             | -           |
| 5            | B             | -           |
| 6            | SB            | -           |
| 7            | -             | -           |
| 8            | W             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 24           | -             | -           |
| 25           | -             | -           |
| 26           | -             | -           |
| 27           | -             | -           |
| 28           | -             | -           |
| 29           | -             | -           |
| 30           | -             | -           |
| 31           | -             | -           |
| 32           | -             | -           |
| 33           | -             | -           |
| 34           | -             | -           |
| 35           | -             | -           |
| 36           | -             | -           |
| 37           | -             | -           |
| 38           | -             | -           |
| 39           | -             | -           |
| 40           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | L             | EV CAN H    |
| 10           | G             | EV CAN L    |
| 11           | -             | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |
| 17           | -             | -           |
| 18           | -             | -           |
| 19           | -             | -           |
| 20           | -             | -           |
| 21           | -             | -           |
| 22           | -             | -           |
| 23           | -             | -           |

|                 |       |
|-----------------|-------|
| Connector No.   | M67   |
| Connector Name  | TCU   |
| Connector Color | WHITE |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | +B          |
| 2            | B             | GND         |
| 3            | L             | ACC         |
| 4            | W             | IGN         |
| 5            | -             | -           |
| 6            | -             | -           |

AANIA2058GB

| Terminal No. | Color of Wire | Signal Name          |
|--------------|---------------|----------------------|
| 46           | V             | MANUFACTURE SPECIFIC |
| 47           | BR            | USB VBUS             |
| 48           | L             | USB D-               |
| 49           | G             | D VOICE              |
| 50           | -             | -                    |
| 51           | -             | -                    |
| 52           | -             | -                    |
| 53           | -             | -                    |
| 54           | -             | -                    |
| 55           | SHIELD        | USB GND              |
| 56           | R             | USB D+               |
| 57           | SHIELD        | SHIELD               |

|                 |      |
|-----------------|------|
| Connector No.   | M68  |
| Connector Name  | TCU  |
| Connector Color | GRAY |

|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 |
| 56 | 55 | 54 | 53 | 52 | 51 | 50 | 49 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 41           | Y             | U VOICE     |
| 42           | B             | VOICE GND   |
| 43           | -             | -           |
| 44           | -             | -           |
| 45           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10           | B             | -           |
| 11           | W             | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M73          |
| 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 |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | L             | -           |
| 3            | SHIELD        | -           |
| 4            | -             | -           |
| 5            | B             | -           |
| 6            | BR            | -           |
| 7            | P             | -           |
| 8            | Y             | -           |
| 9            | R             | -           |

AANIA2059GB

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# NAVIGATION WITHOUT BOSE

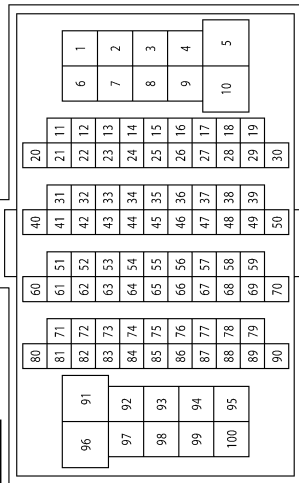
< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 60           | Y             | -           |
| 61           | GR            | -           |
| 62           | W             | -           |
| 63           | BR            | -           |
| 64           | SHIELD        | -           |
| 65           | W             | -           |
| 66           | LG            | -           |
| 67           | R             | -           |
| 68           | G             | -           |
| 69           | BG            | -           |
| 70           | GR            | -           |
| 71           | R             | -           |
| 72           | R             | -           |
| 73           | B             | -           |
| 74           | W             | -           |
| 76           | L             | -           |
| 80           | W             | -           |
| 81           | LG            | -           |
| 83           | GR            | -           |
| 84           | L             | -           |
| 85           | Y             | -           |
| 86           | SB            | -           |
| 88           | R             | -           |
| 89           | G             | -           |
| 90           | SHIELD        | -           |
| 91           | Y             | -           |
| 92           | BR            | -           |
| 93           | W             | -           |
| 94           | P             | -           |
| 95           | L             | -           |
| 96           | P             | -           |
| 97           | G             | -           |
| 98           | V             | -           |
| 99           | LG            | -           |
| 100          | R             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 22           | B             | -           |
| 23           | BG            | -           |
| 24           | B             | -           |
| 26           | G             | -           |
| 27           | B             | -           |
| 28           | B             | -           |
| 25           | W             | -           |
| 29           | R             | -           |
| 31           | R             | -           |
| 32           | W             | -           |
| 33           | GR            | -           |
| 34           | BR            | -           |
| 35           | BR            | -           |
| 36           | W             | -           |
| 37           | L             | -           |
| 38           | LG            | -           |
| 39           | SB            | -           |
| 40           | V             | -           |
| 41           | P             | -           |
| 42           | SB            | -           |
| 43           | G             | -           |
| 44           | LG            | -           |
| 45           | Y             | -           |
| 46           | R             | -           |
| 47           | W             | -           |
| 48           | L             | -           |
| 49           | G             | -           |
| 50           | L             | -           |
| 51           | SB            | -           |
| 52           | L             | -           |
| 54           | B             | -           |
| 55           | R             | -           |
| 56           | V             | -           |
| 57           | Y             | -           |
| 58           | L             | -           |

| Connector No.   | M77          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | L             | -           |
| 3            | V             | -           |
| 4            | LG            | -           |
| 6            | P             | -           |
| 7            | GR            | -           |
| 9            | G             | -           |
| 10           | L             | -           |
| 11           | L             | -           |
| 12           | Y             | -           |
| 13           | V             | -           |
| 14           | R             | -           |
| 15           | G             | -           |
| 16           | W             | -           |
| 17           | R             | -           |
| 18           | G             | -           |
| 19           | W             | -           |
| 20           | GR            | -           |
| 21           | P             | -           |

AANIA2060GB

# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

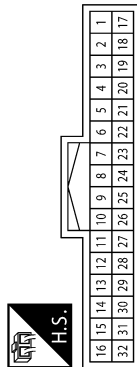
|                 |                    |
|-----------------|--------------------|
| Connector No.   | M92                |
| Connector Name  | COMBINATION SWITCH |
| Connector Color | GRAY               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 21           | -             | -           |
| 22           | -             | -           |
| 24           | R             | -           |
| 25           | LG            | -           |
| 27           | -             | -           |
| 31           | W             | -           |
| 32           | SB            | -           |
| 33           | B             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | B             | -           |
| 14           | -             | -           |
| 15           | R             | -           |
| 16           | G             | -           |
| 17           | R             | -           |
| 18           | G             | -           |
| 19           | SHIELD        | -           |
| 20           | BR            | -           |
| 21           | V             | -           |
| 22           | SB            | -           |
| 23           | W             | -           |
| 24           | B             | -           |
| 25           | W             | -           |
| 26           | R             | -           |
| 27           | -             | -           |
| 28           | -             | -           |
| 29           | W             | -           |
| 30           | R             | -           |
| 31           | G             | -           |
| 32           | -             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M79          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

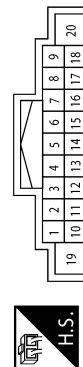


| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | P             | -           |
| 3            | SHIELD        | -           |
| 4            | G             | -           |
| 5            | R             | -           |
| 6            | SHIELD        | -           |
| 7            | L             | -           |
| 8            | GR            | -           |
| 9            | R             | -           |
| 10           | BR            | -           |
| 11           | L             | -           |
| 12           | BR            | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | LG            | RR RH PRE + |
| 14           | P             | RR RH PRE - |
| 15           | B             | STRG SW GND |
| 16           | W             | STRG SW B   |
| 17           | -             | -           |
| 18           | -             | -           |
| 19           | BR            | BAT         |
| 20           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3            | P             | FR LH PRE - |
| 4            | V             | RR LH PRE + |
| 5            | LG            | RR LH PRE - |
| 6            | R             | STRG SW A   |
| 7            | BR            | ACC         |
| 8            | B             | ILL CONT    |
| 9            | W             | ILL         |
| 10           | -             | -           |
| 11           | G             | FR RH PRE + |
| 12           | R             | FR RH PRE - |

|                 |   |
|-----------------|---|
| Connector No.   | M95   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITHOUT BOSE) |
| Connector Color | WHITE   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | L             | FR LH PRE + |

AANIA2061GB

A B C D E F G H I J K L M AV O P

# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 44           | GR            | SPEED           |
| 45           | G             | REVERSE SIG     |
| 46           | R             | MR OUTPUT       |
| 47           | -             | -               |
| 48           | -             | -               |
| 49           | -             | -               |
| 50           | -             | -               |
| 51           | -             | -               |
| 52           | -             | -               |
| 53           | L             | MIC SIG         |
| 54           | SHIELD        | MIC GND         |
| 55           | W             | AUX AUDIO RH    |
| 56           | SHIELD        | AUX SHIELD      |
| 57           | -             | -               |
| 58           | B             | RV CAM SIG      |
| 59           | W             | CAMERA GND      |
| 60           | SHIELD        | R CAMERA SHIELD |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 27           | -             | -             |
| 28           | -             | -             |
| 29           | -             | -             |
| 30           | -             | -             |
| 31           | -             | -             |
| 32           | -             | -             |
| 33           | -             | -             |
| 34           | P             | MIC VCC       |
| 35           | R             | AUX AUDIO LH  |
| 36           | B             | AUX AUDIO-    |
| 37           | -             | -             |
| 38           | -             | -             |
| 39           | R             | CAMERA V+     |
| 40           | R             | R CAMERA COMP |
| 41           | SB            | M CAN H TRM   |
| 42           | SB            | M CAN H       |
| 43           | L             | V CAN H       |

|                 |   |
|-----------------|---|
| Connector No.   | M96   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITHOUT BOSE) |
| Connector Color | WHITE   |



|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 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 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 21           | LG            | M CAN L TRM |
| 22           | LG            | M CAN L     |
| 23           | P             | V CAN L     |
| 24           | -             | -           |
| 25           | Y             | PKB SIG     |
| 26           | V             | IGN         |

|                 |   |
|-----------------|---|
| Connector No.   | M98   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITHOUT BOSE) |
| Connector Color | BLUE  |



|    |    |    |    |    |
|----|----|----|----|----|
| 79 | 78 | 81 | 80 | 82 |
|----|----|----|----|----|

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 78           | W             | V BUS       |
| 79           | G             | USB GND     |
| 80           | L             | USB D+      |
| 81           | R             | USB D-      |
| 82           | SHIELD        |             |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 64           | -             | -           |
| 65           | -             | -           |
| 66           | -             | -           |
| 67           | B             | GND         |
| 68           | Y             |             |
| 69           | R             | USB D+      |
| 70           | SHIELD        | USB GND     |
| 71           | -             | -           |
| 72           | -             | -           |
| 73           | -             | -           |
| 74           | -             | -           |
| 75           | -             | -           |
| 76           | G             |             |
| 77           | SHIELD        |             |

|                 |   |
|-----------------|---|
| Connector No.   | M97   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITHOUT BOSE) |
| Connector Color | GRAY  |



|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 68 | 67 | 66 | 65 | 64 | 63 | 62 | 61 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 |
| 77 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

| Terminal No. | Color of Wire | Signal Name         |
|--------------|---------------|---------------------|
| 61           | L             | USB D-              |
| 62           | BR            | USB VBUS            |
| 63           | V             | MANUFACTURE PECIFIC |

AANIA2204GB

# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

|                 |                                      |
|-----------------|--------------------------------------|
| Connector No.   | M112                                 |
| Connector Name  | COMBINATION SWITCH<br>(SPIRAL CABLE) |
| Connector Color | GRAY                                 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | R             | -           |
| 14           | W             | -           |
| 15           | L             | -           |
| 16           | B             | -           |
| 17           | BR            | -           |
| 18           | B             | -           |
| 19           | Y             | -           |
| 20           | Y             | -           |

|                 |      |
|-----------------|------|
| Connector No.   | M113 |
| Connector Name  | TCU  |
| Connector Color | GRAY |



| Terminal No. | Color of Wire | Signal Name        |
|--------------|---------------|--------------------|
| 58           | B             | TEL ANTENNA SIGNAL |
| 59           | SHIELD        | SHIELD             |

|                 |              |
|-----------------|--------------|
| Connector No.   | M114         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

|                 |              |
|-----------------|--------------|
| Connector No.   | M115         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

|                 |   |
|-----------------|---|
| Connector No.   | M118  |
| Connector Name  | AV CONTROL UNIT (WITH<br>NAVIGATION SYSTEM -<br>WITHOUT BOSE AUDIO<br>SYSTEM) |
| Connector Color | GRAY  |



| Terminal No. | Color of Wire | Signal Name        |
|--------------|---------------|--------------------|
| 83           | B             | GPS ANTENNA SIGNAL |
| 84           | SHIELD        | SHIELD             |

|                 |   |
|-----------------|---|
| Connector No.   | M119  |
| Connector Name  | AV CONTROL UNIT (WITH<br>NAVIGATION SYSTEM -<br>WITHOUT BOSE AUDIO<br>SYSTEM) |
| Connector Color | GRAY  |



| Terminal No. | Color of Wire | Signal Name               |
|--------------|---------------|---------------------------|
| 85           | B             | ANTENNA AMP.<br>ON SIGNAL |
| 86           | B             | RADIO ANTENNA<br>SIGNAL   |
| 87           | -             | -                         |

AANIA2205GB

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# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | M501         |
| Connector Name  | ANTENNA BASE |
| Connector Color | GRAY         |



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

|                 |              |
|-----------------|--------------|
| Connector No.   | M500         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

|                 |  |
|-----------------|--|
| Connector No.   | M120   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM "C" WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | PINK   |



| Terminal No. | Color of Wire | Signal Name       |
|--------------|---------------|-------------------|
| 88           | B             | SATELLITE ANTENNA |
| 89           | SHIELD        | SHIELD            |

|                 |              |
|-----------------|--------------|
| Connector No.   | M503         |
| Connector Name  | ANTENNA BASE |
| Connector Color | GRAY         |



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

|                 |              |
|-----------------|--------------|
| Connector No.   | M502         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

AANIA2206GB



|                 |                    |
|-----------------|--------------------|
| Connector No.   | E27                |
| Connector Name  | REVERSE LAMP RELAY |
| Connector Color | BLUE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | O             | -           |
| 2            | SB            | -           |
| 3            | O             | -           |
| 5            | G             | -           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 54           | -             | -                |
| 55           | LG            | FAST CHARGE      |
| 56           | -             | -                |
| 57           | R             | VCM IGN          |
| 58           | O             | REVERSE LAMP IGN |
| 59           | BR            | ABS ECU IGN      |
| 60           | GR            | F/S RLY CONT     |
| 61           | -             | -                |
| 62           | V             | E-ACT/HAS IGN    |

|                 |  |
|-----------------|--|
| Connector No.   | E15  |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE  |

|    |    |    |    |             |    |    |    |    |
|----|----|----|----|-------------|----|----|----|----|
| 53 | 52 | 51 | 50 | <div></div> | 49 | 48 | 47 |    |
| 62 | 61 | 60 | 59 | 58          | 57 | 56 | 55 | 54 |



| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 47           | -             | -            |
| 48           | -             | -            |
| 49           | Y             | H/LAMP HI RH |
| 50           | G             | H/LAMP HI LH |
| 51           | L             | H/LAMP LO LH |
| 52           | P             | H/LAMP LO RH |
| 53           | -             | -            |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | L             | -           |
| 6            | G             | -           |
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | -             | -           |
| 10           | GR            | -           |
| 11           | BR            | -           |
| 12           | Y             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | E60          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BLACK        |

|   |   |   |    |    |    |
|---|---|---|----|----|----|
| 1 | 2 | 3 | 4  | 5  | 6  |
| 7 | 8 | 9 | 10 | 11 | 12 |



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

AANIA2207GB

# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 23           | R             | CHARGE PORT LID OPENER ACTUATOR RELAY                     |
| 24           | L             | EV SYSTEM CAN-H   |
| 25           | G             | EV SYSTEM CAN-L   |
| 28           | R             | SYSTEM MAIN RELAY 2                                       |
| 30           | W             | READY SIGNAL  |
| 32           | B             | VENC  |
| 33           | L             | N POSITION OUTPUT (SELECT INDICATOR)                      |
| 34           | R             | D POSITION OUTPUT (SELECT INDICATOR)                      |
| 36           | W             | SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1) |
| 39           | R             | MOTOR COIL A W-PHASE                                      |
| 40           | B             | PRE-CHARGE RELAY  |
| 44           | P             | ENCODER SIGNAL B  |
| 45           | V             | ENCODER SIGNAL A  |
| 46           | B             | P POSITION OUTPUT (SELECT INDICATOR)                      |
| 47           | LG            | P/N POSITION SIGNAL                                       |
| 48           | W             | P POSITION SIGNAL   |
| 49           | R             | ACCELERATOR PEDAL POSITION SENSOR 1                       |
| 51           | R             | POWER ON POWER SUPPLY                                     |
| 54           | W             | SYSTEM MAIN RELAY 1                                       |
| 56           | G             | ENCODER GROUND  |
| 57           | O             | ELECTRIC SHIFT SENSOR GND 1                               |
| 58           | B/R           | VCM GROUND  |
| 62           | B             | SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)       |
| 65           | B             | VCM GROUND  |

|                 |       |
|-----------------|-------|
| Connector No.   | E61   |
| Connector Name  | VCM   |
| Connector Color | BLACK |

|    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 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 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 |
| 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 |



| Terminal No. | Color of Wire | Signal Name                          |
|--------------|---------------|--------------------------------------|
| 1            | B             | MOTOR COIL A U-PHASE                 |
| 3            | W             | ELECTRIC SHIFT SENSOR NO.5           |
| 5            | LG            | F/S RELAY POWER SUPPLY               |
| 7            | O/L           | ELECTRIC SHIFT SENSOR POWER SUPPLY 1 |
| 8            | W             | F/S CHG RELAY                        |
| 9            | SB            | PARKING ACTUATOR RELAY A             |
| 11           | BR            | 12V BATTERY POWER SUPPLY             |
| 13           | SB            | MOTOR COIL A V-PHASE                 |
| 16           | R             | ELECTRIC SHIFT SENSOR NO.3           |
| 17           | B             | ELECTRIC SHIFT SENSOR NO.1           |
| 18           | Y             | R POSITION OUTPUT (SELECT INDICATOR) |
| 19           | W             | WATER PUMP SIGNAL                    |
| 20           | G             | WATER PUMP SIGNAL                    |
| 21           | GR            | F/S RELAY                            |

AANIA2208GB

# NAVIGATION WITHOUT BOSE

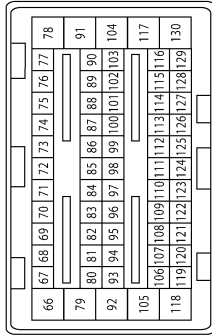
< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 110          | Y             | COOLANT TEMPERATURE SENSOR                          |
| 111          | SB            | ASCD STEERING SWITCH                                |
| 112          | B             | P POSITION SW NO.2                                  |
| 113          | O             | BRAKE PEDAL POSITION SWITCH                         |
| 115          | V             | CHARGING STATUS INDICATOR 1                         |
| 116          | SB            | A/C RELAY   |
| 117          | LG            | CHARGE CONNECTOR LOCK ACTUATOR (+)                  |
| 118          | B             | VCM GROUND  |
| 120          | L             | SENSOR GROUND (BATTERY CURRENT SENSOR)              |
| 121          | W             | SENSOR GROUND (COOLANT TEMPERATURE SENSOR)          |
| 122          | B             | SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2) |
| 123          | BR            | SENSOR GROUND (REFRIGERANT PRESSURE SENSOR)         |
| 124          | W/L           | ELECTRIC SHIFT SENSOR GND 2                         |
| 125          | BR            | ASCD STEERING SWITCH GROUND                         |
| 126          | B/R           | VCM GROUND  |
| 128          | V             | COOLING FAN CONTROL SIGNAL                          |
| 129          | Y             | IMMEDIATE CHARGING SWITCH                           |
| 130          | W             | CHARGE CONNECTOR LOCK ACTUATOR (-)                  |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 87           | V             | CHARGE CONNECTOR LOCK SWITCH INDICATOR (LOCK)             |
| 88           | SB            | M/C RELAY   |
| 89           | BR            | CHARGING STATUS INDICATOR 2                               |
| 90           | G             | CHARGING STATUS INDICATOR 3                               |
| 91           | O             | CHARGE CONNECTOR LOCK SWITCH INDICATOR (AUTO)             |
| 93           | BR            | CHARGE PORT ID OPENER SWITCH                              |
| 94           | O             | CHARGE CONNECTOR LOCK SWITCH (LOCK)                       |
| 95           | Y             | BATTERY CURRENT SENSOR                                    |
| 96           | R             | SENSOR POWER SUPPLY (BATTERY CURRENT SENSOR)              |
| 97           | W             | SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2) |
| 98           | L             | SENSOR POWER SUPPLY (REFRIGERANT PRESSURE SENSOR)         |
| 99           | R             | P POSITION SW NO.1  |
| 101          | P             | STOP LAMP SWITCH  |
| 103          | L             | PLUG IN INDICATOR LAMP                                    |
| 104          | R             | CHARGE CONNECTOR LOCK RELAY POWER SUPPLY                  |
| 107          | L             | BATTERY TEMPERATURE SENSOR                                |
| 108          | R             | ACCELERATOR PEDAL POSITION SENSOR 2                       |
| 109          | B             | REFRIGERANT PRESSURE SENSOR                               |

|                 |       |
|-----------------|-------|
| Connector No.   | E62   |
| Connector Name  | VCM   |
| Connector Color | BROWN |



| Terminal No. | Color of Wire | Signal Name                               |
|--------------|---------------|---|
| 70           | SB            | REVERSE LAMP RELAY                        |
| 72           | P             | CONNECTION DETECTING CIRCUIT SIGNAL       |
| 73           | O             | CONNECTION DETECTING CIRCUIT POWER SUPPLY |
| 74           | G             | POWER ON POWER SUPPLY                     |
| 75           | L             | CAN-H                                     |
| 76           | P             | CAN-L                                     |
| 78           | SB            | CHARGE CONNECTOR LOCK RELAY               |
| 79           | R             | 12V BATTERY POWER SUPPLY                  |
| 81           | L             | CHARGE CONNECTOR LOCK SWITCH (AUTO)       |
| 82           | GR            | CHARGE PORT LIGHT                         |
| 83           | W             | ELECTRIC SHIFT SENSOR POWER SUPPLY 2      |
| 84           | W             | ELECTRIC SHIFT SENSOR NO.2                |
| 85           | G             | ELECTRIC SHIFT SENSOR NO.4                |
| 86           | G             | ELECTRIC SHIFT SENSOR NO.6                |

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NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]


|     |        |   |
|-----|--------|---|
| 57  | Y      | - |
| 58  | L      | - |
| 60  | LG     | - |
| 61  | GR     | - |
| 62  | W      | - |
| 63  | SB     | - |
| 64  | SHIELD | - |
| 65  | W      | - |
| 66  | G      | - |
| 67  | V      | - |
| 68  | R      | - |
| 69  | B      | - |
| 70  | BR     | - |
| 71  | LG     | - |
| 72  | R      | - |
| 73  | B      | - |
| 74  | O      | - |
| 76  | L      | - |
| 77  | Y      | - |
| 80  | P      | - |
| 81  | SB     | - |
| 83  | GR     | - |
| 84  | L      | - |
| 85  | O      | - |
| 86  | BR     | - |
| 88  | B      | - |
| 89  | W      | - |
| 90  | SHIELD | - |
| 91  | Y      | - |
| 92  | BR     | - |
| 93  | O      | - |
| 94  | R      | - |
| 95  | V      | - |
| 96  | P      | - |
| 97  | G      | - |
| 98  | W      | - |
| 99  | O      | - |
| 100 | SB     | - |

|    |     |   |
|----|-----|---|
| 19 | W/L | - |
| 20 | BR  | - |
| 21 | R   | - |
| 22 | B   | - |
| 23 | LG  | - |
| 24 | B   | - |
| 25 | W   | - |
| 26 | W   | - |
| 27 | B   | - |
| 28 | O/L | - |
| 29 | W   | - |
| 31 | R   | - |
| 32 | W   | - |
| 33 | G   | - |
| 34 | BR  | - |
| 35 | V   | - |
| 36 | O   | - |
| 37 | L   | - |
| 38 | SB  | - |
| 39 | P   | - |
| 40 | V   | - |
| 41 | O   | - |
| 42 | Y   | - |
| 43 | BR  | - |
| 44 | W   | - |
| 45 | G   | - |
| 46 | P   | - |
| 47 | LG  | - |
| 47 | R   | - |
| 48 | B   | - |
| 49 | L   | - |
| 50 | G   | - |
| 51 | W   | - |
| 52 | O   | - |
| 54 | B   | - |
| 55 | R   | - |
| 56 | Y   | - |

Connector No. E105

Connector Name WIRE TO WIRE

Connector Color WHITE



|   |    |
|---|----|
| 1 | 6  |
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| 5 | 10 |

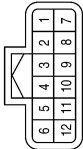
|    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|-----|
| 11 | 21 | 31 | 41 | 51 | 61 | 71 | 81 | 91 | 96  |
| 12 | 22 | 32 | 42 | 52 | 62 | 72 | 82 | 92 | 97  |
| 13 | 23 | 33 | 43 | 53 | 63 | 73 | 83 | 93 | 98  |
| 14 | 24 | 34 | 44 | 54 | 64 | 74 | 84 | 94 | 99  |
| 15 | 25 | 35 | 45 | 55 | 65 | 75 | 85 | 95 | 100 |
| 16 | 26 | 36 | 46 | 56 | 66 | 76 | 86 |    |     |
| 17 | 27 | 37 | 47 | 57 | 67 | 77 | 87 |    |     |
| 18 | 28 | 38 | 48 | 58 | 68 | 78 | 88 |    |     |
| 19 | 29 | 39 | 49 | 59 | 69 | 79 | 89 |    |     |
| 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |    |     |

| Terminal No. | Color of Wire | Signal Name                  |
|--------------|---------------|------------------------------|
| 1            | R             | -                            |
| 2            | L             | -                            |
| 3            | BW            | -( WITHOUT FRONT FOG LAMPS ) |
| 3            | R             | -( WITH LED HEADLAMPS )      |
| 4            | LG            | -( WITH LED HEADLAMPS )      |
| 4            | B/W           | -( WITHOUT FRONT FOG LAMPS ) |
| 6            | B/R           | -                            |
| 7            | W             | -                            |
| 9            | G             | -                            |
| 10           | R             | -                            |
| 11           | L             | -                            |
| 12           | Y             | -                            |
| 13           | W             | -                            |
| 14           | R             | -                            |
| 15           | G             | -                            |
| 16           | G             | -                            |
| 17           | R             | -                            |
| 18           | O             | -                            |

AANIA2210GB

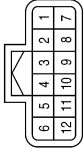
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | V             | -           |
| 14           | Y             | -           |
| 15           | W             | -           |
| 16           | L             | -           |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | -           |
| 2            | -             | -           |
| 3            | GR            | -           |
| 4            | L             | -           |
| 5            | G             | -           |
| 6            | R             | -           |
| 7            | BR            | -           |
| 8            | SB            | -           |
| 9            | GR            | -           |
| 10           | W             | -           |
| 11           | LG            | -           |
| 12           | P             | -           |

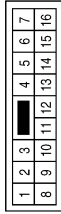
| Connector No.   | F2           |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | BLACK        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | L             | -           |
| 4            | G             | -           |
| 5            | L             | -           |
| 6            | G             | -           |
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | -             | -           |
| 10           | GR            | -           |
| 11           | V             | -           |
| 12           | R             | -           |

|    |    |   |
|----|----|---|
| 5  | GR | - |
| 6  | W  | - |
| 7  | -  | - |
| 8  | -  | - |
| 9  | -  | - |
| 10 | SB | - |
| 11 | V  | - |
| 12 | LG | - |
| 13 | SB | - |
| 14 | Y  | - |
| 15 | L  | - |
| 16 | G  | - |

| Connector No.   | B2           |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | LG            | -           |
| 3            | P             | -           |
| 4            | GR            | -           |

AANIA2211GB

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AV

# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 22           | —             | —           |
| 23           | —             | —           |
| 24           | R             | —           |
| 25           | W             | —           |
| 26           | LG            | —           |
| 27           | Y             | —           |
| 28           | —             | —           |
| 29           | R             | —           |
| 30           | GR            | —           |
| 31           | L             | —           |
| 32           | P             | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 8            | SHIELD        | —           |
| 9            | B             | —           |
| 10           | SB            | —           |
| 11           | P             | —           |
| 12           | BR            | —           |
| 13           | GR            | —           |
| 14           | P             | —           |
| 15           | L             | —           |
| 16           | G             | —           |
| 17           | —             | —           |
| 18           | —             | —           |
| 19           | —             | —           |
| 20           | —             | —           |
| 21           | —             | —           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B3           |
| Connector Name  | WIRE TO WIRE |
| 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 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | —             | —           |
| 2            | —             | —           |
| 3            | —             | —           |
| 4            | —             | —           |
| 5            | —             | —           |
| 6            | —             | —           |
| 7            | B             | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 22           | GR            | —           |
| 23           | G             | —           |
| 24           | B             | —           |
| 25           | W             | —           |
| 26           | R             | —           |
| 27           | —             | —           |
| 28           | —             | —           |
| 29           | W             | —           |
| 30           | V             | —           |
| 31           | LG            | —           |
| 32           | SHIELD        | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 8            | SB            | —           |
| 9            | R             | —           |
| 10           | BR            | —           |
| 11           | GR            | —           |
| 12           | BR            | —           |
| 13           | B             | —           |
| 14           | —             | —           |
| 15           | R             | —           |
| 16           | G             | —           |
| 17           | R             | —           |
| 18           | G             | —           |
| 19           | SHIELD        | —           |
| 20           | LG            | —           |
| 21           | V             | —           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B4           |
| Connector Name  | WIRE TO WIRE |
| 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 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | —           |
| 2            | P             | —           |
| 3            | SHIELD        | —           |
| 4            | R             | —           |
| 5            | L             | —           |
| 6            | SHIELD        | —           |
| 7            | P             | —           |

ABNIA5865GB

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 7            | -             | -                |
| 8            | G             | -                |
| 9            | L             | - (WITH BOSE)    |
| 9            | LG            | - (WITHOUT BOSE) |
| 10           | P             | - (WITH BOSE)    |
| 10           | P             | - (WITHOUT BOSE) |
| 11           | SHIELD        | -                |
| 12           | -             | -                |

|                 |              |
|-----------------|--------------|
| Connector No.   | B16          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |    |   |   |   |   |
|----|----|----|---|---|---|---|
| 5  | 4  |    |   | 3 | 2 | 1 |
| 12 | 11 | 10 | 9 | 8 | 7 | 6 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | W             | -           |
| 3            | R             | -           |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | Y             | -           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 6            | SB            | -                |
| 7            | -             | -                |
| 8            | GR            | -                |
| 9            | R             | - (WITH BOSE)    |
| 9            | V             | - (WITHOUT BOSE) |
| 10           | G             | - (WITH BOSE)    |
| 10           | LG            | - (WITHOUT BOSE) |
| 11           | SHIELD        | -                |
| 12           | -             | -                |

|                 |              |
|-----------------|--------------|
| Connector No.   | B17          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |    |   |   |   |   |
|----|----|----|---|---|---|---|
| 5  | 4  |    |   | 3 | 2 | 1 |
| 12 | 11 | 10 | 9 | 8 | 7 | 6 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | Y             | -           |
| 2            | L             | -           |
| 3            | W             | -           |
| 4            | -             | -           |
| 5            | -             | -           |

AANIA2212GB

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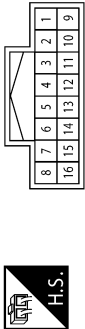
AV

|                 |            |
|-----------------|------------|
| Connector No.   | R 3        |
| Connector Name  | MICROPHONE |
| Connector Color | WHITE      |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             |             |
| 2            | SHIELD        |             |
| 3            |               |             |
| 4            | P             |             |
| 5            |               |             |
| 6            |               |             |

|                 |              |
|-----------------|--------------|
| Connector No.   | R 1          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | L             | -           |
| 3            | GR            | -           |
| 4            | -             | -           |
| 5            | B             | -           |
| 6            | R             | -           |
| 7            | Y             | -           |
| 8            | -             | -           |
| 9            | V             | -           |
| 10           | G             | -           |
| 11           | B/R           | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |

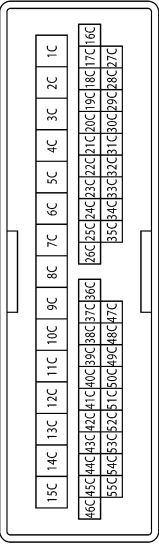
AANIA2213GB



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33C          | -             | -           |
| 34C          | -             | -           |
| 35C          | -             | -           |
| 36C          | LG            | -           |
| 37C          | R             | -           |
| 38C          | L             | -           |
| 39C          | G             | -           |
| 40C          | P             | -           |
| 41C          | -             | -           |
| 42C          | P             | -           |
| 43C          | GR            | -           |
| 44C          | L             | -           |
| 45C          | BR            | -           |
| 46C          | L             | -           |
| 47C          | Y             | -           |
| 48C          | BR            | -           |
| 49C          | B             | -           |
| 50C          | W             | -           |
| 51C          | R             | -           |
| 52C          | SHIELD        | -           |
| 53C          | -             | -           |
| 54C          | V             | -           |
| 55C          | LG            | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9C           | LG            | -           |
| 10C          | Y             | -           |
| 11C          | W             | -           |
| 12C          | SB            | -           |
| 13C          | B             | -           |
| 14C          | V             | -           |
| 15C          | R             | -           |
| 16C          | -             | -           |
| 17C          | -             | -           |
| 18C          | -             | -           |
| 19C          | -             | -           |
| 20C          | -             | -           |
| 21C          | -             | -           |
| 22C          | -             | -           |
| 23C          | -             | -           |
| 24C          | G             | -           |
| 25C          | R             | -           |
| 26C          | SHIELD        | -           |
| 27C          | -             | -           |
| 28C          | -             | -           |
| 29C          | -             | -           |
| 30C          | -             | -           |
| 31C          | -             | -           |
| 32C          | -             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D22          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1C           | R             | - (WITH BOSE)    |
| 1C           | L             | - (WITHOUT BOSE) |
| 2C           | G             | - (WITH BOSE)    |
| 2C           | V             | - (WITHOUT BOSE) |
| 3C           | SHIELD        | -                |
| 4C           | SB            | -                |
| 5C           | V             | -                |
| 6C           | -             | -                |
| 7C           | P             | -                |
| 8C           | BR            | -                |

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

|                 |   |
|-----------------|---|
| Connector No.   | D23   |
| Connector Name  | FRONT DOOR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | WHITE   |



AANIA2392GB

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# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33A          | -             | -           |
| 34A          | -             | -           |
| 35A          | -             | -           |
| 36A          | B             | -           |
| 37A          | P             | -           |
| 38A          | Y             | -           |
| 39A          | LG            | -           |
| 40A          | -             | -           |
| 41A          | -             | -           |
| 42A          | -             | -           |
| 43A          | V             | -           |
| 44A          | V             | -           |
| 45A          | W             | -           |
| 46A          | BG            | -           |
| 47A          | W             | -           |
| 48A          | B             | -           |
| 49A          | R             | -           |
| 50A          | SHIELD        | -           |
| 51A          | -             | -           |
| 52A          | -             | -           |
| 53A          | -             | -           |
| 54A          | -             | -           |
| 55A          | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9A           | -             | -           |
| 10A          | BR            | -           |
| 11A          | Y             | -           |
| 12A          | B             | -           |
| 13A          | W             | -           |
| 14A          | SB            | -           |
| 15A          | R             | -           |
| 16A          | -             | -           |
| 17A          | -             | -           |
| 18A          | -             | -           |
| 19A          | -             | -           |
| 20A          | -             | -           |
| 21A          | -             | -           |
| 22A          | -             | -           |
| 23A          | -             | -           |
| 24A          | Y             | -           |
| 25A          | BR            | -           |
| 26A          | SHIELD        | -           |
| 27A          | -             | -           |
| 28A          | -             | -           |
| 29A          | -             | -           |
| 30A          | -             | -           |
| 31A          | -             | -           |
| 32A          | -             | -           |

| Connector No.   | D102         |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 15A | 14A | 13A | 12A | 11A | 10A | 9A  | 8A  | 7A  | 6A  | 5A  | 4A  | 3A  | 2A  | 1A  |
| 46A | 45A | 44A | 43A | 42A | 41A | 40A | 39A | 38A | 37A | 36A | 35A | 34A | 33A | 32A |
| 26A | 25A | 24A | 23A | 22A | 21A | 20A | 19A | 18A | 17A | 16A | 15A | 14A | 13A | 12A |
| 55A | 54A | 53A | 52A | 51A | 50A | 49A | 48A | 47A | 46A | 45A | 44A | 43A | 42A | 41A |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1A           | L             | - (WITH BOSE)    |
| 1A           | BR            | - (WITHOUT BOSE) |
| 2A           | P             | - (WITH BOSE)    |
| 2A           | R             | - (WITHOUT BOSE) |
| 3A           | SHIELD        | -                |
| 4A           | Y             | -                |
| 5A           | V             | -                |
| 6A           | -             | -                |
| 7A           | -             | -                |
| 8A           | -             | -                |

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

| Connector No.   | D123  |
|-----------------|---|
| Connector Name  | FRONT DOOR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | WHITE   |



AANIA2393GB

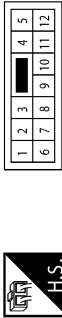
|                 |                      |
|-----------------|----------------------|
| Connector No.   | D205                 |
| Connector Name  | REAR DOOR SPEAKER LH |
| Connector Color | WHITE                |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | R             | – (WITH BOSE)    |
| 1            | V             | – (WITHOUT BOSE) |
| 2            | G             | – (WITH BOSE)    |
| 2            | LG            | – (WITHOUT BOSE) |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 4            | –             | –                |
| 5            | –             | –                |
| 6            | BR            | –                |
| 7            | –             | –                |
| 8            | G             | –                |
| 9            | R             | – (WITH BOSE)    |
| 9            | V             | – (WITHOUT BOSE) |
| 10           | G             | – (WITH BOSE)    |
| 10           | LG            | – (WITHOUT BOSE) |
| 11           | SHIELD        | –                |
| 12           | –             | –                |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | Y             | –           |
| 2            | L             | –           |
| 3            | V             | –           |

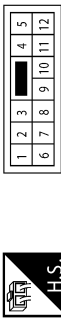
|                 |                      |
|-----------------|----------------------|
| Connector No.   | D305                 |
| Connector Name  | REAR DOOR SPEAKER RH |
| Connector Color | WHITE                |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | L             | – (WITH BOSE)    |
| 1            | LG            | – (WITHOUT BOSE) |
| 2            | P             | –                |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 7            | –             | –                |
| 8            | G             | –                |
| 9            | L             | – (WITH BOSE)    |
| 9            | LG            | – (WITHOUT BOSE) |
| 10           | P             | –                |
| 11           | SHIELD        | –                |
| 12           | –             | –                |

|                 |              |
|-----------------|--------------|
| Connector No.   | D301         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | –           |
| 2            | LG            | –           |
| 3            | V             | –           |
| 4            | –             | –           |
| 5            | –             | –           |
| 6            | Y             | –           |

AANIA2394GB

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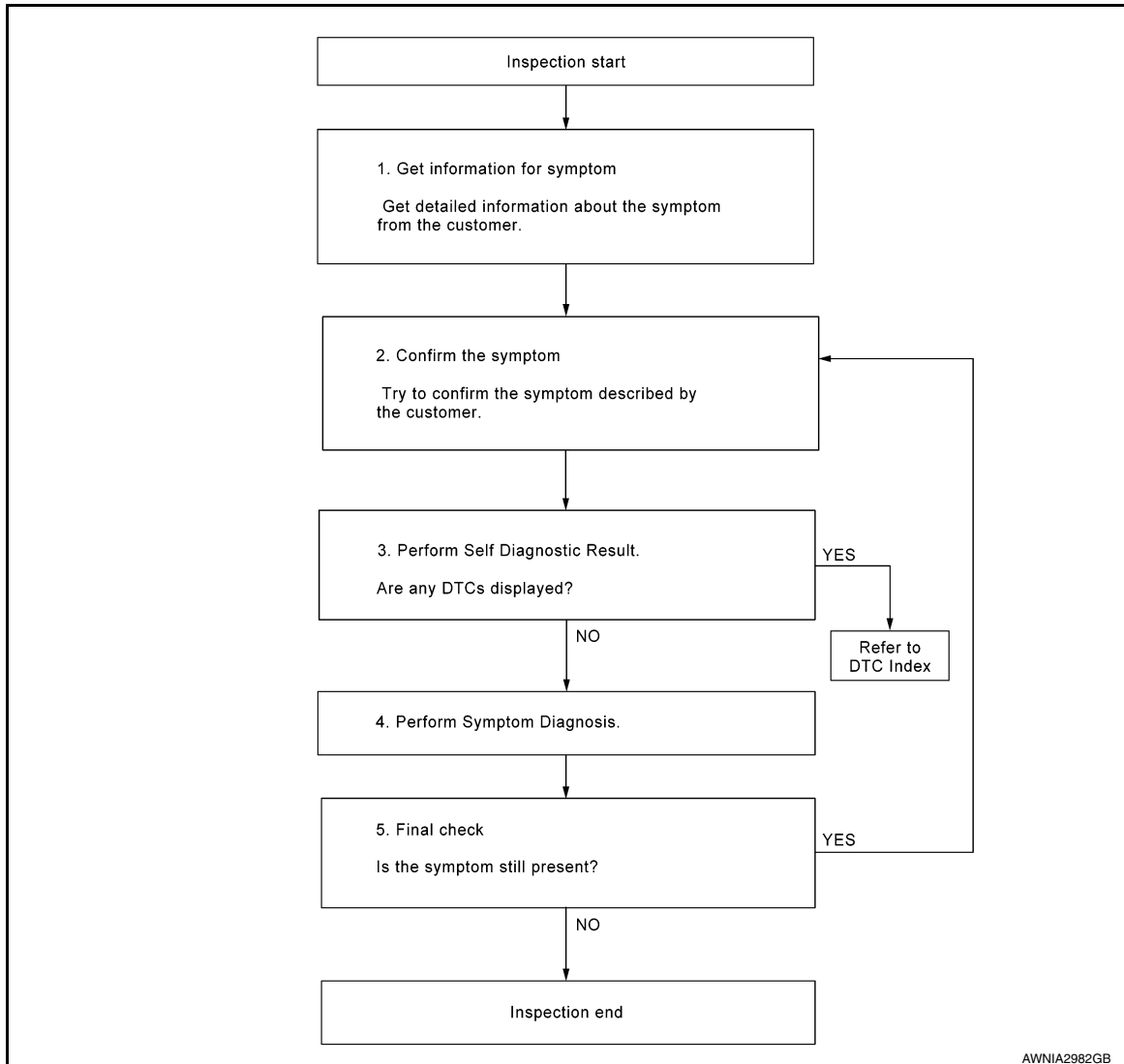
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORK FLOW

#### Work Flow

INFOID:000000008743685

#### OVERALL SEQUENCE



AWNIA2982GB

#### 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.PERFORM SELF DIAGNOSTIC RESULT

1. Turn power switch ON and wait for 2 seconds or more.

## DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

2. Depending on system being diagnosed, perform Self Diagnostic Result for:

- MULTI AV.
- AVM.

A

Are any DTCs displayed?

YES >> Refer to [AV-133, "DTC Index"](#).

B

NO >> GO TO 4.

### 4.PERFORM SYMPTOM DIAGNOSIS

Refer to [AV-193, "Symptom Table"](#).

C

>> GO TO 5

D

### 5.FINAL CHECK

Refer to symptom described by the customer in step 1.

Is the symptom still present?

E

YES >> GO TO 2

NO >> Inspection End.

F

G

H

I

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M

AV

O

P

## INSPECTION AND ADJUSTMENT

### ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

### ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description

INFOID:0000000008743686

- Refer to [AV-90, "Precaution for Removing 12V Battery"](#).
- When removing the 12V battery terminal, the following work is required.

#### WORK AFTER AV CONTROL UNIT REPLACEMENT

- Re-registration of user ID and password to the AV control unit.
- Time adjustment check with VCM check.

#### WORK AFTER REMOVING THE 12V BATTERY TERMINAL

Time adjustment check with VCM check.

### ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Work Procedure

INFOID:0000000008743687

When the AV control unit is not replaced, start from step 2.

#### 1. REPLACE AV CONTROL UNIT

1. Refer to [AV-90, "Precaution for Removing 12V Battery"](#).
2. Replace the AV control unit. [AV-205, "Removal and Installation"](#).

>> GO TO 2.

#### 2. OBTAIN THE CURRENT TIME.

1. Turn the power switch to the ON or Ready position in a location where the GPS antenna signal can be received.
2. Start the AV control unit and receive the current time with the GPS antenna.

>> GO TO 3.

#### 3. CHECK THE TIME WITH VCM

1. Press "⌂" switch and select "Charging Timer" on the menu screen.
2. Confirm that the time is displayed at the upper right (GPS acquisition time) and lower left (VCM memory time) of the "Charging Timer" screen.
3. If the time does not match after 1 or 2 minutes from the screen display, the update screen is displayed.

##### Is the update screen displayed?

NO >> Work End.

YES >> GO TO 4.

#### 4. TIME ADJUSTMENT CHECK WITH VCM

1. Press "correct time" displayed on the screen to correct the time.
2. After correction, confirm that the time displayed at the upper right (GPS acquisition time) and lower left (VCM memory time) of the "Charging Timer" screen are the same.

>> Work End.

### SOFTWARE UPDATE (AV CONTROL UNIT)

### SOFTWARE UPDATE (AV CONTROL UNIT) : Description

INFOID:0000000008743688

The software of the AV control unit can be updated by using an SD card.

### SOFTWARE UPDATE (AV CONTROL UNIT) : Work Procedure

INFOID:0000000008743689

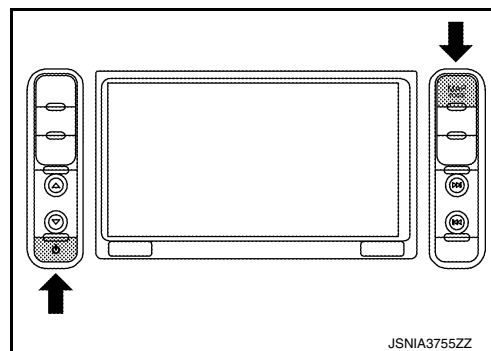
#### 1. START OF CONFIRMATION/ADJUSTMENT MODE

# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

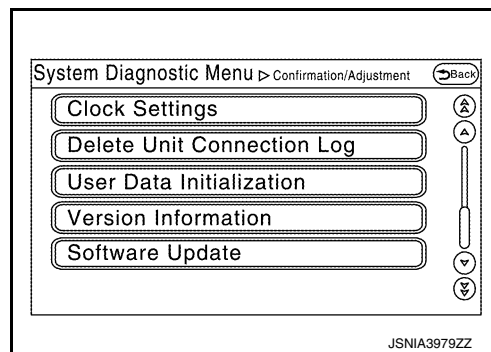
[NAVIGATION WITHOUT BOSE]

1. Set the power switch on ACC.
2. With AUDIO OFF, press "MAP" switch three times, "⏻" switch twice, and press "MAP" switch once to start the On Board Diagnosis Function.



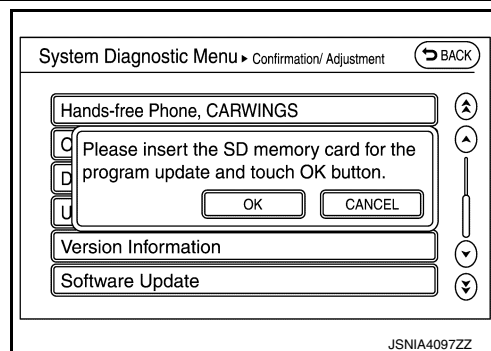
3. Select "Software Update" in Confirmation/Adjustment mode.

>> GO TO 2.



## 2.UPDATE THE SOFTWARE OF THE AV CONTROL UNIT

1. "Please insert SD Card for the program update and Push OK button" pops up.



2. Press the OPEN/TILT switch of the AV control unit to open the display.
3. Remove the cover of the SD slot and insert the SD card for software update into the SD card sub-slot (on the left).

### NOTE:

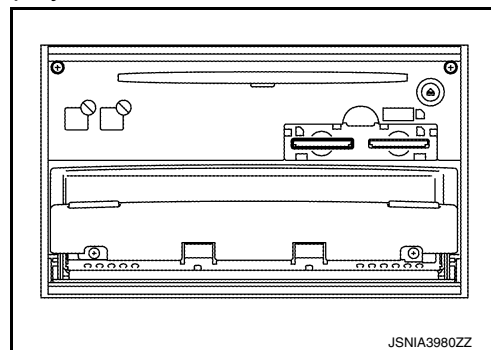
Leave the map SD card inserted in the main slot (on the right).

4. Press the OPEN/TILT switch of the AV control unit to close the display.
5. Select "OK" in the pop-up confirmation to start software update.

### NOTE:

The instructions below must be followed during software update.

- Never turn the power switch OFF.
- Never remove the SD card.
- Never use other functions. They are not available.

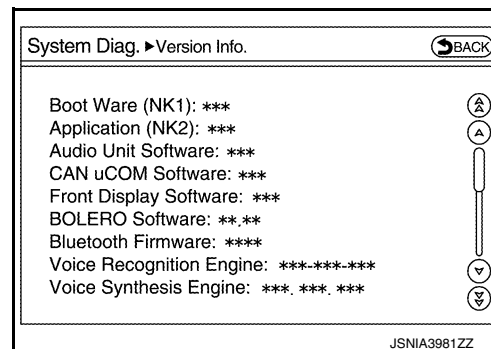


6. When the software update is complete, "The update of the program completed successfully. Please switch the power off and on again to reboot." is shown.
7. Press the OPEN/TILT switch of the AV control unit to open the display.
8. Remove the SD card for software update from the SD card sub-slot (on the left) and install the cover of the SD slot.
9. Turn the power switch OFF.

>> GO TO 3.

## 3. CHECK THE UPDATED SOFTWARE VERSION OF THE AV CONTROL UNIT

1. Set the power switch on ACC after a lapse of 15 seconds or more after the power switch is turned OFF.
2. With AUDIO OFF, press "MAP" switch three times, "⏻" switch twice, and press "MAP" switch once to start the On Board Diagnosis Function.
3. Select "Version Information" in Confirmation/Adjustment mode.
4. Check version information to see that the Boot ware and the application version are updated.



>> End of program.

## ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

### ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:000000009354584

#### BEFORE REPLACEMENT

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

#### AFTER REPLACEMENT

##### **CAUTION:**

When replacing AV control unit, you must perform "After Replace ECU" or "Manual Configuration" with CONSULT.

- Complete the procedure of "After Replace ECU" or "Manual Configuration" in order.
- If you set incorrect "After Replace ECU" or "Manual Configuration", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

### ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure

INFOID:000000009354585

## 1. SAVING VEHICLE SPECIFICATION

### Ⓟ-CONSULT Configuration

Perform "Before Replace ECU" to save or print current vehicle specification. Refer to [AV-169. "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

#### **NOTE:**

If "Before Replace ECU" can not be used, use the "Manual Configuration".

>> GO TO 2.

## 2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to [AV-205. "Removal and Installation"](#).

>> GO TO 3.

## 3. WRITING VEHICLE SPECIFICATION

### Ⓟ-CONSULT Configuration



# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

Perform "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to [AV-169, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

>> 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:000000009354586

- 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/Write Configuration | Before Replace ECU | Allows the reading of vehicle specification written in AV control unit to store the specification in CONSULT. |
|                          | After Replace ECU  | Allows the writing of the vehicle information stored in CONSULT into the AV control unit.                     |
| Manual Configuration     |                    | Allows the writing of the vehicle specification into the AV control unit by hand.                             |

### CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:000000009354587

#### 1. WRITE VEHICLE SPECIFICATION

##### CONSULT Configuration

Write vehicle specification into AV control unit.

To write vehicle specification stored in CONSULT into the AV control unit>>GO TO 2.

To write vehicle specification into the AV control unit by hand>>GO TO 3.

#### 2. WRITE STORED DATA

##### CONSULT Configuration

Select "After Replace ECU" in "Read/Write Configuration." Write data stored in CONSULT with the "Before Replace ECU" function into the AV control unit.

>> GO TO 4.

#### 3. MANUALLY WRITE VEHICLE SPECIFICATION

##### CONSULT Configuration

Perform "Manual Configuration." Refer to the Configuration List to write vehicle specification into the AV control unit. Refer to [AV-170, "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

##### **NOTE:**

If selection items are not displayed on the CONSULT screen, touch "NEXT."

>> 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.

## INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

### CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:0000000009354588

**CAUTION:**

Check vehicle specifications before servicing.

| MANUAL SETTING ITEM |               |
|---------------------|---------------|
| Items               | Setting value |
| STEERING            | LHD           |
|                     | RHD           |
| SOUND SYSTEM        | BASE          |
|                     | BOSE          |

## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:0000000008743690

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on board multiplex communication line with high data communication speed and excellent error detection ability. A modern vehicle is equipped with many ECMs, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, 2 control units are connected with 2 communication lines (CAN H-line and CAN L-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

Refer to [LAN-36, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#) for details of the communication signal.

#### DTC Logic

INFOID:0000000008743691

#### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | Malfunction detection condition                                    | Probable malfunction location |
|-------|-----------------------------|--|-------------------------------|
| U1000 | CAN COMM CIRC [U1000]       | When the AV control unit cannot communicate for 2 seconds or more. | CAN communication system      |

#### Diagnosis Procedure

INFOID:0000000008743692

#### 1.PERFORM SELF-DIAGNOSIS

1. Turn the power switch ON and hold it for 2 seconds or more.
2. Check the self-diagnosis result of "multi-AV".

#### Is CAN communication system displayed?

- YES >> Refer to [LAN-16, "Trouble Diagnosis Procedure"](#).  
NO >> Refer to [GI-53, "Intermittent Incident"](#).

## U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

### U1010 CONTROL UNIT (CAN)

#### DTC Logic

INFOID:000000008743693

#### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT   | Malfunction detection condition   | Action to take  |
|-------|-------------------------------|---|---|
| U1010 | CONTROL UNIT (CAN)<br>[U1010] | Malfunction is detected during initial diagnosis of the AV control unit CAN controller. | Replace the AV control unit if malfunction constantly occurs. Refer to <a href="#">AV-205, "Removal and Installation"</a> . |

## U121F AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

### U121F AV CONTROL UNIT

#### DTC Logic

INFOID:000000008743694

| DTC   | Display contents of CONSULT | DTC detection condition                 | Action to take  |
|-------|-----------------------------|---|---|
| U121F | CONTROL UNIT [U121F]        | AV control unit malfunction is detected | Replace the AV control unit if the malfunction constantly occurs. Refer to <a href="#">AV-205, "Removal and Installation"</a> . |

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## U1244 GPS ANTENNA

### DTC Logic

INFOID:000000008743697

| DTC   | Display contents of CONSULT | DTC detection condition                        | Possible malfunction factor/Action to take   |
|-------|-----------------------------|--|--|
| U1244 | GPS ANTENNA CONN [U1244]    | GPS antenna connection malfunction is detected | <ul style="list-style-type: none"> <li>Check the connection status of the GPS antenna.</li> <li>Replace the GPS antenna. Refer to <a href="#">AV-210. "Removal and Installation"</a>.</li> </ul> |

### Diagnosis Procedure

INFOID:000000008743698

#### 1.CHECK THE GPS ANTENNA CONNECTOR.

Check the connection status of the GPS antenna connector.

Is the check result normal?

YES >> GO TO 2.

NO >> Repair items found in non-standard condition.

#### 2.CHECK THE GPS ANTENNA FEEDER.

Check the GPS antenna feeder visually.

Is the check result normal?

YES >> GO TO 3.

NO >> Replace the GPS antenna. Refer to [AV-210. "Removal and Installation"](#).

#### 3.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect the GPS antenna connector.
2. Turn power switch ON.
3. Check voltage between AV control unit connector and ground.

| AV control unit | Ground | Voltage             |
|-----------------|--------|---------------------|
| Terminal        |        |                     |
| 83              |        | Approximately 5.0 V |

Is the check result normal?

YES >> Replace the GPS antenna. Refer to [AV-210. "Removal and Installation"](#).

NO >> Replace the AV control unit. Refer to [AV-205. "Removal and Installation"](#).

# U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

## U1258 SATELLITE RADIO ANTENNA

### DTC Logic

INFOID:0000000008743699

| DTC   | Display contents of CONSULT | DTC Detection Condition                                     | Possible causes                        |
|-------|-----------------------------|---|--|
| U1258 | XM ANTENNA CONN [U1258]     | Satellite radio antenna connection malfunction is detected. | Satellite radio antenna disconnection. |

### Diagnosis Procedure

INFOID:0000000008743700

#### 1.SATELLITE RADIO ANTENNA CHECK

Visually check satellite radio antenna and antenna feeder.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect satellite radio antenna connector.
2. Turn power switch ON.
3. Check voltage between AV control unit and ground.

| (+)             | (-)    | Voltage (Approx.) |
|-----------------|--------|-------------------|
| AV control unit |        |                   |
| Terminal        |        |                   |
| 88              | Ground | 5.0 V             |

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace AV control unit. Refer to [AV-205. "Removal and Installation"](#).

AV

## U1263 USB

## DTC Logic

INFOID:000000008743701

## DTC DETECTION LOGIC

**NOTE:**

Before performing the diagnosis, be sure to check that the external input device has no malfunction.

| DTC   | Display contents of CONSULT | Malfunction detection condition               | Action to take   |
|-------|-----------------------------|---|--|
| U1263 | USB overcurrent [U1263]     | Overcurrent of the USB connector is detected. | Check the USB harness between the AV control unit and USB connector. |

## Diagnosis Procedure

INFOID:000000008743702

**1.CHECK USB HARNESS**

Check the USB harness visually and check if there is any pinching.

Is the check result normal?

- YES >> Replace the AV control unit. Refer to [AV-205, "Removal and Installation"](#).  
NO >> Replace the USB harness. Refer to [AV-216, "Removal and Installation"](#).



## U1266 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

### U1266 AV CONTROL UNIT

#### DTC Logic

INFOID:000000008743703

| DTC   | Display contents of CONSULT | DTC detection condition                                      | Action to take  |
|-------|-----------------------------|--|---|
| U1266 | TCU CONN<br>[U1266]         | Malfunction is detected between the AV control unit and TCU. | Check the connection between the AV control unit and TCU. |

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## U1300 AV COMM CIRCUIT

### Description

INFOID:000000008743704

U1300 is displayed when the AV signal error is detected for the multi AV system. It is always displayed together with the error of the control unit connected to the AV control unit via AV communication. Determine the possible malfunction cause from the table below.

### SELF-DIAGNOSIS RESULTS DISPLAY ITEM

| DTC            | Display contents of CONSULT  | Description   | Probable malfunction location   |
|----------------|--|---|---|
| U1300<br>U1240 | <ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• SWITCH CONN [U1240]</li> </ul> | <p>When either one of the following items are detected:</p> <ul style="list-style-type: none"> <li>• multifunction switch power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between the 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> |

## U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

### U1310 AV CONTROL UNIT

#### DTC Logic

INFOID:000000008743705

| DTC   | Display contents of CONSULT  | DTC detection condition  | Action to take  |
|-------|------------------------------|--|---|
| U1310 | CONTROL UNIT (AV)<br>[U1310] | AV communication circuit initial diagnosis malfunction is detected | Replace the AV control unit if the malfunction constantly occurs. Refer to <a href="#">AV-205, "Removal and Installation"</a> . |

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# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

## POWER SUPPLY AND GROUND CIRCUIT

### AV CONTROL UNIT

#### AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000008743706

#### 1.CHECK FUSE

Check if the following fuses are blown.

| Power supply     | Fuse No. |
|------------------|----------|
| BAT              | 34       |
| Power switch ACC | 19       |

Is the check result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

#### 2.CHECK BATTERY VOLTAGE

Check the voltage between AV control unit harness connector and ground.

| Signal | AV control unit<br>Connector | Probe<br>Terminal |        | Test condition<br>Power switch | Standard   | Reference value |
|--------|------------------------------|-------------------|--------|--------------------------------|------------|-----------------|
|        |                              | (+)               | (-)    |                                |            |                 |
| BAT    | M95                          | 19                | Ground | OFF                            | 9 – 16 V   | Battery voltage |
| ACC    |                              | 7                 |        | ACC                            | 4.5 – 16 V |                 |

Is the check result normal?

YES >> Inspection End.

NO >> Repair or replace harness and connectors.

# FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

## FRONT DOOR SPEAKER

### Diagnosis Procedure

INFOID:000000009346918

#### 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 terminals or connectors.

#### 2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M95 and suspect front door speaker connector.
2. Check continuity between AV control unit connector M95 and suspect front door speaker connector.

| AV control unit |          | Front door speaker |          | Continuity |
|-----------------|----------|--------------------|----------|------------|
| Connector       | Terminal | Connector          | Terminal |            |
| M95             | 2        | D23 (LH)           | 1        | Yes        |
|                 | 3        |                    | 2        |            |
|                 | 11       | D123 (RH)          | 1        |            |
|                 | 12       |                    | 2        |            |

3. Check continuity between AV control unit connector M95 and ground.

| AV control unit |          | Ground | Continuity |
|-----------------|----------|--------|------------|
| Connector       | Terminal |        |            |
| M95             | 2        | —      | No         |
|                 | 3        |        |            |
|                 | 11       |        |            |
|                 | 12       |        |            |

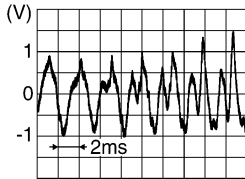
Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

#### 3.CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect AV control unit connector M95 and suspect front door speaker connector.
2. Turn power switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between terminals of AV control unit connector M95.

| AV control unit connector M95 |          | Condition           | Reference value   |
|-------------------------------|----------|---------------------|---|
| (+)                           | (-)      |                     |   |
| Terminal                      | Terminal |                     |   |
| 2                             | 3        | Audio signal output |  |
| 11                            | 12       |                     |   |

SKIB3609E

## FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

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Is the inspection result normal?

- YES    >> Replace front door speaker. Refer to [AV-207, "Removal and Installation"](#).
- NO     >> Replace AV control unit. Refer to [AV-205, "Removal and Installation"](#).

## TWEETER

## Diagnosis Procedure

INFOID:000000009346919

## 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 terminals or connectors.

## 2.CHECK TWEETER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M95 and suspect tweeter connector.
2. Check continuity between AV control unit connector M95 and suspect tweeter connector.

| AV control unit |          | Tweeter   |          | Continuity |
|-----------------|----------|-----------|----------|------------|
| Connector       | Terminal | Connector | Terminal |            |
| M95             | 2        | M15 (LH)  | 1        | Yes        |
|                 | 3        |           | 2        |            |
|                 | 11       | M14 (RH)  | 1        |            |
|                 | 12       |           | 2        |            |

3. Check continuity between AV control unit connector M95 and ground.

| AV control unit |          | Ground | Continuity |
|-----------------|----------|--------|------------|
| Connector       | Terminal |        |            |
| M95             | 2        | —      | No         |
|                 | 3        |        |            |
|                 | 11       |        |            |
|                 | 12       |        |            |

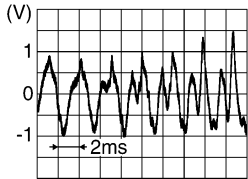
Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

## 3.CHECK TWEETER SIGNAL

1. Connect AV control unit connector M95 and suspect tweeter connector.
2. Turn power switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between terminals of AV control unit connector M95.

| AV control unit connector M95 |          | Condition           | Reference value   |
|-------------------------------|----------|---------------------|---|
| (+)                           | (-)      |                     |   |
| Terminal                      | Terminal |                     |   |
| 2                             | 3        | Audio signal output |  |
| 11                            | 12       |                     |   |

SKIB3609E

## TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

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Is the inspection result normal?

YES    >> Replace tweeter. Refer to [AV-208, "Removal and Installation"](#).

NO     >> Replace AV control unit. Refer to [AV-205, "Removal and Installation"](#).



# REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

## REAR DOOR SPEAKER

### Diagnosis Procedure

INFOID:000000009346920

#### 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 terminals or connectors.

#### 2.CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M95 and suspect rear door speaker connector.
2. Check continuity between AV control unit connector M95 and suspect rear door speaker connector.

| AV control unit |          | Rear door speaker |          | Continuity |
|-----------------|----------|-------------------|----------|------------|
| Connector       | Terminal | Connector         | Terminal |            |
| M95             | 4        | D205 (LH)         | 1        | Yes        |
|                 | 5        |                   | 2        |            |
|                 | 13       | D305 (RH)         | 1        |            |
|                 | 14       |                   | 2        |            |

3. Check continuity between AV control unit connector M95 and ground.

| AV control unit |          | Ground | Continuity |
|-----------------|----------|--------|------------|
| Connector       | Terminal |        |            |
| M44             | 4        | —      | No         |
|                 | 5        |        |            |
|                 | 13       |        |            |
|                 | 14       |        |            |

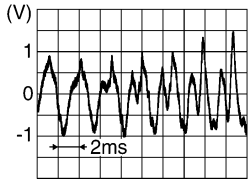
Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

#### 3.CHECK REAR DOOR SPEAKER SIGNAL

1. Connect AV control unit connector M95 and suspect rear door speaker connector.
2. Turn power switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between terminals of AV control unit connector M95.

| AV control unit connector M95 |          | Condition           | Reference value   |
|-------------------------------|----------|---------------------|---|
| (+)                           | (-)      |                     |   |
| Terminal                      | Terminal |                     |   |
| 4                             | 5        | Audio signal output |  |
| 13                            | 14       |                     |   |

SKIB3609E

## REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

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Is the inspection result normal?

- YES    >> Replace rear door speaker. Refer to [AV-209, "Removal and Installation"](#).  
NO     >> Replace AV control unit. Refer to [AV-205, "Removal and Installation"](#).

# AUXILIARY INPUT JACK

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

## AUXILIARY INPUT JACK

### Diagnosis Procedure

INFOID:000000009352075

#### 1. CHECK AUXILIARY INPUT JACK HARNESS CONTINUITY

1. Turn power switch OFF.
2. Disconnect audio unit connector M96 and auxiliary input jack connector M52.
3. Check continuity between audio unit connector M96 and auxiliary input jack connector M52.

| Audio unit |          | Auxiliary input jack |          | Continuity |
|------------|----------|----------------------|----------|------------|
| Connector  | Terminal | Connector            | Terminal |            |
| M96        | 36       | M52                  | 1        | Yes        |
|            | 55       |                      | 4        |            |
|            | 35       |                      | 3        |            |

4. Check continuity between audio unit connector M96 and ground.

| Audio unit |          | —      | Continuity |
|------------|----------|--------|------------|
| Connector  | Terminal |        |            |
| M96        | 36       | Ground | No         |
|            | 55       |        |            |

#### Is the inspection result normal?

- YES >> Replace the auxiliary input jack. Refer to [AV-215, "Removal and Installation"](#).
- NO >> Repair or replace harness or connectors.

AV

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

## MICROPHONE SIGNAL CIRCUIT

### Diagnosis Procedure

INFOID:000000009352661

#### 1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn power switch OFF.
2. Disconnect AV control unit connector M96 and microphone connector R3.
3. Check continuity between AV control unit connector M96 and microphone connector R3.

| AV control unit |          | Microphone |          | Continuity |
|-----------------|----------|------------|----------|------------|
| Connector       | Terminal | Connector  | Terminal |            |
| M96             | 34       | R3         | 4        | Yes        |
|                 | 53       |            | 1        |            |
|                 | 54       |            | 2        |            |

4. Check continuity between AV control unit connector M961 and ground.

| AV control unit |          | Ground | Continuity |
|-----------------|----------|--------|------------|
| Connector       | Terminal |        |            |
| M96             | 34       | —      | No         |
|                 | 53       |        |            |
|                 | 54       |        |            |

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

#### 2.CHECK MICROPHONE VCC VOLTAGE

1. Connect AV control unit connector M96.
2. Turn power switch ON.
3. Check voltage between terminals of AV control unit connector M96.

| AV control unit connector M96 |          | Voltage<br>(Approx.) |
|-------------------------------|----------|----------------------|
| (+)                           | (-)      |                      |
| Terminal                      | Terminal |                      |
| 34                            | 54       | 5.0 V                |

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace AV control unit. Refer to [AV-205, "Removal and Installation"](#).

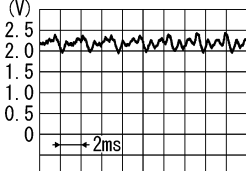
#### 3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of AV control unit connector M96.

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

| AV control unit connector M96 |          | Condition              | Reference value  |
|-------------------------------|----------|------------------------|--|
| (+)                           | (-)      |                        |  |
| Terminal                      | Terminal |                        |  |
| 53                            | 54       | Speak into microphone. |  <p>PKIB5037J</p> |

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-205. "Removal and Installation"](#).  
 NO >> Replace microphone. Refer to [AV-211. "Removal and Installation"](#).

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## STEERING SWITCH

## Diagnosis Procedure

INFOID:000000009352076

**1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE**

1. Turn power switch OFF.
2. Disconnect combination switch connector M112.
3. Check resistance between the terminals of combination switch connector M112.

| Combination switch connector M112 |          | Condition   | Resistance Ω<br>(Approx.) |
|-----------------------------------|----------|---|---------------------------|
| Terminal                          | Terminal |   |                           |
| 14                                | 17       | Depress SOURCE switch.  | 1                         |
|                                   |          | Depress △ switch.   | 121                       |
|                                   |          | Depress ▽ switch.   | 321                       |
|                                   |          | Depress  switch.   | 723                       |
| 15                                |          | Depress -  switch. | 1                         |
|                                   |          | Depress  + switch. | 121                       |
|                                   |          | Depress  switch.   | 321                       |

Is the inspection result normal?

YES &gt;&gt; GO TO 2.

NO >> Replace steering switches. Refer to [AV-214, "Removal and Installation"](#).**2. CHECK COMBINATION SWITCH**

Check continuity between combination switch connectors M112 and M92.

| Combination switch |          |           |          | Continuity |
|--------------------|----------|-----------|----------|------------|
| Connector          | Terminal | Connector | Terminal |            |
| M112               | 14       | M92       | 24       | Yes        |
|                    | 15       |           | 31       |            |
|                    | 17       |           | 33       |            |

Is the inspection result normal?

YES &gt;&gt; GO TO 3.

NO >> Replace spiral cable. Refer to [SR-23, "Removal and Installation"](#).**3. CHECK HARNESS BETWEEN COMBINATION SWITCH AND AV CONTROL UNIT**

1. Disconnect AV control unit connector M95.
2. Check continuity between combination switch connector M92 and AV control unit connector M95.

| Combination switch |          | AV control unit |          | Continuity |
|--------------------|----------|-----------------|----------|------------|
| Connector          | Terminal | Connector       | Terminal |            |
| M92                | 24       | M95             | 6        | Yes        |
|                    | 31       |                 | 16       |            |
|                    | 33       |                 | 15       |            |

3. Check continuity between combination switch connector M92 and ground.

## STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

| Combination switch |          | Ground | Continuity |
|--------------------|----------|--------|------------|
| Connector          | Terminal |        |            |
| M92                | 24       | —      | No         |
|                    | 31       |        |            |
|                    | 33       |        |            |

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-205. "Removal and Installation"](#).  
NO >> Repair or replace harness or connectors.

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# USB CONNECTOR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

## USB CONNECTOR

### Diagnosis Procedure

INFOID:000000009352077

#### 1. CHECK USB HARNESS CONTINUITY

1. Turn power switch OFF.
2. Disconnect AV control unit connector M98 and USB connector M53.
3. Check continuity between AV control unit connector M98 and USB connector M53.

| AV control unit |          | USB       |          | Continuity |
|-----------------|----------|-----------|----------|------------|
| Connector       | Terminal | Connector | Terminal |            |
| M98             | 78       | M53       | 2        | Yes        |
|                 | 79       |           | 1        |            |
|                 | 80       |           | 4        |            |
|                 | 81       |           | 3        |            |
|                 | 82       |           | 5        |            |

4. Check continuity between AV control unit connector M98 and ground.

| AV control unit |          | —      | Continuity |
|-----------------|----------|--------|------------|
| Connector       | Terminal |        |            |
| M98             | 79       | Ground | No         |
|                 | 82       |        |            |

Is the inspection result normal?

- YES >> Replace the USB connector. Refer to [AV-216. "Removal and Installation"](#).
- NO >> Repair or replace harness or connectors.



## SYMPTOM DIAGNOSIS

## MULTI AV SYSTEM

## Symptom Table

INFOID:000000009352052

## RELATED TO AUDIO

| 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-118, "On Board Diagnosis Function"</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-134, "Wiring Diagram"</a>.</li> <li>AV control unit power supply and ground circuits malfunction.<br/>Refer to <a href="#">AV-180, "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) 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:               <ul style="list-style-type: none"> <li><a href="#">AV-181, "Diagnosis Procedure"</a> (front door speaker).</li> <li><a href="#">AV-183, "Diagnosis Procedure"</a> (tweeter).</li> <li><a href="#">AV-185, "Diagnosis Procedure"</a> (rear door speaker).</li> </ul> </li> <li>Malfunction in speaker.<br/>Refer to:               <ul style="list-style-type: none"> <li><a href="#">AV-207, "Removal and Installation"</a> (front door speaker).</li> <li><a href="#">AV-208, "Removal and Installation"</a> (tweeter).</li> <li><a href="#">AV-209, "Removal and Installation"</a> (rear door speaker).</li> </ul> </li> <li>Malfunction in AV control unit.<br/>Refer to <a href="#">AV-118, "On Board Diagnosis Function"</a>.</li> </ul>  |
| Noise is mixed with audio.                           | Noise comes out from all speakers.   | <ul style="list-style-type: none"> <li>Malfunction in AV control unit.<br/>Refer to <a href="#">AV-118, "On Board Diagnosis Function"</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).  | <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:               <ul style="list-style-type: none"> <li><a href="#">AV-181, "Diagnosis Procedure"</a> (front door speaker).</li> <li><a href="#">AV-183, "Diagnosis Procedure"</a> (tweeter).</li> <li><a href="#">AV-185, "Diagnosis Procedure"</a> (rear door speaker).</li> </ul> </li> <li>Malfunction in speaker.</li> <li>Poor Installation of speaker (e.g. backlash and looseness).<br/>Refer to:               <ul style="list-style-type: none"> <li><a href="#">AV-207, "Removal and Installation"</a> (front door speaker).</li> <li><a href="#">AV-208, "Removal and Installation"</a> (tweeter).</li> <li><a href="#">AV-209, "Removal and Installation"</a> (rear door speaker).</li> </ul> </li> <li>Malfunction in AV control unit.<br/>Refer to <a href="#">AV-118, "On Board Diagnosis Function"</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-212, "Antenna Feeder"</a> .   |









# MULTI AV SYSTEM

## < SYMPTOM DIAGNOSIS >

## [NAVIGATION WITHOUT BOSE]

| 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> | Poor connector connection of antenna or antenna feeder.<br>Refer to <a href="#">AV-212, "Antenna Feeder"</a> .   |
| No satellite radio reception.         | There is malfunction in the CONSULT self diagnosis result.<br>Refer to <a href="#">AV-127, "CONSULT Function"</a> .  | <ul style="list-style-type: none"> <li>Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis. Refer to <a href="#">AV-127, "CONSULT Function"</a>.</li> <li>Poor continuity in antenna feeder.</li> <li>Poor connector connection of antenna or antenna feeder. Refer to <a href="#">AV-212, "Antenna Feeder"</a>.</li> </ul> |
|                                       | There is no malfunction in the CONSULT self diagnosis result.<br>Refer to <a href="#">AV-127, "CONSULT Function"</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-212, "Antenna Feeder"</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

| 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.   | Malfunction in AV control unit.<br>Replace AV control unit. Refer to <a href="#">AV-205, "Removal and Installation"</a> . |
| 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>  |   |
| 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.  | Microphone signal circuit malfunction.<br>Refer to <a href="#">AV-188, "Diagnosis Procedure"</a> .                        |
|  | Sound operation function does not work.  |   |
| The system cannot be operated.   | <ul style="list-style-type: none"> <li>The voice recognition can be controlled.</li> <li>Steering switch's +, -, and  switch works, but  does not work.</li> </ul> | Steering switch malfunction.<br>Replace steering switch. Refer to <a href="#">AV-214, "Removal and Installation"</a> .    |
|  | Steering switch's  ,  +,  -, and  switches do not work.  | Steering switch signal circuit malfunction.<br>Refer to <a href="#">AV-190, "Diagnosis Procedure"</a> .                   |
|  | All steering switches do not work.   | Steering switch ground circuit malfunction.<br>Refer to <a href="#">AV-190, "Diagnosis Procedure"</a> .                   |

## RELATED TO NAVIGATION

# MULTI AV SYSTEM

## < SYMPTOM DIAGNOSIS >

## [NAVIGATION WITHOUT BOSE]

| Symptoms                          | Check items                          | Probable malfunction location   |
|-----------------------------------|--------------------------------------|---|
| Navigation system is inoperative. | Navigation malfunction.              | <ul style="list-style-type: none"> <li>Malfunction in hard disk drive (HDD).</li> <li>Malfunction in AV control unit.</li> </ul> Refer to <a href="#">AV-118, "On Board Diagnosis Function"</a> .             |
|                                   | Steering switches malfunction.       | Steering switch signal circuit malfunction.<br>Refer to <a href="#">AV-190, "Diagnosis Procedure"</a> .   |
|                                   | Voice activated control malfunction. | Microphone signal circuit malfunction.<br>Refer to <a href="#">AV-188, "Diagnosis Procedure"</a> .<br>Steering switch signal circuit malfunction.<br>Refer to <a href="#">AV-190, "Diagnosis Procedure"</a> . |

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## NORMAL OPERATING CONDITION

### Description

INFOID:000000009352053

#### RELATED TO NOISE

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

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, power 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>• Power 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). | <p>Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module.</p> <p>Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in <a href="#">AV-193, "Symptom Table"</a>.</p>  |
| 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 >

[NAVIGATION WITHOUT 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. |

## RELATED TO NAVIGATION

### Basic Operation

| Symptom  | Cause   | Remedy  |
|--|---|---|
| No image is shown.   | Display brightness adjustment is set fully to DARK side.  | Adjust the display brightness.  |
| No guide sound is heard.<br>Audio guide volume is too low or too high. | Volume control is set to OFF, MIN or MAX.<br>Audio guidance is not available while the vehicle is driving on a dark pink route. | Adjust the audio guide volume.<br>System is not malfunctioning.               |
| Screen is too dark.<br>Motion of the image is too slow.                | Temperature inside the vehicle is low.  | Wait until the temperature inside the vehicle reaches the proper temperature. |
| Small black or bright spots appear on the screen.                      | Symptom peculiar to a liquid crystal display (display unit).  | System is not malfunction.  |

### Vehicle Mark

| Symptom  | Cause  | Remedy   |
|--|--|--|
| Map screen and BIRDVIEW™ Name of the place vary with the screen.                 | Some thinning of the character data is done to prevent the display becoming to complex. In some cases and in some locations, the display contents may differ.<br>The same place name, street name, etc. may not be displayed every time on account of the data processing. | System is not malfunctioning.  |
| Vehicle mark is not positioned correctly.  | Vehicle is transferred by ferry or by towing after its power switch is turned to OFF.  | Drive the vehicle for a while in the GPS satellite signal receiving condition. |
| Screen will not switch to nighttime mode after the lighting switch is turned ON. | The daytime screen is selected by the "SWITCH SCREENS" when the last time the screen dimming setting is done.<br>Switching between daytime/nighttime screen may be inhibited by the automatic illumination adjustment function.  | Perform screen dimming and select the nighttime screen by "SWITCH SCREENS".    |
| Map screen will not scroll in accordance with the vehicle travel.                | Current location is not displayed.   | Press "MAP" button to display the current location.                            |
| Vehicle mark will not be shown.  | Current location is not displayed.   | Press "MAP" button to display the current location.                            |
| Accuracy indicator (GPS satellite mark) on the map screen stays gray.            | GPS satellite signal is intercepted because the vehicle is in or behind a building.  | Move the vehicle out to an open space.   |
|  | GPS satellite signal cannot be received because an obstacle is placed on top of the instrument panel.  | Do not place anything on top of the meter display (instrument panel).          |
|  | GPS satellites are not visible from current location.  | Wait until GPS satellites are visible by moving the vehicle.                   |

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

| Symptom                           | Cause  | Remedy  |
|-----------------------------------|--|---|
| Vehicle location accuracy is low. | Accuracy indicator (GPS satellite mark) on the map screen stays gray.  | Current location is not determined.   |
|                                   | Vehicle speed setting by the vehicle speed pulse has been deviated (advanced or retarded) from the actual vehicle speed because tire chain is fitted or the system has been used on another vehicle. | Drive the vehicle for a while [for approx. 30 minutes at approx. 30 km/h (19 MPH)] and the deviation will be automatically adjusted. If advancement or retard still occur, perform the distance adjustment by CONFIRMATION/ADJUSTMENT mode of diagnosis function. |
|                                   | Map data has error or omission. (Vehicle mark is always deviated to the same position.)  | As a rule, an updated map DVD-ROM will be released once a year.   |

Destination, Passing Points and Menu Items Cannot be Selected/Set

| Symptom   | Cause  | Remedy  |
|---|--|---|
| Destination cannot be set.  | Destination to be set is on an expressway.   | Set the destination on an ordinary road.  |
| Passing point is not searched when re-searching the route.  | The vehicle has already passed the passing point, or the system judged so.   | To include the passing points that have been passed into the route again, set the route again.                            |
| Route information will not be displayed.  | Route searching has not been done.   | Set the destination and perform route searching.  |
|   | Vehicle mark is not on the recommended route.  | Drive on the recommended route.   |
|   | Route guide is turned OFF.   | Turn route guide ON.  |
|   | Route information is not available on the dark pink route.   | System is not malfunctioning.   |
| After the route searching, no guide sign will appear as the vehicle goes near the entrance/exit to the toll road.     | Vehicle mark is not on the recommended route. (On the display, only guide signs related to the recommended route will be shown.) | Drive on the recommended route.   |
| Automatic route searching is not possible.  | Vehicle is driving on a highway (gray route), or no recommended route is available.  | Drive on a road to be searched. Or re-search the route manually. In this case, however, the whole route will be searched. |
| Performed automatic detour search (or detour search). However, the result is the same as that of the previous search. | Performed search with every conditions considered. However, the result is the same as that of the previous search.               | System is not malfunctioning.   |
| Passing points cannot be set.   | More than five passing points were set.  | Passing points can be set up to five. To stop at more than five points, perform sharing in several steps.                 |
| When setting the route, the starting point cannot be selected.  | The current vehicle location is always set as the starting point of a route.   | System is not malfunctioning.   |
| Some menu items cannot be selected.   | The vehicle is being driven.   | Stop the vehicle at a safe place and then operate the system.   |

Voice Guide

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

| Symptom   | Cause  | Remedy  |
|---|--|---|
| Voice guide will not operate.                       | Note: Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction. | System is not malfunctioning.                           |
|   | The vehicle is not on the recommended route.   | Return to the recommended route or re-search the route. |
|   | Voice guide is turned OFF.   | Turn voice guide ON.                                    |
|   | Route guide is turned OFF.   | Turn route guide ON.                                    |
| Voice guide does not match the actual road pattern. | Voice guide may vary with the direction to which the vehicle is turn and the connection of the road to other roads.  | Drive in conformity to the actual traffic rules.        |

## Route Search

| Symptom  | Cause  | Remedy  |
|--|--|---|
| No route is shown.   | No road to be searched is found around the destination.  | Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads. |
|  | Starting point and the destination are too close.  | Set the destination at more distant point.  |
|  | Conditional traffic regulation (day of the week/ time of the day) is set at the area around the current location or the destination.   | Turn the time-regulating search conditions OFF. Turn "Avoid regulation time" in the search conditions OFF.  |
| Indicated route is intermittent.   | In some areas, highways (gray routes) are not used for the search <sup>(Note)</sup> . Therefore, the route to the current location or the passing points may be intermittent.  | System is not malfunctioning.   |
| When the vehicle has passed the recommended route, it is deleted from the screen.  | A recommended route is controlled by each section. When the vehicle has passed the passing point 1, then the map data from the starting point up to the passing point 1 will be deleted. (The data may remain undeleted in some area.) | System is not malfunctioning.   |
| Detouring route is recommended.  | In some areas, highways (gray routes) are not used for the search. (Note). Therefore, detour route may be recommended.   | Set the route closer to the basic route (gray route).   |
|  | A detour route may be shown when some traffic regulation (one-way traffic, etc.) is set at the area around the starting point or the destination.  | Slightly move the starting point or the destination, or set the passing point on the route of your choice.  |
|  | In the area where highways (gray routes) are used for the search, left turn has priority around the current location and the destination (passing points). For this reason, the recommended route may be detouring.                    | System is not malfunctioning.   |
| Landmarks on the map do not match the actual ones.                                 | This can be happen due to omission or error in the map data.   | As a rule, an updated map DVD-ROM will be released once a year. Wait until the latest map has become available.   |
| Recommended route is far from the starting point, passing points, and destination. | Starting point, passing points, and destination of the route guide were set far from the desired points because route searching data around these area were not stored.  | Reset the destination onto the road nearby. If this road is one of the highways (gray routes), an ordinary road nearby may be displayed as the recommended route.                   |

### NOTE:

Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

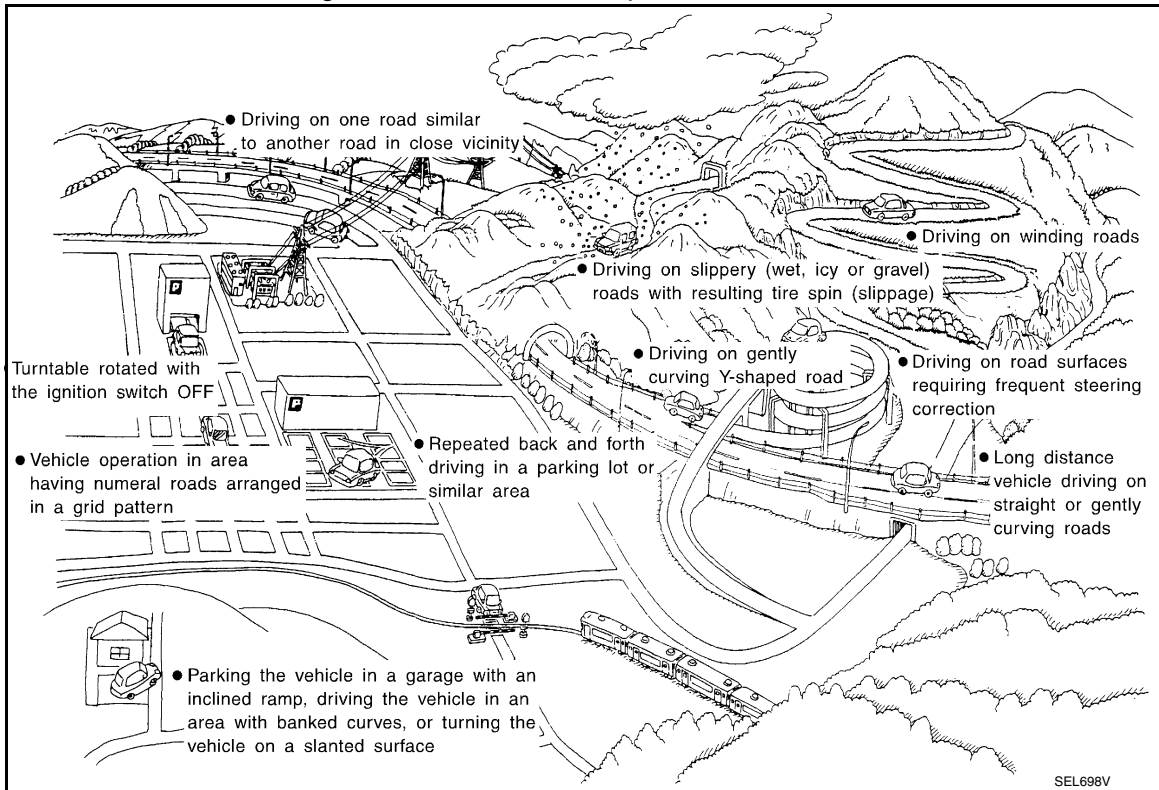
## Examples of Current-Location Mark Displacement

## NORMAL OPERATING CONDITION

### < SYMPTOM DIAGNOSIS >

### [NAVIGATION WITHOUT BOSE]

Vehicle's travel amount is calculated by reading its travel distance and turning angle. Therefore, if the vehicle is driven in the following manner, an error will occur in the vehicle's current location display. If correct location has not been restored after driving the vehicle for a while, perform location correction.

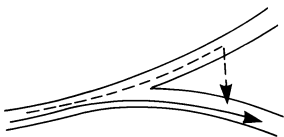
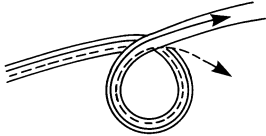
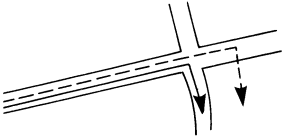
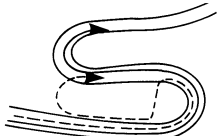
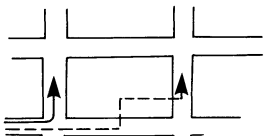
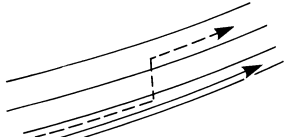




# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

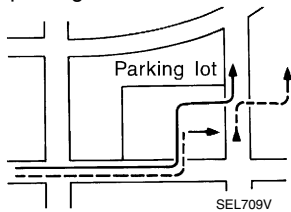
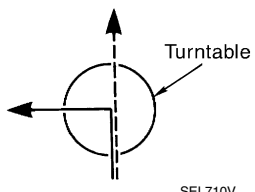
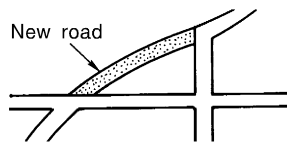
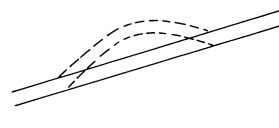
[NAVIGATION WITHOUT BOSE]

| Cause (condition) -: While driving ooo: Display |  | Driving condition  | Remarks (correction, etc.)   |
|---|--|--|--|
| Road configuration                              | <b>Y-intersections</b><br><br>ELK0192D                    | At a Y intersection or similar gradual division of roads, an error in the direction of travel deduced by the sensor may result in the current-location mark appearing on the wrong road.   |  |
|   | <b>Spiral roads</b><br><br>ELK0193D                       | When driving on a large, continuous spiral road (such as loop bridge), turning angle error is accumulated and the vehicle mark may deviate from the correct location.  |  |
|   | <b>Straight roads</b><br><br>ELK0194D                     | When driving on a long, straight road and slow curve without stopping, map-matching does not work effectively enough and distance errors may accumulate. As a result, the vehicle mark may deviate from the correct location when the vehicle is turned at a corner. | If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction. |
|   | <b>Zigzag roads</b><br><br>ELK0195D                     | When driving on a zigzag road, the map may be matched to other roads in the similar direction nearby at every turn, and the vehicle mark may deviate from the correct location.  |  |
|   | <b>Roads laid out in a grid pattern</b><br><br>ELK0196D | When driving where roads are laid out in a grid pattern, or where many roads are running in the similar direction nearby, the map may be matched to them by mistake and the vehicle mark may deviate from the correct location.                                      |  |
|   | <b>Parallel roads</b><br><br>ELK0197D                   | When two roads are running in parallel (such as highway and sideways), the map may be matched to the other road by mistake and the vehicle mark may deviate from the correct location.   |  |

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

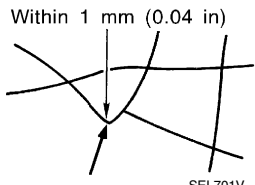
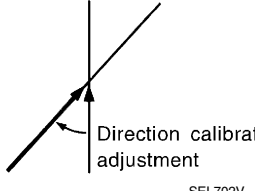
[NAVIGATION WITHOUT BOSE]

| Cause (condition)    -: While driving    ooo: Display |  | Driving condition  | Remarks (correction, etc.)  |
|---|--|--|---|
| Place   | In a parking lot<br><br>SEL709V                                     | When driving in a parking lot, or other location where there are no roads on the map, matching may place the vehicle mark on a nearby road. When the vehicle returns to the road, the vehicle mark may have deviated from the correct location.<br>When driving in circle or turning the steering wheel repeatedly, direction errors accumulate, and the vehicle mark may deviate from the correct location. | If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.                      |
|   | Turntable<br><br>SEL710V  | When the power switch is OFF, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a turntable with the power OFF.  |   |
|   | Slippery roads   | On snow, wet roads, gravel, or other roads where tires may slip easily, accumulated mileage errors may cause the vehicle mark to deviate from the correct road.  |   |
|   | Slopes   | When parking in sloped garages, when travelling on banked roads, or in other cases where the vehicle turns when tilted, an error in the turning angle will occur, and the vehicle mark may deviate from the road.  |   |
| Map data  | Road not displayed on the map screen<br><br>SEL699V               | When driving on new roads or other roads not displayed on the map screen, map matching does not function correctly and matches the location to a nearby road. When the vehicle returns to a road which is on the map, the vehicle mark may deviate from the correct road.  |   |
|   | Different road pattern<br>(Changed due to repair)<br><br>ELK0201D | If the road pattern stored in the map data and the actual road pattern are different, map matching does not function correctly and matches the location to a nearby road. The vehicle mark may deviate from the correct road.  |   |
| Vehicle   | Use of tire chains   | When tire chains are used, the mileage is not correctly detected, and the vehicle mark may deviate from the correct road.  | Drive the vehicle for a while. If the distance still deviates, adjust it by using the distance adjustment function. (If the tire chain is removed, recover the original value.) |

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

| Cause (condition)    -: While driving    ooo: Display |  | Driving condition  | Remarks (correction, etc.)   |
|---|--|--|--|
| Precautions for driving                               | Just after the engine is started   | If the vehicle is driven just after the engine is started when the gyroscope (angular speed sensor) correction is not completed, the vehicle can lose its direction and may have deviated from the correct location. | Wait for a short while before driving after starting the engine.   |
|   | Continuous driving without stopping  | When driving long distances without stopping, direction errors may accumulate, and the current-location mark may deviate from the correct road.  | Stop and adjust the orientation.   |
|   | Abusive driving  | Spinning the wheels or engaging in other kinds of abusive driving may result in the system being unable perform correct detection, and may cause the vehicle mark to deviate from the correct road.                  | If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction. |
| How to correct location                               | Position correction accuracy<br>          | If the accuracy of location settings is poor, accuracy may be reduced when the correct road cannot be found, particularly in places where there are many roads.  | Enter in the road displayed on the screen with an accuracy of approx. 1mm.<br>Caution: Whenever possible, use detailed map for the correction.             |
|   | Direction when location is corrected<br> | If the accuracy of location settings during correction is poor, accuracy may be reduced afterwards.  | Perform direction correction.  |

## Location Correction by Map-Matching is Slow

- The map-matching function needs to refer to the data of the surrounding area. It is necessary to drive some distance for the function to work.
- Because map-matching operates on this principle, when there are many roads running in similar directions in the surrounding area, no matching determination may be made. The location may not be corrected until some special feature is found.

## Name of Road is Not Displayed

The current road name may not be displayed if there are no road names displayed on the map screen.

## Contents of Display Differ for Birdview™ and the (Flat) Map Screen

Difference of the BIRDVIEW™ screen from the flat map screen are as follows.

- The current place name displays names which are primarily in the direction of vehicle travel.
- The amount of time before the vehicle travel or turn angle is updated on the screen is longer than for the (flat) map display.
- The conditions for display of place names, roads, and other data are different for nearby areas and for more distant areas.
- Some thinning of the character data is done to prevent the display becoming too complex. In some cases and in some locations, the display contents may differ.
- The same place name, street name, etc. may be displayed multiple times.

## Vehicle Mark Shows a Position Which is Completely Wrong

In the following cases, the vehicle mark may appear on completely different position in the map depending on the GPS satellite signal receiving conditions. In this case, perform location correction and direction correction.

- When location correction has not been done
- If the receiving conditions of the GPS satellite signal is poor, if the vehicle mark becomes out of place, it may move to a completely different location and not come back if location correction is not done. The position will be corrected if the GPS signal can be received.
- When the vehicle has traveled by ferry, or when the vehicle has been being towed

## NORMAL OPERATING CONDITION

### < SYMPTOM DIAGNOSIS >

### [NAVIGATION WITHOUT BOSE]

- Because calculation of the current location cannot be done when traveling with the power off, for example when traveling by ferry or when being towed, the location before travel is displayed. If the precise location can be detected with GPS, the location will be corrected.

#### Vehicle Mark Jumps

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location.

- When map matching has been done
- If the current location and the vehicle mark are different when map matching is done, the vehicle mark may seem to jump. At this time, the location may be “corrected” to the wrong road or to a location which is not on a road.
- When GPS location correction has been done
- If the current location and the vehicle mark are different when the location is corrected using GPS measurements, the vehicle mark may seem to jump. At this time, the location may be “corrected” to a location which is not on a road.

#### Vehicle Mark is in a River or Sea

The navigation system moves the vehicle mark with no distinction between land and rivers or sea. If the vehicle mark is somehow out of place, it may appear that the vehicle is driving in a river or the sea.

#### Vehicle Mark Automatically Rotates

The system wrongly memorizes the rotating status as stopping when the power switch is turned ON with the turntable rotating. That causes the vehicle mark to rotate when the vehicle is stopped.

#### When Driving on Same Road, Sometimes Vehicle Mark is in Right Place and Sometimes it is in Wrong Place

The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

## REMOVAL AND INSTALLATION

### AV CONTROL UNIT

#### Removal and Installation

INFOID:000000009344894

#### REMOVAL

**CAUTION:**

Remove AV control unit after a lapse of 30 seconds or more after turning the power switch OFF.

**NOTE:**

After the power switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if 12V battery voltage is cut off within 30 seconds.

1. Disconnect the 12V negative battery terminal. Refer to [PG-65, "Removal and Installation"](#).
2. Remove cluster lid C. Refer to [IP-17, "Removal and Installation"](#).
3. Remove the AV control unit screws, disconnect the harness connectors from the AV control unit and remove with the brackets attached.
4. Remove the bracket screws and the brackets from AV control unit (if necessary).

#### INSTALLATION

Note the following, and install in the reverse order of removal.

**CAUTION:**

- If the AV control unit is replaced, input of the user ID and password and time adjustment with VCM are required.
- If the AV control unit is not replaced, time adjustment with VCM is required.

Input Method of User ID and Password

1. Turn power switch ON.
2. Select "Sign in" from the CARWINGS screen.
3. Enter the user ID and password.

**NOTE:**

Since the user ID and password are determined by the user in advance, they are input by the user.

Time Adjustment and Check Method with VCM

Refer to [AV-166, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Work Procedure"](#).

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AV

## MULTIFUNCTION SWITCH

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

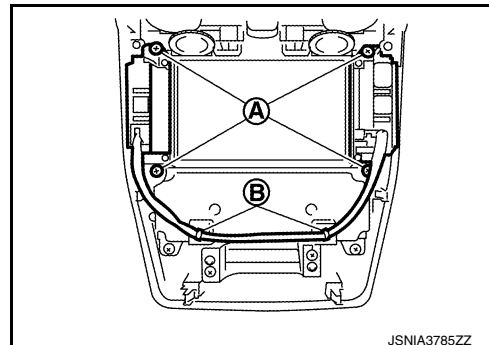
### MULTIFUNCTION SWITCH

#### Removal and Installation

INFOID:000000009344895

#### REMOVAL

1. Remove cluster lid C. Refer to [IP-17, "Removal and Installation"](#).
2. Remove the screws (A), clips (B) and the multifunction switch from cluster lid C.



#### INSTALLATION

Install in the reverse order of removal.

## FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

### FRONT DOOR SPEAKER

#### Removal and Installation

INFOID:000000009344973

#### REMOVAL

1. Remove the front door finisher. Refer to [INT-19, "Removal and Installation"](#).
2. Remove the screws and disconnect the connector to remove the front door speaker.

#### INSTALLATION

Install in the reverse order of removal.

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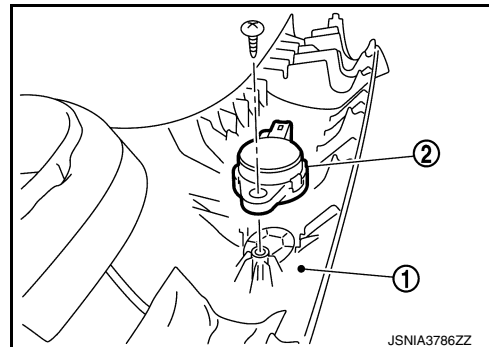
## TWEETER

### Removal and Installation

INFOID:000000009344897

#### REMOVAL

1. Remove the front pillar garnish. Refer to [INT-26. "FRONT PILLAR GARNISH : Removal and Installation"](#).
2. Remove the screws and the tweeter from the front pillar garnish.



#### INSTALLATION

Install in the reverse order of removal.



## REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

### REAR DOOR SPEAKER

#### Removal and Installation

INFOID:000000009344974

#### REMOVAL

1. Remove the rear door finisher. Refer to [INT-22. "Removal and Installation"](#).
2. Remove the screws and disconnect the connector to remove the rear door speaker.

#### INSTALLATION

Install in the reverse order of removal.

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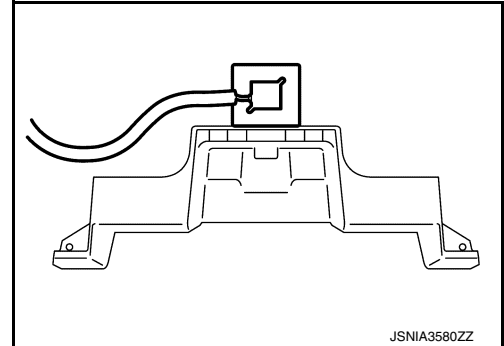
## GPS ANTENNA

### Removal and Installation

INFOID:000000009344899

#### REMOVAL

1. Remove the instrument panel assembly. Refer to [IP-17. "Removal and Installation"](#).
2. Remove the screws, clips and the GPS antenna.



#### INSTALLATION

Install in the reverse order of removal.

## MICROPHONE

## Removal and Installation

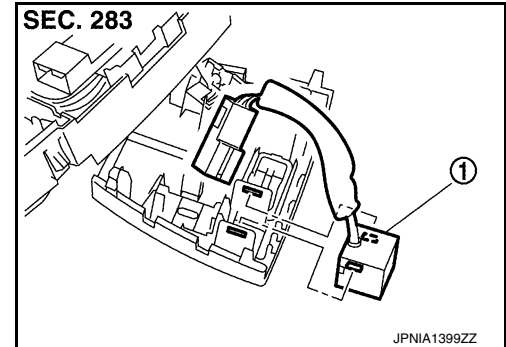
INFOID:000000009344975

## REMOVAL

1. Remove the map lamp assembly. Refer to [INL-73, "Removal and Installation"](#).
2. Press the pawl to remove the microphone (1) from the map lamp assembly.

**CAUTION:**

Use care when handling the microphone pawl to avoid damaging.



## INSTALLATION

Install in the reverse order of removal.

**NOTE:**

Check the microphone for looseness after the installation.

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AV

# ANTENNA FEEDER

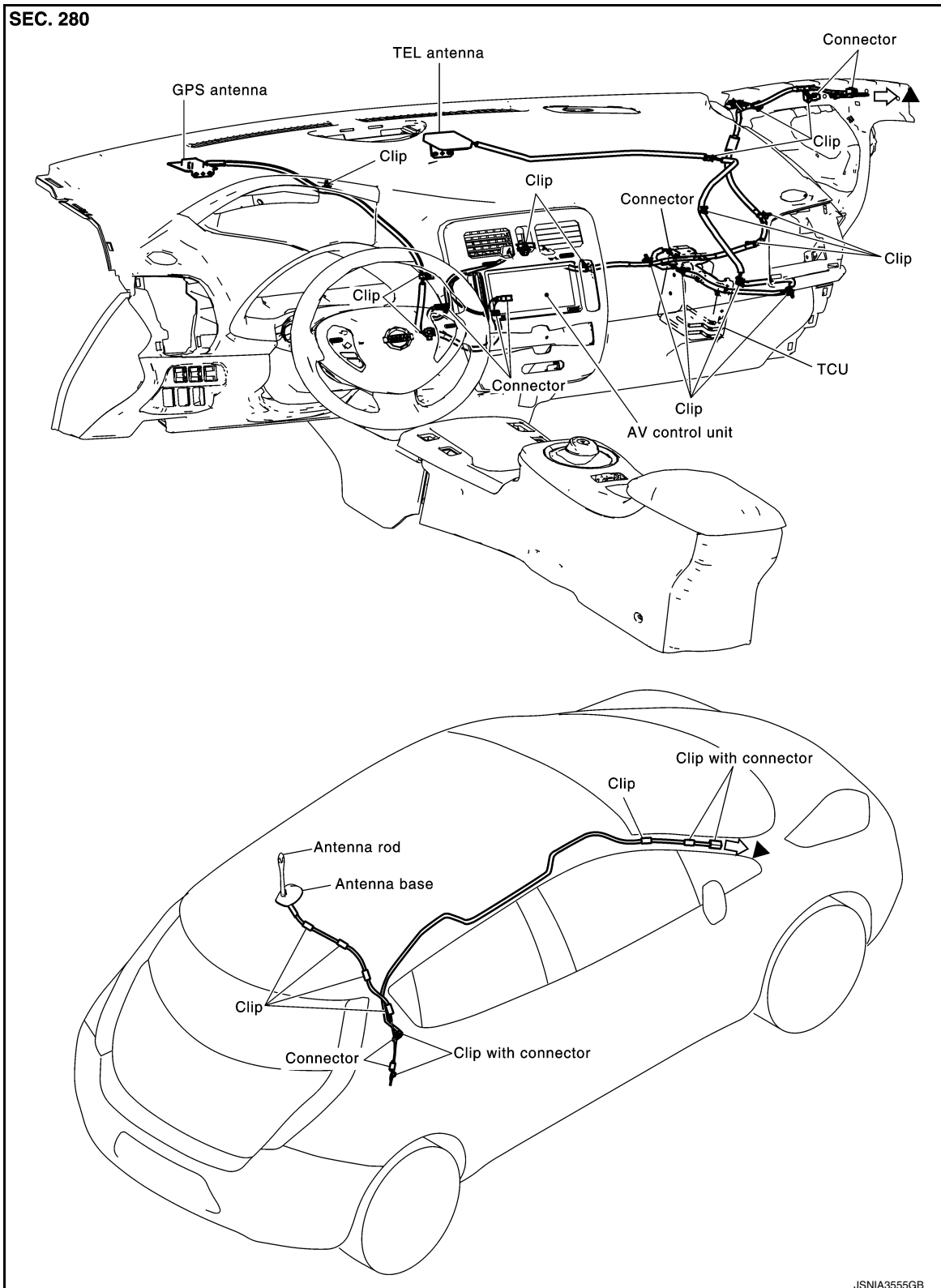
< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

## ANTENNA FEEDER

### Antenna Feeder

INFOID:000000009354885



▲: Indicates that the part is connected at points with same symbol in actual vehicle.

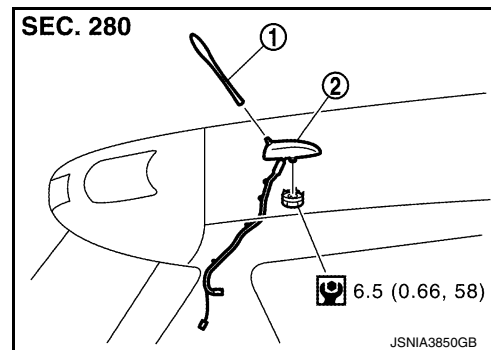
## ANTENNA BASE

### Removal and Installation

INFOID:000000009344976

#### REMOVAL

1. Partially remove the headlining (rear side) to obtain space to work between vehicle and headlining. Refer to [INT-37, "Removal and Installation"](#).
2. Disconnect the antenna feeder connector.
3. Remove the nut and the antenna base (2) from the vehicle.  
(1): Antenna rod



#### INSTALLATION

Install in the reverse order of removal.

#### CAUTION:

- Do not bend headlining when pulling down.
- Tighten the antenna base nut to specification.
- If the antenna base nut is less than the specified torque, it could affect the performance of the antenna sensitivity.
- If the antenna base nut is greater than the specified torque, it could damage the roof panel.

## STEERING SWITCH

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

---

### STEERING SWITCH

#### Exploded View

INFOID:000000009344978

Refer to [SR-20, "Exploded View"](#).

#### Removal and Installation

INFOID:000000009344977

#### REMOVAL

Refer to [SR-20, "Removal and Installation"](#).

#### INSTALLATION

Install in the reverse order of removal.

## AUXILIARY INPUT JACK

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

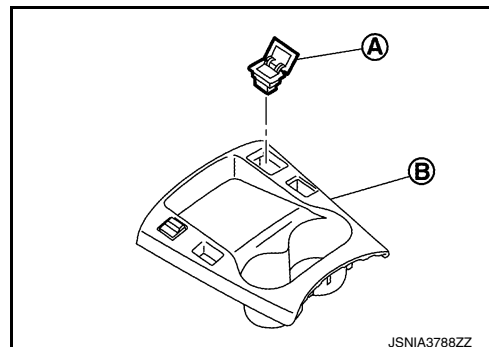
### AUXILIARY INPUT JACK

#### Removal and Installation

INFOID:000000009344904

#### REMOVAL

1. Remove the instrument lower center cover. Refer to [IP-17. "Removal and Installation"](#).
2. Press the tab from the rear of the instrument lower center cover (B) and remove the auxiliary input jack (A).



#### INSTALLATION

Install in the reverse order of removal.

**NOTE:**

Align the notch of the instrument panel center lower cover and assemble it.

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AV

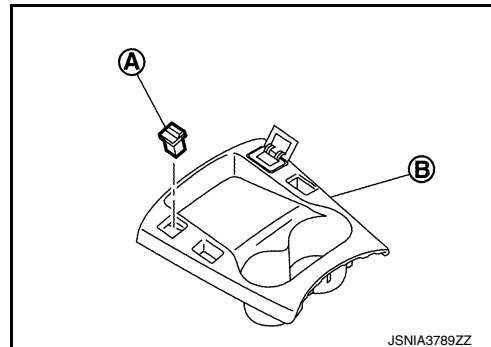
## USB CONNECTOR

### Removal and Installation

INFOID:000000009344979

#### REMOVAL

1. Remove the instrument lower center cover. Refer to [IP-17, "Removal and Installation"](#).
2. Press the tab from the rear of the instrument lower center cover (B) and remove the USB connector (A).



#### INSTALLATION

Install in the reverse order of removal.

**NOTE:**

Align the notch of the instrument panel center lower cover and assemble it.



## PRECAUTION

### PRECAUTIONS

#### Precaution for Technicians Using Medical Electric

INFOID:000000009344996

##### OPERATION PROHIBITION

###### **WARNING:**

- Parts with strong magnet is used in this vehicle.
- Technicians using a medical electric device such as pacemaker must never perform operation on the vehicle, as magnetic field can affect the device function by approaching to such parts.

##### NORMAL CHARGE PRECAUTION

###### **WARNING:**

- If a technician uses a medical electric device such as an implantable cardiac pacemaker or an implantable cardioverter defibrillator, the possible effects on the devices must be checked with the device manufacturer before starting the charge operation.
- As radiated electromagnetic wave generated by PDM (Power Delivery Module) at normal charge operation may affect medical electric devices, a technician using a medical electric device such as implantable cardiac pacemaker or an implantable cardioverter defibrillator must not approach motor room [PDM (Power Delivery Module)] at the hood-opened condition during normal charge operation.

##### PRECAUTION AT TELEMATICS SYSTEM OPERATION

###### **WARNING:**

- If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.
- The electromagnetic wave of TCU might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), when using the service, etc.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of TCU might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before TCU use.

##### PRECAUTION AT INTELLIGENT KEY SYSTEM OPERATION

###### **WARNING:**

- If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.
- The electromagnetic wave of Intelligent Key might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), at door operation, at each request switch operation, or at engine starting.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of Intelligent Key might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before Intelligent Key use.

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

INFOID:000000009347488

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:**

## PRECAUTIONS

< PRECAUTION >

[NAVIGATION WITH BOSE]

- 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:000000009343693

#### AV COMMUNICATION SYSTEM

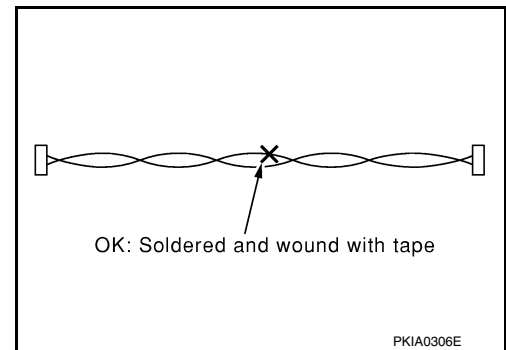
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn power switch OFF and disconnect the battery cable from the negative terminal before checking the circuit. Refer to [AV-218, "Precaution for Removing 12V Battery"](#).

### Precaution for Harness Repair

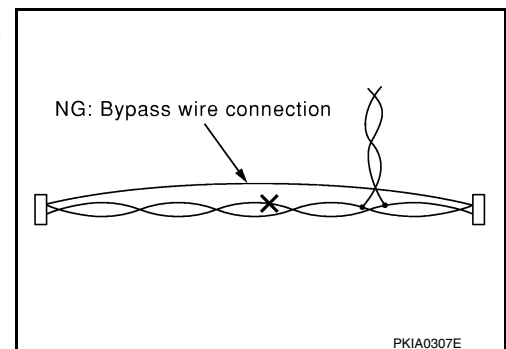
INFOID:000000009343694

#### AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



- 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 Removing 12V Battery

INFOID:000000009343695

1. Check that EVSE is not connected.

#### **NOTE:**

If EVSE is connected, the air conditioning system may be automatically activated by the timer A/C function.

## PRECAUTIONS

< PRECAUTION >

[NAVIGATION WITH BOSE]

2. Turn the power switch OFF → ON → OFF. Get out of the vehicle. Close all doors (including back door).
3. Check that the charge status indicator lamp does not blink and wait for 5 minutes or more.

**NOTE:**

If the battery is removed within 5 minutes after the power switch is turned OFF, plural DTCs may be detected.

4. Remove 12V battery within 1 hour after turning the power switch OFF → ON → OFF.

**NOTE:**

- The 12V battery automatic charge control may start automatically even when the power switch is in OFF state.
- Once the power switch is turned ON → OFF, the 12V battery automatic charge control does not start for approximately 1 hour.

**CAUTION:**

- **After all doors (including back door) are closed, if a door (including back door) is opened before battery terminals are disconnected, start over from Step 1.**
- **After turning the power switch OFF, if “Remote A/C” is activated by user operation, stop the air conditioner and start over from Step 1.**

### Cautions in Removing AV Control Unit (Models with AV Control Unit)

INFOID:0000000009343696

**CAUTION:**

**Remove AV control unit after a lapse of 30 seconds or more after turning the power switch OFF.**

**NOTE:**

After the power switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if 12V battery voltage is cut off within 30 seconds.

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AV

## PREPARATION

### PREPARATION

#### Commercial Service Tool

INFOID:000000009345656

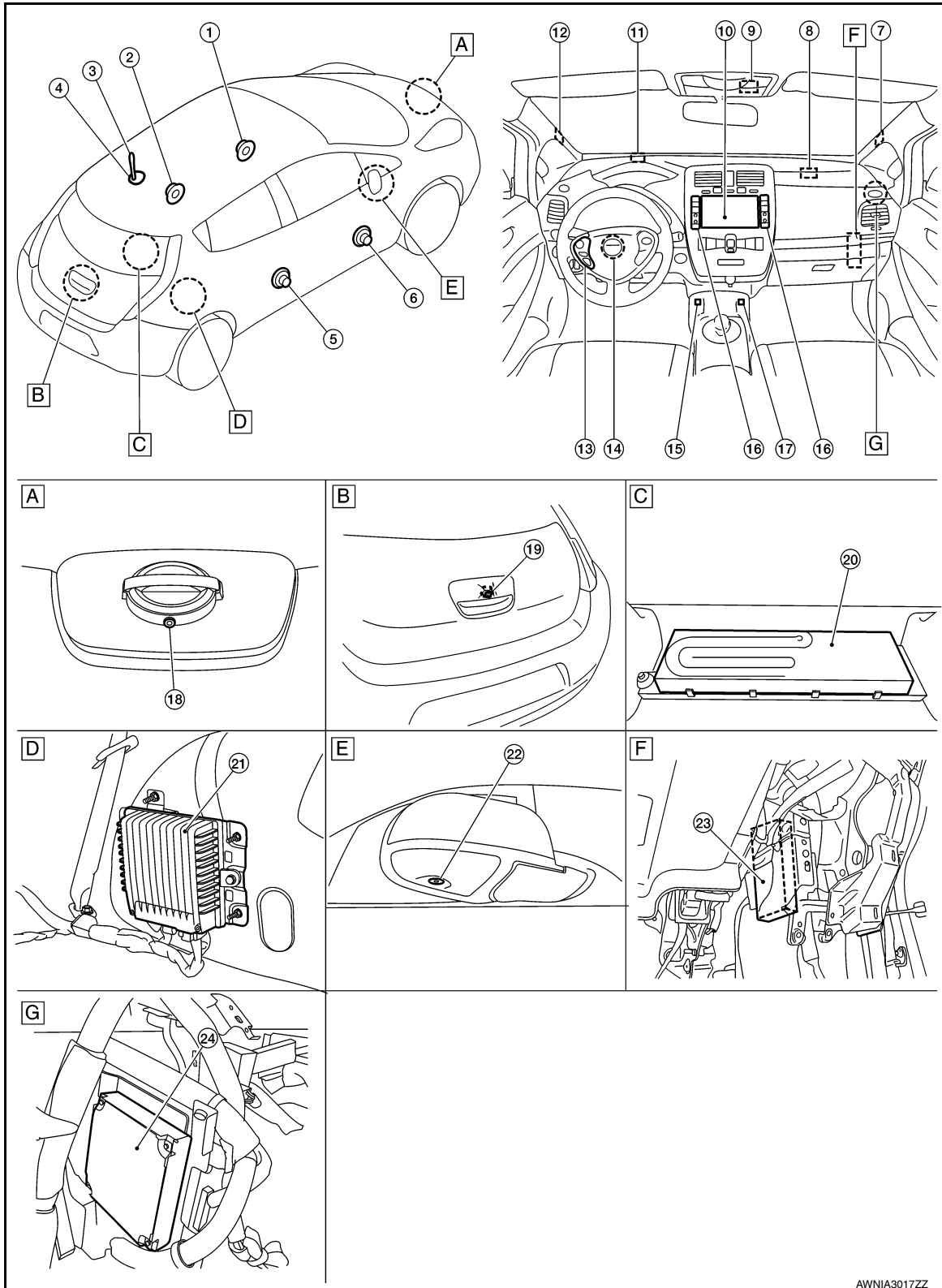
| Tool name  | Description                             |
|--|---|
| <p>Power tool</p>  <p>P11B1407E</p> | <p>Loosening nuts, screws and bolts</p> |

## SYSTEM DESCRIPTION

### COMPONENT PARTS

#### Component Parts Location

INFOID:000000009343699



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# COMPONENT PARTS

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITH BOSE]

- |   |  |                                     |
|---|--|-------------------------------------|
| A. Center of charge lid cover   | B. Center of the back door                                   | C. Luggage compartment              |
| D. Luggage compartment (view with luggage side lower finisher RH removed) | E. Bottom of outside rear view mirror (RH shown, LH similar) | F. Glove box cover assembly removed |
| G. Behind RH side of instrument panel (view with steering member removed) |  |                                     |

| No. | Component   | Function  |
|-----|---|---|
| 1.  | Front door speaker LH                                   | Refer to <a href="#">AV-224, "Speaker"</a> .                          |
| 2.  | Rear door speaker LH                                    |   |
| 3.  | Antenna rod   | Refer to <a href="#">AV-224, "Radio Antenna and Antenna Feeder"</a> . |
| 4.  | Antenna base (antenna amp. and satellite radio antenna) |   |
| 5.  | Rear door speaker RH                                    | Refer to <a href="#">AV-224, "Speaker"</a> .                          |
| 6.  | Front door speaker RH                                   |   |
| 7.  | Tweeter RH  | Refer to <a href="#">AV-224, "Speaker"</a> .                          |
| 8.  | TEL antenna   | Refer to <a href="#">AV-228, "TEL Antenna"</a> .                      |
| 9.  | Microphone  | Refer to <a href="#">AV-228, "Microphone"</a> .                       |
| 10. | AV control unit   | Refer to <a href="#">AV-222, "AV Control Unit"</a> .                  |
| 11. | GPS antenna   | Refer to <a href="#">AV-227, "GPS Antenna"</a> .                      |
| 12. | Tweeter LH  | Refer to <a href="#">AV-224, "Speaker"</a> .                          |
| 13. | Steering switch   | Refer to <a href="#">AV-227, "Steering Switch"</a> .                  |
| 14. | Steering angle sensor                                   | Refer to <a href="#">AV-229, "Steering Angle Sensor"</a> .            |
| 15. | USB connector   | Refer to <a href="#">AV-228, "USB Connector"</a> .                    |
| 16. | Multifunction switch                                    | Refer to <a href="#">AV-227, "Multifunction Switch"</a> .             |
| 17. | Auxiliary input jack                                    | Refer to <a href="#">AV-230, "Auxiliary Input Jack"</a> .             |
| 18. | Front camera  | Refer to <a href="#">AV-229, "Front Camera"</a> .                     |
| 19. | Rear view camera  | Refer to <a href="#">AV-229, "Rear Camera"</a> .                      |
| 20. | Subwoofer   | Refer to <a href="#">AV-224, "Speaker"</a> .                          |
| 21. | Bose speaker amp.                                       | Refer to <a href="#">AV-224, "BOSE Amp"</a> .                         |
| 22. | Side camera   | Refer to <a href="#">AV-229, "Side Camera"</a> .                      |
| 23. | TCU   | Refer to <a href="#">AV-227, "TCU"</a> .                              |
| 24. | Around view monitor control unit                        | Refer to <a href="#">AV-228, "Around View Monitor Control Unit"</a> . |

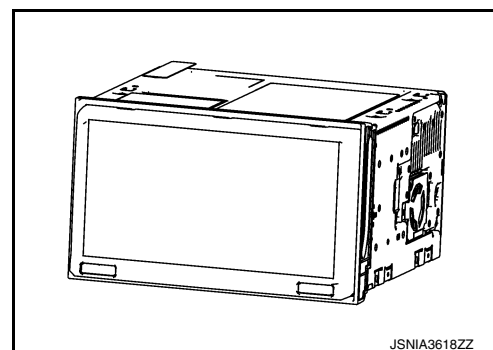
## AV Control Unit

INFOID:000000009343700

### DESCRIPTION

- High-resolution 7-inch wide VGA display integrated AV control unit is installed at the center of the instrument panel.
- The AV control unit is equipped with the following parts. It is the master unit integrated with functions and controls the multi-AV system.

| Units equipped                              |
|---|
| SD card slot                                |
| High resolution 7-inch wide VGA LCD monitor |
| Audio amplifier                             |
| AM/FM electronic tuner                      |
| Satellite radio tuner                       |



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| Units equipped  |    |
|---|----|
| CD drive  | A  |
| USB interface   |    |
| Bluetooth® module   | B  |
| <ul style="list-style-type: none"> <li>• Signals necessary for the vehicle information display function are received from ECM and the combination meter via CAN communication.</li> <li>• It is connected to TCU in USB communication, and signals necessary for the Telematics function and CAR-WINGS function are sent and received.</li> <li>• Signals necessary for vehicle setting functions are sent and received with BCM via CAN communication.</li> <li>• It inputs the signal for driving status recognition (vehicle speed signal, reverse signal, and parking brake signal).</li> <li>• A possible route line is generated on the camera image from the rear view camera, and it is shown on the display.</li> <li>• It has the built-in gyro sensor and acceleration sensor as a vehicle position calculation sensor. Map data is read from an SD card in the SD slot.</li> <li>- SD card</li> <li>• It records the map data, traffic control data, and guide information, etc.</li> <li>- Gyroscope</li> <li>• Detects vehicle cornering condition.</li> <li>- Acceleration sensor</li> <li>• Detects the inclination angle and height variation of the vehicle.</li> </ul> | C  |
| <b>NOTE:</b>  | D  |
| For details of each functions, refer to <a href="#">AV-232. "MULTI AV SYSTEM : System Description"</a> .  | E  |
| SD Card Slot  | F  |
| With the display opened, the map card slot is located on the right (main slot), and the card slot used for import/export of stored location is located on the left (sub slot).  | G  |
| Display   | H  |
| <ul style="list-style-type: none"> <li>• High resolution 7-inch wide VGA LCD monitor is adopted to display a high definition image including digital image signals.</li> <li>• Touch panel function is adopted to improve operability.</li> <li>• RGB digital image signals (navigation image/menu image) and composite image signals (rear view camera image) are displayed.</li> </ul>  | I  |
| Audio Amplifier   | J  |
| <ul style="list-style-type: none"> <li>• 45W x 4ch amplifiers are installed.</li> <li>• Audio sound, TEL voice and guiding voice are output to each speaker.</li> </ul>   | K  |
| AM/FM Electronic Tuner  | L  |
| <ul style="list-style-type: none"> <li>• The AM/FM electric tuner includes the PLL frequency synthesizer system.</li> </ul>   |    |
| Satellite Radio Tuner   | M  |
| <ul style="list-style-type: none"> <li>• The adoption of the PPL synthesizer method allows the signal reception at more accurate frequencies.</li> <li>• The satellite radio tuner receives a satellite radio antenna signal and converts the signal into an audio sound signal and a data signal.</li> <li>• The audio sound signal is transmitted to the audio amplifier and the data signal is transmitted to the display.</li> </ul>  | AV |
| CD Drive  |    |
| <ul style="list-style-type: none"> <li>• It is CD-R/CD-RW compliant and enables MP3 and WMA files to play music.</li> <li>• It displays the artist name, album title or song title recorded to the file by the ID3 tag/WMA tag display function.</li> </ul>   | O  |
| USB Interface   | P  |
| <ul style="list-style-type: none"> <li>• Music can be played by connecting an iPod® or USB memory.</li> </ul>   |    |
| Bluetooth® Module   |    |
| <ul style="list-style-type: none"> <li>• Wireless connection to the audio device equipped with Bluetooth® communication can play music.</li> <li>• Once a Bluetooth® communication compliant phone has been registered in the AV control unit, hands-free phone communication and connection to the CARWINGS information center can be carried out without connecting the cellular phone to the TEL harness.</li> </ul>   |    |

## COMPONENT PARTS

### < SYSTEM DESCRIPTION >

### [NAVIGATION WITH BOSE]

- Five units of Bluetooth® communication devices including audio devices and cellular phones can be registered to the AV control unit.

#### BOSE Amp.

INFOID:000000009346887

- Installed in the RH side of the luggage compartment.
- Receives sound signal from AV control unit, and outputs sound signal to each speaker and woofer.

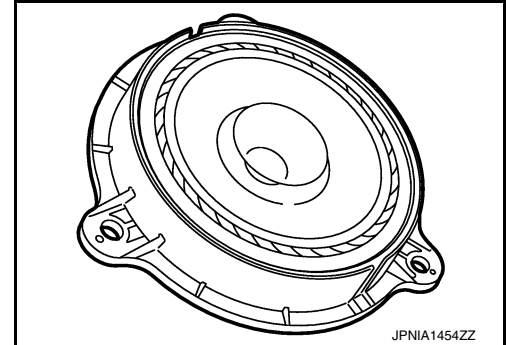
#### Speaker

INFOID:000000009343701

The 7-speaker system is adopted.

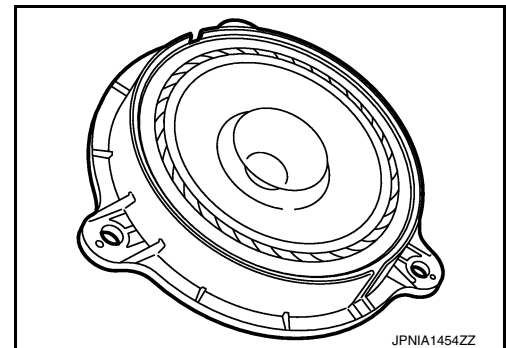
##### Front door speaker

- $\phi$ 16.5 cm (6.5 in.) speaker is installed to the bottom of the front door.
- Sound signal is input from the Bose speaker amp. to output mid and low range sounds.



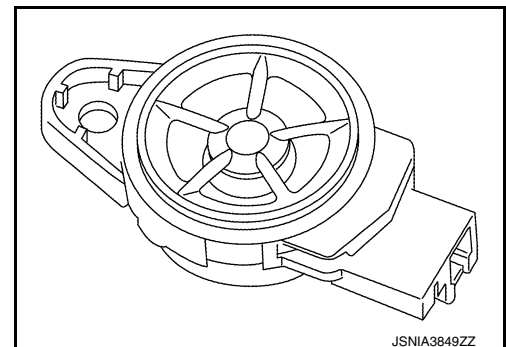
##### Rear door speaker

- $\phi$ 16.5 cm (6.5 in.) speaker is installed to the bottom of the rear door.
- Sound signal is input from the Bose speaker amp. to output high, mid and low range sounds.



##### Tweeter

- $\phi$ 2.5 cm (1 in.) tweeter for high-range sounds is installed in the front pillar.
- Sound signal is input from the Bose speaker amp. to output high range sounds.



##### Subwoofer

- $\phi$ Subwoofer is installed in the luggage compartment.
- Sound signal is input from the Bose speaker amp. to output low range sounds.

#### Radio Antenna and Antenna Feeder

INFOID:000000009343702

#### RADIO ANTENNA



## COMPONENT PARTS

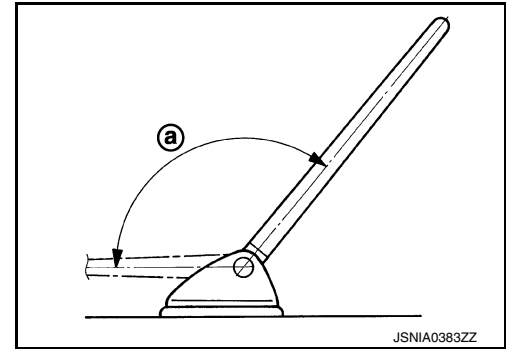
### < SYSTEM DESCRIPTION >

### [NAVIGATION WITH BOSE]

#### Antenna Rod

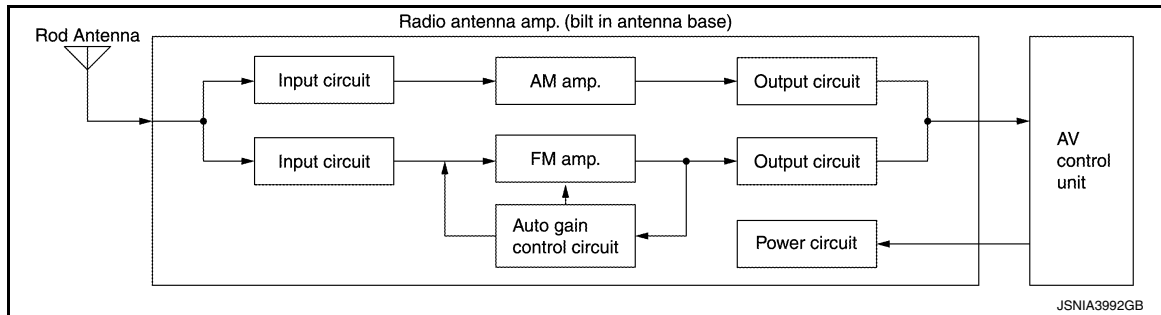
Foldable rod antenna is installed to the rear center of the roof.

a : 140°



#### Antenna Base

- To obtain sufficient reception sensitivity, an antenna amplifier is built into the antenna base.
- Power of the antenna amplifier is supplied from the AV control unit.
- The radio signal received by the antenna rod is input to the antenna base and the antenna signal is amplified and sent to the AV control unit.



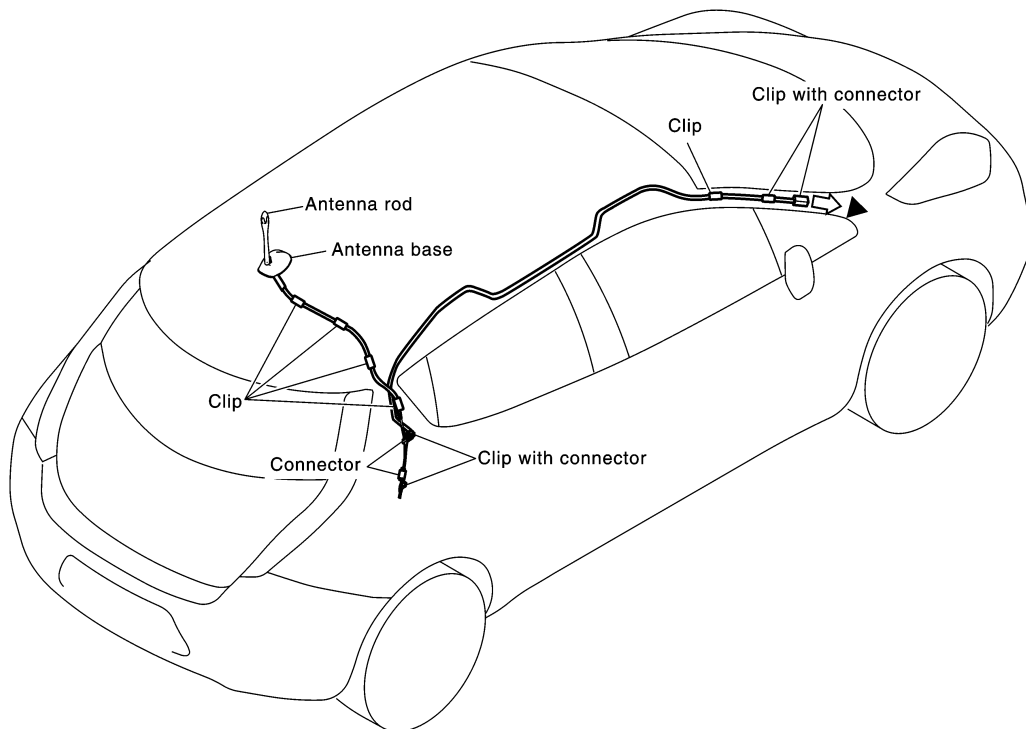
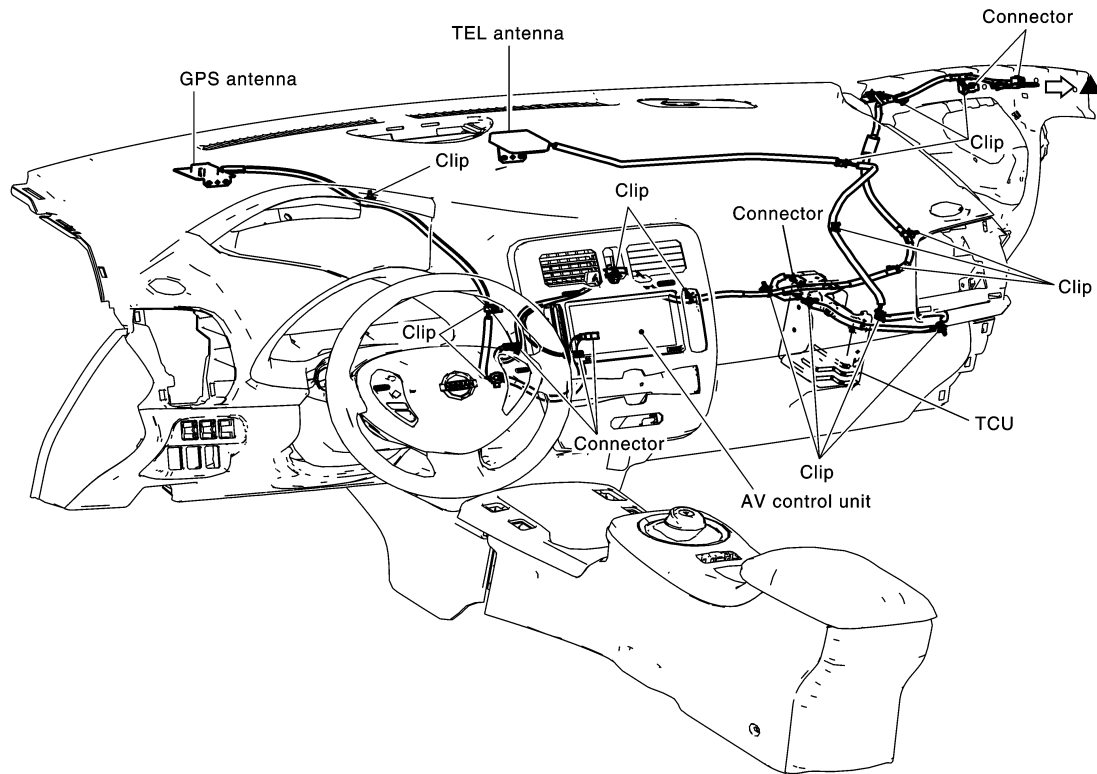
#### Satellite radio Antenna

- Receives satellite radio waves and outputs it to AV control unit.

#### Antenna circuit

AV

## SEC. 280



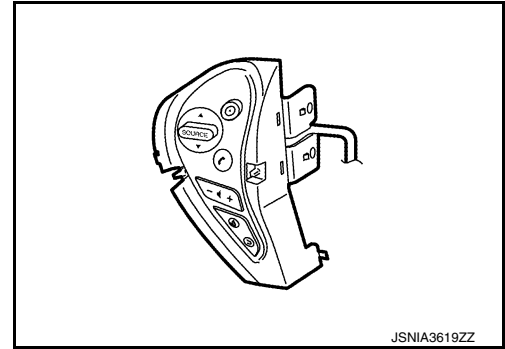
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▲: Indicates that the part is connected at points with same symbol in actual vehicle.

## Steering Switch

INFOID:000000009343703

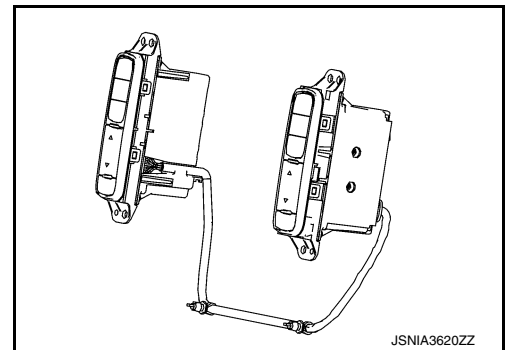
- Hands-free phone, possible driving distance display, voice control, and audio operations can be performed.
- This switch is connected to the AV control unit, and the switch operation signal is transmitted to the AV control unit via voltage multiplex communication.



## Multifunction Switch

INFOID:000000009343704

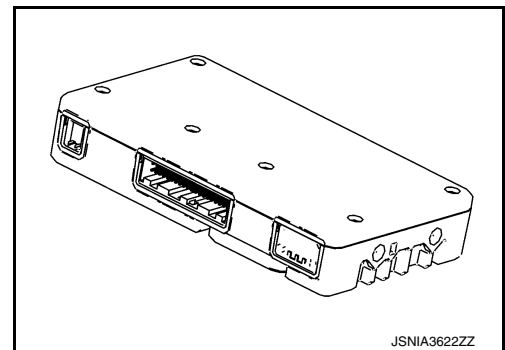
- Audio, navigation, Telematics, etc. can be controlled.
- Switch operation signals are input to the AV control unit via AV communication.



## TCU

INFOID:000000009343705

- TCU is installed on the lower right of the instrument panel.
- A radio communication terminal is built into the unit, and data is sent and received in SMS and packet communication with the NIS-SAN CARWINGS Data Center through the TEL antenna.
- VIN information necessary for the Telematics service is memorized.



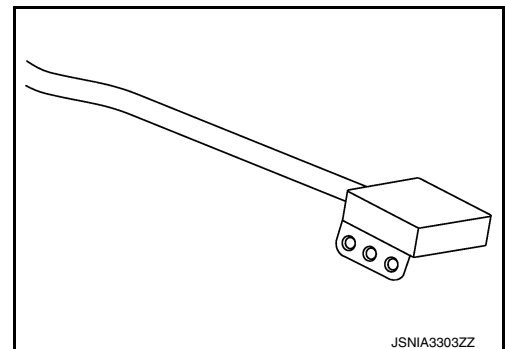
## GPS Antenna

INFOID:000000009343706

- GPS antenna is installed in the instrument panel.
- Power is supplied from the AV control unit.
- This antenna amplifies radio waves received from the GPS satellite and transmits the GPS signal to the AV control unit.

### NOTE:

An object on the instrument panel may cause the reception sensitivity to be decreased.

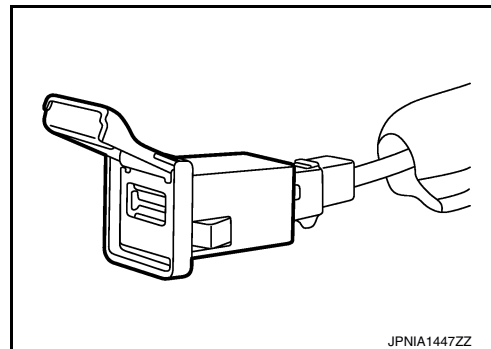


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## USB Connector

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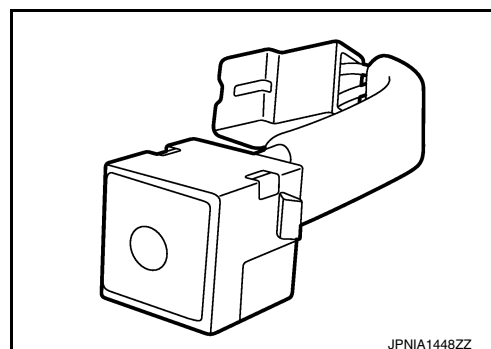
- USB connector is installed on the lower left side of the instrument panel.
- iPod® and USB memory can be connected to the AV control unit.



## Microphone

INFOID:000000009343708

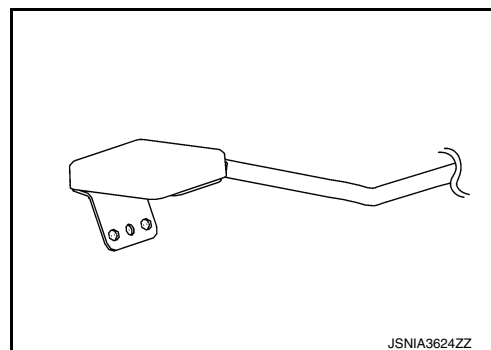
- The voice control/TEL microphone is installed on the right side of the map lamp assembly.
- The power is supplied from the AV control unit to the microphone, transmitting sound signals to the AV control unit at the voice control or during hands-free phone communication.



## TEL Antenna

INFOID:000000009343709

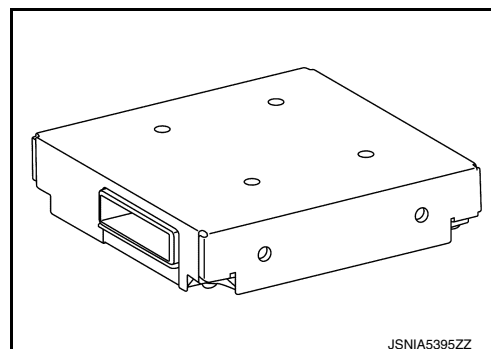
- The TEL antenna is installed in the instrument panel.
- Power is supplied with TCU activated.



## Around View Monitor Control Unit

INFOID:000000009346888

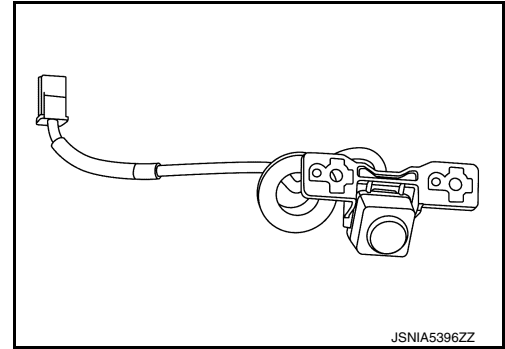
- The around view monitor control unit is installed behind the RH side of the instrument panel.
- Necessary signals are transmitted/received to/from control unit via CAN communication.
- Camera image signals received from each camera are converted/synthesized in the around view monitor control unit and transmitted to the front display unit.
- Vehicle width guide lines, predicted course line, vehicle front guiding line and vehicle side line, and vehicle icon are rendered with the around view monitor control unit and combined with camera image.



## Rear Camera

INFOID:000000009346889

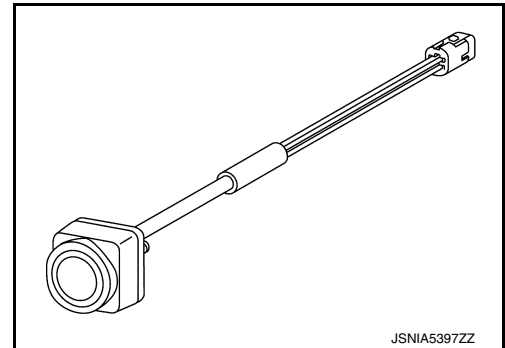
- The rear camera is installed to the back door finisher.
- Power for the camera is supplied from the around view monitor control unit, and the image at the rear of the vehicle is sent to the around view monitor control unit.



## Side Camera

INFOID:000000009346890

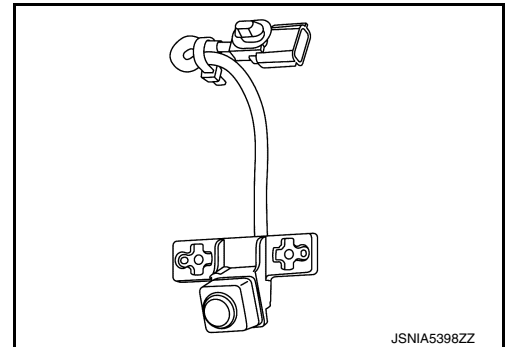
- The side camera is installed to the door mirror.
- Power for the camera is supplied from the around view monitor control unit, and the image at the side of the vehicle is sent to the around view monitor control unit.



## Front Camera

INFOID:000000009346891

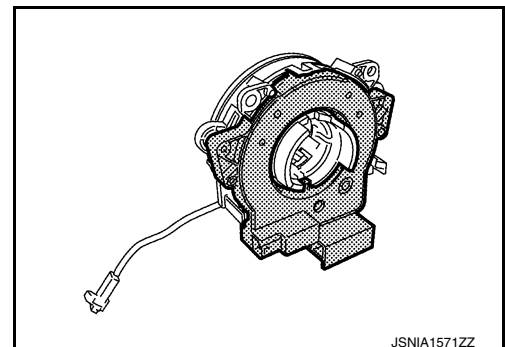
- The front camera is installed to the front grille.
- Power for the camera is supplied from the around view monitor control unit, and the image at the front of the vehicle is sent to the around view monitor control unit.



## Steering Angle Sensor

INFOID:000000009343711

- Steering sensor is installed to the spiral cable.
- Steering angle sends the steering signal necessary for possible route line of the rear view monitor function to the AV control unit via CAN communication.



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## Auxiliary Input Jack

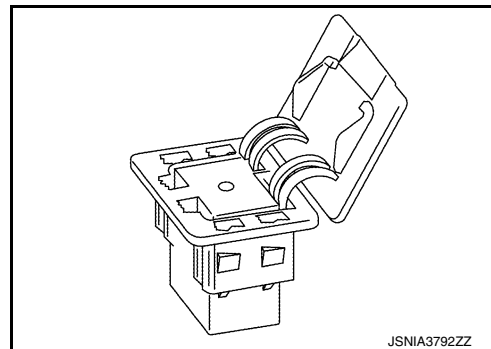
INFOID:000000009343712

- AUX jack is installed at the lower right of the instrument panel.
- Connection to an external audio device can provide sound output.

External input terminal for connection       $\phi$ 3.5 mm stereo mini-jack

### NOTE:

When connected to monaural mini-jack plug cable, sound may not be output.



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## SD Card

INFOID:000000009343713

- Map data is memorized in an 8 GB SDHC\* card.
- Map data is sent to the AV control unit from the SD slot.

### NOTE:

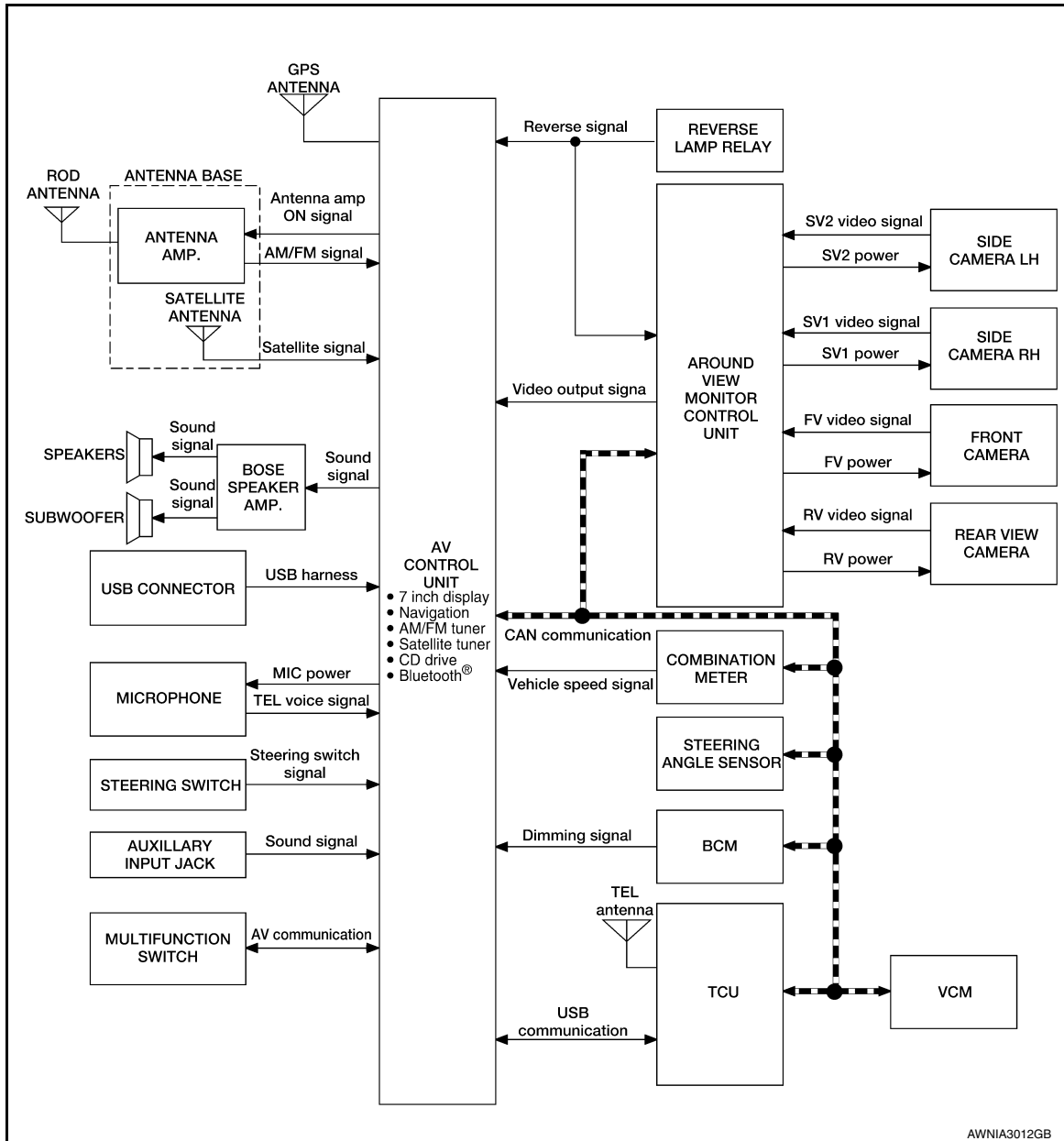
\*SDHC: Abbreviation of SD High-Capacity. It is the upper level standard of the SD memory card. A large quantity of data can be memorized, and the transfer speed of data is high.

## SYSTEM

### MULTI AV SYSTEM

### MULTI AV SYSTEM : System Diagram

INFOID:000000009343714



#### CAN communication

#### AV control unit Input Signal

| Transmit unit         | Signal name  |
|-----------------------|--|
| Steering angle sensor | Steering angle sensor signal                                     |
| Combination meter     | Odometer signal  |
|                       | A/C OFF average electricity consumption for driving range signal |
|                       | A/C ON average electricity consumption for driving range signal  |
|                       | Driving range difference signal                                  |

# SYSTEM

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITH BOSE]

| Transmit unit | Signal name  |
|---------------|--|
| VCM           | A/C consumption power status display signal        |
|               | A/C consumption signal                             |
|               | Current motor power signal                         |
|               | ECO tree signal                                    |
|               | Li-ion battery charging data signal                |
|               | Others consumption signal                          |
|               | Pre-A/C priority signal                            |
|               | Pre-A/C timer signal                               |
|               | Remaining time to charge completion (200 V) signal |
|               | Remaining time to charge completion (100 V) signal |
|               | Traction motor consumption signal                  |
|               | VCM activation/deactivation command signal         |
|               | VCM status signal                                  |

### TCU Input Signal

| Transmit unit    | Signal name  |
|------------------|--|
| VCM              | A/C expected consumption signal                    |
|                  | Charge status signal                               |
|                  | Pre-A/C status signal                              |
|                  | Remaining time to charge completion (200 V) signal |
|                  | Remaining time to charge completion (100 V) signal |
|                  | VCM activation/deactivation command signal         |
|                  | VCM status signal                                  |
|                  | Li-ion battery available charge signal             |
|                  | Li-ion battery capacity signal                     |
|                  | Li-battery gradual capacity loss signal            |
| On board charger | AC input type signal                               |

## MULTI AV SYSTEM : System Description

INFOID:000000009343715

- AV control unit is connected to the following parts. It performs power supply, signal input and communication, and it controls the multi-AV system.
  - GPS antenna
  - Radio antenna (radio antenna amplifier)
  - USB connector
  - Auxiliary input connect
  - BCM
  - VCM
  - Combination meter
  - Steering switch
  - Multifunction switch
  - Microphone
  - TCU
  - Speakers
  - Vehicle signals (reverse signal, vehicle speed signal and illumination signal)
- Data of external device connected to the USB connector is played and transferred.
- When the reverse signal is input, power is supplied to the rear view camera. Image of the rear view camera is input to show the rear view monitor image on the display.
- Dimming signal is input from BCM to adjust the brightness of the display.

## COMMUNICATION SIGNAL



AV control unit is connected to TCU via USB communication, and it receives the Telematics information received by TCU and gives the display and sound output. Telematics operation signals and sound signals are also sent to TCU.

### Auto light adjustment function

Auto light adjustment function automatically dims/brightens the display according to the ambient light when the lighting switch is in the 1st or 2nd position. Whether or not the display is dimmed when the lighting switch is in the 1st position or 2nd position is determined by the output condition of the dimming signal output from the BCM to the AV control unit. Even if the lighting switch is in the 1st position or 2nd position, the display may not be dimmed depending on the ambient light sensed by the auto light sensor. For details, refer to [INL-10, "ILLUMINATION CONTROL SYSTEM : System Description"](#).

### CAN COMMUNICATION

- AV control unit is connected via CAN communication, receives data signal from VCM and combination meter, and indicates power consumption information, etc. on the display based on the information obtained.
- The AV control unit, which has the vehicle setting function, transmits and receives data on vehicle setting condition via CAN communication with the BCM.
- AV control unit receives steering angle signal from steering angle sensor via CAN communication and performs control of possible route line in around view monitor image.
- AV control unit receives and sends signals necessary for timer charge and A/C-heater timer operation with VCM via CAN communication.

### Energy Flow Display Function

The AV control unit receives data signals from the VCM and combination meter via CAN communication and computes each value using the obtained information to display it.

| Display function                        | Receiving signal (transmit unit)   | Display method  |
|---|--|---|
| Instantaneous power consumption display | <ul style="list-style-type: none"> <li>• Battery consumption monitor signal (VCM)</li> <li>• Vehicle speed signal (combination meter)</li> </ul> | Computes the instantaneous power consumption using the vehicle speed and battery consumption monitor signals, and displays the instantaneous power consumption bar.   |
| Possible driving distance display       | <ul style="list-style-type: none"> <li>• Possible driving distance signal (Combination meter)</li> </ul>   | Displays a possible driving distance, based on a possible driving distance signal. When the meter indication of a possible driving distance is "----", it is displayed by "****" on the NAVI screen. Data is retained even with the power switch OFF.   |
| Average power consumption display       | <ul style="list-style-type: none"> <li>• Battery consumption monitor signal (VCM)</li> <li>• Vehicle speed signal (combination meter)</li> </ul> | Computes the average power consumption using the battery consumption monitor and vehicle speed signals, and displays it. The average power consumption is displayed only when 30 seconds have elapsed and the vehicle has been driven 500 m after the average power consumption was reset. Data is retained even with the power switch OFF. |

### Vehicle Setting Function

The AV control unit transmits and receives data signals via CAN communication with the BCM, allowing the following vehicle settings.

- To turn on the automatic interior room lamp (ON/OFF) when the door is unlocked
- To adjust the auto light sensitivity (+/-)
- To operate the intermittent wiper linked with the vehicle speed (ON/OFF)
- Vehicle setting initialization

#### NOTE:

The setting items vary depending on the vehicle specification

### TYPE OF VOICE SIGNAL

#### Reception Voice Signal

- Hands-free phone reception voice is output from the cellular phone through the AV control unit to the front speaker via Bluetooth® communication.
- If the hands-free phone is used while the audio is ON and/or the voice guidance is being output, these sounds are muted and only the reception voice is output.

#### Speech Sound Signal

Hands-free phone speech sound is transmitted from the microphone via the AV control unit and Bluetooth® communication to the cellular phone.

### CARWINGS Reading Voice Signal

- In the case of the CARWINGS reading voice, the AV control unit receives text data from the NISSAN CARWINGS Data Center through the USB harness and outputs them to the front speaker.
- If CARWINGS data is read while the audio is ON and/or the voice guidance is being output, these audio sounds are muted and only the CARWINGS reading voice is output.
- Depending on the information from the NISSAN CARWINGS Data Center, not only the CARWINGS reading voice but also background music may be output. In this case, audio output of the front speaker is turned down 10 dB and then the CARWINGS reading voice is output.

### Guide Sound Signal

- Voice signals output during the route guidance of the navigation system are output from the AV control unit to the front speaker.
- If the voice guidance is output with the audio ON, audio output of the front speaker is turned down 10 dB and then voice guidance is output.
- Adjusting the volume while the voice guidance is being output can change the volume of the guidance.

### AUDIO FUNCTION

- The MP3/WMA playback function enables music to play for a long time: the user need not change the CD during a long trip. The text display function is also adopted so that the title name and artist name of the ID3 tag/WMA tag can be displayed.
- Bluetooth® audio function is adopted to play music data in the portable audio via wireless communication.
- The adoption of the vehicle speed interlock sound volume function reduces the burden of the volume adjustment by the difference between the noises when the vehicle is stopped or running. In addition, the vehicle speed interlock sound volume function can perform ON/OFF setting and sound volume adjustment on a scale of one to five.

### MP3/WMA Playback Function

This function enables the playback of compressed music files, such as MP3 music files used for the most widespread broadband music distribution and WMA music files played back with a music player generally built in Windows® personal computers.

### Vehicle Speed Interlock Volume Function

- The AV control unit receives the vehicle speed signal from the combination meter via CAN communication and changes the sound volume in conjunction with the vehicle speed.
- Using the vehicle speed interlock sound volume function, ON/OFF setting can be carried out as preferred by users, and sound volume variation caused by vehicle speed change can be adjusted on a scale of one to three.

### Bluetooth® Audio Function

- Bluetooth® audio function is adopted to play music data in the portable audio in wireless communication.
- Five units of Bluetooth® communication devices including audio devices and cellular phones can be registered to the AV control unit.
- When the Bluetooth® audio is connected to the portable audio through Bluetooth®, it can play the music data in the portable audio.
- When the Bluetooth® audio is playing the data, operations of the other applications are as shown in the following table.

| Cellular phone operation (control) status |                                | Bluetooth® audio playback status   |
|---|--------------------------------|--|
| Hands-free phone communication            | Hands-free phone incoming call | Answering the call stops audio playback temporarily.   |
| CARWINGS service                          | Information channel and E-mail | Audio playback does not stop.  |
|   |                                | Audio playback stops temporarily during data communication.<br>After the communication has been completed, playback resumes. |
| Telephone book transfer                   |                                | Audio playback does not stop.  |
|   |                                | For Bluetooth® audio, audio playback stops temporarily.<br>After the telephone book has been transferred, playback resumes.  |

Bluetooth® compliant profile

| Profile name                        | Abbreviation | Version  |
|-------------------------------------|--------------|----------|
| Advanced Audio Distribution Profile | A2DP         | Ver. 1.2 |
| Audio Video Remote Control Profile  | AVRCP        | Ver. 1.3 |

### Satellite Radio

- Satellite radio tuner is built into AV control unit.
- Audio signal and data signal (satellite radio) are received by satellite antenna. There are input to AV control unit. AV control unit outputs audio signal to each speaker and data signal to display unit.

### USB CONNECTING FUNCTION

USB connector enables iPod® compliant and playback of music files in the USB memory.

\*: iPod® is the trademark of Apple Inc. registered in the United States and other countries.

### NAVIGATION SYSTEM FUNCTION

#### Description

- The AV control unit controls navigation function while GPS tuner has built-in map data, GYRO (angle speed sensor), on the SD card.
- The AV control unit inputs operation signal with communication signal, through front display unit (touch panel) and multifunction switch and steering switch.
- Guide sound is output to front speaker through from AV control unit when operating navigation system.
- A vehicle position is calculated with the GYRO (angle speed sensor), vehicle sensor, signal from GPS satellite and map data stored on SD card, and transmits the map image signal (RGB image, RGB area, RGB image synchronizing) to the display.

#### Position Detection Principle

The navigation system periodically calculates the current vehicle position according to the following three types of signals.

- Travel distance of the vehicle as determined by the vehicle speed sensor
- Vehicle turning angle determined by the gyroscope (angular speed sensor)
- The travel direction of the vehicle 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, which is stored in the SD card (map-matching), and indicated on the screen with a current location mark. More accurate data is used by comparing position detection results from GPS to the map-matching.

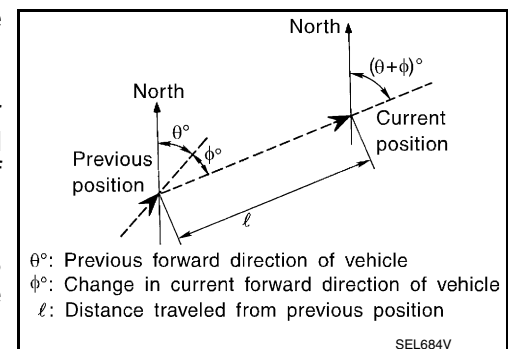
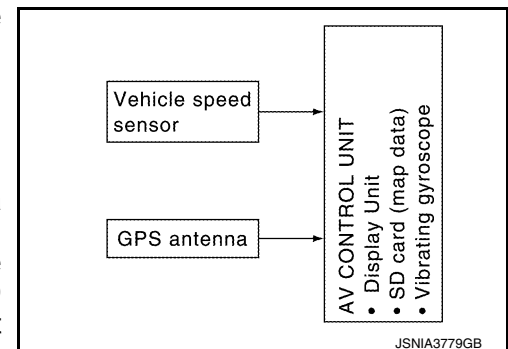
The current position is calculated by detecting the travel distance from the previous calculation point, and its direction change.

- Travel distance

The travel distance is generated from the vehicle speed sensor input signal. The automatic distance correction function is adopted for preventing a miss-detection of the travel distance because of tire wear etc.

- Travel direction

The gyroscope (angular velocity sensor) and GPS antenna (GPS information) generate the change of the travel direction. Both have advantages and disadvantages as per the following descriptions.

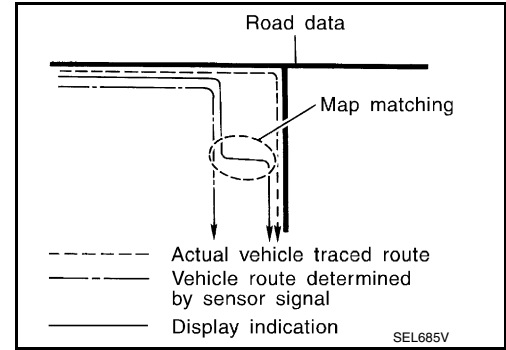


| Type                                | Advantage   | Disadvantage  |
|-------------------------------------|---|---|
| Gyroscope (angular velocity sensor) | The turning angle is precisely detected.                  | Errors are accumulated when driving a long distance without stopping. |
| GPS antenna (GPS information)       | The travel direction (North/South/East/West) is detected. | The travel direction is not precisely detected when driving slowly.   |

Input signals 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.

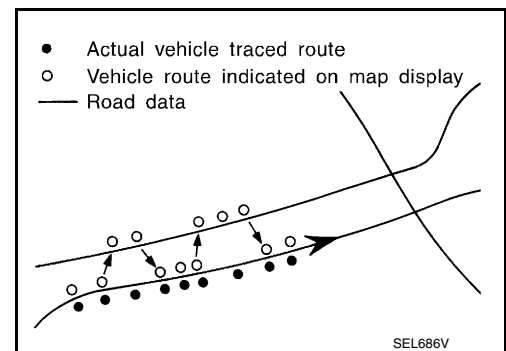
### Map-matching

Map-matching repositions the vehicle on the road map when a new location is judged to be more accurate. This is done by comparing the current vehicle position (calculated by the normal position detection method) from the map data stored in the SD card.

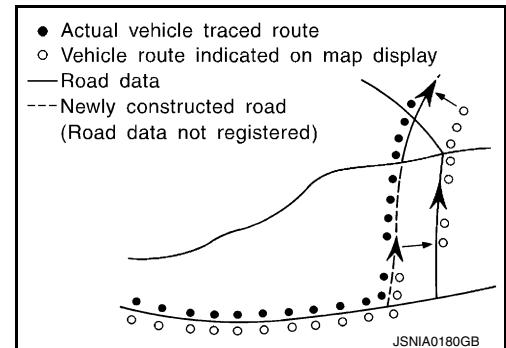


There is a possibility that the vehicle position may not be corrected in the following case, and when vehicle is driven over a certain distance or time in which GPS information is hard to receive. Correct manually the current location mark on the screen.

- In map-matching, several alternative routes are prepared and prioritized in addition to the road judged as currently driving on. Therefore, due to errors in the distance and/or direction, an incorrect road may be prioritized, and the current location mark may be repositioned to the incorrect road. 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, etc.



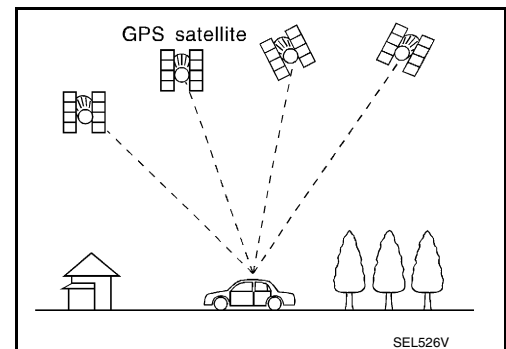
- Map-matching does not function correctly when road on which the vehicle is driving is new, etc. and not recorded in the map data. Also, map-matching does not function correctly when road pattern stored in the map data and the actual road pattern are different due to repair, etc. Therefore, the map-matching function judges other road as a currently driving road if the road is not in the map, and displays the current location mark on it. Later, the current location mark may be repositioned to the road if the correct road is detected.
- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data is limited. Therefore, correction by map-matching is not possible when there is an excessive gap between current vehicle position and the position on the map.



### GPS (Global Positioning System)

GPS (Global Positioning System) is developed for and is controlled by the US Department of Defense. The system utilizes GPS satellites (NAVSTAR), transmitting out radio waves while flying on an orbit around the earth at an altitude of approximately 21,000 km (13,049 mile).

The receiver calculates the travel position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves that four or more GPS satellites transmit (three-dimensional positioning). The GPS receiver calculates the travel position in two dimensions (latitude/longitude) with the previous altitude data if the GPS receiver receives only three radio waves (two-dimensional positioning). GPS position correction is not performed while stopping the vehicle.



Accuracy of the GPS will deteriorate under the following conditions:

- In two-dimensional positioning, GPS accuracy will deteriorate when altitude of the vehicle position changes.

- The position of GPS satellite affects GPS detection precision. The position detection may not be precisely performed.
- The position detection is not performed if GPS receiver does not receive radio waves from GPS satellites. (Inside a tunnel, parking in a building, under an elevated highway etc.) GPS receiver may not receive radio waves from GPS satellites if any object is placed on the GPS antenna.

### NOTE:

- The detection result has an error of approximately 10 m (32.81 ft) even with a high-precision three dimensional positioning.
- There may be cases when the accuracy is lowered and radio waves are stopped intentionally because the GPS satellite signal is controlled by the US trace control center.


## BLUETOOTH® HANDS-FREE PHONE FUNCTION

- When the cellular phone is connected to the AV control unit in Bluetooth® communication, hands-free phone communication can be performed.
- Simply operating the steering switch without releasing hands from the steering wheel allows the driver to make a phone call or receive a phone call.
- For the available cellular phone support model, refer to "Compliant model list" on the CARWINGS site.
- When a Bluetooth® communication compliant phone is registered to the AV control unit, hands-free phone communication can be performed. Five units of Bluetooth® communication devices including audio devices and cellular phones can be registered to the AV control unit.
- The content of the memory (telephone book) of the cellular phone can be recorded in the AV control unit.

### Bluetooth® compliant profile

| Profile name               | Abbreviation | Version |
|----------------------------|--------------|---------|
| Hands-Free Profile         | HFP          | 1.5     |
| Dial-Up Networking Profile | DUN          | 1.1     |
| Object Push Profile        | OPP          | 1.1     |

## VOICE RECOGNITION FUNCTION

- By speaking a command, operations of navigation and hands-free phone can be performed.
- To perform the voice control, press the  switch of the steering switch. The system changes to the speech reception status. When a command is spoken, the speech recognition result is displayed, and the operation is executed.
- The voice control cannot be performed under the conditions listed below.
  - When the hand-free phone is used
  - When the vehicle is moving backwards

### Major Functions

With this function, the list of commands used for telephone, and navigation operation can be checked.

## TIMER CHARGE AND A/C-HEATER TIMER FUNCTION

- Time for timer charge and A/C-heater timer can be set from the navigation setting screen.
- The AV control unit sends the current time signal received with GPS antenna to VCM via CAN communication, and it compensates the current VCM time.

### Timer Charge Function

- Set the timer charge start time on the navigation setting screen. When the charging plug is connected, the time mode is activated.
- If the charging plug fitting is not sufficient, unplugged status is notified. For details of unplugged status notification, refer to [AV-404, "TELEMATICS SYSTEM : System Description"](#).
- After the power switch is OFF, VCM is activated at the set charge start time and charge is started. (The time of the timer function is controlled by VCM.)
- VCM sends the VCM status signal and VCM wake-up signal to TCU via CAN communication to notify that VCM is activated. For details of the charging function, refer to [VC-17, "VEHICLE CHARGING SYSTEM : System Description"](#).
- Charge is completed.

### NOTE:

Information of charge completion sent to the user is also given if charge is abnormally completed for some reason (e.g. disconnection of charging plug).

### A/C-Heater Timer Function

- Set the A/C-heater timer start time on the navigation setting screen. When the charging plug is connected, the time mode is activated.
- After the power switch is OFF, VCM is activated at the set air conditioning start time and air conditioning is started. (The time of the timer function is controlled by VCM.)
- VCM sends the VCM status signal and VCM wake-up signal to TCU via CAN communication to notify that VCM is activated. For details of air conditioner system, refer to [EVC-58. "AIR CONDITIONER CONTROL : System Description"](#).

### NOTE:

- A/C-heater timer performs air conditioning with the settings of temperature 25°C, AUTO, fan AUTO and REC.
- Power consumption of the compressor or the PTC heater is limited according to allowable power from VCM. Sufficient air conditioning may not be performed if charge has priority or 100 V charge is performed.

## MULTI AV SYSTEM : Map Data Update

INFOID:000000009343716

To update map data, use an SD card including new map data.

## MULTI AV SYSTEM : Fail-safe

INFOID:000000009343717

When a malfunction occurs within the system, the AV control unit outputs a message on the display, and it restricts the AV control unit functions.

### FAIL-SAFE CONDITIONS

SD card not inserted, SD card malfunction, internal malfunction of navigation, etc.

#### Display Indication

- When the system is in the fail-safe status at the start of the AV control unit, an error message is shown on the display.
- When the system is in the fail-safe status after the start of the AV control unit, an error message is not shown on the display. The MULTI AV system may be rebooted in the fail-safe state. If the fail-safe state is maintained after the system is rebooted, an applicable message is shown.

| Cause                                   | Display monitor       |
|---|-----------------------|
| Malfunction of flash ROM information    | TARGET INFO NG        |
| No SD card                              | NO SD CARD            |
| Unsuccessful security unlock            | SD UNLOCK NG          |
| Malfunction of SD card mount            | SD INIT NG            |
| Malfunction of SD card access           | SD ACCESS NG          |
| No program data                         | NO NAVI-2 DATA        |
| Malfunction of program data (SUM NG)    | NAVI-2DATA READ NG    |
| Inconsistent program version (Flash/SD) | NAVI VERSION NG       |
| Difference of map destination           | DIFFERENT MAP CODE    |
| Not compliant with map database version | MAP DATA BASE UNMATCH |
| Malfunction of navigation               | NAVI STARTUP NG       |

### CONTROL

When the system is in the fail-safe status at or after start of the AV control unit, the following functions are restricted.

| Function |            | In fail-safe mode                     |
|----------|------------|---------------------------------------|
| A/C      | Dis-play   | No display (fail-safe status display) |
| Audio    | Opera-tion | Mute audio                            |
|          | Dis-play   | No display (fail-safe status display) |

# SYSTEM

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITH BOSE]

| Function                       |           | In fail-safe mode                 |
|--------------------------------|-----------|-----------------------------------|
| Hands-free phone               | Operation | It cannot be operated             |
| Navigation                     | Operation | It cannot be operated             |
| Display                        | Operation | Open/close operation is available |
|                                | Display   | Fail-safe factors are displayed   |
| Self-diagnosis                 |           | It cannot be diagnosed            |
| CONSULT diagnosis              |           | It cannot be diagnosed            |
| AV communication diagnosis     |           | It cannot be diagnosed            |
| Frequency transmission for VCM |           | Normal                            |
| SD read access                 |           | Access cannot be gained.          |
| SD write access                |           | Access cannot be gained.          |

### CANCELLATION CONDITIONS

The fail-safe status is canceled under the following conditions, and then the system returns to the normal mode.

- When the SD card is not inserted, the SD card is inserted and the power of the AV control unit is turned ON again.
- When the SD card is not functional at the start of navigation due to a malfunction of the SD card, a normal SD card is inserted and the power of the AV control unit is turned ON again.

AV

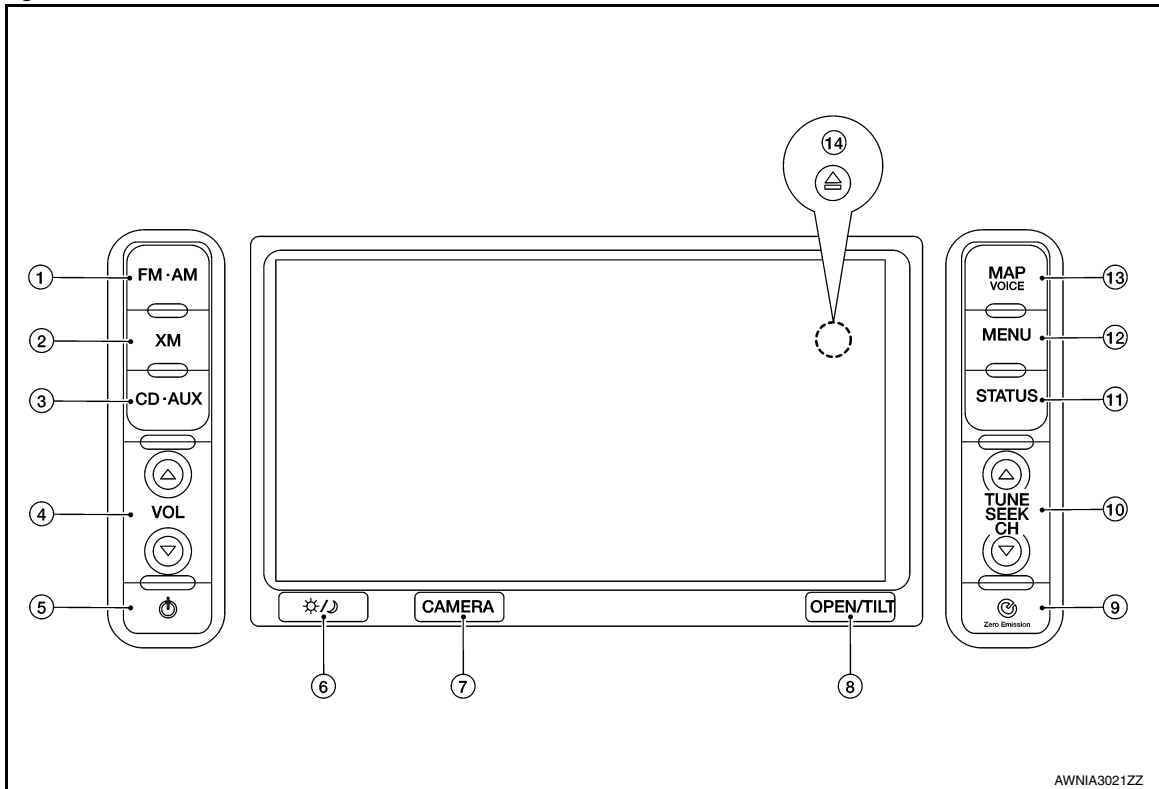
## OPERATION

### Switch name and Function

INFOID:000000009343719

#### Names and functions of AV control unit switches


##### 1. Design



##### 2. Switch name and function

| No. | Switch name           | Function   |
|-----|-----------------------|--|
| 1   | FM·AM                 | Press to switch between the FM radio band and the AM radio band.   |
| 2   | XM                    | Press to switch to an XM satellite radio band.   |
| 3   | CD·AUX                | Press to switch between USB memory/iPod player <sup>*1</sup> /CD/Bluetooth <sup>®</sup> streaming audio <sup>*2</sup> / AUX screens.   |
| 4   | VOL (volume control)  | Press to adjust the volume of the stereo.  |
| 5   | (audio system ON-OFF) | Press to turn the audio system ON or OFF.  |
| 6   | (Day/Night)           | <ul style="list-style-type: none"> <li>Press to switch between the day screen (bright) and the night screen (dark).</li> <li>Press and hold to turn off the display, then press again to turn on the display.</li> </ul> |
| 7   | CAMERA                | Press to turn the around view monitor system ON or OFF.  |
| 8   | OPEN/TILT             | <ul style="list-style-type: none"> <li>Press to open the monitor to access the CD slot and the SD card slot.</li> <li>Press and hold to adjust the monitor angle. (6 angles)</li> </ul>                                  |
| 9   | (Zero emission)       | Press to display the setting screen where several useful functions for electric vehicle driving are determined.  |
| 10  | TUNE/SEEK/CH          | <ul style="list-style-type: none"> <li>Press to select a track/station.</li> <li>Press and hold to search for a track/station automatically or to fast-forward/back-forward when listening to music.</li> </ul>          |
| 11  | STATUS                | Press to display the current status of the air conditioner, radio, audio, vehicle information (estimated distance, drivable distance and average energy economy) and navigation systems.                                 |
| 12  | MENU                  | Press to display the setting menu (destination, route, information, settings, phone and carwings) screen.  |



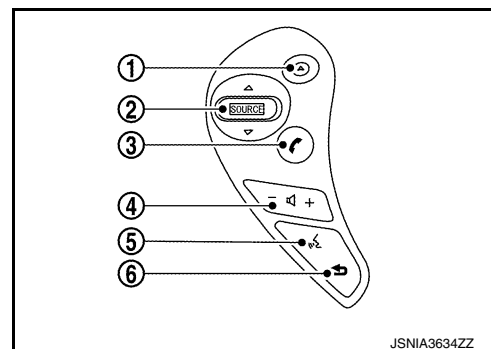
| No. | Switch name  | Function  |
|-----|--|---|
| 13  | MAP/VOICE  | <ul style="list-style-type: none"> <li>Press to display the current location map screen.</li> <li>Press and hold to repeat voice guidance.</li> </ul> |
| 14  |  (Disk eject) | Press to eject a disk.  |

- \*1: Displayed when iPod® is connected.
- \*2: Displayed when Bluetooth® audio is registered and "Bluetooth connection" setting is ON.






### Names and functions of steering switch

By using the steering switch, various operations on the audio, navigation, telephone, and others can be performed without releasing hands from the steering wheel.

#### 1. Design



#### 2. Switch name and function

| No. | switch name  | Major functions   |   |
|-----|--|---|---|
| 1   |  (Driving range)    | Press to display the driving range screen. Press again to return to the previous screen.  |   |
| 2   | SOURCE   | Press to change source menu.  |   |
|     |  | Tilt up/down for a short period of time   | <ul style="list-style-type: none"><li>• During the radio switches the preset channel.</li><li>• During the CD mode, USB mode, iPod mode, and Bluetooth audio mode selects the track.</li></ul>  |
|     |  | Tilt up/down for a long period of time  | <ul style="list-style-type: none"><li>• During the radio mode, good sensitivity frequency is automatically selected.</li><li>• The CD mode, iPod mode, or Bluetooth audio mode allows the fast-forwarding and rewinding of a music file.</li><li>• During the CD mode, a folder selection can be made when an MP3/WMA disc contains a folder.</li><li>• The USB mode allows folder selection.</li></ul> |
| 3   |  (Phone)            | <ul style="list-style-type: none"><li>• Displays the hands-free phone menu.</li><li>• When this is pressed during call, telephone communication can be started.</li></ul>   |   |
| 4   |  + (Volume control) | <ul style="list-style-type: none"><li>• Adjust the audio volume.</li><li>• Other than the audio volume, the volume levels of guide sound (at guide interruption), hands-free phone, and others can be adjusted.</li></ul> |   |
| 5   |  (Talk)             | Press to enter the voice recognition mode.  |   |
| 6   |  (Cancel)           | Press to cancel the voice command.  |   |

### Menu Display by Pressing Each Switch

INFOID:000000009343720

#### NOTE:

For Navigation system and Telematics system operation detailed information, refer to Navigation system Owner's Manual.

#### MENU

# OPERATION

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITH BOSE]

When the MENU switch is pressed, the menu screen is displayed.




AVA1281

| Menu list   |                            | Description  |
|-------------|----------------------------|--|
| Destination | Change Country             | When setting a destination, the country can be selected. The country that was last selected is automatically selected by the system as the default.                          |
|             | New Address                | Searches for a destination by address.   |
|             | Home                       | Searches for a route from the current location to the previously stored home destination.  |
|             | Points of interest         | Searches for a destination from various categories of businesses or locations.   |
|             | Charging Station           | Searches for the charging stations near the current vehicle location.  |
|             | Quick Stop                 | Searches for points of interest near the current vehicle location, such as restaurants and charging stations, etc.   |
|             | Address Book               | Searches for a destination from the list of the stored locations.  |
|             | History                    | <ul style="list-style-type: none"> <li>• Sets the previous starting point as destination.</li> <li>• Searches for the destination from the previous destinations.</li> </ul> |
|             | M-way Entrance/Exit        | Searches for a destination from a motorway entrance/exit.  |
|             | Stored Routes              | Selects a stored route.  |
|             | Latitude/Longitude         | Searches for a destination by entering the latitude and the longitude.   |
|             | Junction                   | Searches for a destination from junctions.   |
| Route       | Cancel Route/Resume Route  | Cancels the current route guidance. A canceled route can also be reactivated. If the suggested route is canceled, "Cancel Route" changes to "Resume Route".                  |
|             | Edit Route                 | Edit or add a destination or waypoints to the route that is already set.   |
|             | Route Info                 | Confirm the route by the route information or simulation. The confirmed route can also be stored.  |
|             | Guidance Voice             | Activates or deactivates route, voice guidance and/or traffic announcement and adjust the volume level of voice guidance.  |
|             | Recalculate                | Manually search for the route again after changing the search condition and have the system calculate a route.   |
|             | Detour                     | A detour of a specified distance can be calculated.  |
|             | Traffic Detour             | Manually search for an alternative detour route taking the traffic information into consideration.   |
|             | Route Calculation Criteria | Changes the route calculation conditions anywhere along the route.   |


| Menu list |                       | Description   |
|-----------|-----------------------|---|
| Info.     | Traffic Information   | Displays the Traffic Information.   |
|           | Energy Info.          | Energy information is displayed on the screen.  |
|           | Maintenance           | Displays the vehicle maintenance information.   |
|           | Charging Station Info | Displays charging station information for the current location.   |
|           | Where am I?           | Displays information regarding the current vehicle location.  |
|           | Voice Recognition     | Displays the voice command list.  |
|           | GPS Position          | Displays GPS information regarding the current vehicle location.  |
|           | Navigation Version    | Displays the current navigation system version.   |
| Settings  |                       | The system can be customized the following items.   |
| Phone     | Phonebook             | Select a telephone number from the phone book, and then make a call. Before making a call, the telephone number must be registered in the phone book.   |
|           | Call History          | Select a telephone number from the incoming or outgoing history lists, and then make a call.  |
|           | Handset Memory        | Download the phone book from a cellular phone that is connected to the vehicle, select a telephone number from the phone book, and then make a call. Phone book data should be registered in the system after downloading the phone book from the cellular phone that is connected to the vehicle. If the phone book is not registered, a message that reminds you of phone book data download will be displayed. |
|           | Keypad                | Input the phone number manually using the keypad displayed on the screen.   |
|           | Volume                | Adjust various settings of phone volume.  |
|           | Pair Phone            | <ul style="list-style-type: none"> <li>When a PIN code appears on the screen, operate the compatible Bluetooth® cellular phone to enter the PIN code.</li> <li>When the connection process is completed, the screen will return to the Phone menu display.</li> </ul>   |
|           | Paired Phone          | The list of the registered cellular phones is displayed.  |
| CARWINGS  | Favorite Channels     | A maximum of 16 favorite channels selected from the information channels can be stored in a folder.   |
|           | Information Channels  | Touch the preferred folder. An information channel list is displayed.   |
|           | CARWINGS Records      | The information channels that were referred to previously are displayed. A maximum of 3 channels are stored in the history.   |
|           | Update Stations       | Charging station information is updated through connection to the NISSAN CARWINGS Data Center.  |
|           | CARWINGS Settings     | The CARWINGS system can be customized.  |

### ZERO EMISSION MENU

When the  ZERO EMISSION switch is pressed, the menu screen is displayed.



AVA1283

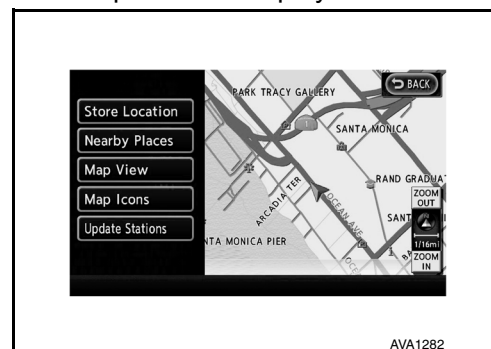
| Menu list  | Description   |
|--|---|
| Driving Range  | The estimated driving area within range, including the current position is displayed on the map screen. |
| Nearby Stations  | Charging station information for the current position area is displayed.                                |
| Update Stations  | Charging station information is updated through connection to the NISSAN CARWINGS Data Center.          |
| Energy Info.   | Energy information is displayed on the screen.  |
| Charging Timer   | The timer charge function can be set.   |
| A/C-Heater Timer (Climate Ctrl. Timer)   | The A/C-Heater Timer (Climate Ctrl. Timer) function can be set.   |
|  CARWINGS | Information channels are displayed and settings for CARWINGS can be performed.                          |
| Settings   | Setting of the warning message display or the charging status notification can be performed.            |

### MAP MENU

Map menu at current location

If the following operation is performed at the current location, the available map menu is displayed.

- Touch the “Map Menu” switch on the map.

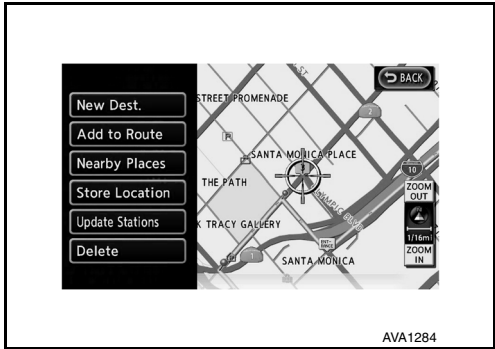


| Menu item      |              | Description  |
|----------------|--------------|--|
| Store Location |              | Stores the current vehicle location in the Address Book. The stored location can be retrieved as necessary to set it as a destination (waypoint).  |
| Quick Stop     |              | Searches for points of interest near the current vehicle location, such as restaurants and charging stations, etc.   |
| Map Settings   | Map View     | The screen display [Plan view, Birdview <sup>®</sup> , split screen (2D/2D), split screen (2D/2D)] can be changed.   |
|                | Split Screen |  |
|                | Map Settings | Map Orientation (sets the map direction to North Up or Heading Up), Long Range (on/off), Birdview Angle (Changes the Birdview <sup>®</sup> angle), Left Settings (sets the map settings for the left screen of the split map) and Automatic Display of Highway Mode (on/off) can be set. |
|                | Back to Map. | Return to the current position screen.   |
| Landmark Icons |              | Displays map icons of certain points of interest (such as restaurants and charging stations, etc.) on the map around the current vehicle location  |
| Update Station |              | Charging station information is updated through connection to the NISSAN CARWINGS Data Center.   |

Map menu after scroll of map

If the following operation is performed after scrolling the map, the available map menu is displayed.

- Touch the “Map Menu” switch on the map.



| Menu item       | Description   |
|-----------------|---|
| New Dest.       | Sets the destination to the map location where [New Dest.] was touched. If a destination is already set, the location will be set as the new destination.   |
| Add to Route    | Sets the map location where [Add to Route] was touched as the destination or a waypoint. This is available only when a suggested route is already set.      |
| Quick Stop      | Searches for points of interest such as restaurants and charging stations, etc. near the location by scrolling the map.                                     |
| Store Location  | Store the map location where [Store location] was touched in the Address Book. The stored location can be retrieved to set it as a destination or waypoint. |
| Update Stations | Contact the NISSAN CARWINGS Data Center to update charging station around the point of the cursor.  |
| Delete          | Deletes a destination, waypoint or stored location. To delete, place the cross pointer over the corresponding icon.   |

## HANDLING PRECAUTION

## Display

INFOID:000000009343721

- When the compartment temperature is low, the display images may look slower because the LCD response is deteriorated. The system will recover its normal operation when the cabin temperature increases to an appropriate level.
- When the compartment temperature is low (0°C or less), the display images may look slower. It is characteristic of the LCD monitor and should not be considered to be a malfunction. When the temperature is at the operating temperature (0°C to 50°C), the display returns to normal.
- There may be small dark or bright dots in the screen or remaining display content may be found (image lag). These are inherent symptoms to any LCD monitor and should not be considered to be a malfunction.
- The image may look bright or dark when viewed obliquely from the rear. It is inherent to any LCD monitor and should not be considered to be a malfunction.
- Do not apply pressure on the LCD monitor. Doing so may cause irregularities in the screen image or render it inoperative.
- Do not use hard cloth, organic solvent (alcohol, benzene, and thinner), or chemical wipe to clean the LCD monitor. Doing so may affect the panel surface. When cleaning the LCD monitor, always wipe it with a soft cloth after shutting off the power. For severe contamination, use a soft cloth dampened with mild detergent (no droplets can be present).

## Audio

INFOID:000000009343722

- When an MP3/WMA disc is replayed, it may take some time to start the playback after the disc is inserted, because the contents of the disc files must be analyzed.
- The extensions for MP3/WMA files are ".MP3", ".WMA", ".mp3", and ".wma". Any file with a different extension or no extension cannot be played back.
- If trying to play a music CD (CD-DA) containing MP3/WMA file, MP3/WMA file is not played.
- The compatibility of a CD-R depends on the combination of the writing software/hardware and the writing rate. The disc has digital pulse signals written on it. If the specifications for writing depth and width (area) are not compatible, these signals may not be played back correctly or the sounds may be lost or skipped.
- The file recorded with high bit rate\* may have sound skipping.
- The playback order of MP3/WMA files may differ from the intended order because the writing software could change the folder and file positions when writing data to a CD-R/CD-RW disc.
- For an MP3 file, the folder name and file name can be displayed as the title on the condition that each name string consists of up to 16 alphanumeric letters (except for the extension). Any MP3 file with a name containing other letters or that is longer than the maximum length cannot be displayed correctly.
- Some MP3/WMA making software, text information editing software, writing software, or software configurations may create files and discs in a format different from the proper specifications. In such a case, the text information display or the playback function may not be available.
- A disc for which no session close or disc close process has been finished may not be played back.
- Some files may have incorrect playback time displays and therefore a part of the music cannot be played back.
- 8 cm disc cannot be used.
- When playing back a Bluetooth® audio data, the sound may be interrupted for a moment. This is due to data communication and should not be considered to be a malfunction. After the data communication finishes, the playback will restart normally.
- If any CARWINGS operation or incoming call takes place during Bluetooth® audio playback, the screen changes to the relevant mode and the audio playback is interrupted.
- Sound skipping may occur depending on the location where the Bluetooth audio device is installed.
- If any operation for traffic information reception is performed during Bluetooth® audio playback, the audio playback is interrupted.
- Music data stored in a Bluetooth® audio device at low bit rate has poor sound quality.
- Radio reception may decrease in performance during charge.

**NOTE:**

\*: Bit rate means how many bits of data are processed or transmitted per the unit time.

## iPod®

INFOID:000000009343723

- If a headphone is connected to the iPod®, the iPod® may not be controlled.

# HANDLING PRECAUTION

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITH BOSE]

- Some iPod® may not be compliant with connection. It is necessary to check compliant models of iPod®.
- If a USB extension cable is used for iPod® connection, iPod® may not be recognized or sound skipping may occur in playback.
- In playing back iPod® audio, if the EQ function (equalizer function) of the iPod® is ON, sound may be distorted.
- If the number of music in one category is increased to a large number, response may be poor. If the number of music is large and shuffle is ON, operation of the iPod® itself may be slower.

### RESTRICTIONS ON iPod®

The following symptoms may occur, but the functions are not compliant and they should not be considered to be a malfunction.

- When a Podcast divided into chapters is played back with iPod nano 3G, the play time may be displayed incorrectly.
- The number of Audiobook is not displayed normally. When iPod® is disconnected and reset, it is displayed.
- When jacket photos are played with iPod nano 3G and iPod Classic, iPod® may be frozen or reset.

### USB Connection

INFOID:0000000009343724

If a USB-HUB or USB extension cable is used when a USB is connected, USB is not recognized.

### CARWINGS

INFOID:0000000009343725

Refer to [AV-414, "Telematics&CARWINGS"](#).

### Hands-Free Phone

INFOID:0000000009343726

- In the following cases, the hands-free telephone function is not available.
  - When the vehicle moves out of the communication zone of the cellular phone.
  - When the vehicle is in a location that may block radio waves such as in an underground parking lot, behind a building, or in mountainous areas.
  - When the cellular phone is subject to dial-up limitations such as dial lock, and auto lock, transmission restriction.
- It is not compliant with call waiting function and three-party call function.
- No incoming call can be received just after the key switch is turned to ON.
- For further details about the supported models, consult the Supported Cellular Phone Models in the CARWINGS site.
- Depending on the cellular phone connected, the ring volume may decrease.
- Before connecting a cellular phone, make sure that the operation limitations such as dial lock, auto lock and transmission restriction are cancelled. If any of these settings is found to remain active, disconnect the phone, cancel the setting, and reconnect it.
- When a menu or information is displayed on a cellular phone or when application of standby tool is activated, the function may not be used. Use the cellular phone in the standby status.
- Once a cellular phone is removed, wait at least 10 seconds before reconnecting it.
- When attempting to use a cellular phone, always make sure that the battery charge level is sufficient.
- A snap sound may be heard or the audio signal may be interrupted during a call. This is not a malfunction. It is caused by a switchover to an adjacent cellular zone due to weakening radio waves.
- When the reception status is poor or the surrounding sound level is too large, the voice on the phone may be hard to hear.
- Because the system uses a digital line, the voice on the phone may be distorted or have unpleasant noises due to the surrounding sounds.
- If the vehicle is equipped with a speed trap tracker (radar detector), the speaker may generate noises.
- This unit cannot be used to charge a cellular phone.

### SD Card

INFOID:0000000009343728

To remove the SD card, wait for 15 seconds or more after turning the power switch OFF.

**DIAGNOSIS SYSTEM (AV CONTROL UNIT)****Diagnosis Description**

INFOID:000000009343729

- Diagnosis is performed with the on board diagnosis and CONSULT. Select an appropriate function based on the condition. Perform the on board diagnosis if it starts. If the on board diagnosis does not start such as no display, perform diagnosis with CONSULT.
- In the on board diagnosis, a multifunction switch operation starts the AV (NAVI) control unit diagnosis function and AV control unit performs a diagnosis for each system unit. Diagnosis results are displayed on the screen.
- In the CONSULT diagnosis, a communication signal starts the AV control unit diagnosis function and the AV control unit performs a diagnosis for each system unit.

**On Board Diagnosis Function**

INFOID:000000009343730

**ON BOARD DIAGNOSIS ITEM**

- The on board 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 diagnosis at the AV control unit, connections between each unit that composes the system, and connections between AV control unit and GPS antenna. It displays the 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 check, modify or adjust actions generally require human intervention and judgment (the system cannot judge automatically).

| 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> |



# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

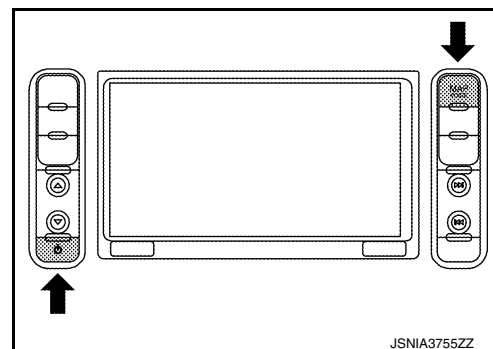
| Mode                        |                            | Description  |
|-----------------------------|----------------------------|--|
| Confirmation/<br>Adjustment | Display Diagnosis          | The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display and touch panel calibration response check.                            |
|                             | Vehicle Signals            | Diagnosis of signals can be performed for vehicle speed, parking brake, lights, power switch and reverse.  |
|                             | Navigation                 | Steering Angle Adjustment<br>When there is a difference between the actual turning angle and the vehicle mark turning angle, it can be adjusted.   |
|                             |                            | Speed Calibration<br>When there is a difference between the current location mark and the actual location, it can be adjusted.   |
|                             |                            | Sensor information<br>Displays the reception status of the GPS antenna connector.  |
|                             |                            | XM SAT Subscription Status<br>The XM NavTraffic subscription status can be checked.  |
|                             | Error location display     | 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.               |
|                             | AV COMM Diagnosis          | The communication condition of each unit of Multi AV system can be monitored.  |
|                             | Hands-free Phone, CARWINGS | <ul style="list-style-type: none"> <li>The received volume adjustment of hands-free phone and microphone speaker check can be performed.</li> <li>Mileage display of remote maintenance can be turned ON/OFF.</li> </ul> |
|                             | Clock setting              | The current time can be set.   |
|                             | Delete Unit Connection Log | Erase the connection history of unit and error history.  |
|                             | User Data Initialisation   | Initializes the AV control unit memory.  |
|                             | Version Information        | Version information of the AV control unit is displayed.   |
|                             | XM                         | Change Channel<br>Any necessary channels required to receive traffic information etc. from the satellite radio system can be set.  |
|                             |                            | Change Application ID<br>Any application ID's required to receive traffic information etc. from the satellite radio system can be set.   |
|                             |                            | Diag<br>XM authentication diagnosis.   |

## Starting procedure

1. Turn the power switch ON.
2. Turn the audio system off.
3. Press the "MAP" switch 3 times. Press the "PWR" switch 2 times. Press the "MAP" switch once.

### NOTE:

If the on board self-diagnosis does not start, perform diagnosis using CONSULT. Refer to [AV-257, "CONSULT Function"](#).



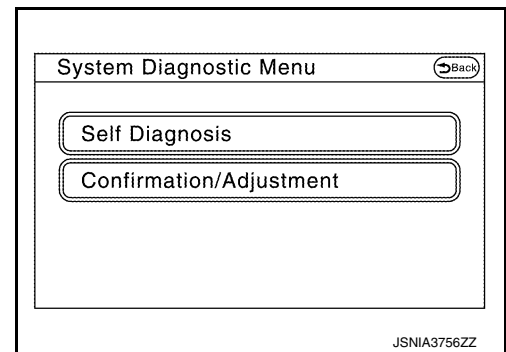
JSNIA3755ZZ

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

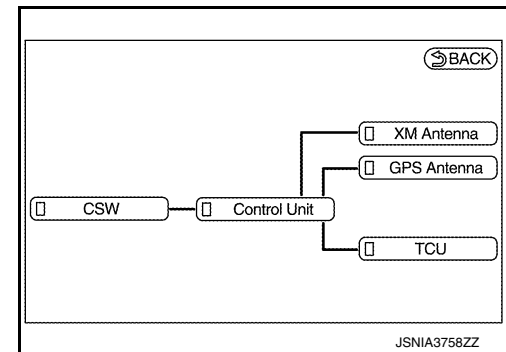
[NAVIGATION WITH BOSE]

4. The initial trouble diagnosis screen displays two choices: "Self-Diagnosis" and "Confirmation/Adjustment".



## SELF-DIAGNOSIS MODE

1. 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.
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.

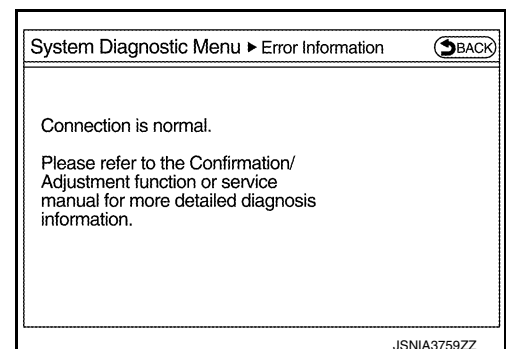


| Diagnosis results                | Unit  | Connection line |
|----------------------------------|-------|-----------------|
| Normal                           | Green | Green           |
| Connection malfunction           | Gray  | Yellow          |
| Unit malfunction <sup>Note</sup> | Red   | Green           |

### NOTE:

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. Refer to [AV-377, "Removal and Installation"](#).
- 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.

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

### < SYSTEM DESCRIPTION >

### [NAVIGATION WITH BOSE]

- 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.

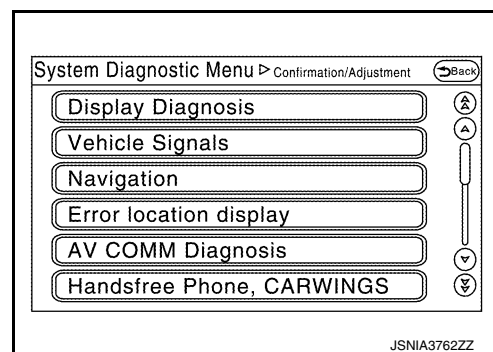
| Screen switch | Description  | Possible malfunction location / Action to take  |
|---------------|--|---|
| Control Unit  | Malfunction is detected in AV control unit power supply and ground circuits. | <ul style="list-style-type: none"><li>Check the power supply and ground circuit.<br/>Refer to <a href="#">AV-345, "AV CONTROL UNIT : Diagnosis Procedure"</a>.</li><li>When the power switch is OFF, remove and insert the SD card to check for contact malfunction of the SD card, and check for an error again.<ul style="list-style-type: none"><li>If there is no malfunction, poor contact of the SD card may be possible. Wait and see the condition.</li><li>If an malfunction is found, replace the AV control unit.<br/>Refer to <a href="#">AV-377, "Removal and Installation"</a>.</li></ul></li></ul> |

A Connecting Cable Between Units Is Displayed In Yellow.

| Area with yellow connection lines | Description  | Possible malfunction location / Action to take          |
|-----------------------------------|--|---|
| Control unit ↔ GPS Antenna        | GPS antenna connection malfunctions detected.                                      | GPS antenna   |
| Control unit ↔ TCU                | Malfunction is detected in communication circuits between AV control unit and TCU. | Communication circuits between AV control unit and TCU. |
| Control unit ↔ SAT Antenna        | Satellite radio antenna connection malfunction is detected.                        | Satellite radio antenna disconnection                   |

### CONFIRMATION/ADJUSTMENT MODE

- Start the diagnosis function and select "Confirmation/Adjustment". The confirmation/adjustment mode indicates where each item can be checked or adjusted.
- 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.

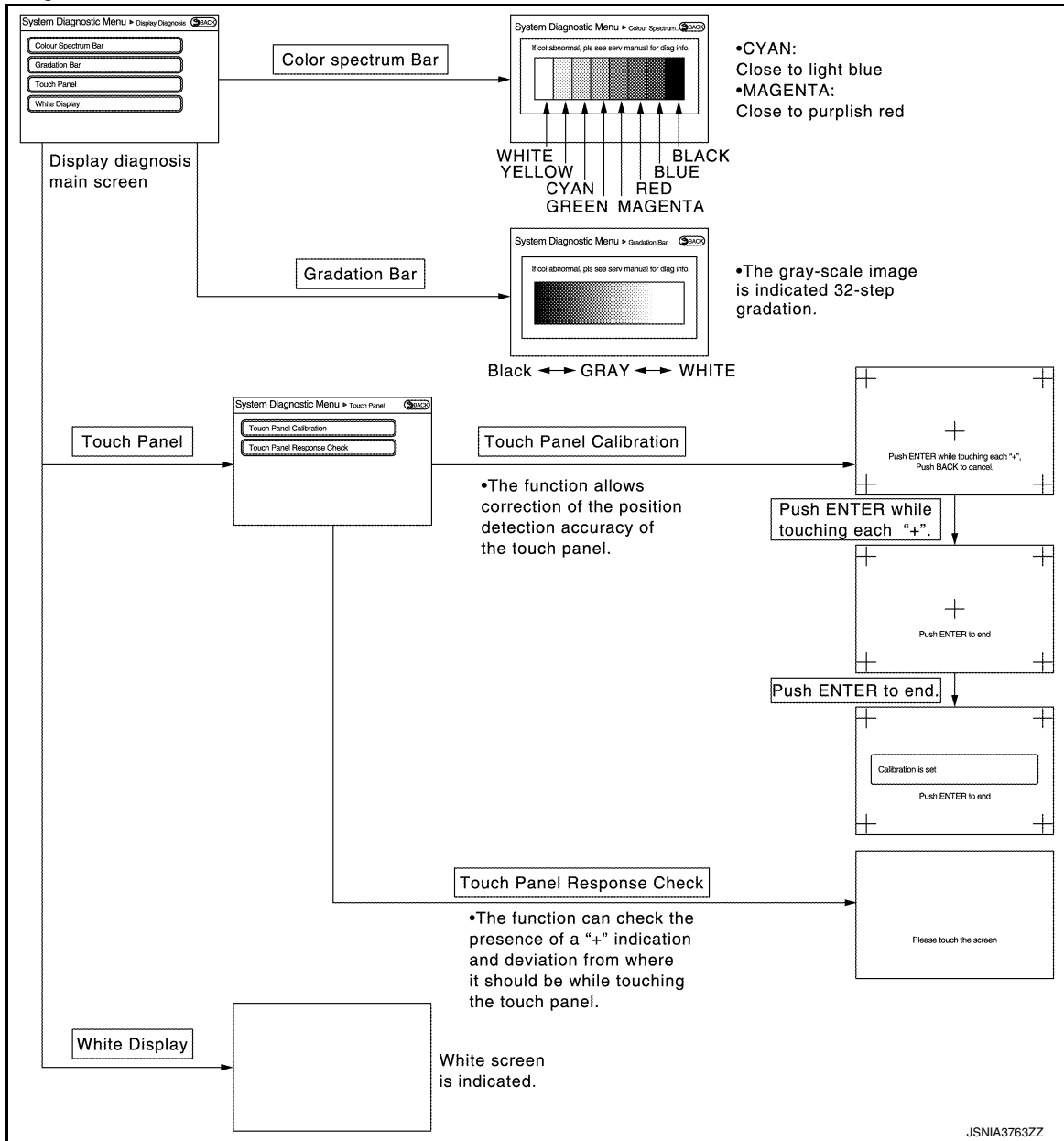


# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

## Display Diagnosis



## Vehicle Signals

A comparison check can be made of each actual vehicle signal and the signals recognized by the system.

| System Diagnostic Menu > Vehicle Signals |     | Back |
|--|-----|------|
| Vehicle speed                            | -   |      |
| Parking brake                            | OFF |      |
| Lights                                   | OFF |      |
| Power button                             | OFF |      |
| Reverse                                  | -   |      |

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# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

| 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      | Block the light beam from the auto light optical sensor when the light switch is ON.  | —   |
|                | OFF     | Either of the following conditions<br>• Lighting switch OFF<br>• Expose the auto light optical sensor to light when the light switch is ON. |   |
| Power bottun   | ON      | Power bottun ON   | —   |
|                | OFF     | Power bottun 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  |   |

## Navigation

### STEERING ANGLE ADJUSTMENT

- The steering angle output value detected with the gyroscope is adjusted.

System Diagnostic Menu > Steering Angle\_ (Back)

Set

Left turn [-] 0.0% [+]

Right turn [-] 0.0% [+]

JSNIA3765ZZ

### 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.

System Diagnostic Menu > Speed Calibration (Back)

Set

Speed Calibration [-] 0.0% [+]

JSNIA3766ZZ

### SENSOR INFORMATION

- Displays the reception status of the GPS antenna connector.

### XM SAT SUBSCRIPTION STATUS

- The XM NavTraffic subscription status can be checked.

### Error location display

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.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITH BOSE]

However, the diagnosis results are judged normal if an error has occurred before the power 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.

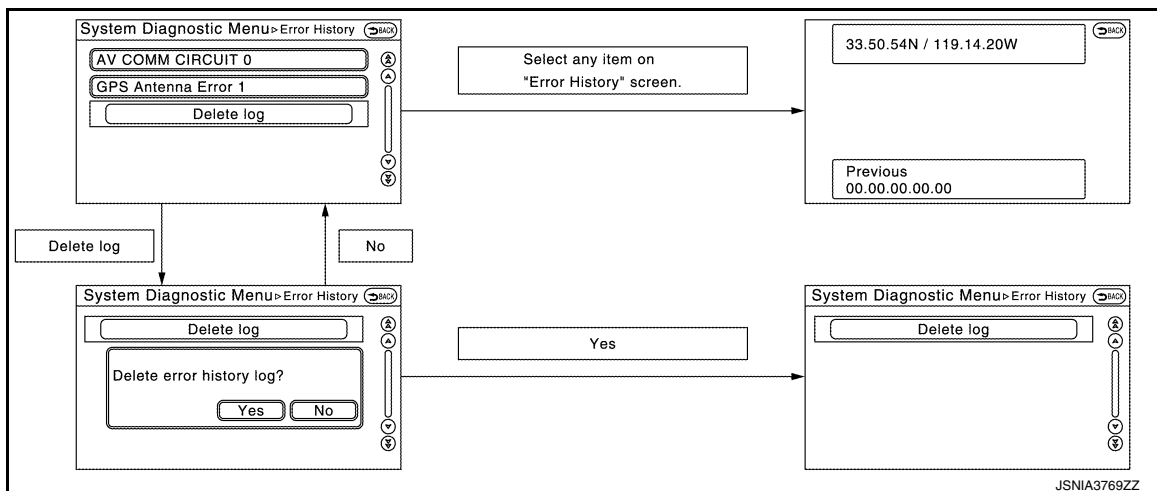
The error record displays the time and place of the most recent occurrence of that error. However, take note of the following points.

- 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 power switch is turned ON. The counter increases by 1 if the condition is normal at a next power 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.

| 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) |



### 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-257, "CONSULT Function"</a> . |
| CONTROL UNIT (CAN)                 | CAN initial diagnosis malfunction is detected.  | Replace the AV control unit if the malfunction occurs constantly.   |
| CONTROL UNIT (AV)                  | AV communication circuit initial diagnosis malfunction is detected.                           | Refer to <a href="#">AV-377, "Removal and Installation"</a> .   |
| Control Unit Internal Error        | AV control unit malfunction is detected.  | Replace the AV control unit or multifunction switch if the malfunction occurs constantly.   |
| Switch Initial Communication Error | AV control unit or multifunction switch internal malfunction are detected.                    | Refer to <a href="#">AV-377, "Removal and Installation"</a> (AV control unit), <a href="#">AV-378, "Removal and Installation"</a> (multifunction switch).             |
| Steer. Angle Sensor Calibration    | 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.<br>Refer to <a href="#">AV-257, "CONSULT Function"</a> .                              |

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

| 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.  |
| XM Antenna Connection Error  | Satellite radio antenna connection malfunction is detected.  | Satellite radio antenna disconnection.  |
| USB electric current error   | Detection of overcurrent in USB connector.   | Check USB harness between the AV control unit and USB connector.  |
| TCU Connection Error   | TCU connection malfunction is detected.  | Check that the connection to the TCU connector is normal.   |
| <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> |

## 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 power 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:

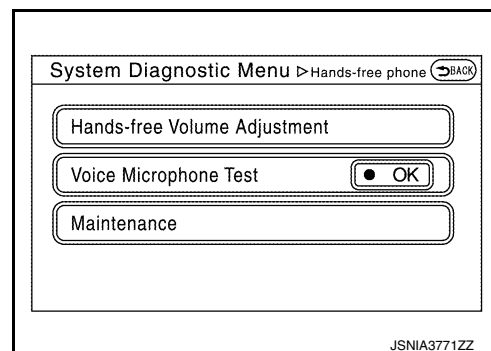
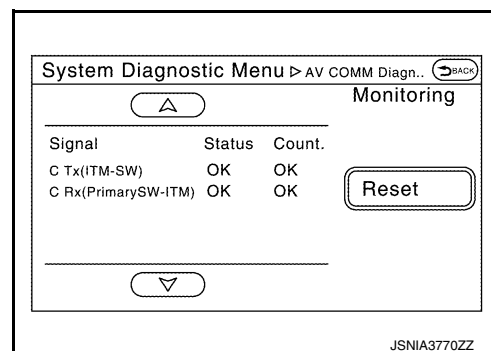
"???" indicates UNKWN

## Hands-Free Phone, CARWINGS

The hands-free phone reception volume adjustment and microphone and speaker test functions are also available.

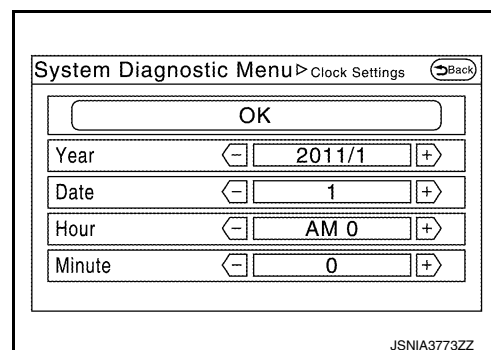
### NOTE:

If voice cannot be output when the Voice Microphone Test is started, stop and restart the test again.



## Clock Setting

The clock can be set.



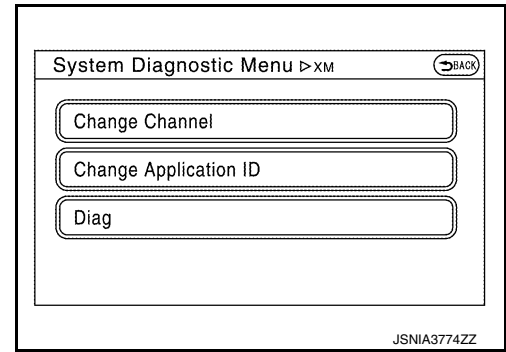
# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION WITH BOSE]

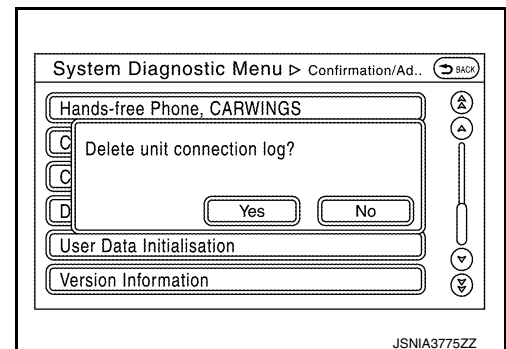
### XM

- 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.
- Diag
- XM authentication diagnosis.



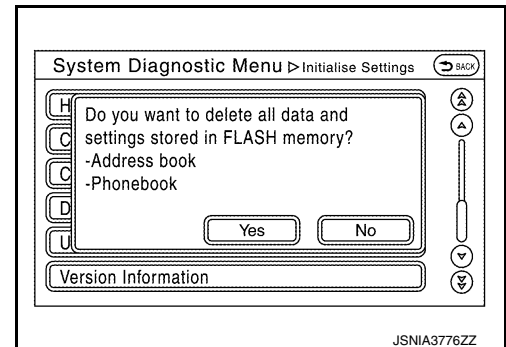
### Delete Unit Connection Log

Deletes any unit connection records and error records from the AV control unit memory. (Clear the records of the unit that has been removed.)



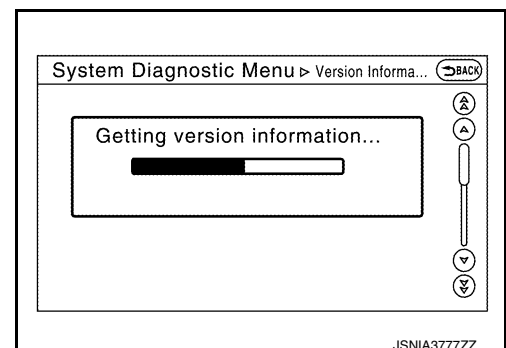
### User Data Initialization

Initializes the AV control unit memory.



### Version Information

Version information of the AV control unit is displayed.



### Software Update

Software version of the AV control unit can be update.

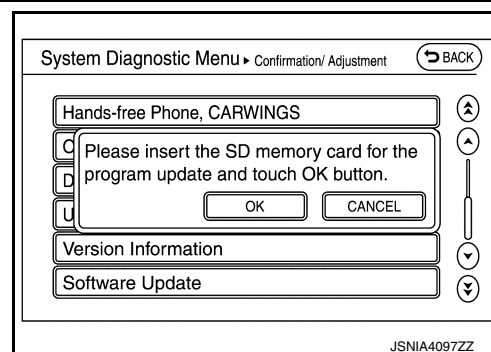


# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

For detail of the operation, refer to [AV-312. "SOFTWARE UPDATE \(AV CONTROL UNIT\) : Work Procedure"](#).



INFOID:000000009343731

## CONSULT Function

### CONSULT FUNCTIONS

CONSULT performs the following functions via communication with the AV control unit.

| Direct Diagnostic Mode | Description  |
|------------------------|--|
| Ecu Identification     | The AV control unit part number is displayed.  |
| Self Diagnostic Result | The AV control unit self diagnostic results are displayed.   |
| Data Monitor           | The AV control unit input/output data is displayed in real time.   |
| Work support           | The settings for AV control unit functions can be changed.   |
| Configuration          | <ul style="list-style-type: none"><li>The vehicle specification can be read and saved.</li><li>The vehicle specification can be written when replacing AV control unit.</li></ul>                              |
| CAN Diag Support Mntr  | <ul style="list-style-type: none"><li>The result of transmit/receive diagnosis of AV communication is displayed.</li><li>The result of transmit/receive diagnosis of CAN communication is displayed.</li></ul> |

### ECU IDENTIFICATION

The part number of AV control unit is displayed.

### SELF DIAGNOSTIC RESULT

Refer to [AV-266. "DTC Index"](#).

### DATA MONITOR

| Monitor Item [Unit]   | Description   |
|-----------------------|---|
| VHCL SPD SIG [On/Off] | Indicates vehicle speed signal received from combination meter on CAN communication line. |
| PKB SIG [On/Off]      | Indicates condition of park brake signal.   |
| ILLUM SIG [On/Off]    | Indicates condition of illumination signal for the A/C and AV switch assembly.            |
| IGN SIG [On/Off]      | Indicates condition of power signal.  |
| REV SIG [On/Off]      | Indicates condition of reverse signal received from BCM.                                  |

### WORK SUPPORT

| Conditions                 | Description   |
|----------------------------|---|
| ST ANGLE SENSOR ADJUSTMENT | Steering angle sensor neutral position adjustment can be performed. |

### CONFIGURATION

Refer to [AV-315. "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

### CAN DIAG SUPPORT MNTR

Refer to [LAN-13. "CAN Diagnostic Support Monitor"](#).

# DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

## DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

### CONSULT Function

INFOID:000000009346892

### CONSULT FUNCTIONS

CONSULT performs the following functions via communication with the around view monitor control unit.

| Direct Diagnostic Mode | Description  |
|------------------------|--|
| Ecu Identification     | The around view monitor control unit part number is displayed.   |
| Self Diagnostic Result | The around view monitor control unit self diagnostic results are displayed.  |
| Data Monitor           | The around view monitor control unit input/output data is displayed in real time.  |
| Work support           | The settings for around view monitor control unit functions can be changed.  |
| Configuration          | <ul style="list-style-type: none"><li>The vehicle specification can be read and saved.</li><li>The vehicle specification can be written when replacing around view monitor control unit.</li></ul> |
| CAN Diag Support Mntr  | The result of transmit/receive diagnosis of CAN communication is displayed.  |

### ECU IDENTIFICATION

The part number of around view monitor control unit is displayed.

### SELF DIAGNOSTIC RESULT

Refer to [AV-273, "DTC Index"](#).

### DATA MONITOR

| Monitor Item                     | Description  |
|----------------------------------|--|
| ST ANGLE SENSOR SIGNAL [On/Off]  | Indicates condition of steering angle sensor signal. |
| REVERSE SIGNAL [On/Off]          | Indicates selector lever position.                   |
| VEHICLE SPEED SIGNAL [mph/km/h]  | Indicates condition of vehicle speed signal.         |
| CAMERA SWITCH SIGNAL [On/Off]    | Indicates condition of camera switch signal.         |
| CAMERA OFF SIGNAL [On/Off]       | Indicates condition of camera OFF signal.            |
| ST ANGLE SENSOR TYPE [Absolute]  | Indicates steering angle sensor type.                |
| ST GEAR RATIO TYPE [Type O]      | Indicates steering gear ratio type.                  |
| STEERING POSITION [LHD/RHD]      | Indicates LH or RH drive type.                       |
| REAR CAMERA IMAGE SIGNAL [OK/NG] | Indicates condition of camera image signal.          |
| F-CAMERA IMAGE SIGNAL [OK/NG]    | Indicates condition of camera image signal.          |
| DR-SIDE CAMERA IMAGE SIG [OK/NG] | Indicates condition of camera image signal.          |
| PA-SIDE CAMERA IMAGE SIG [OK/NG] | Indicates condition of camera image signal.          |

### WORK SUPPORT

| Support Item                        | Setting | Description   |
|-------------------------------------|---------|---|
| NON-VIEWABLE AREA REMINDER          | —       | ON/OFF setting of non-viewable area can be performed.               |
| PREDICTIVE COURSE LINE DISPLAY      | —       | ON/OFF setting of predictive course line display can be performed.  |
| INITIALIZE CAMERA IMAGE CALIBRATION | —       | Factory image calibration restoration can be performed.             |
| STEERING ANGLE SENSOR ADJUSTMENT    | —       | Steering angle sensor neutral position adjustment can be performed. |

# DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

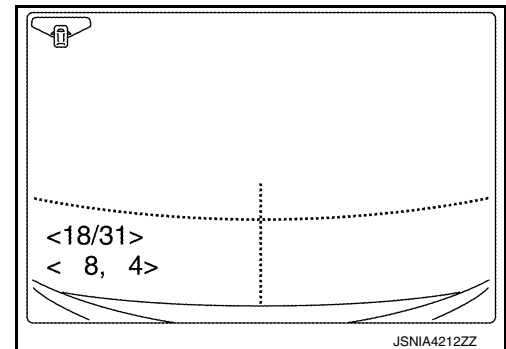
| Support Item                                   | Setting | Description   |
|--|---------|---|
| CALIBRATING CAMERA IMAGE<br>(FRONT CAMERA)     | STATUS  | Performs calibration of front camera.   |
|  | AXIS X  |   |
|  | AXIS Y  |   |
|  | ROTATE  |   |
| CALIBRATING CAMERA IMAGE<br>(PASS-SIDE CAMERA) | STATUS  | Performs calibration of passenger side camera.                                  |
|  | AXIS X  |   |
|  | AXIS Y  |   |
|  | ROTATE  |   |
| CALIBRATING CAMERA IMAGE<br>(DR-SIDE CAMERA)   | STATUS  | Performs calibration of driver side camera.                                     |
|  | AXIS X  |   |
|  | AXIS Y  |   |
|  | ROTATE  |   |
| CALIBRATING CAMERA IMAGE<br>(REAR CAMERA)      | STATUS  | Performs calibration of rear camera.  |
|  | AXIS X  |   |
|  | AXIS Y  |   |
|  | ROTATE  |   |
| FINE TUNING OF BIRDS-EYE VIEW                  | STATUS  | Confirmation and adjustment of difference between each camera can be performed. |
|  | SELECT  |   |
|  | AXIS X  |   |
|  | AXIS Y  |   |
|  | ROTATE  |   |

Calibrating Camera Image (front camera, pass-side camera, dr-side camera, and rear camera)

Perform the calibration of camera image caused by the incorrect mounting position of each camera, etc. Always perform calibration after performing the following work.

- When each camera or each camera mount (e.g. front grille, door mirror, and others) is removed
- When replacing the around view monitor control unit

Refer to [AV-317. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#) for the calibration procedure.



Adjustment range

Rotating direction : 31 patterns (16 on the center)

Upper/lower direction : (-22) – (+22)

Left/right direction : (-22) – (+22)

Initialize Camera Image Calibration

The calibration can be initialized to NISSAN factory shipment condition.

Select Language of Warning Message

No need to be selected because it can change the language on setting of Navi by customer.

Predictive Course Line Display

ON/OFF setting of predictive course line can be performed.

Steering Angle Sensor Adjustment

Steering angle sensor neutral position can be adjusted and registered.

**CAUTION:**

## DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

---

**Adjust the steering angle sensor neutral position on the ABS actuator control unit side.**

Non-Viewable Area Reminder

ON/OFF setting of the non-viewable area reminder can be performed.

### CONFIGURATION

Refer to [AV-316. "CONFIGURATION \(AROUND VIEW MONITOR CONTROL UNIT\) : Work Procedure"](#).

### CAN DIAG SUPPORT MNTR

Refer to [LAN-13. "CAN Diagnostic Support Monitor"](#).

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

## ECU DIAGNOSIS INFORMATION

### AV CONTROL UNIT

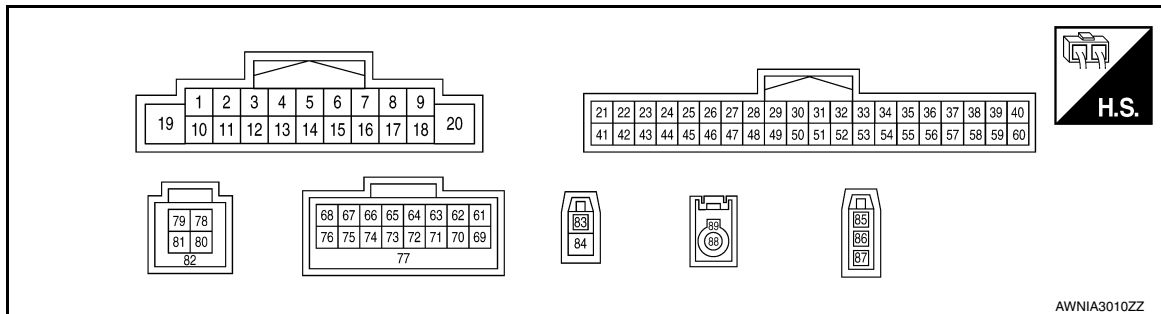
#### Reference Value

INFOID:000000009343732

#### VALUES ON THE DIAGNOSIS TOOL

| Monitor Item | Condition                                    | Value/Status |
|--------------|--|--------------|
| VHCL SPD SIG | Vehicle speed = 0 km/h (0 MPH).              | Off          |
|              | Vehicle speed > 0 km/h (0 MPH).              | On           |
| PKB SIG      | Parking brake released.                      | Off          |
|              | Parking brake applied.                       | On           |
| ILLUM SIG    | Illumination signal is not received.         | Off          |
|              | Illumination signal is received.             | On           |
| IGN SIG      | Power switch OFF or ACC.                     | Off          |
|              | Power switch ON.                             | On           |
| REV SIG      | Selector lever in any position other than R. | Off          |
|              | Selector lever in R position.                | On           |

#### TERMINAL LAYOUT





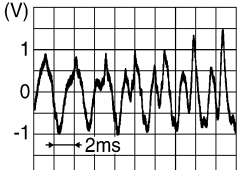
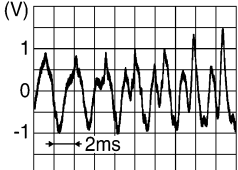




#### PHYSICAL VALUES

| Terminal<br>(Wire color) |           | Description                      |                  | Condition       |              | Reference value<br>(Approx.) |
|--------------------------|-----------|----------------------------------|------------------|-----------------|--------------|------------------------------|
| +                        | –         | Signal name                      | Input/<br>Output | Power<br>switch | Operation    |                              |
| 1<br>(L)                 | Ground    | BOSE amp. ON signal              | Output           | ACC             | —            | Battery voltage              |
| 2<br>(Y)                 | 3<br>(BR) | Pre amp sound signal front<br>LH | Output           | ON              | Sound output | <br>SKIB3609E                |
| 4<br>(P)                 | 5<br>(L)  | Pre amp sound signal rear<br>LH  | Output           | ON              | Sound output | <br>SKIB3609E                |

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

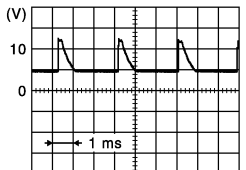
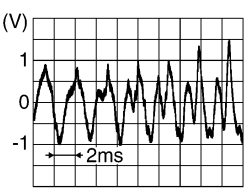
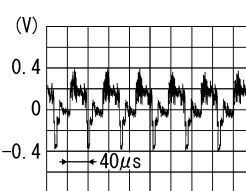
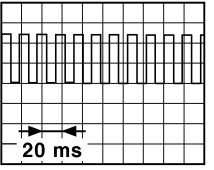
[NAVIGATION WITH BOSE]

| Terminal<br>(Wire color) |           | Description                   |                  | Condition       |   | Reference value<br>(Approx.)   |
|--------------------------|-----------|-------------------------------|------------------|-----------------|---|--|
| +                        | —         | Signal name                   | Input/<br>Output | Power<br>switch | Operation   |  |
| 6<br>(R)                 | 15<br>(B) | Steering switch signal A      | Input            | ON              | Press SOURCE switch.  | 0 V  |
|                          |           |                               |                  |                 | Press ▲ switch.   | 1.0 V  |
|                          |           |                               |                  |                 | Press ▼ switch.   | 2.0 V  |
|                          |           |                               |                  |                 | Press  switch.   | 3.0 V  |
|                          |           |                               |                  |                 | Press  switch.   | 4.0 V  |
|                          |           |                               |                  |                 | Except above.   | 5.0 V  |
| 7<br>(BR)                | Ground    | ACC power supply              | Input            | ACC             | —   | Battery voltage  |
| 8<br>(B)                 | —         | Illumination ground           | —                | —               | —   | —  |
| 9<br>(W)                 | Ground    | Illumination signal           | Input            | ON              | Lighting switch ON.   | Battery voltage  |
|                          |           |                               |                  |                 | Lighting switch OFF.  | 0 V  |
| 11<br>(G)                | 12<br>(R) | Pre amp sound signal front RH | Output           | ON              | Sound output  | <br>SKIB3609E   |
| 13<br>(BR)               | 14<br>(Y) | Pre amp sound signal rear RH  | Output           | ON              | Sound output  | <br>SKIB3609E |
| 16<br>(W)                | 15<br>(B) | Steering switch signal B      | Input            | ON              | Press  switch. | 0 V  |
|                          |           |                               |                  |                 | Press  switch. | 1.0 V  |
|                          |           |                               |                  |                 | Press  switch. | 2.0 V  |
|                          |           |                               |                  |                 | Press  switch. | 3.0 V  |
|                          |           |                               |                  |                 | Except above.   | 5.0 V  |
| 19<br>(BR)               | Ground    | Battery power supply          | Input            | OFF             | —   | Battery voltage  |
| 21<br>(LG)               | —         | AV communication signal (L)   | Input/<br>Output | —               | —   | —  |
| 22<br>(LG)               | —         | AV communication signal (L)   | Input/<br>Output | —               | —   | —  |
| 23<br>(P)                | —         | CAN L                         | Input/<br>Output | —               | —   | —  |

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

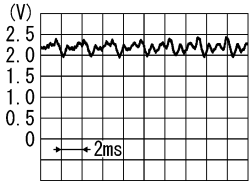
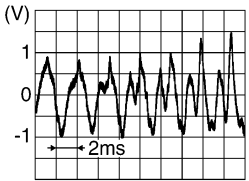
[NAVIGATION WITH BOSE]

| Terminal<br>(Wire color) |        | Description                    |                  | Condition       |  | Reference value<br>(Approx.)  |
|--------------------------|--------|--------------------------------|------------------|-----------------|--|---|
| +                        | —      | Signal name                    | Input/<br>Output | Power<br>switch | Operation                                      |   |
| 25<br>(Y)                | Ground | Parking brake signal           | Input            | ON              | Parking brake applied.                         | 0 V   |
|                          |        |                                |                  |                 | Parking brake released.                        | <br>JSNIA1938ZZ  |
| 26<br>(V)                | Ground | Power signal                   | Input            | ON              | —  | Battery voltage   |
|                          |        |                                |                  | OFF             | —  | 0 V   |
| 27<br>(L)                | Ground | AVM detection                  | —                | ON              | —  | 0 V   |
| 34<br>(P)                | Ground | Microphone VCC                 | Output           | ON              | —  | 5 V   |
| 35<br>(R)                | Ground | AUX sound signal LH            | Input            | ON              | AUX mode selected.                             | <br>SKIB3609E   |
| 36<br>(B)                | Ground | AUX ground                     | —                | ON              | —  | 0 V   |
| 40<br>(B)                | Ground | Camera image signal            | Input            | ON              | AVM image displayed.                           | <br>SKIB2251J  |
| 41<br>(SB)               | —      | AV communication signal (H)    | Input/<br>Output | —               | —  | —   |
| 42<br>(SB)               | —      | AV communication signal (H)    | Input/<br>Output | —               | —  | —   |
| 43<br>(L)                | —      | CAN H                          | Input/<br>Output | —               | —  | —   |
| 44<br>(GR)               | Ground | Vehicle speed signal (8-pulse) | Input            | ON              | When vehicle speed is approx. 40 km/h (25 MPH) | <b>NOTE:</b><br>The maximum voltage varies depending on the specification (destination unit).<br><br>JSNIA0012GB |

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

| Terminal<br>(Wire color) |        | Description                               |                  | Condition       |  | Reference value<br>(Approx.)   |
|--------------------------|--------|---|------------------|-----------------|--|--|
| +                        | —      | Signal name                               | Input/<br>Output | Power<br>switch | Operation  |  |
| 45<br>(G)                | Ground | Reverse signal                            | Input            | ON              | Selector lever in R (reverse) position   | Battery voltage  |
|                          |        |   |                  |                 | Selector lever in other than R (reverse) position  | 0 V  |
| 46<br>(R)                | Ground | Dimmer signal                             | Input            | ON              | One of the following conditions:<br>• Lighting switch OFF<br>• Auto light ON with optical sensor exposed to light. | 0 V  |
|                          |        |   |                  |                 | Auto light ON with optical sensor not exposed to light.  | Battery voltage  |
| 53<br>(L)                | Ground | Microphone signal                         | Input            | ON              | Speak into microphone  | <br>PKIB5037J   |
| 54<br>(Shield)           | —      | Microphone signal shield                  | —                | —               | —  | —  |
| 55<br>(W)                | Ground | AUX sound signal RH                       | Input            | ON              | AUX mode selected.   | <br>SKIB3609E |
| 56<br>(Shield)           | —      | AUX sound signal shield                   | —                | —               | —  | —  |
| 58<br>(B)                | —      | Ground                                    | —                | —               | —  | —  |
| 60<br>(Shield)           | —      | Camera image signal shield                | —                | —               | —  | —  |
| 61<br>(L)                | Ground | USB D— signal (Telematics)                | Input/<br>Output | —               | —  | —  |
| 62<br>(BR)               | Ground | USB V BUS signal (Telematics)             | Output           | ON              | —  | —  |
| 63<br>(W)                | —      | Manufacturer specific signal (Telematics) | —                | —               | —  | —  |
| 67<br>(B)                | —      | VOICE ground (Telematics)                 | —                | —               | —  | —  |
| 68<br>(Y)                | Ground | U—VOICE signal (Telematics)               | Output           | ON              | —  | —  |
| 69<br>(R)                | Ground | USB D+ signal (Telematics)                | Input/<br>Output | —               | —  | —  |
| 70<br>(Shield)           | —      | USB signal shield (Telematics)            | —                | —               | —  | —  |
| 76<br>(G)                | Ground | D—VOICE signal (Telematics)               | Input            | —               | —  | —  |



# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

| Terminal<br>(Wire color) |        | Description                                |                  | Condition       |                                      | Reference value<br>(Approx.) |
|--------------------------|--------|--|------------------|-----------------|--------------------------------------|------------------------------|
| +                        | —      | Signal name                                | Input/<br>Output | Power<br>switch | Operation                            |                              |
| 77<br>(Shield)           | —      | USB signal shield<br>(Telematics)          | —                | —               | —                                    | —                            |
| 78<br>(W)                | Ground | V BUS signal<br>(USB connector)            | Output           | ON              | —                                    | 5 V                          |
| 79<br>(G)                | —      | USB ground<br>(USB connector)              | —                | —               | —                                    | —                            |
| 80<br>(L)                | Ground | USB D+ signal<br>(USB connector)           | Input/<br>Output | —               | —                                    | —                            |
| 81<br>(R)                | Ground | USB D– signal<br>(USB connector)           | Input/<br>Output | —               | —                                    | —                            |
| 82<br>(Shield)           | —      | USB signal shield<br>(USB connector)       | —                | —               | —                                    | —                            |
| 83<br>(B)                | Ground | GPS antenna signal                         | Input            | ACC             | GPS antenna disconnect-<br>ed.       | 5 V                          |
| 84<br>(Shield)           | —      | GPS antenna signal shield                  | —                | —               | —                                    | —                            |
| 85<br>(B)                | Ground | Antenna amp. ON signal                     | Output           | ACC             | —                                    | Battery voltage              |
| 86<br>(B)                | —      | AM-FM main                                 | Input            | —               | —                                    | —                            |
| 88<br>(B)                | Ground | Satellite radio antenna sig-<br>nal        | Input            | ON              | Satellite antenna discon-<br>nected. | 5 V                          |
| 89<br>(Shield)           | —      | Satellite radio antenna sig-<br>nal shield | —                | —               | —                                    | —                            |

## Fail-safe

INFOID:000000009343733

When a malfunction occurs within the system, the AV control unit outputs a message on the display, and it restricts the AV control unit functions.

### FAIL-SAFE CONDITIONS

SD card not inserted, SD card malfunction, internal malfunction of navigation, etc.

#### Display Indication

- When the system is in the fail-safe status at the start of the AV control unit, an error message is shown on the display.
- When the system is in the fail-safe status after the start of the AV control unit, an error message is not shown on the display. The MULTI AV system may be rebooted in the fail-safe state. If the fail-safe state is maintained after the system is rebooted, an applicable message is shown.

| Cause                                   | Display monitor    |
|---|--------------------|
| Malfunction of flash ROM information    | TARGET INFO NG     |
| No SD card                              | NO SD CARD         |
| Unsuccessful security unlock            | SD UNLOCK NG       |
| Malfunction of SD card mount            | SD INIT NG         |
| Malfunction of SD card access           | SD ACCESS NG       |
| No program data                         | NO NAVI-2 DATA     |
| Malfunction of program data (SUM NG)    | NAVI-2DATA READ NG |
| Inconsistent program version (Flash/SD) | NAVI VERSION NG    |
| Difference of map destination           | DIFFERENT MAP CODE |

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

| Cause                                   | Display monitor       |
|---|-----------------------|
| Not compliant with map database version | MAP DATA BASE UNMATCH |
| Malfunction of navigation               | NAVI STARTUP NG       |

## CONTROL

When the system is in the fail-safe status at or after start of the AV control unit, the following functions are restricted.

| Function                       |            | In fail-safe mode  |
|--------------------------------|------------|--|
| A/C                            | Dis-play   | No display (fail-safe status display)  |
| Audio                          | Opera-tion | Mute audio   |
|                                | Dis-play   | No display (fail-safe status display)  |
| Camera                         | Opera-tion | It cannot be operated  |
|                                | Dis-play   | Only composite (camera image) is displayed and superimpose (warning display and image quality display) is not displayed. |
| Hands-free phone               | Opera-tion | It cannot be operated  |
| Navigation                     | Opera-tion | It cannot be operated  |
| Display                        | Opera-tion | Open/close operation is available  |
|                                | Dis-play   | Fail-safe factors are displayed  |
| Self-diagnosis                 |            | It cannot be diagnosed   |
| CONSULT diagnosis              |            | It cannot be diagnosed   |
| AV communication diagnosis     |            | It cannot be diagnosed   |
| Frequency transmission for VCM |            | Normal   |
| SD read access                 |            | Access cannot be gained.   |
| SD write access                |            | Access cannot be gained.   |

## CANCELLATION CONDITIONS

The fail-safe status is canceled under the following conditions, and then the system returns to the normal mode.

- When the SD card is not inserted, the SD card is inserted and the power of the AV control unit is turned ON again.
- When the SD card is not functional at the start of navigation due to a malfunction of the SD card, a normal SD card is inserted and the power of the AV control unit is turned ON again.

## DTC Index

INFOID:000000009343734

| DTC   | Display item               | Refer to  |
|-------|----------------------------|---|
| U1000 | CAN COMM CIRC [U1000]      | <a href="#">AV-324, "AV CONTROL UNIT : Diagnosis Procedure"</a> |
| U1010 | CONTROL UNIT (CAN) [U1010] | <a href="#">AV-326, "AV CONTROL UNIT : DTC Logic"</a>           |
| U121F | CONTROL UNIT [U121F]       | <a href="#">AV-335, "DTC Logic"</a>                             |
| U1232 | ST ANGLE SEN CALIB [U1232] | <a href="#">AV-336, "Diagnosis Procedure"</a>                   |
| U1244 | GPS ANTENNA CONN [U1244]   | <a href="#">AV-337, "Diagnosis Procedure"</a>                   |
| U1258 | XM ANTENNA CONN [U1258]    | <a href="#">AV-338, "Diagnosis Procedure"</a>                   |
| U1263 | USB OVERCURRENT [U1263]    | <a href="#">AV-339, "Diagnosis Procedure"</a>                   |

## AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

| DTC            | Display item  | Refer to                              |
|----------------|---|---------------------------------------|
| U1266          | TCU CONN[U1266]   | <a href="#">AV-340. "DTC Logic"</a>   |
| U1310          | CONTROL UNIT (AV) [U1310]   | <a href="#">AV-344. "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-341. "Description"</a> |

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

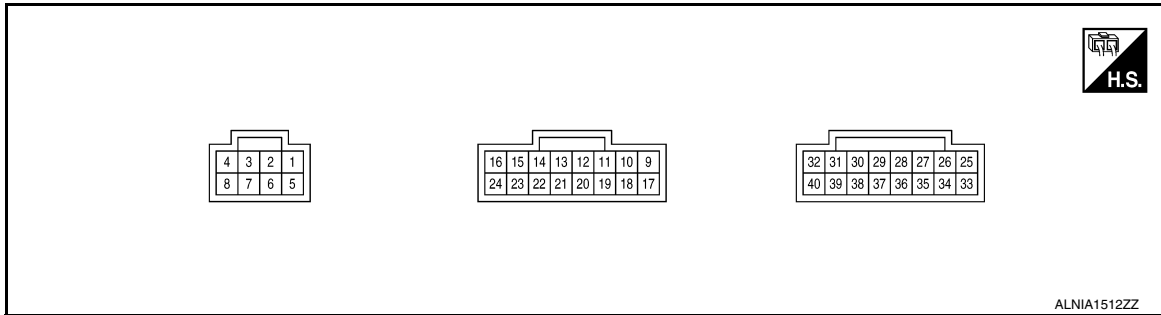
[NAVIGATION WITH BOSE]

## BOSE AMP.

### Reference Values

INFOID:000000009346893

### TERMINAL LAYOUT



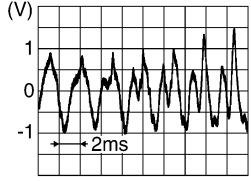
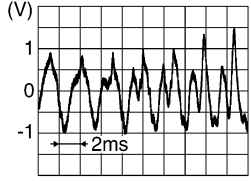
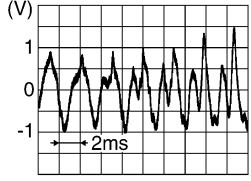
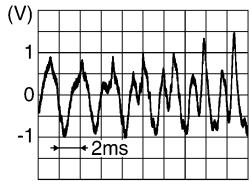
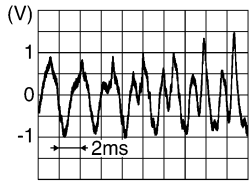
### PHYSICAL VALUES

| Terminal<br>(Wire color) |           | Description                           |                  | Condition       |              | Reference value<br>(Approx.) |
|--------------------------|-----------|---------------------------------------|------------------|-----------------|--------------|------------------------------|
| +                        | –         | Signal name                           | Input/<br>Output | Power<br>switch | Operation    |                              |
| 1<br>(R)                 | 5<br>(G)  | Sound signal rear door<br>speaker LH  | Output           | ON              | Sound output | <br>SKIB3609E                |
| 4<br>(R)                 | Ground    | Battery power supply                  | Input            | OFF             | —            | Battery voltage              |
| 6<br>(P)                 | 2<br>(L)  | Sound signal subwoofer                | Output           | ON              | Sound output | <br>SKIB3609E                |
| 8<br>(B)                 | —         | Ground                                | —                | ON              | —            | 0 V                          |
| 9<br>(G)                 | 17<br>(R) | Sound signal front door<br>speaker LH | Output           | ON              | Sound output | <br>SKIB3609E                |
| 10<br>(P)                | 11<br>(L) | Sound signal front door<br>speaker RH | Output           | ON              | Sound output | <br>SKIB3609E                |

# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

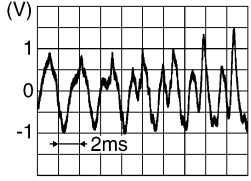
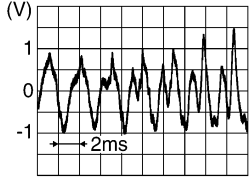
| Terminal<br>(Wire color) |            | Description                          |                  | Condition       |              | Reference value<br>(Approx.)   |
|--------------------------|------------|--------------------------------------|------------------|-----------------|--------------|--|
| +                        | -          | Signal name                          | Input/<br>Output | Power<br>switch | Operation    |  |
| 13<br>(G)                | 12<br>(R)  | Sound signal tweeter LH              | Output           | ON              | Sound output | <br>SKIB3609E   |
| 15<br>(V)                | 14<br>(SB) | Sound signal tweeter RH              | Output           | ON              | Sound output | <br>SKIB3609E   |
| 16<br>(L)                | 24<br>(P)  | Sound signal rear door<br>speaker RH | Output           | ON              | Sound output | <br>SKIB3609E  |
| 22<br>(L)                | Ground     | BOSE amp. ON signal                  | Input            | ON              | —            | Battery voltage  |
| 27<br>(BR)               | 35<br>(Y)  | Pre amp sound signal rear<br>RH      | Input            | ON              | Sound output | <br>SKIB3609E |
| 29<br>(G)                | 37<br>(R)  | Pre amp sound signal front<br>RH     | Input            | ON              | Sound output | <br>SKIB3609E |

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# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

| Terminal<br>(Wire color) |           | Description                      |                  | Condition       |              | Reference value<br>(Approx.)   |
|--------------------------|-----------|----------------------------------|------------------|-----------------|--------------|--|
| +                        | -         | Signal name                      | Input/<br>Output | Power<br>switch | Operation    |  |
| 36<br>(LG)               | 28<br>(V) | Pre amp sound signal rear<br>LH  | Input            | ON              | Sound output | <br>SKIB3609E |
| 38<br>(W)                | 30<br>(B) | Pre amp sound signal front<br>LH | Input            | ON              | Sound output | <br>SKIB3609E |

# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

## AROUND VIEW MONITOR CONTROL UNIT

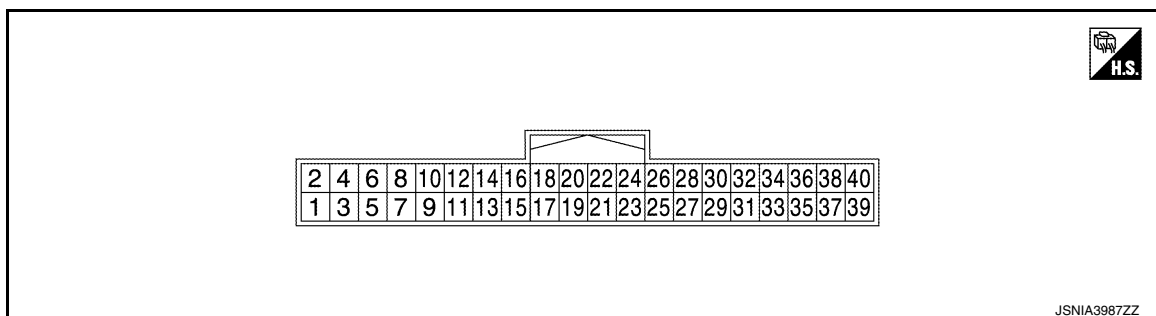
### Reference Value

INFOID:000000009346894

### VALUES ON THE DIAGNOSIS TOOL

| Monitor Item             | Condition   | Value/Status |
|--------------------------|---|--------------|
| CAMERA OFF SIGNAL        | CAMERA switch ON.   | Off          |
|                          | CAMERA switch OFF.  | On           |
| CAMERA SWITCH SIGNAL     | CAMERA switch OFF.  | Off          |
|                          | CAMERA switch ON.   | On           |
| DR-SIDE CAMERA IMAGE SIG | Side camera LH inoperative.   | NG           |
|                          | Side camera LH operative.   | OK           |
| F-CAMERA IMAGE SIG       | Front camera inoperative.   | NG           |
|                          | Front camera operative.   | OK           |
| PA-SIDE CAMERA IMAGE SIG | Side camera RH inoperative.   | NG           |
|                          | Side camera RH operative.   | OK           |
| REAR CAMERA IMAGE SIGNAL | Rear camera LH inoperative.   | NG           |
|                          | Rear camera LH operative.   | OK           |
| REVERSE SIGNAL           | When selector lever is in any position other than R (reverse).                  | Off          |
|                          | When selector lever in R (reverse).   | On           |
| ST ANGLE SENSOR SIGNAL   | Around view monitor control unit is not receiving steering angle sensor signal. | Off          |
|                          | Around view monitor control unit is receiving steering angle sensor signal.     | On           |
| ST ANGLE SENSOR TYPE     | Steering angle sensor type.   | Absolute     |
| ST GEAR RATIO TYPE       | Steering gear ratio type.   | Type O       |
| STEERING POSITION        | Left hand drive vehicle.  | LHD          |
|                          | Right hand drive vehicle.   | RHD          |
| VEHICLE SPEED SIGNAL     | While driving, equivalent to speedometer reading                                | mph, km/h    |

### TERMINAL LAYOUT

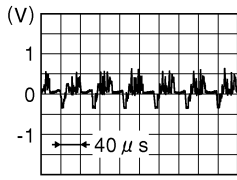
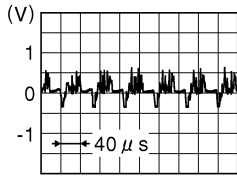


### PHYSICAL VALUES

# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

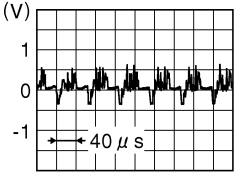
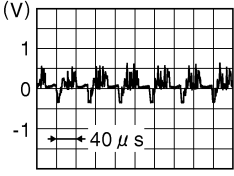
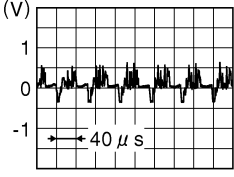
| Terminal<br>(Wire color) |        | Description                             |                  | Condition       |   | Reference value<br>(Approx.)   |
|--------------------------|--------|---|------------------|-----------------|---|--|
| +                        | —      | Signal name                             | Input/<br>Output | Power<br>switch | Operation   |  |
| 1<br>(B)                 | Ground | Ground                                  | —                | ON              | —   | 0 V  |
| 2<br>(SB)                | Ground | Battery power supply                    | Input            | OFF             | —   | Battery voltage  |
| 4<br>(W)                 | Ground | Power signal                            | Input            | ON              | —   | Battery voltage  |
|                          |        |   |                  | OFF             |   | 0 V  |
| 8<br>(SB)                | Ground | Reverse signal                          | Input            | ON              | Selector lever in R (re-<br>verse) position                           | Battery voltage  |
|                          |        |   |                  |                 | Selector lever in other than<br>R (reverse) position                  | 0 V  |
| 10<br>(P)                | —      | CAN—L                                   | Input/<br>Output | —               | —   | —  |
| 12<br>(L)                | —      | CAN—H                                   | Input/<br>Output | —               | —   | —  |
| 13<br>(L)                | Ground | AVM detection                           | —                | ON              | —   | 0 V  |
| 23<br>(Shield)           | —      | Camera image signal<br>shield           | —                | —               | —   | —  |
| 24<br>(W)                | Ground | Camera image signal                     | Output           | ON              | Camera image displayed  | <br>JSNIA0834GB |
| 25<br>(B)                | Ground | Rear view camera ground                 | —                | ON              | —   | 0 V  |
| 26<br>(W)                | Ground | Rear view camera power<br>supply        | Output           | ON              | CAMERA switch ON<br>or<br>Selector lever in R (re-<br>verse) position | 6.2 V  |
| 27<br>(Shield)           | —      | Rear view camera image<br>signal shield | —                | —               | —   | —  |
| 28<br>(R)                | Ground | Rear view camera image<br>signal        | Input            | ON              | CAMERA switch ON<br>or<br>Selector lever in R (re-<br>verse) position | <br>JSNIA0834GB |
| 29<br>(W)                | Ground | Side camera LH ground                   | —                | ON              | —   | 0 V  |
| 30<br>(B)                | Ground | Side camera LH power<br>supply          | Output           | ON              | CAMERA switch ON<br>or<br>Selector lever in R (re-<br>verse) position | 6.2 V  |
| 31<br>(Shield)           | —      | Side camera LH image sig-<br>nal shield | —                | —               | —   | —  |



# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

| Terminal<br>(Wire color) |        | Description                        |                  | Condition       |  | Reference value<br>(Approx.)  |
|--------------------------|--------|------------------------------------|------------------|-----------------|--|---|
| +                        | —      | Signal name                        | Input/<br>Output | Power<br>switch | Operation  |   |
| 32<br>(R)                | Ground | Side camera LH image signal        | Input            | ON              | CAMERA switch ON<br>or<br>Selector lever in R (reverse) position |    |
| 33<br>(B)                | Ground | Side camera RH side ground         | —                | ON              | —  | 0 V   |
| 34<br>(W)                | Ground | Side camera RH power supply        | Output           | ON              | CAMERA switch ON<br>or<br>Selector lever in R (reverse) position | 6.2 V   |
| 35<br>(Shield)           | —      | Side camera RH image signal shield | —                | —               | —  | —   |
| 36<br>(R)                | Ground | Side camera RH image signal        | Input            | ON              | CAMERA switch ON<br>or<br>Selector lever in R (reverse) position |   |
| 37<br>(W)                | Ground | Front camera ground                | —                | ON              | —  | 0 V   |
| 38<br>(R)                | Ground | Front camera power supply          | Output           | ON              | CAMERA switch ON<br>or<br>Selector lever in R (reverse) position | 6.2 V   |
| 39<br>(Shield)           | —      | Front camera image signal shield   | —                | —               | —  | —   |
| 40<br>(B)                | Ground | Front camera image signal          | Input            | ON              | CAMERA switch ON<br>or<br>Selector lever in R (reverse) position |  |

## DTC Index

INFOID:000000009346895

| DTC   | CONSULT display             | Refer to   |
|-------|-----------------------------|--|
| U0428 | ST ANGLE SENSOR CALIBRATION | <a href="#">AV-323, "DTC Logic"</a>                                    |
| U1000 | CAN COMM CIRCUIT            | <a href="#">AV-324, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"</a> |
| U1010 | CONTROL UNIT (CAN)          | <a href="#">AV-326, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"</a> |
| U111A | REAR CAMERA IMAGE SIGNAL    | <a href="#">AV-327, "DTC Logic"</a>                                    |

## AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

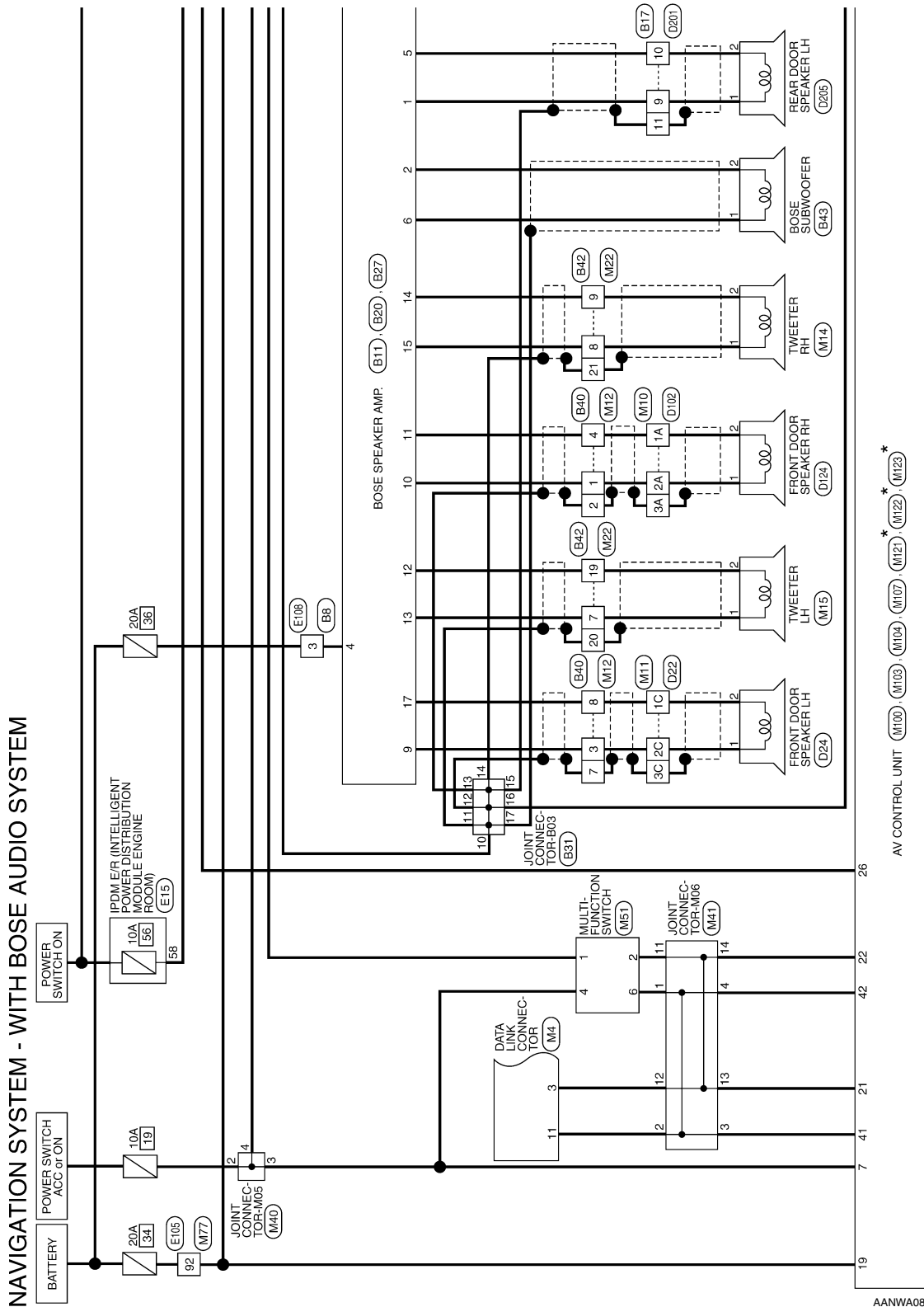
| DTC   | CONSULT display             | Refer to                            |
|-------|-----------------------------|-------------------------------------|
| U111B | SIDE CAMERA RH IMAGE SIGNAL | <a href="#">AV-329, "DTC Logic"</a> |
| U111C | FRONT CAMERA IMAGE SIGNAL   | <a href="#">AV-331, "DTC Logic"</a> |
| U111D | SIDE CAMERA LH IMAGE SIGNAL | <a href="#">AV-333, "DTC Logic"</a> |
| U1232 | ST ANGLE SEN CALIB          | <a href="#">AV-336, "DTC Logic"</a> |
| U1304 | CAMERA IMAGE CALIB          | <a href="#">AV-342, "DTC Logic"</a> |
| U1305 | CONFIG UNFINISH             | <a href="#">AV-343, "DTC Logic"</a> |

## WIRING DIAGRAM

### NAVIGATION WITH BOSE

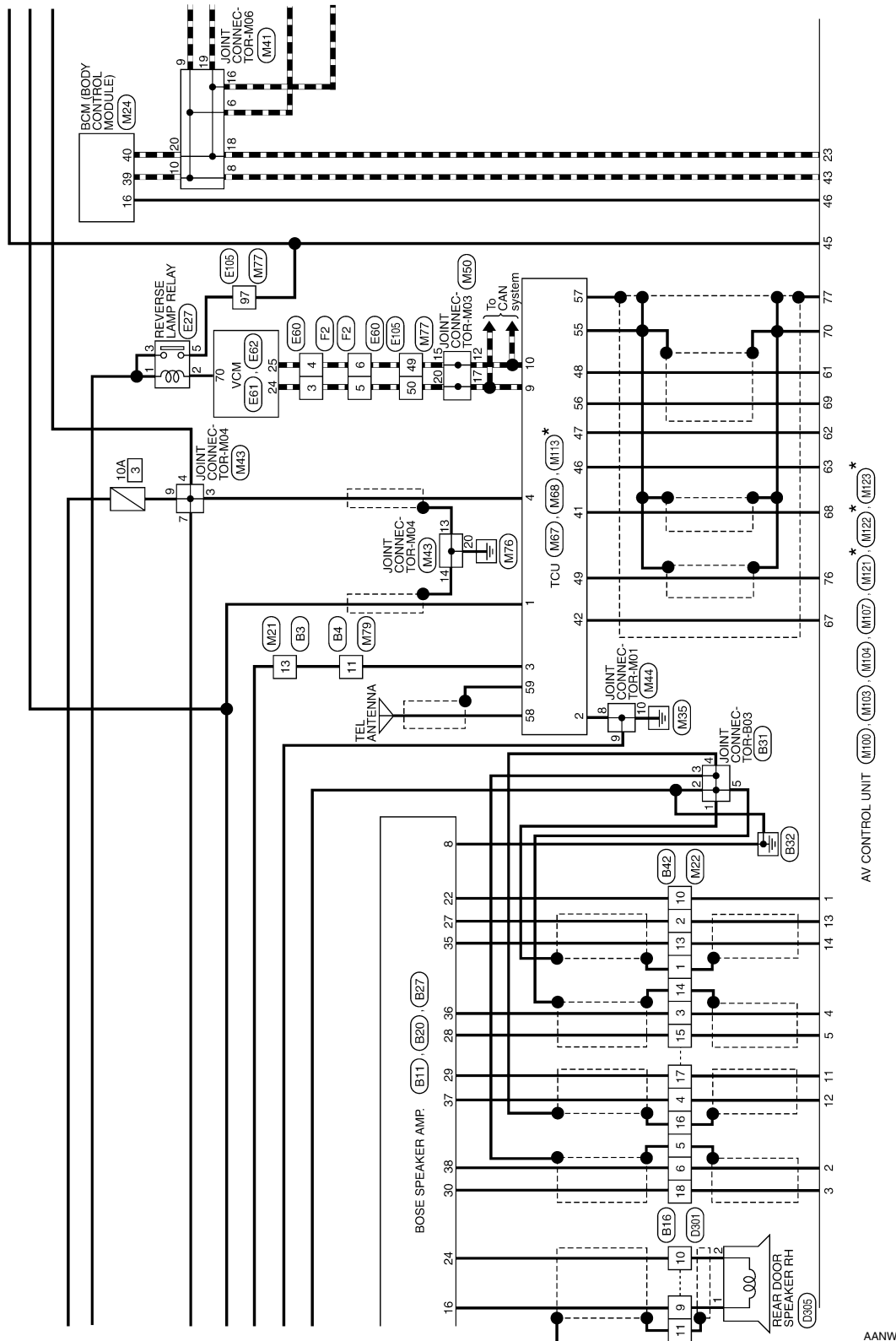
#### Wiring Diagram

INFOID:000000009343737

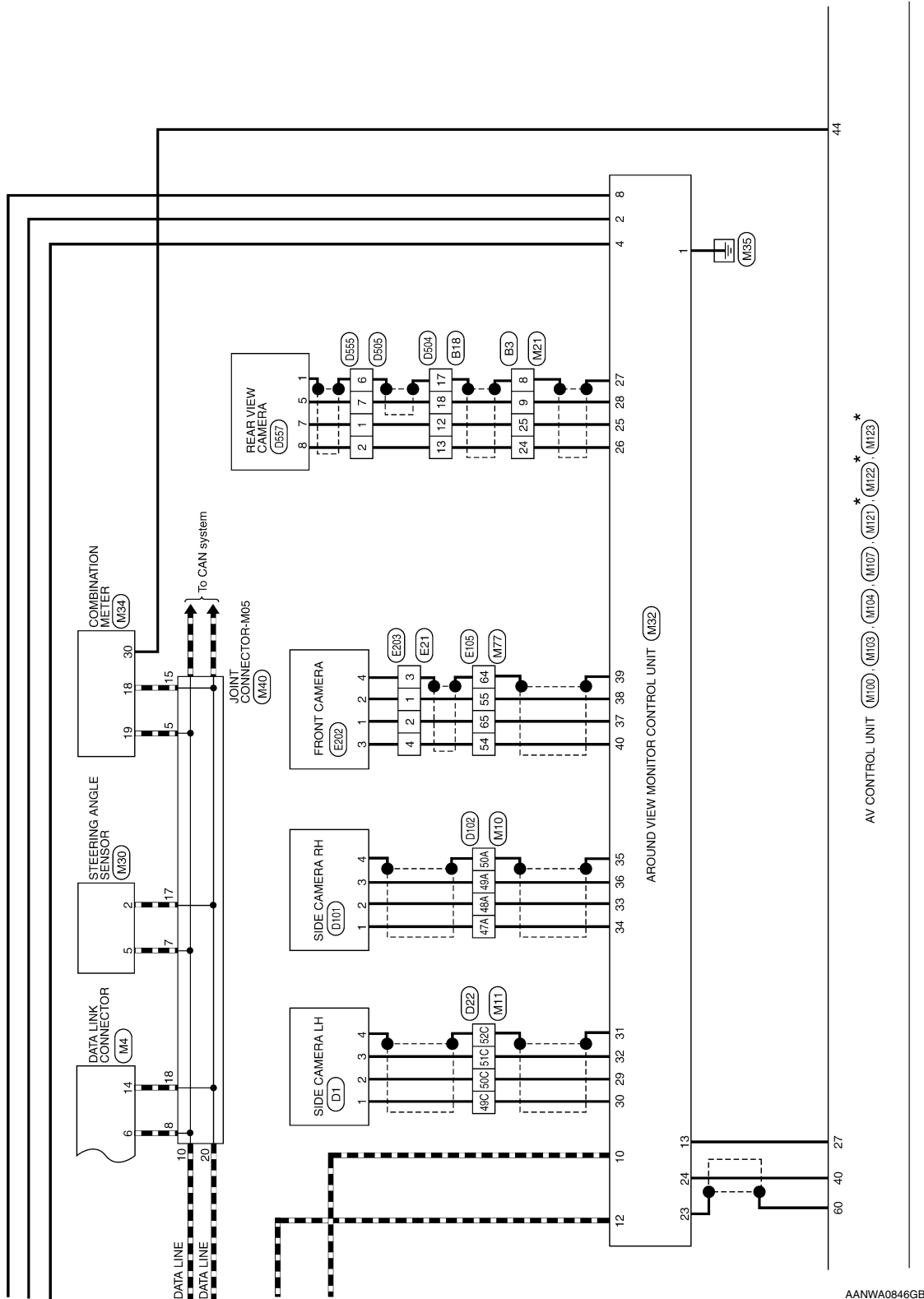


\* : This connector is not shown in "Harness Layout".

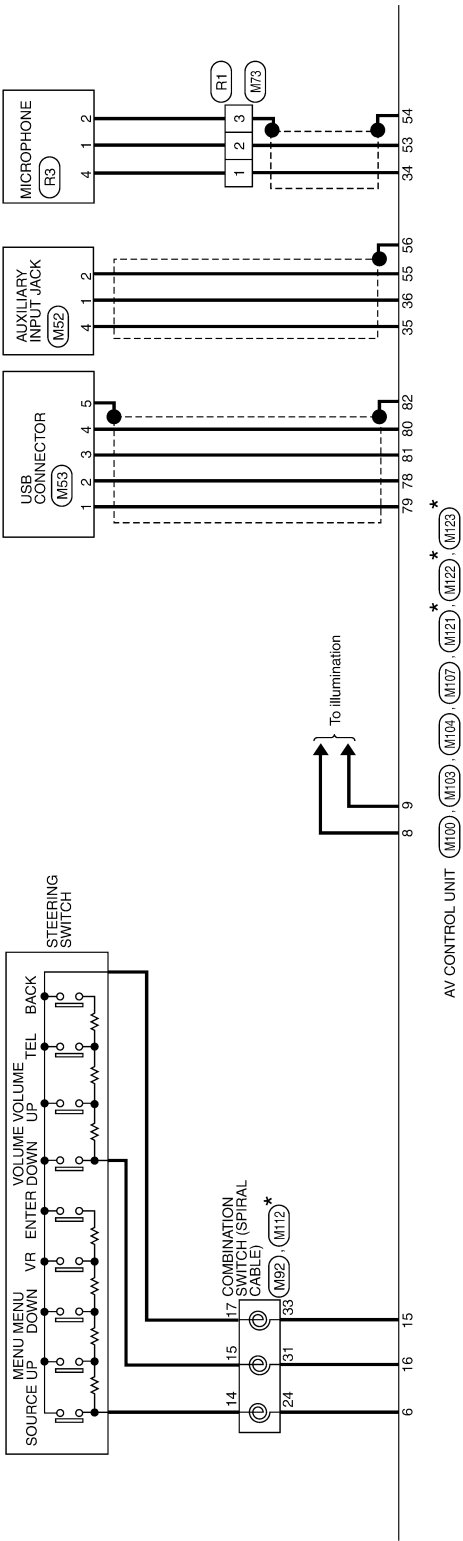
AANWA0844GB



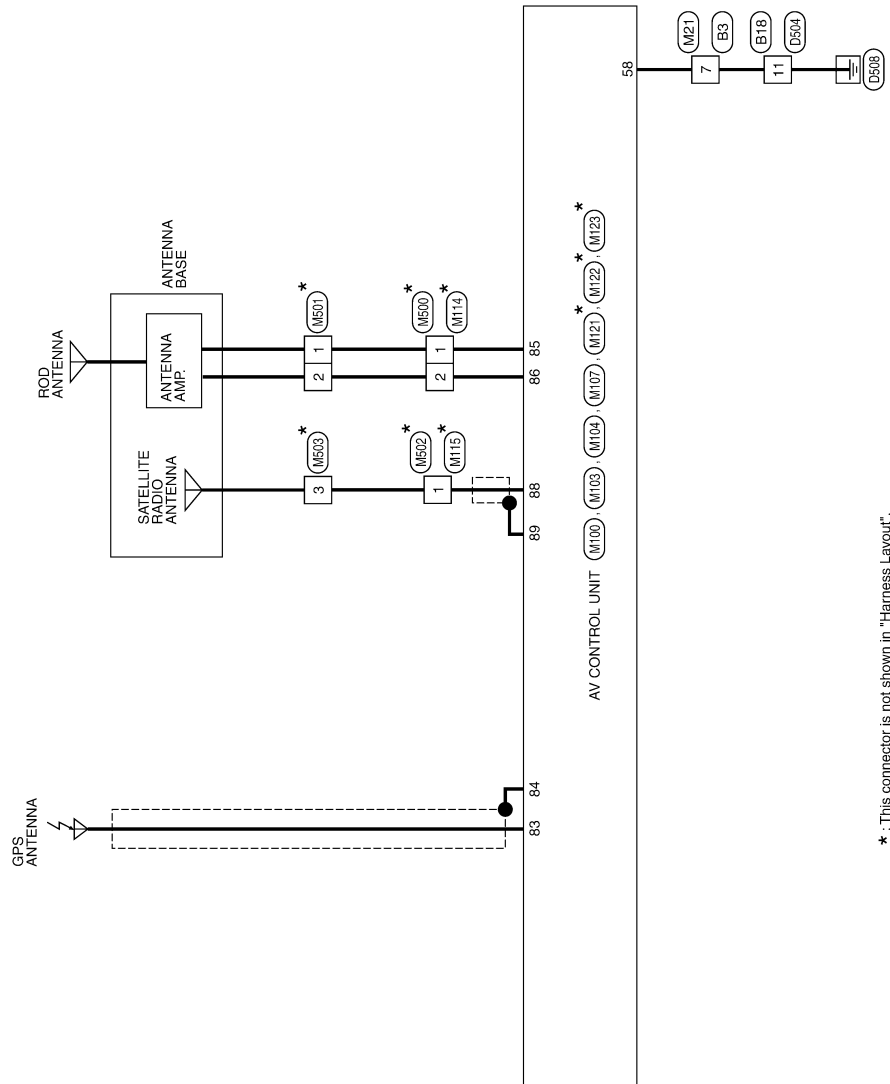
\* : This connector is not shown in "Harness Layout".



AANWA0846GB



\* : This connector is not shown in "Harness Layout".



AANWA0848GB

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## NAVIGATION SYSTEM - WITH BOSE AUDIO SYSTEM - CONNECTORS

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M4                  |
| Connector Name  | DATA LINK CONNECTOR |
| Connector Color | WHITE               |



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

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



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1A  | 2A  | 3A  | 4A  | 5A  | 6A  | 7A  | 8A  | 9A  | 10A | 11A | 12A | 13A | 14A | 15A |
| 16A | 17A | 18A | 19A | 20A | 21A | 22A | 23A | 24A | 25A | 26A | 27A | 28A | 29A | 30A |
| 31A | 32A | 33A | 34A | 35A | 36A | 37A | 38A | 39A | 40A | 41A | 42A | 43A | 44A | 45A |
| 46A | 47A | 48A | 49A | 50A | 51A | 52A | 53A | 54A | 55A |     |     |     |     |     |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | LG            | -           |
| 4            | B             | -           |
| 5            | B             | -           |
| 6            | L             | -           |
| 7            | GR            | -           |
| 8            | G             | -           |
| 9            | -             | -           |
| 10           | -             | -           |
| 11           | SB            | -           |
| 12           | G             | -           |
| 13           | L             | -           |
| 14           | P             | -           |
| 15           | -             | -           |
| 16           | Y             | -           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1A           | L             | - (WITH BOSE)    |
| 1A           | R             | - (WITHOUT BOSE) |
| 2A           | P             | - (WITH BOSE)    |
| 2A           | G             | - (WITHOUT BOSE) |
| 3A           | SHIELD        | -                |
| 4A           | LG            | -                |
| 5A           | V             | -                |
| 10A          | BR            | -                |
| 11A          | Y             | -                |
| 12A          | B             | -                |
| 13A          | W             | -                |
| 14A          | SB            | -                |
| 15A          | L             | -                |
| 24A          | Y             | -                |
| 25A          | BR            | -                |
| 26A          | SHIELD        | -                |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 36A          | B             | -           |
| 37A          | P             | -           |
| 38A          | Y             | -           |
| 39A          | LG            | -           |
| 43A          | V             | -           |
| 44A          | L             | -           |
| 45A          | LG            | -           |
| 46A          | BR            | -           |
| 47A          | W             | -           |
| 48A          | B             | -           |
| 49A          | R             | -           |
| 50A          | SHIELD        | -           |

AANIA2037GB



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 32C          | -             | -           |
| 33C          | -             | -           |
| 34C          | -             | -           |
| 35C          | -             | -           |
| 36C          | LG            | -           |
| 37C          | R             | -           |
| 38C          | GR            | -           |
| 39C          | W             | -           |
| 40C          | P             | -           |
| 41C          | V             | -           |
| 42C          | V             | -           |
| 43C          | B             | -           |
| 44C          | L             | -           |
| 45C          | BR            | -           |
| 46C          | L             | -           |
| 47C          | Y             | -           |
| 48C          | BR            | -           |
| 49C          | B             | -           |
| 50C          | W             | -           |
| 51C          | R             | -           |
| 52C          | SHIELD        | -           |
| 53C          | -             | -           |
| 54C          | R             | -           |
| 55C          | LG            | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9C           | LG            | -           |
| 10C          | Y             | -           |
| 11C          | W             | -           |
| 12C          | SB            | -           |
| 13C          | B             | -           |
| 14C          | L             | -           |
| 15C          | R             | -           |
| 16C          | -             | -           |
| 17C          | -             | -           |
| 18C          | -             | -           |
| 19C          | -             | -           |
| 20C          | -             | -           |
| 21C          | -             | -           |
| 22C          | -             | -           |
| 23C          | -             | -           |
| 24C          | G             | -           |
| 25C          | R             | -           |
| 26C          | SHIELD        | -           |
| 27C          | -             | -           |
| 28C          | -             | -           |
| 29C          | -             | -           |
| 30C          | -             | -           |
| 31C          | -             | -           |

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



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1C  | 2C  | 3C  | 4C  | 5C  | 6C  | 7C  | 8C  | 9C  | 10C | 11C | 12C | 13C | 14C | 15C |
| 16C | 17C | 18C | 19C | 20C | 21C | 22C | 23C | 24C | 25C | 26C | 27C | 28C | 29C | 30C |
| 31C | 32C | 33C | 34C | 35C | 36C | 37C | 38C | 39C | 40C | 41C | 42C | 43C | 44C | 45C |
| 46C | 47C | 48C | 49C | 50C | 51C | 52C | 53C | 54C | 55C | 56C | 57C | 58C | 59C | 60C |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1C           | R             | - (WITH BOSE)    |
| 1C           | P             | - (WITHOUT BOSE) |
| 2C           | G             | - (WITH BOSE)    |
| 2C           | L             | - (WITHOUT BOSE) |
| 3C           | SHIELD        | -                |
| 4C           | G             | -                |
| 5C           | V             | -                |
| 6C           | -             | -                |
| 7C           | BR            | -                |
| 8C           | SB            | -                |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 6            | -             | -           |
| 7            | SHIELD        | -           |
| 8            | R             | -           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | P             | - (WITH NAVI)    |
| 1            | BR            | - (WITHOUT NAVI) |
| 2            | SHIELD        | -                |
| 3            | G             | -                |
| 4            | L             | -                |
| 5            | -             | -                |

|                 |              |
|-----------------|--------------|
| Connector No.   | M12          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



AANIA2038GB

|                 |            |
|-----------------|------------|
| Connector No.   | M15        |
| Connector Name  | TWEETER LH |
| Connector Color | BROWN      |



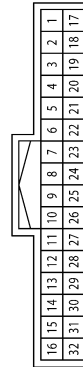
| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | G             | – (WITH BOSE)    |
| 1            | W             | – (WITHOUT BOSE) |
| 2            | R             | – (WITH BOSE)    |
| 2            | P             | – (WITHOUT BOSE) |

|                 |            |
|-----------------|------------|
| Connector No.   | M14        |
| Connector Name  | TWEETER RH |
| Connector Color | BROWN      |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | V             | – (WITH BOSE)    |
| 1            | G             | – (WITHOUT BOSE) |
| 2            | SB            | – (WITH BOSE)    |
| 2            | R             | – (WITHOUT BOSE) |

|                 |              |
|-----------------|--------------|
| Connector No.   | M21          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | –             | –           |
| 2            | –             | –           |
| 3            | –             | –           |
| 4            | –             | –           |
| 5            | –             | –           |
| 6            | –             | –           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | B             | –           |
| 8            | SHIELD        | –           |
| 9            | R             | –           |
| 10           | SB            | –           |
| 11           | P             | –           |
| 12           | V             | –           |
| 13           | GR            | –           |
| 14           | P             | –           |
| 15           | L             | –           |
| 16           | G             | –           |
| 17           | –             | –           |
| 18           | –             | –           |
| 19           | –             | –           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 20           | –             | –           |
| 21           | –             | –           |
| 22           | –             | –           |
| 23           | –             | –           |
| 24           | W             | –           |
| 25           | B             | –           |
| 26           | W             | –           |
| 27           | Y             | –           |
| 28           | –             | –           |
| 29           | W             | –           |
| 30           | L             | –           |
| 31           | L             | –           |
| 32           | P             | –           |

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| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 14           | SHIELD        | -           |
| 15           | L             | -           |
| 16           | SHIELD        | -           |
| 17           | G             | -           |
| 18           | BR            | -           |
| 19           | R             | -           |
| 20           | SHIELD        | -           |
| 21           | SHIELD        | -           |
| 22           | -             | -           |
| 23           | -             | -           |
| 24           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | SHIELD        | -           |
| 6            | Y             | -           |
| 7            | G             | -           |
| 8            | V             | -           |
| 9            | SB            | -           |
| 10           | L             | -           |
| 11           | -             | -           |
| 12           | -             | -           |
| 13           | Y             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M22          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|
| 12 | 11 | 10 | 9  | 8  | 7  | 6  | 5  | 4  | 3  | 2  | 1  |
| 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 |

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

| Terminal No. | Color of Wire | Signal Name                           |
|--------------|---------------|---------------------------------------|
| 25           | LG            | IMMOBILIZER TWO WAY COMMUNICATION     |
| 29           | G             | HAZARD SW                             |
| 30           | V             | TRUNK/BACK DOOR OPENER SW             |
| 31           | W             | DOOR LOCK STATUS SW (DR)              |
| 32           | GR            | COMBINATION SW OUTPUT 5               |
| 33           | Y             | COMBINATION SW OUTPUT 4               |
| 34           | W             | COMBINATION SW OUTPUT 3               |
| 35           | BG            | COMBINATION SW OUTPUT 2               |
| 36           | P             | COMBINATION SW OUTPUT 1               |
| 37           | V             | SHIFT P POSITION, PARKING POSITION SW |
| 38           | SB            | INTELLIGENT TUNER                     |
| 39           | L             | CAN-H                                 |
| 40           | P             | CAN-L                                 |

| Terminal No. | Color of Wire | Signal Name                               |
|--------------|---------------|---|
| 8            | R             | KEY CYLINDER LOCK SW                      |
| 9            | BR            | BRAKE SW1                                 |
| 12           | Y             | CENTRAL DOOR LOCK SW                      |
| 13           | BR            | CENTRAL DOOR UNLOCK SW                    |
| 14           | G             | AUTO LIGHT SENSOR INPUT                   |
| 15           | W             | REAR DEFOGGER SW                          |
| 16           | R             | MR OUTPUT                                 |
| 17           | Y             | AUTO LIGHT SENSOR POWER SUPPLY OUTPUT     |
| 18           | L             | KEYLESS TUNER, AUTO LIGHT SENSOR GND      |
| 21           | P             | IMMOBILIZER ONE WAY COMMUNICATION (CLOCK) |
| 23           | R             | SECURITY INDICATOR OUTPUT                 |
| 24           | SB            | DONGLE LINK                               |

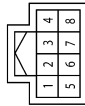
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|-----------------|---------------------------|
| Connector No.   | M24                       |
| Connector Name  | BCM (BODY CONTROL MODULE) |
| Connector Color | BLACK                     |

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 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            |
|--------------|---------------|------------------------|
| 2            | L             | COMBINATION SW INPUT 5 |
| 3            | GR            | COMBINATION SW INPUT 4 |
| 4            | BR            | COMBINATION SW INPUT 3 |
| 5            | G             | COMBINATION SW INPUT 2 |
| 6            | V             | COMBINATION SW INPUT 1 |
| 7            | GR            | KEY CYLINDER UNLOCK SW |

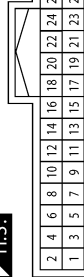
AANIA2040GB

|                 |                       |
|-----------------|-----------------------|
| Connector No.   | M30                   |
| Connector Name  | STEERING ANGLE SENSOR |
| Connector Color | WHITE                 |



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

|                 |                                  |
|-----------------|----------------------------------|
| Connector No.   | M32                              |
| Connector Name  | AROUND VIEW MONITOR CONTROL UNIT |
| Connector Color | WHITE                            |



|              |               |               |
|--------------|---------------|---------------|
| Terminal No. | Color of Wire | Signal Name   |
| 1            | B             | GND           |
| 2            | SB            | +B            |
| 3            | B             | SERIAL GND    |
| 4            | W             | IGN           |
| 5            | LG            | FROM PC TO CU |
| 6            | -             | -             |
| 7            | BR            | FROM CU TO PC |
| 8            | SB            | REVERSE       |

|              |               |             |
|--------------|---------------|-------------|
| Terminal No. | Color of Wire | Signal Name |
| 2            | P             | -           |
| 3            | -             | -           |
| 4            | R             | -           |
| 5            | L             | -           |
| 6            | -             | -           |
| 7            | -             | -           |
| 8            | -             | -           |

|              |               |                              |
|--------------|---------------|------------------------------|
| Terminal No. | Color of Wire | Signal Name                  |
| 9            | -             | -                            |
| 10           | P             | V-CAN L                      |
| 11           | -             | -                            |
| 12           | L             | V-CAN H                      |
| 13           | L             | LOW-PRICE AVM DISTINCTION    |
| 14           | -             | -                            |
| 15           | -             | -                            |
| 16           | -             | -                            |
| 17           | -             | -                            |
| 18           | -             | -                            |
| 19           | SHIELD        | EXTERNAL-VIDEO OUTPUT GND    |
| 20           | W             | EXTERNAL-VIDEO OUTPUT SIGNAL |
| 21           | -             | -                            |
| 22           | -             | -                            |

|              |               |                     |
|--------------|---------------|---------------------|
| Terminal No. | Color of Wire | Signal Name         |
| 23           | SHIELD        | VIDEO OUTPUT GND    |
| 24           | W             | VIDEO OUTPUT SIGNAL |
| 25           | B             | RV-POWER GND        |
| 26           | W             | RV-POWER 6.2V       |
| 27           | SHIELD        | RV-VIDEO GND        |
| 28           | R             | RV-VIDEO SIGNAL     |
| 29           | W             | SV2-POWER GND       |
| 30           | B             | SV2-POWER 6.2V      |
| 31           | SHIELD        | SV2-VIDEO W GND     |
| 32           | R             | SV2-VIDEO SIGNAL    |
| 33           | B             | SV1-POWER GND       |
| 34           | W             | SV1-POWER 6.2V      |
| 35           | SHIELD        | SV1-VIDEO GND       |
| 36           | R             | SV1-VIDEO SIGNAL    |
| 37           | W             | FV-POWER GND        |
| 38           | R             | FV-POWER 6.2V       |
| 39           | SHIELD        | FV VIDEO GND        |
| 40           | B             | FV-VIDEO SIGNAL     |

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| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 24           | BG            | PKB SW          |
| 25           | SB            | BRAKE OIL       |
| 26           | B             | ILL CONT OUT    |
| 27           | R             | A/BAG WARN      |
| 28           | R             | SECURITY        |
| 29           | -             | -               |
| 30           | GR            | 8 P/R O/P       |
| 31           | -             | -               |
| 32           | W             | SDA (12C)       |
| 33           | G             | SCL (12C)       |
| 34           | L             | CHARGE LAMP     |
| 35           | -             | -               |
| 36           | -             | -               |
| 37           | -             | -               |
| 38           | V             | LED H LAMP R    |
| 39           | LG            | LED H LAMP L    |
| 40           | W             | BUCKLE SW FR DR |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 8            | Y             | WASHER SW       |
| 9            | BR            | CHARGE CONNECT  |
| 10           | -             | -               |
| 11           | -             | -               |
| 12           | V             | SW GND          |
| 13           | G             | MODE B SW       |
| 14           | Y             | MODE A SW       |
| 15           | BR            | TRIP RESET SW   |
| 16           | P             | ILL CONT UP     |
| 17           | G             | UPPER ILL CONT  |
| 18           | P             | CAN-H           |
| 19           | L             | CAN-L           |
| 20           | LG            | AS SEATBELT W/L |
| 21           | -             | -               |
| 22           | GR            | GND (FOR UPPER) |
| 23           | -             | -               |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | M34               |
| Connector Name  | COMBINATION METER |
| Connector Color | WHITE             |



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

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 1            | LG            | BAT             |
| 2            | Y             | BAT (FOR UPPER) |
| 3            | GR            | IGN             |
| 4            | BG            | IGN (FOR UPPER) |
| 5            | B             | GND1 (ILL)      |
| 6            | B             | GND2 (POWER)    |
| 7            | -             | -               |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 8            | L             | -           |
| 9            | L             | -           |
| 10           | L             | -           |
| 11           | LG            | -           |
| 12           | LG            | -           |
| 13           | L             | -           |
| 14           | R             | -           |
| 15           | P             | -           |
| 16           | P             | -           |
| 17           | P             | -           |
| 18           | P             | -           |
| 19           | P             | -           |
| 20           | P             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M40                 |
| Connector Name  | JOINT CONNECTOR-M05 |
| Connector Color | BLUE                |



|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 10 | 9  | 8  | 7  | 6  | 5  | 4  | 3  | 2  | 1  |
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 |

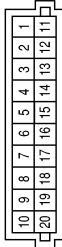
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | L             | -           |
| 3            | BR            | -           |
| 4            | GR            | -           |
| 5            | L             | -           |
| 6            | L             | -           |
| 7            | L             | -           |

AANIA2042GB

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 12           | LG            | -           |
| 13           | LG            | -           |
| 14           | LG            | -           |
| 15           | P             | -           |
| 16           | P             | -           |
| 17           | P             | -           |
| 18           | P             | -           |
| 19           | P             | -           |
| 20           | P             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | L             | -           |
| 6            | L             | -           |
| 7            | L             | -           |
| 8            | L             | -           |
| 9            | L             | -           |
| 10           | L             | -           |
| 11           | LG            | -           |

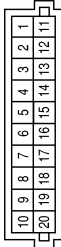
|                 |                     |
|-----------------|---------------------|
| Connector No.   | M41                 |
| Connector Name  | JOINT CONNECTOR-M06 |
| Connector Color | BLUE                |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | W             | -           |
| 6            | Y             | -           |
| 7            | Y             | -           |
| 8            | G             | -           |
| 9            | W             | -           |
| 10           | W             | -           |
| 11           | Y             | -           |
| 12           | Y             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |
| 17           | -             | -           |
| 18           | B             | -           |
| 19           | B             | -           |
| 20           | B             | -           |

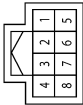
|                 |                     |
|-----------------|---------------------|
| Connector No.   | M43                 |
| Connector Name  | JOINT CONNECTOR-M04 |
| Connector Color | GRAY                |



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

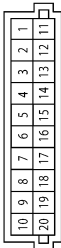
AANIA2043GB

|                 |                      |
|-----------------|----------------------|
| Connector No.   | M51                  |
| Connector Name  | MULTIFUNCTION SWITCH |
| Connector Color | WHITE                |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | LG            | -           |
| 3            | -             | -           |
| 4            | L             | -           |
| 5            | B             | -           |
| 6            | SB            | -           |
| 7            | -             | -           |
| 8            | W             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M50                 |
| Connector Name  | JOINT CONNECTOR-M03 |
| Connector Color | PINK                |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |
| 3            | B             | -           |
| 4            | B             | -           |
| 5            | B             | -           |
| 6            | B             | -           |
| 7            | B             | -           |
| 8            | B             | -           |
| 9            | B             | -           |
| 10           | B             | -           |
| 11           | G             | -           |
| 12           | G             | -           |
| 13           | G             | -           |
| 14           | G             | -           |
| 15           | G             | -           |
| 16           | L             | -           |
| 17           | L             | -           |
| 18           | L             | -           |
| 19           | L             | -           |
| 20           | L             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M44                 |
| Connector Name  | JOINT CONNECTOR-M01 |
| Connector Color | GRAY                |



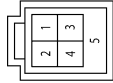
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | -             | -           |
| 3            | -             | -           |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | -             | -           |
| 7            | -             | -           |
| 8            | B             | -           |
| 9            | B             | -           |
| 10           | B             | -           |
| 11           | P             | -           |
| 12           | P             | -           |
| 13           | W             | -           |
| 14           | W             | -           |
| 15           | LG            | -           |
| 16           | R             | -           |
| 17           | R             | -           |
| 18           | W             | -           |
| 19           | W             | -           |
| 20           | W             | -           |

AANIA2044GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
O  
P

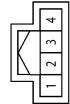
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|                 |               |
|-----------------|---------------|
| Connector No.   | M53           |
| Connector Name  | USB CONNECTOR |
| Connector Color | GREEN         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | -           |
| 2            | W             | -           |
| 3            | R             | -           |
| 4            | L             | -           |
| 5            | SHIELD        | -           |

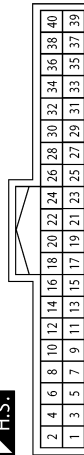
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|-----------------|----------------------|
| Connector No.   | M52                  |
| Connector Name  | AUXILIARY INPUT JACK |
| Connector Color | WHITE                |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | L             | EV CAN H    |
| 10           | G             | EV CAN L    |
| 11           | -             | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |
| 17           | -             | -           |
| 18           | -             | -           |
| 19           | -             | -           |
| 20           | -             | -           |
| 21           | -             | -           |
| 22           | -             | -           |
| 23           | -             | -           |

|                 |       |
|-----------------|-------|
| Connector No.   | M67   |
| Connector Name  | TCU   |
| Connector Color | WHITE |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | +B          |
| 2            | B             | GND         |
| 3            | L             | ACC         |
| 4            | W             | IGN         |
| 5            | -             | -           |
| 6            | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 24           | -             | -           |
| 25           | -             | -           |
| 26           | -             | -           |
| 27           | -             | -           |
| 28           | -             | -           |
| 29           | -             | -           |
| 30           | -             | -           |
| 31           | -             | -           |
| 32           | -             | -           |
| 33           | -             | -           |
| 34           | -             | -           |
| 35           | -             | -           |
| 36           | -             | -           |
| 37           | -             | -           |
| 38           | -             | -           |
| 39           | -             | -           |
| 40           | -             | -           |

AANIA2045GB



|                 |      |
|-----------------|------|
| Connector No.   | M68  |
| Connector Name  | TCU  |
| Connector Color | GRAY |



|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 |
| 56 | 55 | 54 | 53 | 52 | 51 | 50 | 49 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 41           | Y             | U VOICE     |
| 42           | B             | VOICE GND   |
| 43           | -             | -           |
| 44           | -             | -           |
| 45           | -             | -           |

| Terminal No. | Color of Wire | Signal Name          |
|--------------|---------------|----------------------|
| 46           | V             | MANUFACTURE SPECIFIC |
| 47           | BR            | USB VBUS             |
| 48           | L             | USB D-               |
| 49           | G             | D VOICE              |
| 50           | -             | -                    |
| 51           | -             | -                    |
| 52           | -             | -                    |
| 53           | -             | -                    |
| 54           | -             | -                    |
| 55           | SHIELD        | USB GND              |
| 56           | R             | USB D+               |
| 57           | SHIELD        | SHIELD               |

|                 |              |
|-----------------|--------------|
| Connector No.   | M73          |
| 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 |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | L             | -           |
| 3            | SHIELD        | -           |
| 4            | -             | -           |
| 5            | B             | -           |
| 6            | BR            | -           |
| 7            | P             | -           |
| 8            | Y             | -           |
| 9            | R             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10           | B             | -           |
| 11           | W             | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |

AANIA2046GB

# NAVIGATION WITH BOSE

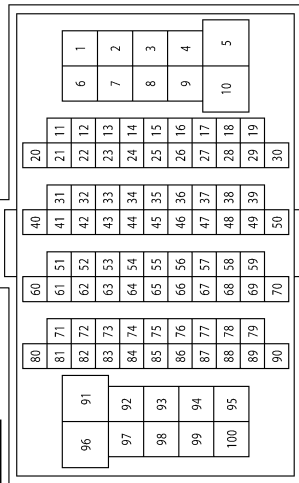
< WIRING DIAGRAM >

[NAVIGATION WITH BOSE]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 60           | Y             | -           |
| 61           | GR            | -           |
| 62           | W             | -           |
| 63           | BR            | -           |
| 64           | SHIELD        | -           |
| 65           | W             | -           |
| 66           | LG            | -           |
| 67           | R             | -           |
| 68           | G             | -           |
| 69           | BG            | -           |
| 70           | GR            | -           |
| 71           | R             | -           |
| 72           | R             | -           |
| 73           | B             | -           |
| 74           | W             | -           |
| 76           | L             | -           |
| 80           | W             | -           |
| 81           | LG            | -           |
| 83           | GR            | -           |
| 84           | L             | -           |
| 85           | Y             | -           |
| 86           | SB            | -           |
| 88           | R             | -           |
| 89           | G             | -           |
| 90           | SHIELD        | -           |
| 91           | Y             | -           |
| 92           | BR            | -           |
| 93           | W             | -           |
| 94           | P             | -           |
| 95           | L             | -           |
| 96           | P             | -           |
| 97           | G             | -           |
| 98           | V             | -           |
| 99           | LG            | -           |
| 100          | R             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 22           | B             | -           |
| 23           | BG            | -           |
| 24           | B             | -           |
| 26           | G             | -           |
| 27           | B             | -           |
| 28           | B             | -           |
| 25           | W             | -           |
| 29           | R             | -           |
| 31           | R             | -           |
| 32           | W             | -           |
| 33           | GR            | -           |
| 34           | BR            | -           |
| 35           | BR            | -           |
| 36           | W             | -           |
| 37           | L             | -           |
| 38           | LG            | -           |
| 39           | SB            | -           |
| 40           | V             | -           |
| 41           | P             | -           |
| 42           | SB            | -           |
| 43           | G             | -           |
| 44           | LG            | -           |
| 45           | Y             | -           |
| 46           | R             | -           |
| 47           | W             | -           |
| 48           | L             | -           |
| 49           | G             | -           |
| 50           | L             | -           |
| 51           | SB            | -           |
| 52           | L             | -           |
| 54           | B             | -           |
| 55           | R             | -           |
| 56           | V             | -           |
| 57           | Y             | -           |
| 58           | L             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M77          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | L             | -           |
| 3            | V             | -           |
| 4            | LG            | -           |
| 6            | P             | -           |
| 7            | GR            | -           |
| 9            | G             | -           |
| 10           | L             | -           |
| 11           | L             | -           |
| 12           | Y             | -           |
| 13           | V             | -           |
| 14           | R             | -           |
| 15           | G             | -           |
| 16           | W             | -           |
| 17           | R             | -           |
| 18           | G             | -           |
| 19           | W             | -           |
| 20           | GR            | -           |
| 21           | P             | -           |

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|                 |              |
|-----------------|--------------|
| Connector No.   | M79          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | P             | -           |
| 3            | SHIELD        | -           |
| 4            | G             | -           |
| 5            | R             | -           |
| 6            | SHIELD        | -           |
| 7            | L             | -           |
| 8            | GR            | -           |
| 9            | R             | -           |
| 10           | BR            | -           |
| 11           | L             | -           |
| 12           | BR            | -           |

|                 |  |
|-----------------|--|
| Connector No.   | M100   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITH BOSE) |
| Connector Color | WHITE  |



|    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  |    |    |
| 19 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 20 |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 1            | L             | AMP_ON        |
| 2            | Y             | FR_LH_PRE/SP+ |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | B             | -           |
| 14           | -             | -           |
| 15           | R             | -           |
| 16           | G             | -           |
| 17           | R             | -           |
| 18           | G             | -           |
| 19           | SHIELD        | -           |
| 20           | BR            | -           |
| 21           | V             | -           |
| 22           | SB            | -           |
| 23           | W             | -           |
| 24           | B             | -           |
| 25           | W             | -           |
| 26           | R             | -           |
| 27           | -             | -           |
| 28           | -             | -           |
| 29           | W             | -           |
| 30           | R             | -           |
| 31           | G             | -           |
| 32           | -             | -           |

|                 |                    |
|-----------------|--------------------|
| Connector No.   | M92                |
| Connector Name  | COMBINATION SWITCH |
| Connector Color | GRAY               |



|    |    |    |    |    |
|----|----|----|----|----|
| 25 | 24 | 31 | 32 | 33 |
|----|----|----|----|----|

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 21           | -             | -           |
| 22           | -             | -           |
| 24           | R             | -           |
| 25           | LG            | -           |
| 27           | -             | -           |
| 31           | W             | -           |
| 32           | SB            | -           |
| 33           | B             | -           |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 12           | R             | FR_RH_PRE/SP- |
| 13           | BR            | RR_RH_PRE/SP+ |
| 14           | Y             | RR_RH_PRE/SP- |
| 15           | B             | STRG_SW_GND   |
| 16           | W             | STRG_SW_B     |
| 17           | -             | -             |
| 18           | -             | -             |
| 19           | BR            | +B            |
| 20           | -             | -             |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 3            | BR            | FR_LH_PRE/SP- |
| 4            | P             | RR_LH_PRE/SP+ |
| 5            | L             | RR_LH_PRE/SP- |
| 6            | R             | STRG_SW_A     |
| 7            | BR            | ACC           |
| 8            | B             | ILL_CONT      |
| 9            | W             | ILL           |
| 10           | -             | -             |
| 11           | G             | FR_RH_PRE/SP+ |

|                 |  |
|-----------------|--|
| Connector No.   | M103   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITH BOSE) |
| Connector Color | WHITE  |



|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 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 |

| Terminal No. | Color of Wire | Signal Name    |
|--------------|---------------|----------------|
| 21           | LG            | M-CAN2-L       |
| 22           | LG            | M-CAN1_L       |
| 23           | P             | V-CAN_L        |
| 24           | -             | -              |
| 25           | Y             | PKB_SIG        |
| 26           | V             | IGN            |
| 27           | L             | AFFORBABLE_SIG |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 28           | -             | -             |
| 29           | -             | -             |
| 30           | -             | -             |
| 31           | -             | -             |
| 32           | -             | -             |
| 33           | -             | -             |
| 34           | P             | MIC_VCC       |
| 35           | R             | AUX_AUDIO_LH  |
| 36           | B             | AUX_AUDIO     |
| 37           | -             | -             |
| 38           | -             | -             |
| 39           | -             | -             |
| 40           | B             | R_CAMERA_COMP |
| 41           | SB            | M-CAN2_H      |
| 42           | SB            | M-CAN1_H      |
| 43           | L             | V-CAN_H       |

| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 44           | GR            | SPEED_8P     |
| 45           | G             | REVERSE_SIG  |
| 46           | R             | MR_OUTPUT    |
| 47           | -             | -            |
| 48           | -             | -            |
| 49           | -             | -            |
| 50           | -             | -            |
| 51           | -             | -            |
| 52           | -             | -            |
| 53           | L             | MIC_SIG      |
| 54           | SHIELD        | -            |
| 55           | W             | AUX_AUDIO_RH |
| 56           | SHIELD        | -            |
| 57           | -             | -            |
| 58           | B             | RV_CAM_SIG   |
| 59           | -             | -            |
| 60           | SHIELD        | -            |

|                 |  |
|-----------------|--|
| Connector No.   | M104   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITH BOSE) |
| Connector Color | GRAY   |



|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| 68 | 67 | 66 | 65 | 64 | 63 | 62 | 61 |
| 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 61           | L             | USB_ACQ     |
| 62           | BR            | USB_VBUS    |
| 63           | V             | -           |
| 64           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 65           | -             | -           |
| 66           | -             | -           |
| 67           | B             | VOICE_GND   |
| 68           | Y             | U-VOICE     |
| 69           | R             | USB_D+      |
| 70           | SHIELD        | -           |
| 71           | -             | -           |
| 72           | -             | -           |
| 73           | -             | -           |
| 74           | -             | -           |
| 75           | -             | -           |
| 76           | G             | DVOICE      |
| 77           | SHIELD        | -           |

|                 |  |
|-----------------|--|
| Connector No.   | M107   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITH BOSE) |
| Connector Color | BLUE   |



|    |    |
|----|----|
| 79 | 78 |
| 81 | 80 |
| 82 |    |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 78           | W             | V_BUS       |
| 79           | G             | USB_GND     |
| 80           | L             | USB_D+      |
| 81           | R             | USB_D-      |
| 82           | SHIELD        | -           |

# NAVIGATION WITH BOSE

< WIRING DIAGRAM >

[NAVIGATION WITH BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | M114         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



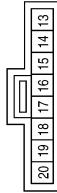
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |

|                 |      |
|-----------------|------|
| Connector No.   | M113 |
| Connector Name  | TCU  |
| Connector Color | GRAY |



| Terminal No. | Color of Wire | Signal Name        |
|--------------|---------------|--------------------|
| 58           | B             | TEL ANTENNA SIGNAL |
| 59           | SHIELD        | SHIELD             |

|                 |                                   |
|-----------------|-----------------------------------|
| Connector No.   | M112                              |
| Connector Name  | COMBINATION SWITCH (SPIRAL CABLE) |
| Connector Color | GRAY                              |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | R             | -           |
| 14           | W             | -           |
| 15           | L             | -           |
| 16           | B             | -           |
| 17           | BR            | -           |
| 18           | B             | -           |
| 19           | Y             | -           |
| 20           | Y             | -           |

|                 |  |
|-----------------|--|
| Connector No.   | M122   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM- WITH BOSE AUDIO SYSTEM) |
| Connector Color | GRAY   |



| Terminal No. | Color of Wire | Signal Name            |
|--------------|---------------|------------------------|
| 85           | B             | ANTENNA AMP. ON SIGNAL |
| 86           | B             | RADIO ANTENNA SIGNAL   |
| 87           | -             | -                      |

|                 |  |
|-----------------|--|
| Connector No.   | M121   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM- WITH BOSE AUDIO SYSTEM) |
| Connector Color | GRAY   |



| Terminal No. | Color of Wire | Signal Name        |
|--------------|---------------|--------------------|
| 83           | B             | GPS ANTENNA SIGNAL |
| 84           | SHIELD        | SHIELD             |

|                 |              |
|-----------------|--------------|
| Connector No.   | M115         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



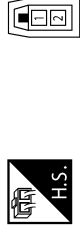
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |

AANIA2050GB

A B C D E F G H I J K L M O P

AV

|                 |              |
|-----------------|--------------|
| Connector No.   | M501         |
| Connector Name  | ANTENNA BASE |
| Connector Color | GRAY         |



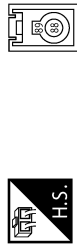
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | –           |
| 2            | B             | –           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M500         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

|                 |  |
|-----------------|--|
| Connector No.   | M123   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM- WITH BOSE AUDIO SYSTEM) |
| Connector Color | PINK   |



| Terminal No. | Color of Wire | Signal Name       |
|--------------|---------------|-------------------|
| 88           | B             | SATELLITE ANTENNA |
| 89           | SHIELD        | SHIELD            |

|                 |              |
|-----------------|--------------|
| Connector No.   | M503         |
| Connector Name  | ANTENNA BASE |
| Connector Color | GRAY         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3            | B             | –           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M502         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

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|                 |              |
|-----------------|--------------|
| Connector No.   | E21          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BLACK        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | W             | -           |
| 3            | SHIELD        | -           |
| 4            | B             | -           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 54           | -             | -                |
| 55           | LG            | FAST CHARGE      |
| 56           | -             | -                |
| 57           | R             | VCM IGN          |
| 58           | O             | REVERSE LAMP IGN |
| 59           | BR            | ABS ECU IGN      |
| 60           | GR            | F/S RLY CONT     |
| 61           | -             | -                |
| 62           | V             | E-ACT/HAS IGN    |

|                 |  |
|-----------------|--|
| Connector No.   | E15  |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE  |

|    |    |    |    |             |    |    |    |    |
|----|----|----|----|-------------|----|----|----|----|
| 53 | 52 | 51 | 50 | <div></div> | 49 | 48 | 47 |    |
| 62 | 61 | 60 | 59 | 58          | 57 | 56 | 55 | 54 |



| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 47           | -             | -            |
| 48           | -             | -            |
| 49           | Y             | H/LAMP HI RH |
| 50           | G             | H/LAMP HI LH |
| 51           | L             | H/LAMP LO LH |
| 52           | P             | H/LAMP LO RH |
| 53           | -             | -            |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | L             | -           |
| 6            | G             | -           |
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | -             | -           |
| 10           | GR            | -           |
| 11           | BR            | -           |
| 12           | Y             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | E60          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BLACK        |



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

|                 |                    |
|-----------------|--------------------|
| Connector No.   | E27                |
| Connector Name  | REVERSE LAMP RELAY |
| Connector Color | BLUE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | O             | -           |
| 2            | SB            | -           |
| 3            | O             | -           |
| 5            | G             | -           |

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| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 49           | R             | ACCELERATOR PEDAL POSITION SENSOR 1                 |
| 51           | R             | POWER ON POWER SUPPLY                               |
| 54           | W             | SYSTEM MAIN RELAY 1                                 |
| 56           | G             | ENCODER GROUND                                      |
| 57           | O             | ELECTRIC SHIFT SENSOR GND 1                         |
| 58           | B/R           | VCM GROUND  |
| 62           | B             | SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1) |
| 65           | B             | VCM GROUND  |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 19           | W             | WATER PUMP SIGNAL   |
| 20           | G             | WATER PUMP SIGNAL   |
| 21           | GR            | F/S RELAY   |
| 23           | R             | CHARGE PORT LID OPENER ACTUATOR RELAY                     |
| 24           | L             | EV SYSTEM CAN-H   |
| 25           | G             | EV SYSTEM CAN-L   |
| 28           | R             | SYSTEM MAIN RELAY 2                                       |
| 30           | W             | READY SIGNAL  |
| 32           | B             | VENC  |
| 33           | L             | N POSITION OUTPUT (SELECT INDICATOR)                      |
| 34           | R             | D POSITION OUTPUT (SELECT INDICATOR)                      |
| 36           | W             | SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1) |
| 39           | R             | MOTOR COIL A W-PHASE                                      |
| 40           | B             | PRE-CHARGE RELAY  |
| 44           | P             | ENCODER SIGNAL B  |
| 45           | V             | ENCODER SIGNAL A  |
| 46           | B             | P POSITION OUTPUT (SELECT INDICATOR)                      |
| 47           | LG            | P/N POSITION SIGNAL                                       |
| 48           | W             | P POSITION SIGNAL   |

|                 |       |
|-----------------|-------|
| Connector No.   | E61   |
| Connector Name  | VCM   |
| Connector Color | BLACK |

|    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 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 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 |
| 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 |



| Terminal No. | Color of Wire | Signal Name                          |
|--------------|---------------|--------------------------------------|
| 1            | B             | MOTOR COIL A U-PHASE                 |
| 3            | W             | ELECTRIC SHIFT SENSOR NO.5           |
| 5            | LG            | F/S RELAY POWER SUPPLY               |
| 7            | O/L           | ELECTRIC SHIFT SENSOR POWER SUPPLY 1 |
| 8            | W             | F/S CHG RELAY                        |
| 9            | SB            | PARKING ACTUATOR RELAY A             |
| 11           | BR            | 12V BATTERY POWER SUPPLY             |
| 13           | SB            | MOTOR COIL A V-PHASE                 |
| 16           | R             | ELECTRIC SHIFT SENSOR NO.3           |
| 17           | B             | ELECTRIC SHIFT SENSOR NO.1           |
| 18           | Y             | R POSITION OUTPUT (SELECT INDICATOR) |

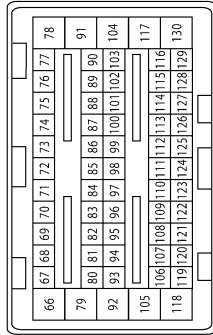
AANIA2195GB



| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 110          | Y             | COOLANT TEMPERATURE SENSOR                          |
| 111          | SB            | ASCD STEERING SWITCH                                |
| 112          | B             | P POSITION SW NO.2                                  |
| 113          | O             | BRAKE PEDAL POSITION SWITCH                         |
| 115          | V             | CHARGING STATUS INDICATOR 1                         |
| 116          | SB            | A/C RELAY   |
| 117          | LG            | CHARGE CONNECTOR LOCK ACTUATOR (+)                  |
| 118          | B             | VCM GROUND  |
| 120          | L             | SENSOR GROUND (BATTERY CURRENT SENSOR)              |
| 121          | W             | SENSOR GROUND (COOLANT TEMPERATURE SENSOR)          |
| 122          | B             | SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2) |
| 123          | BR            | SENSOR GROUND (REFRIGERANT PRESSURE SENSOR)         |
| 124          | W/L           | ELECTRIC SHIFT SENSOR GND 2                         |
| 125          | BR            | ASCD STEERING SWITCH GROUND                         |
| 126          | B/R           | VCM GROUND  |
| 128          | V             | COOLING FAN CONTROL SIGNAL                          |
| 129          | Y             | IMMEDIATE CHARGING SWITCH                           |
| 130          | W             | CHARGE CONNECTOR LOCK ACTUATOR (-)                  |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 87           | V             | CHARGE CONNECTOR LOCK SWITCH INDICATOR (LOCK)             |
| 88           | SB            | M/C RELAY   |
| 89           | BR            | CHARGING STATUS INDICATOR 2                               |
| 90           | G             | CHARGING STATUS INDICATOR 3                               |
| 91           | O             | CHARGE CONNECTOR LOCK SWITCH INDICATOR (AUTO)             |
| 93           | BR            | CHARGE PORT ID OPENER SWITCH                              |
| 94           | O             | CHARGE CONNECTOR LOCK SWITCH (LOCK)                       |
| 95           | Y             | BATTERY CURRENT SENSOR                                    |
| 96           | R             | SENSOR POWER SUPPLY (BATTERY CURRENT SENSOR)              |
| 97           | W             | SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2) |
| 98           | L             | SENSOR POWER SUPPLY (REFRIGERANT PRESSURE SENSOR)         |
| 99           | R             | P POSITION SW NO.1  |
| 101          | P             | STOP LAMP SWITCH  |
| 103          | L             | PLUG IN INDICATOR LAMP                                    |
| 104          | R             | CHARGE CONNECTOR LOCK RELAY POWER SUPPLY                  |
| 107          | L             | BATTERY TEMPERATURE SENSOR                                |
| 108          | R             | ACCELERATOR PEDAL POSITION SENSOR 2                       |
| 109          | B             | REFRIGERANT PRESSURE SENSOR                               |

|                 |       |
|-----------------|-------|
| Connector No.   | E62   |
| Connector Name  | VCM   |
| Connector Color | BROWN |

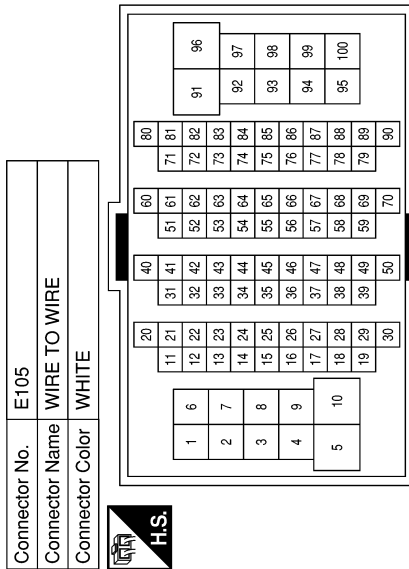


| Terminal No. | Color of Wire | Signal Name                               |
|--------------|---------------|---|
| 70           | SB            | REVERSE LAMP RELAY                        |
| 72           | P             | CONNECTION DETECTING CIRCUIT SIGNAL       |
| 73           | O             | CONNECTION DETECTING CIRCUIT POWER SUPPLY |
| 74           | G             | POWER ON POWER SUPPLY                     |
| 75           | L             | CAN-H                                     |
| 76           | P             | CAN-L                                     |
| 78           | SB            | CHARGE CONNECTOR LOCK RELAY               |
| 79           | R             | 12V BATTERY POWER SUPPLY                  |
| 81           | L             | CHARGE CONNECTOR LOCK SWITCH (AUTO)       |
| 82           | GR            | CHARGE PORT LIGHT                         |
| 83           | W             | ELECTRIC SHIFT SENSOR POWER SUPPLY 2      |
| 84           | W             | ELECTRIC SHIFT SENSOR NO.2                |
| 85           | G             | ELECTRIC SHIFT SENSOR NO.4                |
| 86           | G             | ELECTRIC SHIFT SENSOR NO.6                |

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|     |        |   |
|-----|--------|---|
| 58  | L      | - |
| 60  | LG     | - |
| 61  | GR     | - |
| 62  | W      | - |
| 63  | SB     | - |
| 64  | SHIELD | - |
| 65  | W      | - |
| 66  | G      | - |
| 67  | V      | - |
| 68  | R      | - |
| 69  | B      | - |
| 70  | BR     | - |
| 71  | LG     | - |
| 72  | R      | - |
| 73  | B      | - |
| 74  | O      | - |
| 76  | L      | - |
| 77  | Y      | - |
| 80  | P      | - |
| 81  | SB     | - |
| 83  | GR     | - |
| 84  | L      | - |
| 85  | O      | - |
| 86  | BR     | - |
| 88  | B      | - |
| 89  | W      | - |
| 90  | SHIELD | - |
| 91  | Y      | - |
| 92  | BR     | - |
| 93  | O      | - |
| 94  | R      | - |
| 95  | V      | - |
| 96  | P      | - |
| 97  | G      | - |
| 98  | W      | - |
| 99  | O      | - |
| 100 | SB     | - |

|    |     |   |
|----|-----|---|
| 20 | BR  | - |
| 21 | R   | - |
| 22 | B   | - |
| 23 | LG  | - |
| 24 | B   | - |
| 25 | W   | - |
| 26 | W   | - |
| 27 | B   | - |
| 28 | O/L | - |
| 29 | W   | - |
| 31 | R   | - |
| 32 | W   | - |
| 33 | G   | - |
| 34 | BR  | - |
| 35 | V   | - |
| 36 | O   | - |
| 37 | L   | - |
| 38 | SB  | - |
| 39 | P   | - |
| 40 | V   | - |
| 41 | O   | - |
| 42 | Y   | - |
| 43 | BR  | - |
| 44 | W   | - |
| 45 | G   | - |
| 46 | P   | - |
| 47 | LG  | - |
| 47 | R   | - |
| 48 | B   | - |
| 49 | L   | - |
| 50 | G   | - |
| 51 | W   | - |
| 52 | O   | - |
| 54 | B   | - |
| 55 | R   | - |
| 56 | Y   | - |
| 57 | Y   | - |



| Terminal No. | Color of Wire | Signal Name                |
|--------------|---------------|----------------------------|
| 1            | R             | -                          |
| 2            | L             | -                          |
| 3            | BW            | -(WITHOUT FRONT FOG LAMPS) |
| 3            | R             | -(WITH LED HEADLAMPS)      |
| 4            | LG            | -(WITH LED HEADLAMPS)      |
| 4            | B/W           | -(WITHOUT FRONT FOG LAMPS) |
| 6            | B/R           | -                          |
| 7            | W             | -                          |
| 9            | G             | -                          |
| 10           | R             | -                          |
| 11           | L             | -                          |
| 12           | Y             | -                          |
| 13           | W             | -                          |
| 14           | R             | -                          |
| 15           | G             | -                          |
| 16           | G             | -                          |
| 17           | R             | -                          |
| 18           | O             | -                          |
| 19           | W/L           | -                          |

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|                 |              |
|-----------------|--------------|
| Connector No.   | E108         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | -           |
| 2            | Y             | -           |
| 3            | SB            | -           |
| 4            | R             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | E202         |
| Connector Name  | FRONT CAMERA |
| Connector Color | BLACK        |



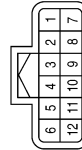
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | R             | -           |
| 3            | W             | -           |
| 4            | L             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | E203         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BLACK        |



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

|                 |              |
|-----------------|--------------|
| Connector No.   | F2           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BLACK        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | L             | -           |
| 4            | G             | -           |
| 5            | L             | -           |
| 6            | G             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | -             | -           |
| 10           | GR            | -           |
| 11           | V             | -           |
| 12           | R             | -           |

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| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 22           | —             | —           |
| 23           | —             | —           |
| 24           | R             | —           |
| 25           | W             | —           |
| 26           | LG            | —           |
| 27           | Y             | —           |
| 28           | —             | —           |
| 29           | R             | —           |
| 30           | GR            | —           |
| 31           | L             | —           |
| 32           | P             | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 8            | SHIELD        | —           |
| 9            | B             | —           |
| 10           | SB            | —           |
| 11           | P             | —           |
| 12           | BR            | —           |
| 13           | GR            | —           |
| 14           | P             | —           |
| 15           | L             | —           |
| 16           | G             | —           |
| 17           | —             | —           |
| 18           | —             | —           |
| 19           | —             | —           |
| 20           | —             | —           |
| 21           | —             | —           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B3           |
| Connector Name  | WIRE TO WIRE |
| 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 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | —             | —           |
| 2            | —             | —           |
| 3            | —             | —           |
| 4            | —             | —           |
| 5            | —             | —           |
| 6            | —             | —           |
| 7            | B             | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 20           | LG            | —           |
| 21           | V             | —           |
| 22           | GR            | —           |
| 23           | G             | —           |
| 24           | B             | —           |
| 25           | W             | —           |
| 26           | R             | —           |
| 27           | —             | —           |
| 28           | —             | —           |
| 29           | W             | —           |
| 30           | V             | —           |
| 31           | LG            | —           |
| 32           | SHIELD        | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | P             | —           |
| 8            | SB            | —           |
| 9            | R             | —           |
| 10           | BR            | —           |
| 11           | GR            | —           |
| 12           | BR            | —           |
| 13           | B             | —           |
| 14           | —             | —           |
| 15           | R             | —           |
| 16           | G             | —           |
| 17           | R             | —           |
| 18           | G             | —           |
| 19           | SHIELD        | —           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B4           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

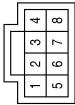


|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | —           |
| 2            | P             | —           |
| 3            | SHIELD        | —           |
| 4            | R             | —           |
| 5            | L             | —           |
| 6            | SHIELD        | —           |

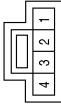
AANIA2199GB

|                 |                   |
|-----------------|-------------------|
| Connector No.   | B11               |
| Connector Name  | BOSE SPEAKER AMP. |
| Connector Color | BLACK             |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | L             | -           |
| 3            | -             | -           |
| 4            | R             | -           |
| 5            | G             | -           |
| 6            | P             | -           |
| 7            | -             | -           |
| 8            | B             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B8           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



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

ABNIA5864GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
AV  
O  
P

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 9            | L             | – (WITH BOSE)    |
| 9            | LG            | – (WITHOUT BOSE) |
| 10           | P             | – (WITH BOSE)    |
| 10           | P             | – (WITHOUT BOSE) |
| 11           | SHIELD        | –                |
| 12           | –             | –                |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3            | R             | –           |
| 4            | –             | –           |
| 5            | –             | –           |
| 6            | Y             | –           |
| 7            | –             | –           |
| 8            | G             | –           |

| Connector No.   | B16          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |             |   |   |   |   |
|----|----|-------------|---|---|---|---|
| 5  | 4  | <div></div> | 3 | 2 | 1 |   |
| 12 | 11 | 10          | 9 | 8 | 7 | 6 |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 14           | L             | –           |
| 15           | LG            | –           |
| 16           | –             | –           |
| 17           | SHIELD        | –           |
| 18           | B             | –           |
| 19           | –             | –           |
| 20           | GR            | –           |

| Connector No.   | B18          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|   |   |    |    |    |    |    |
|---|---|----|----|----|----|----|
| 1 | 2 | 3  | 4  |    | 5  | 6  |
| 7 | 8 | 9  | 10 | 11 | 12 | 13 |
|   |   | 14 | 15 | 16 | 17 | 18 |
|   |   |    |    | 19 | 20 |    |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | –             | –           |
| 2            | –             | –           |
| 3            | –             | –           |
| 4            | P             | –           |
| 5            | P             | –           |
| 6            | BR            | –           |
| 7            | –             | –           |
| 8            | –             | –           |
| 9            | P             | –           |
| 10           | Y             | –           |
| 11           | B             | –           |
| 12           | W             | –           |
| 13           | R             | –           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | Y             | –                |
| 2            | L             | –                |
| 3            | W             | –                |
| 4            | –             | –                |
| 5            | –             | –                |
| 6            | SB            | –                |
| 7            | –             | –                |
| 8            | GR            | –                |
| 9            | R             | – (WITH BOSE)    |
| 9            | V             | – (WITHOUT BOSE) |
| 10           | G             | – (WITH BOSE)    |
| 10           | LG            | – (WITHOUT BOSE) |
| 11           | SHIELD        | –                |
| 12           | –             | –                |

|    |    |             |   |   |   |   |
|----|----|-------------|---|---|---|---|
| 5  | 4  | <div></div> | 3 | 2 | 1 |   |
| 12 | 11 | 10          | 9 | 8 | 7 | 6 |



| Connector No.   | B17          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

AANIA2200GB

|                 |                     |
|-----------------|---------------------|
| Connector No.   | B31                 |
| Connector Name  | JOINT CONNECTOR-B03 |
| Connector Color | BLUE                |



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| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | SHIELD        | -           |
| 2            | B             | -           |
| 3            | SHIELD        | -           |
| 4            | SHIELD        | -           |
| 5            | SHIELD        | -           |
| 6            | -             | -           |
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | -             | -           |
| 10           | B             | -           |
| 11           | SHIELD        | -           |
| 12           | SHIELD        | -           |
| 13           | SHIELD        | -           |
| 14           | SHIELD        | -           |
| 15           | SHIELD        | -           |
| 16           | SHIELD        | -           |
| 17           | SHIELD        | -           |
| 18           | -             | -           |
| 19           | -             | -           |
| 20           | -             | -           |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | B27               |
| Connector Name  | BOSE SPEAKER AMP. |
| Connector Color | BLACK             |



|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 25           | -             | -           |
| 26           | -             | -           |
| 27           | BR            | -           |
| 28           | V             | -           |
| 29           | G             | -           |
| 30           | B             | -           |
| 31           | -             | -           |
| 32           | -             | -           |
| 33           | -             | -           |
| 34           | -             | -           |
| 35           | Y             | -           |
| 36           | LG            | -           |
| 37           | R             | -           |
| 38           | W             | -           |
| 39           | -             | -           |
| 40           | -             | -           |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | B20               |
| Connector Name  | BOSE SPEAKER AMP. |
| Connector Color | BLACK             |



|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | G             | -           |
| 10           | P             | -           |
| 11           | L             | -           |
| 12           | R             | -           |
| 13           | G             | -           |
| 14           | SB            | -           |
| 15           | V             | -           |
| 16           | L             | -           |
| 17           | R             | -           |
| 18           | -             | -           |
| 19           | -             | -           |
| 20           | -             | -           |
| 21           | -             | -           |
| 22           | L             | -           |
| 23           | -             | -           |
| 24           | P             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | -             | -           |
| 6            | -             | -           |
| 7            | SHIELD        | -           |
| 8            | R             | -           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | P             | - (WITH NAVI)    |
| 1            | BR            | - (WITHOUT NAVI) |
| 2            | SHIELD        | -                |
| 3            | G             | -                |
| 4            | L             | -                |

|                 |              |
|-----------------|--------------|
| Connector No.   | B40          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



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

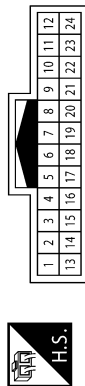
AANIA2201GB

# NAVIGATION WITH BOSE

< WIRING DIAGRAM >

[NAVIGATION WITH BOSE]

|                 |              |
|-----------------|--------------|
| Connector No.   | B42          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | SHIELD        | -           |
| 2            | BR            | -           |
| 3            | LG            | -           |
| 4            | R             | -           |
| 5            | SHIELD        | -           |
| 6            | W             | -           |
| 7            | G             | -           |
| 8            | V             | -           |

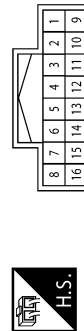
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | SB            | -           |
| 10           | L             | -           |
| 11           | -             | -           |
| 12           | -             | -           |
| 13           | Y             | -           |
| 14           | SHIELD        | -           |
| 15           | V             | -           |
| 16           | SHIELD        | -           |
| 17           | G             | -           |
| 18           | B             | -           |
| 19           | R             | -           |
| 20           | SHIELD        | -           |
| 21           | SHIELD        | -           |
| 22           | -             | -           |
| 23           | -             | -           |
| 24           | -             | -           |

|                 |                |
|-----------------|----------------|
| Connector No.   | B43            |
| Connector Name  | BOSE SUBWOOFER |
| Connector Color | GRAY           |



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

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | L             | -           |
| 3            | GR            | -           |
| 4            | -             | -           |
| 5            | B             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 6            | R             | -           |
| 7            | Y             | -           |
| 8            | -             | -           |
| 9            | V             | -           |
| 10           | G             | -           |
| 11           | B/R           | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |

|                 |            |
|-----------------|------------|
| Connector No.   | R3         |
| Connector Name  | MICROPHONE |
| Connector Color | WHITE      |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | SHIELD        | -           |
| 3            | -             | -           |
| 4            | P             | -           |
| 5            | -             | -           |
| 6            | -             | -           |

AANIA2202GB



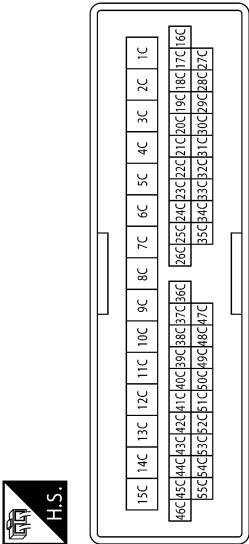
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | W             | -           |
| 3            | R             | -           |
| 4            | SHIELD        | -           |

|                 |                |
|-----------------|----------------|
| Connector No.   | D1             |
| Connector Name  | SIDE CAMERA LH |
| Connector Color | WHITE          |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9C           | LG            | -           |
| 10C          | Y             | -           |
| 11C          | W             | -           |
| 12C          | SB            | -           |
| 13C          | B             | -           |
| 14C          | V             | -           |
| 15C          | R             | -           |
| 16C          | -             | -           |
| 17C          | -             | -           |
| 18C          | -             | -           |
| 19C          | -             | -           |
| 20C          | -             | -           |
| 21C          | -             | -           |
| 22C          | -             | -           |
| 23C          | -             | -           |
| 24C          | G             | -           |
| 25C          | R             | -           |
| 26C          | SHIELD        | -           |
| 27C          | -             | -           |
| 28C          | -             | -           |
| 29C          | -             | -           |
| 30C          | -             | -           |
| 31C          | -             | -           |
| 32C          | -             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D22          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1C           | R             | - (WITH BOSE)    |
| 1C           | L             | - (WITHOUT BOSE) |
| 2C           | G             | - (WITH BOSE)    |
| 2C           | V             | - (WITHOUT BOSE) |
| 3C           | SHIELD        | -                |
| 4C           | SB            | -                |
| 5C           | V             | -                |
| 6C           | -             | -                |
| 7C           | P             | -                |
| 8C           | BR            | -                |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33C          | -             | -           |
| 34C          | -             | -           |
| 35C          | -             | -           |
| 36C          | LG            | -           |
| 37C          | R             | -           |
| 38C          | L             | -           |
| 39C          | G             | -           |
| 40C          | P             | -           |
| 41C          | -             | -           |
| 42C          | P             | -           |
| 43C          | GR            | -           |
| 44C          | L             | -           |
| 45C          | BR            | -           |
| 46C          | L             | -           |
| 47C          | Y             | -           |
| 48C          | BR            | -           |
| 49C          | B             | -           |
| 50C          | W             | -           |
| 51C          | R             | -           |
| 52C          | SHIELD        | -           |
| 53C          | -             | -           |
| 54C          | V             | -           |
| 55C          | LG            | -           |

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

| Connector No.   | D101           |
|-----------------|----------------|
| Connector Name  | SIDE CAMERA RH |
| Connector Color | WHITE          |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | -           |

| Connector No.   | D24  |
|-----------------|--|
| Connector Name  | FRONT DOOR SPEAKER LH (WITH BOSE AUDIO SYSTEM) |
| Connector Color | BROWN  |

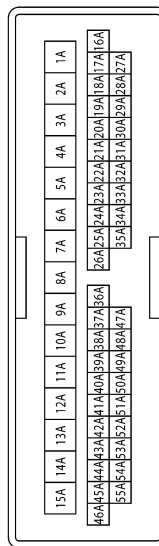


| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | -           |
| 2            | R             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33A          | -             | -           |
| 34A          | -             | -           |
| 35A          | -             | -           |
| 36A          | B             | -           |
| 37A          | P             | -           |
| 38A          | Y             | -           |
| 39A          | LG            | -           |
| 40A          | -             | -           |
| 41A          | -             | -           |
| 42A          | -             | -           |
| 43A          | V             | -           |
| 44A          | V             | -           |
| 45A          | W             | -           |
| 46A          | BG            | -           |
| 47A          | W             | -           |
| 48A          | B             | -           |
| 49A          | R             | -           |
| 50A          | SHIELD        | -           |
| 51A          | -             | -           |
| 52A          | -             | -           |
| 53A          | -             | -           |
| 54A          | -             | -           |
| 55A          | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10A          | BR            | -           |
| 11A          | Y             | -           |
| 12A          | B             | -           |
| 13A          | W             | -           |
| 14A          | SB            | -           |
| 15A          | R             | -           |
| 16A          | -             | -           |
| 17A          | -             | -           |
| 18A          | -             | -           |
| 19A          | -             | -           |
| 20A          | -             | -           |
| 21A          | -             | -           |
| 22A          | -             | -           |
| 23A          | -             | -           |
| 24A          | Y             | -           |
| 25A          | BR            | -           |
| 26A          | SHIELD        | -           |
| 27A          | -             | -           |
| 28A          | -             | -           |
| 29A          | -             | -           |
| 30A          | -             | -           |
| 31A          | -             | -           |
| 32A          | -             | -           |

| Connector No.   | D102         |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1A           | L             | - (WITH BOSE)    |
| 1A           | BR            | - (WITHOUT BOSE) |
| 2A           | P             | - (WITH BOSE)    |
| 2A           | R             | - (WITHOUT BOSE) |
| 3A           | SHIELD        | -                |
| 4A           | Y             | -                |
| 5A           | V             | -                |
| 6A           | -             | -                |
| 7A           | -             | -                |
| 8A           | -             | -                |
| 9A           | -             | -                |

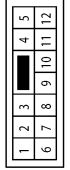
AANIA2362GB

|                 |  |
|-----------------|--|
| Connector No.   | D124   |
| Connector Name  | FRONT DOOR SPEAKER RH (WITH BOSE AUDIO SYSTEM) |
| Connector Color | BROWN  |



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

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



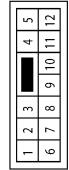
| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | Y             | -                |
| 2            | L             | -                |
| 3            | V             | -                |
| 4            | -             | -                |
| 5            | -             | -                |
| 6            | BR            | -                |
| 7            | -             | -                |
| 8            | G             | -                |
| 9            | R             | - (WITH BOSE)    |
| 9            | V             | - (WITHOUT BOSE) |
| 10           | G             | - (WITH BOSE)    |
| 10           | LG            | - (WITHOUT BOSE) |
| 11           | SHIELD        | -                |
| 12           | -             | -                |

|                 |                      |
|-----------------|----------------------|
| Connector No.   | D205                 |
| Connector Name  | REAR DOOR SPEAKER LH |
| Connector Color | WHITE                |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | R             | - (WITH BOSE)    |
| 1            | V             | - (WITHOUT BOSE) |
| 2            | G             | - (WITH BOSE)    |
| 2            | LG            | - (WITHOUT BOSE) |

|                 |              |
|-----------------|--------------|
| Connector No.   | D301         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | LG            | -           |
| 3            | V             | -           |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | Y             | -           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 7            | -             | -                |
| 8            | G             | -                |
| 9            | L             | - (WITH BOSE)    |
| 9            | LG            | - (WITHOUT BOSE) |
| 10           | P             | -                |
| 11           | SHIELD        | -                |
| 12           | -             | -                |

|                 |                      |
|-----------------|----------------------|
| Connector No.   | D305                 |
| Connector Name  | REAR DOOR SPEAKER RH |
| Connector Color | WHITE                |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | L             | - (WITH BOSE)    |
| 1            | LG            | - (WITHOUT BOSE) |
| 2            | P             | -                |

AANIA2363GB

|                 |              |
|-----------------|--------------|
| Connector No.   | D505         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |    |   |   |   |   |
|----|----|----|---|---|---|---|
| 5  | 4  |    | 3 | 2 | 1 |   |
| 12 | 11 | 10 | 9 | 8 | 7 | 6 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | -           |
| 2            | R             | -           |
| 3            | P             | -           |
| 4            | W             | -           |
| 5            | R             | -           |
| 6            | SHIELD        | -           |
| 7            | Y             | -           |
| 8            | P             | -           |
| 9            | L             | -           |
| 10           | SB            | -           |
| 11           | LG            | -           |
| 12           | GR            | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | P             | -           |
| 10           | SB            | -           |
| 11           | B             | -           |
| 12           | W             | -           |
| 13           | R             | -           |
| 14           | L             | -           |
| 15           | LG            | -           |
| 16           | -             | -           |
| 17           | SHIELD        | -           |
| 18           | Y             | -           |
| 19           | -             | -           |
| 20           | GR            | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D504         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|
| 6  | 5  | 4  | 3  |    | 2  | 1  |
| 20 | 19 | 13 | 12 | 11 | 10 | 9  |
|    |    | 18 | 17 | 16 | 15 | 14 |
|    |    |    |    | 8  |    | 7  |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | -             | -           |
| 4            | P             | -           |
| 5            | W             | -           |
| 6            | R             | -           |

| Terminal No. | Color of Wire | Signal Name                     |
|--------------|---------------|---------------------------------|
| 3            | P             | -                               |
| 4            | W             | -                               |
| 5            | R             | -                               |
| 6            | SHIELD        | -                               |
| 7            | Y             | - (WITHOUT AROUND VIEW MONITOR) |
| 7            | R             | - (WITH AROUND VIEW MONITOR)    |
| 8            | P             | -                               |
| 9            | L             | -                               |
| 10           | SB            | -                               |
| 11           | LG            | -                               |
| 12           | GR            | -                               |

|                 |              |
|-----------------|--------------|
| Connector No.   | D555         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|   |   |   |   |    |    |    |
|---|---|---|---|----|----|----|
| 1 | 2 | 3 | 4 | 5  |    |    |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |



| Terminal No. | Color of Wire | Signal Name                     |
|--------------|---------------|---------------------------------|
| 1            | W             | - (WITHOUT AROUND VIEW MONITOR) |
| 1            | B             | - (WITH AROUND VIEW MONITOR)    |
| 2            | R             | - (WITHOUT AROUND VIEW MONITOR) |
| 2            | W             | - (WITH AROUND VIEW MONITOR)    |

AANIA2390GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
AV  
O  
P

|                 |   |
|-----------------|---|
| Connector No.   | D557  |
| Connector Name  | REAR VIEW CAMERA<br>(WITH AROUND VIEW<br>MONITOR) |
| Connector Color | WHITE   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | SHIELD        | -           |
| 2            | -             | -           |
| 3            | -             | -           |
| 4            | -             | -           |
| 5            | R             | -           |
| 6            | -             | -           |
| 7            | B             | -           |
| 8            | W             | -           |

AANIA2391GB

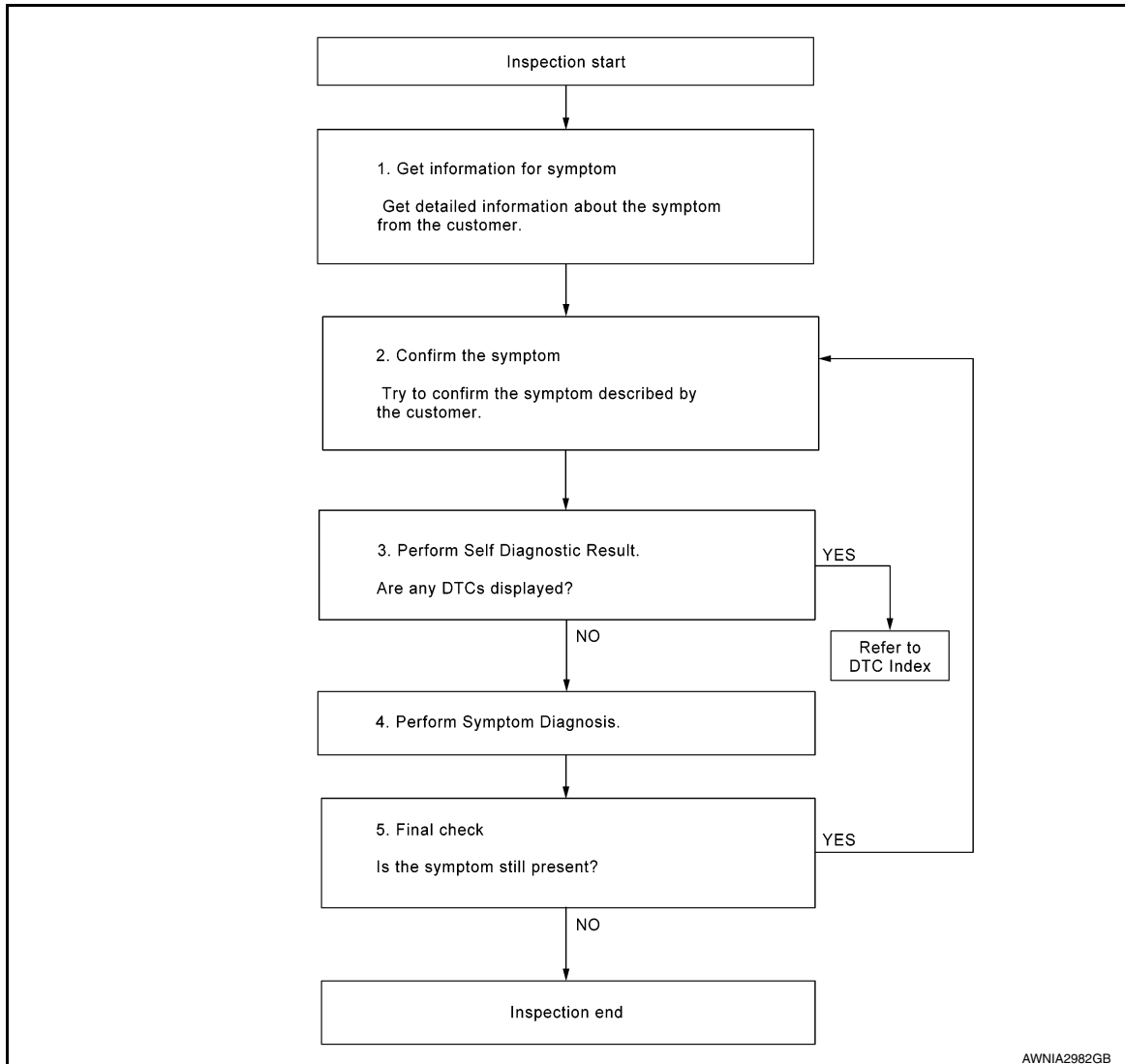
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORK FLOW

#### Work Flow

INFOID:000000009343738

#### OVERALL SEQUENCE



AWNIA2982GB

#### 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.PERFORM SELF DIAGNOSTIC RESULT

1. Turn power switch ON and wait for 2 seconds or more.

## DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[NAVIGATION WITH BOSE]

2. Depending on system being diagnosed, perform Self Diagnostic Result for:

- MULTI AV.
- AVM.

A

Are any DTCs displayed?

YES >> Refer to [AV-266, "DTC Index"](#) (MULTI AV) or [AV-273, "DTC Index"](#) (AVM).

B

NO >> GO TO 4.

### 4.PERFORM SYMPTOM DIAGNOSIS

C

Refer to [AV-363, "Symptom Table"](#).

>> GO TO 5

D

### 5.FINAL CHECK

Refer to symptom described by the customer in step 1.

E

Is the symptom still present?

YES >> GO TO 2

NO >> Inspection End.

F

G

H

I

J

K

L

M

AV

O

P

## INSPECTION AND ADJUSTMENT

### ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

### ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description

INFOID:0000000009343739

- Refer to [AV-218, "Precaution for Removing 12V Battery"](#).
- When removed the 12V battery terminal, the following work is required.

#### WORK AFTER THE AV CONTROL UNIT REPLACEMENT

- Re-registration of user ID and password to the AV control unit.
- Time adjustment check with VCM check.

#### WORK AFTER REMOVED THE 12V BATTERY TERMINAL

Time adjustment check with VCM check.

### ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Work Procedure

INFOID:0000000009343740

When not replace the AV control unit, starting from work procedure 2.

#### 1. REPLACE AV CONTROL UNIT

1. Refer to [AV-218, "Precaution for Removing 12V Battery"](#).
2. Replace the AV control unit. [AV-377, "Removal and Installation"](#).

>> GO TO 2.

#### 2. OBTAIN THE CURRENT TIME.

1. Turn the power switch to the ON or Ready position in a location where the GPS antenna signal can be received.
2. Start the AV control unit and receive the current time with the GPS antenna.

>> GO TO 3.

#### 3. CHECK THE TIME WITH VCM

1. Press "⌚" switch and select "Charging Timer" on the menu screen.
2. Confirm that the time is displayed at the upper right (GPS acquisition time) and lower left (VCM memory time) of the "Charging Timer" screen.
3. If the time does not match after 1 or 2 minutes from the screen display, the update screen is displayed.

##### Is the update screen displayed?

- NO     >> WORK END  
 YES    >> GO TO 4.

#### 4. TIME ADJUSTMENT CHECK WITH VCM

1. Press "correct time" displayed on the screen to correct the time.
2. After correction, confirm that the time displayed at the upper right (GPS acquisition time) and lower left (VCM memory time) of the "Charging Timer" screen are the same.

>> WORK END

### SOFTWARE UPDATE (AV CONTROL UNIT)

### SOFTWARE UPDATE (AV CONTROL UNIT) : Description

INFOID:0000000009343741

The software of the AV control unit can be updated by using SD card.

### SOFTWARE UPDATE (AV CONTROL UNIT) : Work Procedure

INFOID:0000000009343742

#### 1. START OF CONFIRMATION/ADJUSTMENT MODE

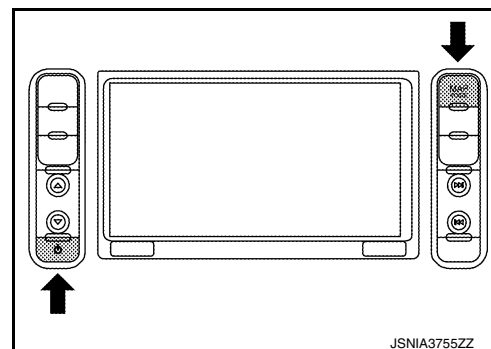


# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

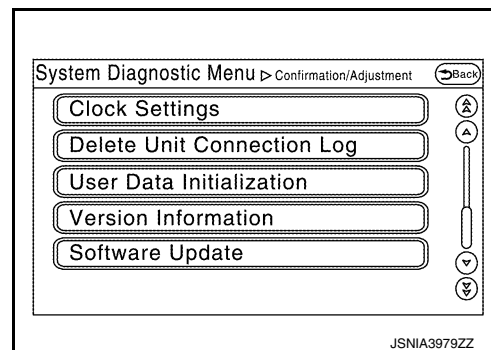
## [NAVIGATION WITH BOSE]

1. Set the power switch on ACC.
2. With AUDIO OFF, press "MAP" switch three times, "⏻" switch twice, and press "MAP" switch once to start the On Board Diagnosis Function.



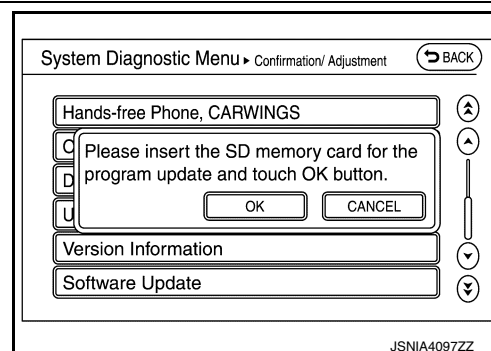
3. Select "Software Update" in Confirmation/Adjustment mode.

>> GO TO 2.



## 2.UPDATE THE SOFTWARE OF THE AV CONTROL UNIT

1. "Please insert SD Card for the program update and Push OK button" pops up.



2. Press the OPEN/TILT switch of the AV control unit to open the display.
3. Remove the cover of the SD slot and insert the SD card for software update into the SD card sub-slot (on the left).

### NOTE:

Leave the map SD card inserted in the main slot (on the right).

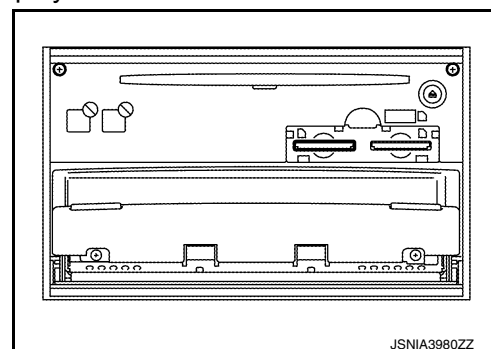
4. Press the OPEN/TILT switch of the AV control unit to close the display.

5. Select "OK" in the pop-up confirmation to start software update.

### NOTE:

The instructions below must be followed during software update.

- Never turn the power switch OFF.
- Never remove the SD card.
- Never use other functions. They are not available.

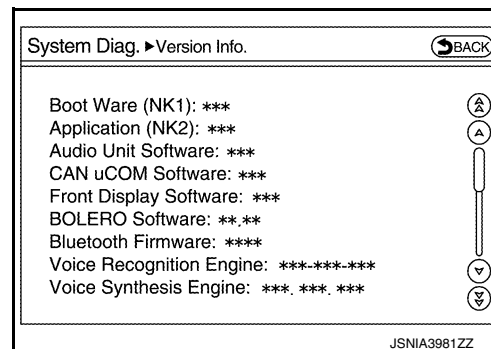


6. When the software update is complete, "The update of the program completed successfully. Please switch the power off and on again to reboot." is shown.
7. Press the OPEN/TILT switch of the AV control unit to open the display.
8. Remove the SD card for software update from the SD card sub-slot (on the left) and install the cover of the SD slot.
9. Turn the power switch OFF.

>> GO TO 3.

## 3. CHECK THE UPDATED SOFTWARE VERSION OF THE AV CONTROL UNIT

1. Set the power switch on ACC after a lapse of 15 seconds or more after the power switch is turned OFF.
2. With AUDIO OFF, press "MAP" switch three times, "⏻" switch twice, and press "MAP" switch once to start the On Board Diagnosis Function.
3. Select "Version Information" in Confirmation/Adjustment mode.
4. Check version information to see that the Boot ware and the application version are updated.



>> End of program.

## ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

### ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:000000009346896

#### BEFORE REPLACEMENT

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

#### AFTER REPLACEMENT

##### **CAUTION:**

When replacing AV control unit, you must perform "After Replace ECU" or "Manual Configuration" with CONSULT.

- Complete the procedure of "After Replace ECU" or "Manual Configuration" in order.
- If you set incorrect "After Replace ECU" or "Manual Configuration", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

### ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure

INFOID:000000009346897

## 1. SAVING VEHICLE SPECIFICATION

### Ⓟ-CONSULT Configuration

Perform "Before Replace ECU" to save or print current vehicle specification. Refer to [AV-315. "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

#### **NOTE:**

If "Before Replace ECU" can not be used, use the "Manual Configuration".

>> GO TO 2.

## 2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to [AV-377. "Removal and Installation"](#).

>> GO TO 3.

## 3. WRITING VEHICLE SPECIFICATION

### Ⓟ-CONSULT Configuration

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITH BOSE]

Perform "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to [AV-315. "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

>> 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

## ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT

### ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Description

INFOID:000000009346898

Perform the calibrating camera image when replacing around view monitor control unit. Refer to [AV-317. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

### CONFIGURATION (AV CONTROL UNIT)

#### CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:000000009346899

- 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/Write Configuration | Before Replace ECU | Allows the reading of vehicle specification written in AV control unit to store the specification in CONSULT. |
|                          | After Replace ECU  | Allows the writing of the vehicle information stored in CONSULT into the AV control unit.                     |
| Manual Configuration     |                    | Allows the writing of the vehicle specification into the AV control unit by hand.                             |

### CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:000000009346900

#### 1. WRITE VEHICLE SPECIFICATION

##### CONSULT Configuration

Write vehicle specification into AV control unit.

To write vehicle specification stored in CONSULT into the AV control unit>>GO TO 2.

To write vehicle specification into the AV control unit by hand>>GO TO 3.

#### 2. WRITE STORED DATA

##### CONSULT Configuration

Select "After Replace ECU" in "Read/Write Configuration." Write data stored in CONSULT with the "Before Replace ECU" function into the AV control unit.

>> GO TO 4.

#### 3. MANUALLY WRITE VEHICLE SPECIFICATION

##### CONSULT Configuration

Perform "Manual Configuration." Refer to the Configuration List to write vehicle specification into the AV control unit. Refer to [AV-316. "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

##### NOTE:

If selection items are not displayed on the CONSULT screen, touch "NEXT."

&gt;&gt; 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.

&gt;&gt; WORK END

**CONFIGURATION (AV CONTROL UNIT) : Configuration List**

INFOID:000000009346901

**CAUTION:**

**Check vehicle specifications before servicing.**

| MANUAL SETTING ITEM |               |
|---------------------|---------------|
| Items               | Setting value |
| STEERING            | LHD           |
|                     | RHD           |
| SOUND SYSTEM        | BASE          |
|                     | BOSE          |

**CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT)****CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure**

INFOID:000000009346902

**1. SAVING VEHICLE SPECIFICATION****Ⓟ-CONSULT Configuration**

Perform "Before Replace ECU", and save the current vehicle specification in CONSULT.

Is the vehicle specification saved normally?

YES >> GO TO 2.

NO >> GO TO 4.

**2. REPLACE AROUND VIEW MONITOR CONTROL UNIT**

Replace around view monitor control unit. Refer to [AV-391, "Removal and Installation"](#).

&gt;&gt; GO TO 3.

**3. WRITING VEHICLE SPECIFICATION****Ⓟ-CONSULT Configuration**

Select "Configuration" or "After Replace ECU", and write the vehicle specification saved in CONSULT to around view monitor control unit.

&gt;&gt; GO TO 6.

**4. REPLACE AROUND VIEW MONITOR CONTROL UNIT**

Replace around view monitor control unit. Refer to [AV-391, "Removal and Installation"](#).

&gt;&gt; GO TO 5.

**5. WRITE VEHICLE SPECIFICATION****ⓅCONSULT Configuration**

Select "Manual Configuration", and write the vehicle specification to around view monitor control unit.

**NOTE:**

Around view monitor control unit does not have any setting items. Selection of items on "Manual Configuration" screen is not required.

&gt;&gt; GO TO 6.

**6.PERFORM SELF-DIAGNOSIS****ⒺCONSULT Self Diagnostic Result**

Perform self-diagnosis of CONSULT, and check whether or not DTC U1305 is detected.

**Is DTC U1305 detected?**

&gt;&gt; GO TO 5.

&gt;&gt; GO TO 7.

**7.OPERATION CHECK**

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

&gt;&gt; WORK END

**PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT****PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Description**

INFOID:0000000009346903

Adjust the center position of the predictive course line of the rear view monitor if it is shifted.

**PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure**

INFOID:0000000009346904

**1.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.

&gt;&gt; END

**CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR)****CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description**

INFOID:0000000009346905

- Calibration must be performed after removing/replacing the cameras, removing parts (e.g. front grille, door mirror, and others) mounted on the cameras, or replacing the Around view monitor control unit.
- The use of CONSULT is required to perform calibration or writing of calibration results to the Around view monitor control unit.
- Align the white lines on the road near the vehicle at the boundary of each camera image by this camera calibration. The white lines far from the vehicle may not be aligned at the boundary of each camera image. The farther the line, the greater the difference is.

**CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure**

INFOID:0000000009346906

**CALIBRATION FLOWCHART**

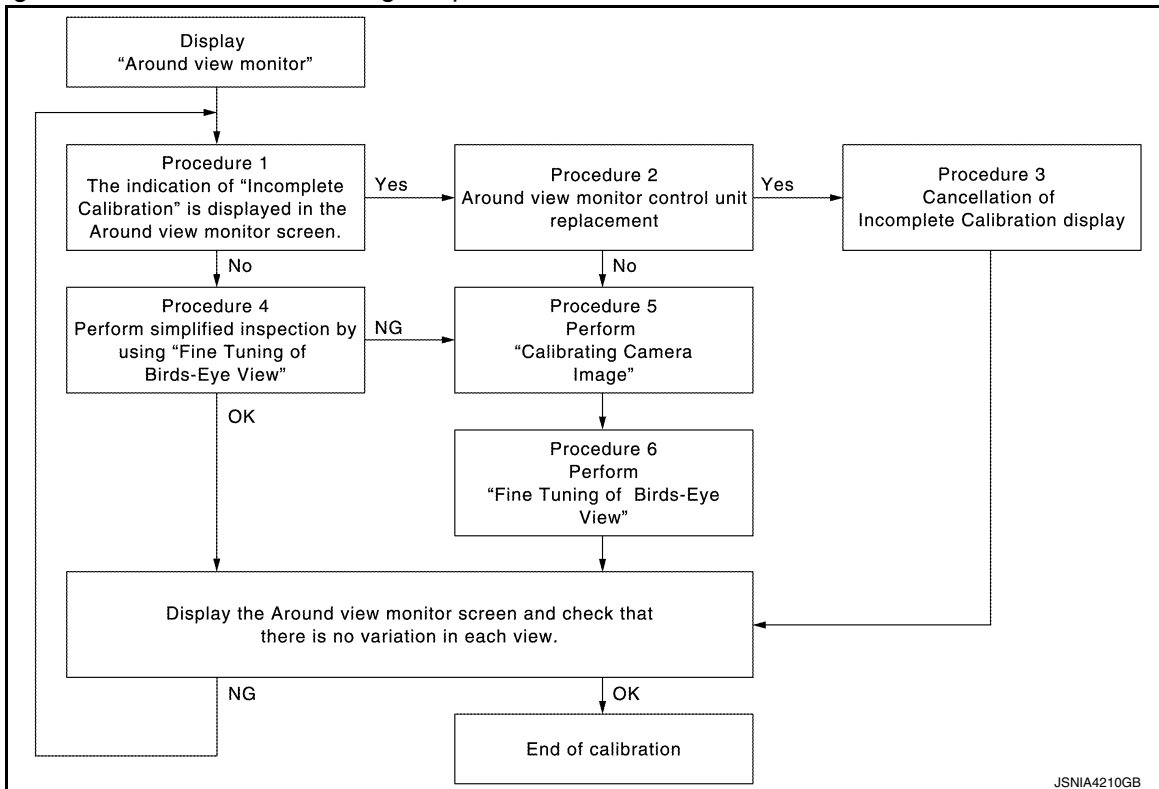
AV

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

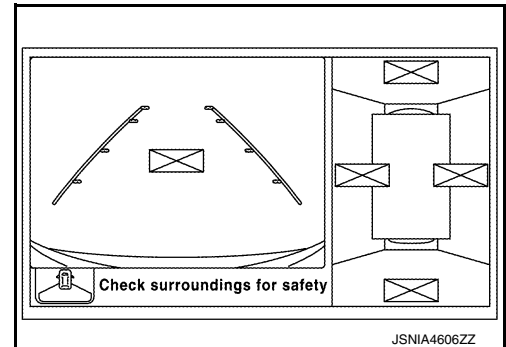
[NAVIGATION WITH BOSE]

Following the flowchart shown in the figure, perform the calibration.



## NOTE:

View in the incomplete calibration state is indicated by "✖" on the around view monitor.



## CALIBRATION PROCEDURE

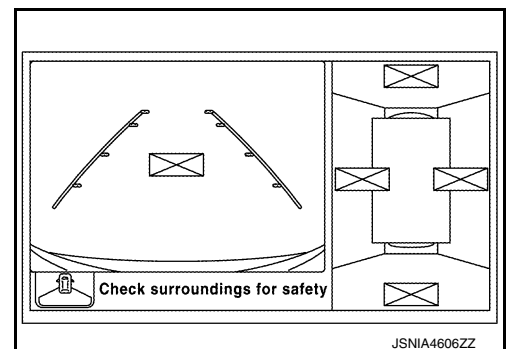
### 1. AROUND VIEW MONITOR SCREEN CONFIRMATION

Check that there is no indication of "Incomplete calibration".

Is the "Incomplete calibration" display visible?

YES >> GO TO 2.

NO >> GO TO 4.



### 2. CHECK THAT AROUND VIEW MONITOR CONTROL UNIT IS REPLACED

Check that the around view monitor control unit is replaced.

Is the around view monitor control unit replaced?

YES >> GO TO 3.

NO >> GO TO 5.

## 3. CANCEL THE INDICATION OF INCOMPLETE CALIBRATION (PERFORM THIS ONLY AFTER REPLACING AROUND VIEW MONITOR CONTROL UNIT.)

### CONSULT work support

- On the CONSULT screen, touch "CALIBRATING CAMERA IMAGE (FRONT CAMERA)", "CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)", "CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)", or "CALIBRATING CAMERA IMAGE (REAR CAMERA)" to accept the selection.

#### NOTE:

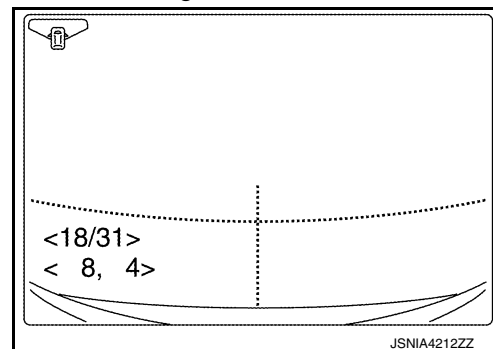
To cancel the indication of Incomplete calibration, select items based on the target camera.

- On the adjustment screen of each camera, touch "APPLY" button. After this, touch "OK" button.

#### CAUTION:

- Never perform operations other than those mentioned above.
- Never perform "Initialize Camera Image Calibration".

- Display the around view monitor screen to check that there is no errors, such as deviations among the camera images.



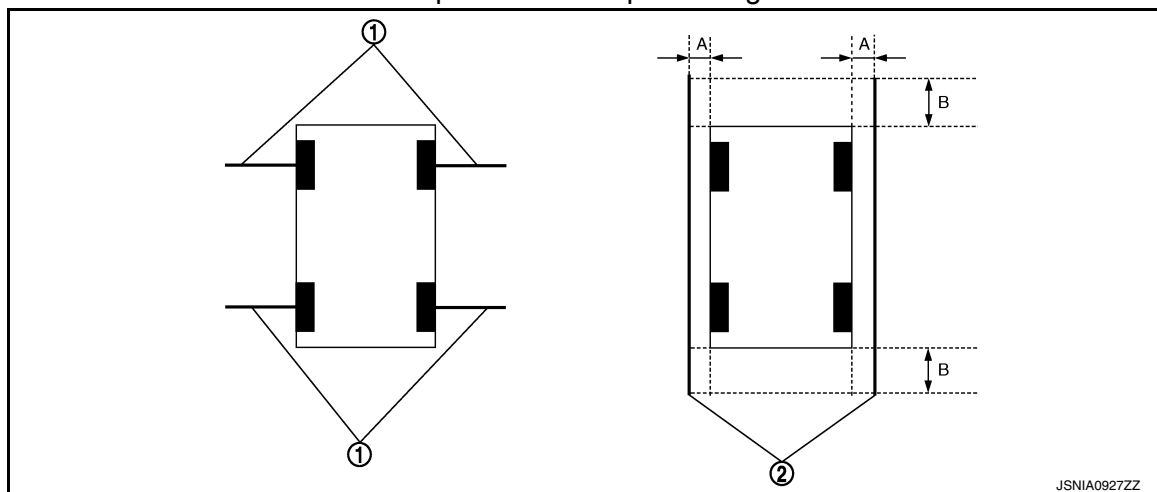
### Is there a malfunction?

- YES >> Calibration end  
NO >> GO TO 1.

## 4. PERFORM SIMPLIFIED CONFIRMATION/ADJUSTMENT BY "FINE TUNING OF BIRDS-EYE VIEW"

- Put target line 1 on the ground beside each axle using packing tape, etc.
- Put target lines 2 equal to the vehicle total length + approximately 1.0 m (39.3 in) from the vehicle side (right and left) at approximately 30 cm (11.8 in) away from the vehicle (make the line as parallel with the vehicle as possible)

Preparation of simplified target line



- |                            |                            |
|----------------------------|----------------------------|
| 1. Target lines 1          | 2. Target lines 2          |
| A. Approx. 30 cm (11.8 in) | B. Approx. 1.0 m (39.3 in) |

### CONSULT work support

Touch "FINE TUNING OF BIRDS-EYE VIEW" on the CONSULT screen.

- On the CONSULT screen, touch "SELECT" button to select right or left camera and perform camera calibration as instructed below:
  - If the marker on the screen deviates from Target line 1, touch "AXIS X" button and "AXIS Y" button to adjust so that the marker is placed on the Target line 1.
  - If Target line 2 is misaligned among the cameras, adjust each camera image to bring Target line 2 into a straight line.

#### CAUTION:

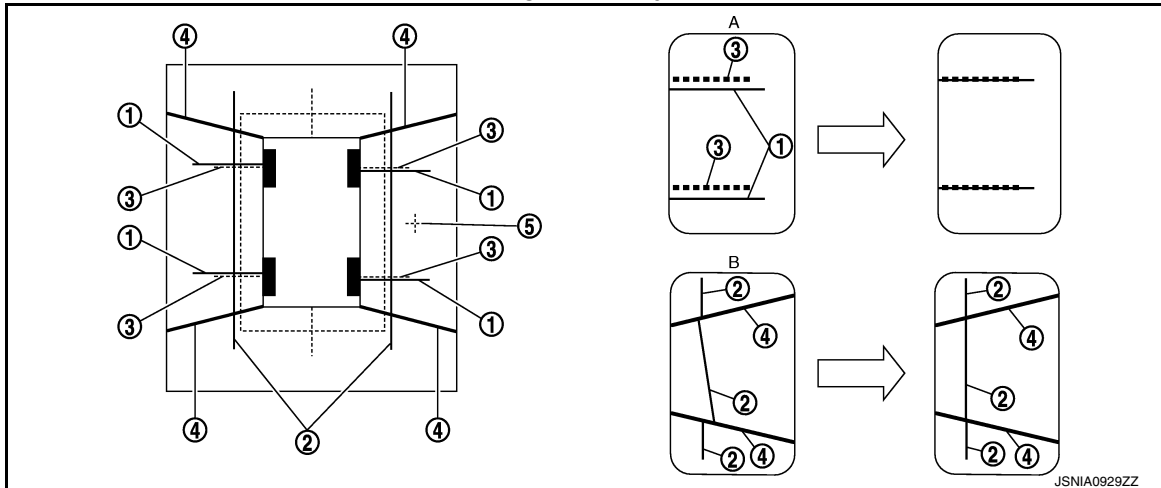
Never adjust the front camera and rear camera. Only adjust the right and left cameras.

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITH BOSE]

## Simplified target line adjustment method



- |   |   |                             |
|---|---|-----------------------------|
| 1. Target lines 1                               | 2. Target lines 2   | 3. Marker for target line 1 |
| 4. Boundary between cameras                     | 5. Crosshairs cursor (mark indicated the selected camera) |                             |
| A. Adjustment method for target lines 1 (right) | B. Adjustment method for target lines 2 (right)           |                             |

- Adjust right and left cameras. Touch "APPLY" on the CONSULT screen to display adjustment results.
- After adjusting right and left cameras, check that the marker is properly placed on the screen and there is no deviation in Target line 1.

### NOTE:

- It can be initialized to the NISSAN factory default condition with "Initialize Camera Image Calibration".
- The adjustment value is cancelled on this mode by performing "Initialize Camera Image Calibration".

### Is the difference corrected?

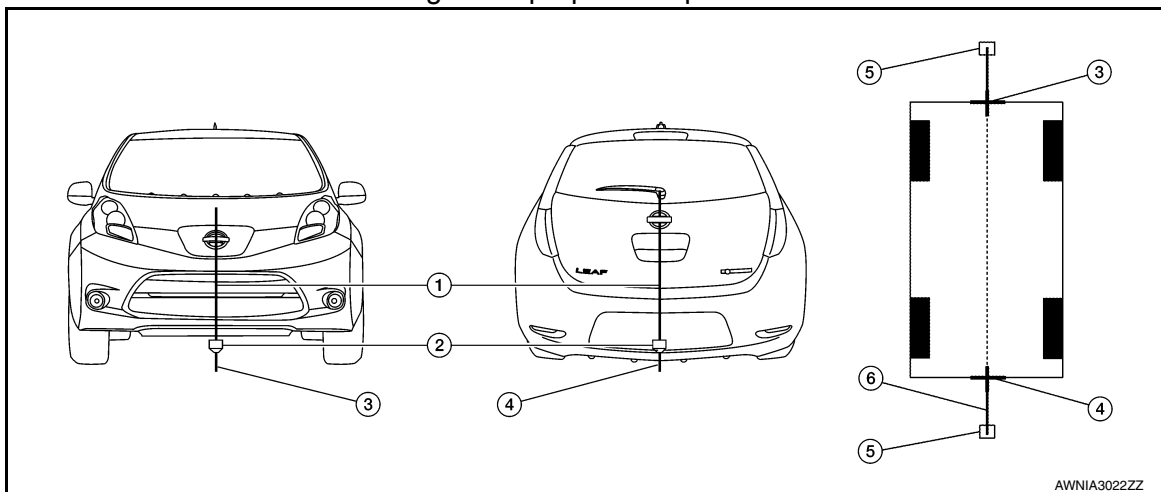
- YES >> On the CONSULT screen, touch "OK" button to complete writing to the around view monitor control unit.
- NO >> GO TO 5.

## 5.PERFORM "CALIBRATING CAMERA IMAGE"

### Preparation of target line

- Hang a string with a weight as shown in the figure. Put the points FM0, RM0 (mark) on the ground at the center of the vehicle front end and rear end with white packing tape or a pen.
- Route the vinyl string under the vehicle, and then pull and fix it on the point approximately 1.0 m (39.9 in) to the front and rear of the vehicle through the points FM0 and RM0 using packing tape.

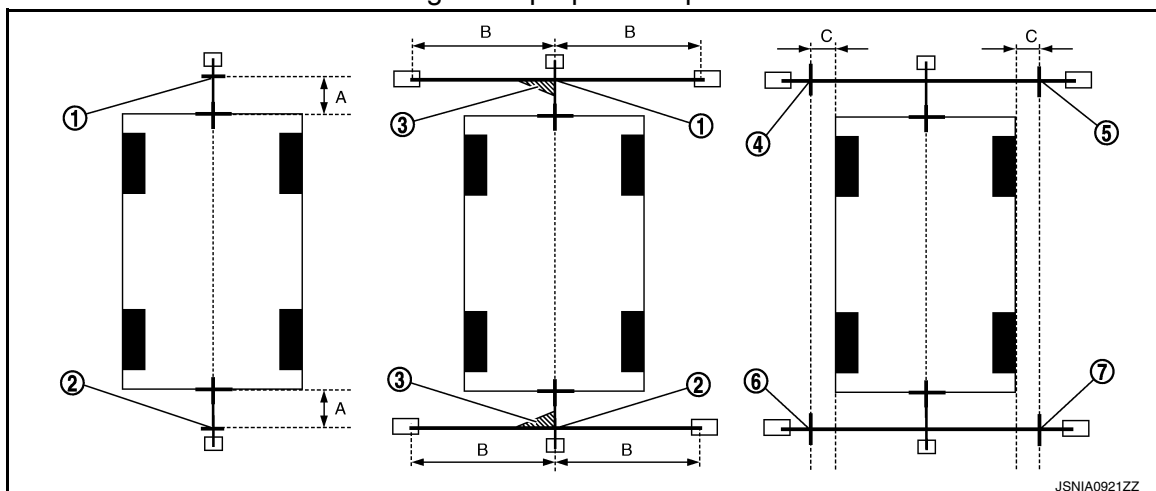
### Target line preparation procedure 1





1. Thread
2. Weight
3. Point FM0 (mark)
4. Point RM0 (mark)
5. Packing tape (to fix the vinyl string)
6. Vinyl string
3. Put the points FM and RM (mark) 75 cm (29.5 in) from the points FM0 and RM0 individually.
4. Route the vinyl string through the points FM and RM using a triangle scale, and then fix it at approximately 1.5 m (59 in) on both sides with packing tape.
5. Put the points FL, FR, RL, and RR (mark) to both right and left [vehicle width / 2 + 30 cm (11.8 in)] from the points FM and RM.

Target line preparation procedure 2



1. Point FM
4. Point FL (mark)
7. Point RR (mark)

2. Point RM
5. Point FR (mark)

3. Triangle scale
6. Point RL (mark)

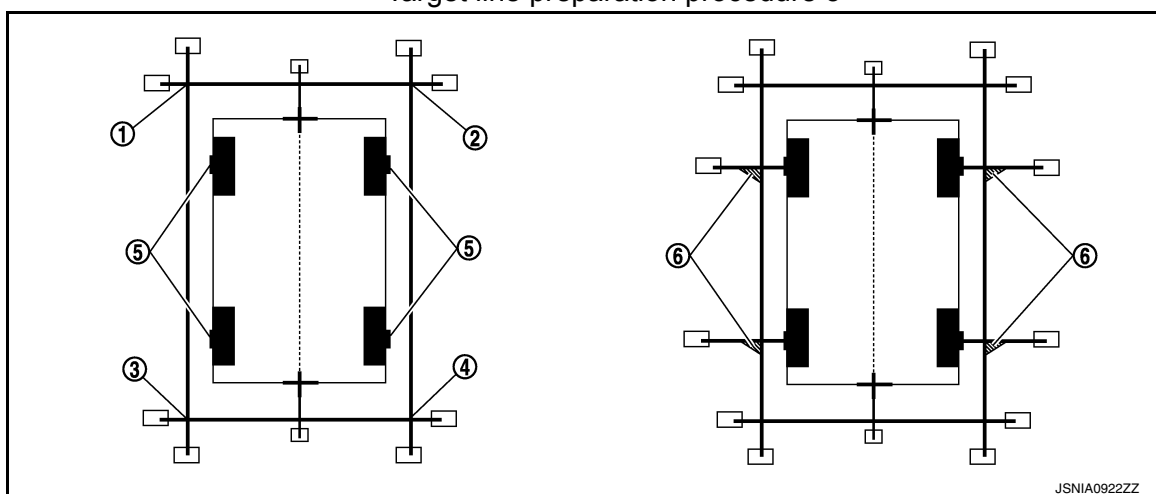
A. 75 cm (29.5 in)

B. Approx. 1.5 m (59 in)

C. 30 cm (11.8 in)  
[Vehicle width / 2 + 30 cm (11.8 in)  
from the points FM and RM]

6. Draw the lines of the points FL – RL and FR – RR with vinyl string, and fix it with packing tape.
7. Put a mark on the center of each axle, draw vertical lines to the lines of the points FL – RL and FR – RR from the marks on the center of the axle using a triangle scale, and then fix the lines using packing tape.

Target line preparation procedure 3



1. Point FL
4. Point RR

2. Point FR
5. Center position of axle

3. Point RL
6. Triangle scale

Perform “Calibrating Camera Image”

CONSULT work support

# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

## [NAVIGATION WITH BOSE]

1. On the CONSULT screen, touch "CALIBRATING CAMERA IMAGE (FRONT CAMERA)", "CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)", "CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)", or "CALIBRATING CAMERA IMAGE (REAR CAMERA)" to accept the selection.

### NOTE:

To cancel the indication of Incomplete calibration, select items based on the target camera.

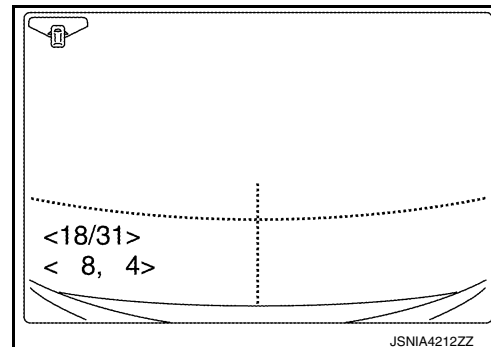
2. On the adjustment screen of each camera, adjust the parameter by touching the "AXIS X" button, "AXIS Y" button, and "ROTATE" button to place the calibration marker shown on the camera screen on the target line drawn on the ground.

Adjustment range

Rotation direction (Center dial) : 31 patterns (16 on the center)

Upper/lower direction (upper/lower switch) : -22 - 22

Left/right direction (left/right switch) : -22 - 22



3. Touch "APPLY" button on the CONSULT screen. "PRCSNG" is displayed and adjustment results are shown on the camera screen.

### CAUTION:

**Check that "PRCSNG" is displayed. Do never perform other operations while "PRCSNG" is displayed.**

4. Touch "OK" button on the CONSULT screen. "PRCSNG" is displayed and adjustment results are written to the around view monitor control unit.

### CAUTION:

**Check that "PRCSNG" is displayed. Do never perform other operations while "PRCSNG" is displayed.**

>> GO TO 6.

## 6.PERFORM "FINE TUNING OF BIRDS-EYE VIEW"

This mode is designed to align the boundary between each camera image that could not be aligned in the "Calibrating Camera Image" mode.

### ⓅCONSULT work support

1. Select "FINE TUNING OF BIRDS-EYE VIEW" by touching CONSULT screen.

2. On the adjustment screen of each camera, adjust the parameter by touching the "AXIS X" button, "AXIS Y" button, and "ROTATE" button to place the calibration marker shown on the camera screen on the target line drawn on the ground.

### NOTE:

Touch "SELECT" button on the CONSULT screen to select the target camera.

3. Touch "APPLY" button on the CONSULT screen. "PRCSNG" is displayed and adjustment results are shown on the camera screen.

### CAUTION:

**Check that "PRCSNG" is displayed. Do never perform other operations while "PRCSNG" is displayed.**

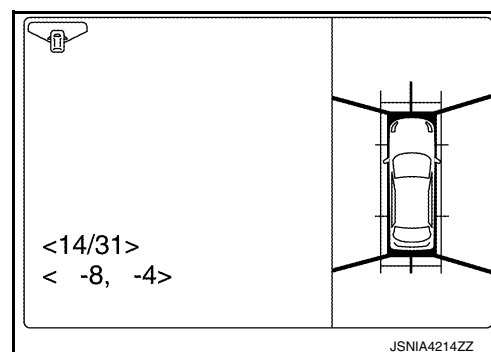
4. Touch "OK" button on the CONSULT screen. "PRCSNG" is displayed and adjustment results are written to the around view monitor control unit.

### CAUTION:

- Check that "PRCSNG" is displayed. Never perform other operations while "PRCSNG" is displayed.
- After pressing the "OK" button, never press buttons other than the "BACK" button.

### NOTE:

- It can be initialized to the NISSAN factory default condition with "Initialize Camera Image Calibration".
- The adjustment value is cancelled in this mode by performing "Initialize Camera Image Calibration".



>> Calibration end

## U0428 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

### DTC/CIRCUIT DIAGNOSIS

#### U0428 STEERING ANGLE SENSOR

##### DTC Logic

INFOID:0000000009354593

| CONSULT Display                             | DTC Detection Condition  | Possible Cause   |
|---|--|--|
| ST ANGLE SENSOR CALI-<br>BRATION<br>[U0428] | The neutral position adjustment of the steering<br>angle sensor is incomplete. | Adjust neutral position of the steering angle sen-<br>sor. |

##### Diagnosis Procedure

INFOID:0000000009354594

#### 1. ADJUST THE NEUTRAL POSITION OF THE STEERING ANGLE SENSOR

When U1232 is detected, adjust the neutral position of the steering angle sensor.

>> Perform adjustment of the neutral position of the steering angle sensor. Refer to [AV-258, "CONSULT Function"](#).

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
O  
P

## U1000 CAN COMM CIRCUIT

### AV CONTROL UNIT

#### AV CONTROL UNIT : Description

INFOID:000000009343743

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on board multiplex communication line with high data communication speed and excellent error detection ability. A modern vehicle is equipped with many ECMs, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, 2 control units are connected with 2 communication lines (CAN H-line and CAN L-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

Refer to [LAN-36, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#) for details of the communication signal.

#### AV CONTROL UNIT : DTC Logic

INFOID:000000009343744

#### DTC DETECTION LOGIC

| CONSULT Display          | DTC Detection Condition  | Possible Cause           |
|--------------------------|--|--------------------------|
| CAN COMM CIRC<br>[U1000] | When the AV control unit cannot communicate for 2 seconds or more. | CAN communication system |

#### AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000009343745

##### 1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn the power switch ON and hold for 2 seconds or more.
2. Check Self Diagnostic Result of MULTI-AV.

Is CAN communication system displayed?

YES >> Refer to [LAN-16, "Trouble Diagnosis Flow Chart"](#).

NO >> Refer to [GI-53, "Intermittent Incident"](#).

### AROUND VIEW MONITOR CONTROL UNIT

#### AROUND VIEW MONITOR CONTROL UNIT : Description

INFOID:000000009354589

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 independently). 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.

CAN Communication Signal Chart. Refer to [LAN-36, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

#### AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:000000009354590

#### DTC DETECTION LOGIC

| CONSULT Display             | DTC Detection Condition   | Possible Cause            |
|-----------------------------|---|---------------------------|
| CAN COMM CIRCUIT<br>[U1000] | Around view monitor control unit is not transmitting or receiving CAN communication signal for 2 seconds or more. | CAN communication system. |

#### AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:000000009354591

##### 1.PERFORM SELF-DIAGNOSTIC RESULT

1. Turn power switch ON and wait for 2 seconds or more.
2. Check Self Diagnostic Result of AVM.

Is "CAN COMM CIRCUIT" displayed?

## U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

YES >> Refer to [LAN-16, "Trouble Diagnosis Flow Chart"](#).  
NO >> Refer to [GI-53, "Intermittent Incident"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

## U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

### U1010 CONTROL UNIT (CAN)

#### AV CONTROL UNIT

#### AV CONTROL UNIT : DTC Logic

INFOID:000000009343746

#### DTC DETECTION LOGIC

| CONSULT Display               | DTC Detection Condition   | Possible Cause   |
|-------------------------------|---|--|
| CONTROL UNIT (CAN)<br>[U1010] | Malfunction is detected during initial diagnosis of the AV control unit CAN controller. | Replace the AV control unit if malfunction constantly occurs.<br>Refer to <a href="#">AV-377. "Removal and Installation"</a> . |

### AROUND VIEW MONITOR CONTROL UNIT

#### AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:000000009354592

#### DTC DETECTION LOGIC

| CONSULT Display               | DTC Detection Condition                        | Possible Cause  |
|-------------------------------|--|---|
| CONTROL UNIT (CAN)<br>[U1010] | CAN initial diagnosis malfunction is detected. | Replace the around view monitor control unit if the malfunction occurs constantly.<br>Refer to <a href="#">AV-391. "Removal and Installation"</a> . |

# U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

## U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

### DTC Logic

INFOID:000000009354595

| CONSULT Display                     | DTC Detection Condition                              | Possible Cause   |
|-------------------------------------|--|--|
| REAR CAMERA IMAGE SIGNAL<br>[U111A] | Rear camera image signal circuit is open or shorted. | Check rear camera image signal circuit between rear camera and around view monitor control unit. |

### Diagnosis Procedure

INFOID:000000009354596

#### 1.CHECK REAR VIEW CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn power switch OFF.
2. Disconnect around view monitor control unit and rear view camera connectors.
3. Check continuity between around view monitor control unit connector M32 and rear view camera connector D557.

| Around view monitor control unit |           | Rear view camera |           | Continuity |
|----------------------------------|-----------|------------------|-----------|------------|
| Connector                        | Terminals | Connector        | Terminals |            |
| M32                              | 26        | D557             | 8         | Yes        |
|                                  | 25        |                  | 7         |            |

4. Check continuity between around view monitor control unit connector M32 and ground.

| Around view monitor control unit |          | Ground | Continuity |
|----------------------------------|----------|--------|------------|
| Connector                        | Terminal |        |            |
| M32                              | 26       | —      | No         |

#### Is inspection result normal?

- YES >> GO TO 2.  
NO >> Repair or replace harness or connectors.

#### 2.CHECK REAR VIEW CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn power switch ON.
3. Check voltage between around view monitor control unit connector M32 and ground.

| Around view monitor control unit |          | Ground | Condition  | Voltage<br>(Approx.) |
|----------------------------------|----------|--------|--|----------------------|
| Connector                        | Terminal |        |  |                      |
| M32                              | 26       | —      | CAMERA switch ON<br>or<br>Selector lever in R (reverse) position | 6.2 V                |

#### Is inspection result normal?

- YES >> GO TO 3.  
NO >> Replace around view monitor control unit. Refer to [AV-391, "Removal and Installation"](#).

#### 3.CHECK REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn power switch OFF.
2. Disconnect around view monitor control unit and rear view camera connectors.
3. Check continuity between around view monitor control unit connector M32 and rear view camera connector D557.

| Around view monitor control unit |           | Rear view camera |           | Continuity |
|----------------------------------|-----------|------------------|-----------|------------|
| Connector                        | Terminals | Connector        | Terminals |            |

# U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

|     |    |      |   |     |
|-----|----|------|---|-----|
| M32 | 28 | D557 | 5 | Yes |
|     | 27 |      | 1 |     |

4. Check continuity between around view monitor control unit connector M32 and ground.

| Around view monitor control unit |          | Ground | Continuity |
|----------------------------------|----------|--------|------------|
| Connector                        | Terminal |        |            |
| M32                              | 28       | —      | No         |

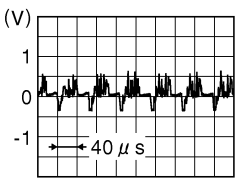
Is inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

## 4.CHECK REAR VIEW CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn power switch ON.
3. Check signal between terminals of around view monitor control unit connector M32.

| Around view monitor control unit connector M32 |          | Condition   | Reference value   |
|--|----------|---|---|
| (+)  | (-)      |   |   |
| Terminal                                       | Terminal |   |   |
| 28   | 27       | CAMERA switch ON<br>or<br>Selector lever in R (reverse)<br>position |  <p>JSNIA0834GB</p> |

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-391, "Removal and Installation"](#).

NO >> Replace rear view camera. Refer to [AV-394, "Removal and Installation"](#).



# U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

## U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

### DTC Logic

INFOID:000000009354597

| CONSULT Display                        | DTC Detection Condition                                 | Possible Cause  |
|--|---|---|
| SIDE CAMERA RH IMAGE SIGNAL<br>[U111B] | Side camera RH image signal circuit is open or shorted. | Check side camera RH image signal circuit between rear camera and around view monitor control unit. |

### Diagnosis Procedure

INFOID:000000009354598

#### 1.CHECK SIDE CAMERA RH POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn power switch OFF.
2. Disconnect around view monitor control unit and side camera RH connectors.
3. Check continuity between around view monitor control unit connector M32 and side camera RH connector D101.

| Around view monitor control unit |           | Side camera RH |           | Continuity |
|----------------------------------|-----------|----------------|-----------|------------|
| Connector                        | Terminals | Connector      | Terminals |            |
| M32                              | 34        | D101           | 1         | Yes        |
|                                  | 33        |                | 2         |            |

4. Check continuity between around view monitor control unit connector M32 and ground.

| Around view monitor control unit |          | Ground | Continuity |
|----------------------------------|----------|--------|------------|
| Connector                        | Terminal |        |            |
| M32                              | 34       | —      | No         |

#### Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

#### 2.CHECK SIDE CAMERA RH POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and side camera RH connectors.
2. Turn power switch ON.
3. Check voltage between around view monitor control unit connector M32 and ground.

| Around view monitor control unit |          | Ground | Condition  | Voltage (Approx.) |
|----------------------------------|----------|--------|--|-------------------|
| Connector                        | Terminal |        |  |                   |
| M32                              | 34       | —      | CAMERA switch ON or Selector lever in R (reverse) position | 6.2 V             |

#### Is inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-391, "Removal and Installation"](#).

#### 3.CHECK SIDE CAMERA RH IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn power switch OFF.
2. Disconnect around view monitor control unit and side camera RH connectors.
3. Check continuity between around view monitor control unit connector M32 and side camera RH connector D101.

| Around view monitor control unit |           | Side camera RH |           | Continuity |
|----------------------------------|-----------|----------------|-----------|------------|
| Connector                        | Terminals | Connector      | Terminals |            |

# U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

|     |    |      |   |     |
|-----|----|------|---|-----|
| M32 | 36 | D101 | 3 | Yes |
|     | 35 |      | 4 |     |

4. Check continuity between around view monitor control unit connector M32 and ground.

| Around view monitor control unit |          | Ground | Continuity |
|----------------------------------|----------|--------|------------|
| Connector                        | Terminal |        |            |
| M32                              | 36       | —      | No         |

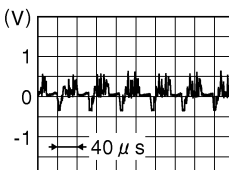
Is inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

## 4.CHECK SIDE CAMERA RH IMAGE SIGNAL

1. Connect around view monitor control unit and side camera RH connectors.
2. Turn power switch ON.
3. Check signal between terminals of around view monitor control unit connector M32.

| Around view monitor control unit connector M32 |          | Condition   | Reference value   |
|--|----------|---|---|
| (+)  | (-)      |   |   |
| Terminal                                       | Terminal |   |   |
| 36   | 35       | CAMERA switch ON<br>or<br>Selector lever in R (reverse)<br>position |  <p>(V)</p> <p>1</p> <p>0</p> <p>-1</p> <p>40 μs</p> <p>JSNIA0834GB</p> |

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-391. "Removal and Installation"](#).

NO >> Replace side camera RH. Refer to [AV-393. "Removal and Installation"](#).

# U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

## U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

### DTC Logic

INFOID:000000009354599

| CONSULT Display                      | DTC Detection Condition                               | Possible Cause  |
|--------------------------------------|---|---|
| FRONT CAMERA IMAGE SIGNAL<br>[U111C] | Front camera image signal circuit is open or shorted. | Check front camera image signal circuit between rear camera and around view monitor control unit. |

### Diagnosis Procedure

INFOID:000000009354600

#### 1.CHECK FRONT CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn power switch OFF.
2. Disconnect around view monitor control unit and front camera connectors.
3. Check continuity between around view monitor control unit connector M32 and front camera connector E202.

| Around view monitor control unit |           | Front camera |           | Continuity |
|----------------------------------|-----------|--------------|-----------|------------|
| Connector                        | Terminals | Connector    | Terminals |            |
| M32                              | 38        | E202         | 2         | Yes        |
|                                  | 37        |              | 1         |            |

4. Check continuity between around view monitor control unit connector M32 and ground.

| Around view monitor control unit |          | Ground | Continuity |
|----------------------------------|----------|--------|------------|
| Connector                        | Terminal |        |            |
| M32                              | 38       | —      | No         |

#### Is inspection result normal?

- YES >> GO TO 2.  
NO >> Repair or replace harness or connectors.

#### 2.CHECK FRONT CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and front camera connectors.
2. Turn power switch ON.
3. Check voltage between around view monitor control unit connector M32 and ground.

| Around view monitor control unit |          | Ground | Condition  | Voltage (Approx.) |
|----------------------------------|----------|--------|--|-------------------|
| Connector                        | Terminal |        |  |                   |
| M32                              | 38       | —      | CAMERA switch ON or Selector lever in R (reverse) position | 6.2 V             |

#### Is inspection result normal?

- YES >> GO TO 3.  
NO >> Replace around view monitor control unit. Refer to [AV-391, "Removal and Installation"](#).

#### 3.CHECK FRONT CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn power switch OFF.
2. Disconnect around view monitor control unit and front camera connectors.
3. Check continuity between around view monitor control unit connector M32 and front camera connector E202.

| Around view monitor control unit |           | Front camera |           | Continuity |
|----------------------------------|-----------|--------------|-----------|------------|
| Connector                        | Terminals | Connector    | Terminals |            |

# U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

|     |    |      |   |     |
|-----|----|------|---|-----|
| M32 | 40 | E202 | 3 | Yes |
|     | 39 |      | 4 |     |

4. Check continuity between around view monitor control unit connector M32 and ground.

| Around view monitor control unit |          | Ground | Continuity |
|----------------------------------|----------|--------|------------|
| Connector                        | Terminal |        |            |
| M32                              | 40       | —      | No         |

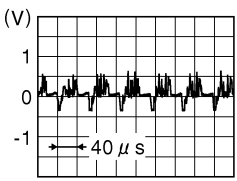
Is inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

## 4.CHECK FRONT CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and front camera connectors.
2. Turn power switch ON.
3. Check signal between terminals of around view monitor control unit connector M32.

| Around view monitor control unit connector M32 |          | Condition   | Reference value   |
|--|----------|---|---|
| (+)  | (-)      |   |   |
| Terminal                                       | Terminal |   |   |
| 40   | 39       | CAMERA switch ON<br>or<br>Selector lever in R (reverse)<br>position |  <p>JSNIA0834GB</p> |

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-391, "Removal and Installation"](#).

NO >> Replace front camera. Refer to [AV-392, "Removal and Installation"](#).

# U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

## U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

### DTC Logic

INFOID:000000009354601

| CONSULT Display                        | DTC Detection Condition                                 | Possible Cause  |
|--|---|---|
| SIDE CAMERA LH IMAGE SIGNAL<br>[U111D] | Side camera LH image signal circuit is open or shorted. | Check side camera LH image signal circuit between rear camera and around view monitor control unit. |

### Diagnosis Procedure

INFOID:000000009354602

#### 1.CHECK SIDE CAMERA LH POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn power switch OFF.
2. Disconnect around view monitor control unit and side camera LH connectors.
3. Check continuity between around view monitor control unit connector M32 and side camera LH connector D1.

| Around view monitor control unit |           | Side camera LH |           | Continuity |
|----------------------------------|-----------|----------------|-----------|------------|
| Connector                        | Terminals | Connector      | Terminals |            |
| M32                              | 30        | D1             | 1         | Yes        |
|                                  | 29        |                | 2         |            |

4. Check continuity between around view monitor control unit connector M32 and ground.

| Around view monitor control unit |          | Ground | Continuity |
|----------------------------------|----------|--------|------------|
| Connector                        | Terminal |        |            |
| M32                              | 30       | —      | No         |

#### Is inspection result normal?

- YES >> GO TO 2.  
NO >> Repair or replace harness or connectors.

#### 2.CHECK SIDE CAMERA LH POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and side camera LH connectors.
2. Turn power switch ON.
3. Check voltage between around view monitor control unit connector M32 and ground.

| Around view monitor control unit |          | Ground | Condition  | Voltage (Approx.) |
|----------------------------------|----------|--------|--|-------------------|
| Connector                        | Terminal |        |  |                   |
| M32                              | 30       | —      | CAMERA switch ON or Selector lever in R (reverse) position | 6.2 V             |

#### Is inspection result normal?

- YES >> GO TO 3.  
NO >> Replace around view monitor control unit. Refer to [AV-391, "Removal and Installation"](#).

#### 3.CHECK SIDE CAMERA LH IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn power switch OFF.
2. Disconnect around view monitor control unit and side camera LH connectors.
3. Check continuity between around view monitor control unit connector M32 and side camera LH connector D1.

| Around view monitor control unit |           | Side camera LH |           | Continuity |
|----------------------------------|-----------|----------------|-----------|------------|
| Connector                        | Terminals | Connector      | Terminals |            |

# U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

|     |    |    |   |     |
|-----|----|----|---|-----|
| M32 | 32 | D1 | 3 | Yes |
|     | 31 |    | 4 |     |

4. Check continuity between around view monitor control unit connector M32 and ground.

| Around view monitor control unit |          | Ground | Continuity |
|----------------------------------|----------|--------|------------|
| Connector                        | Terminal |        |            |
| M32                              | 32       | —      | No         |

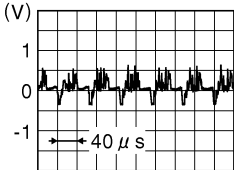
Is inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

## 4.CHECK SIDE CAMERA LH IMAGE SIGNAL

1. Connect around view monitor control unit and side camera LH connectors.
2. Turn power switch ON.
3. Check signal between terminals of around view monitor control unit connector M32.

| Around view monitor control unit connector M32 |          | Condition   | Reference value  |
|--|----------|---|--|
| (+)  | (-)      |   |  |
| Terminal                                       | Terminal |   |  |
| 32   | 31       | CAMERA switch ON<br>or<br>Selector lever in R (reverse)<br>position |  |

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-391, "Removal and Installation"](#).

NO >> Replace side camera LH. Refer to [AV-393, "Removal and Installation"](#).

## U121F AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

### U121F AV CONTROL UNIT

#### DTC Logic

INFOID:000000009343747

| CONSULT Display         | DTC Detection Condition                 | Possible Cause   |
|-------------------------|---|--|
| CONTROL UNIT<br>[U121F] | AV control unit malfunction is detected | Replace the AV control unit if the malfunction constantly occurs.<br>Refer to <a href="#">AV-377. "Removal and Installation"</a> . |

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## U1232 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

### U1232 STEERING ANGLE SENSOR

#### DTC Logic

INFOID:0000000009343748

| CONSULT Display                              | DTC Detection Condition   | Possible Cause   |
|--|---|--|
| Steering angle sensor calibration<br>[U1232] | Neutral position adjustment of the steering angle sensor is not complete. | Perform neutral position adjustment of the steering angle sensor.<br>Refer to <a href="#">AV-257, "CONSULT Function"</a> . |

#### Diagnosis Procedure

INFOID:0000000009343749

#### 1. ADJUST NEUTRAL POSITION OF STEERING ANGLE SENSOR

When U1232 is detected, adjust the neutral position of the steering angle sensor.

>> Perform neutral position adjustment of the steering angle sensor. Refer to [AV-257, "CONSULT Function"](#).



# U1244 GPS ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

## U1244 GPS ANTENNA

### DTC Logic

INFOID:000000009343750

| CONSULT Display             | DTC Detection Condition                        | Possible Cause  |
|-----------------------------|--|---|
| GPS ANTENNA CONN<br>[U1244] | GPS antenna connection malfunction is detected | <ul style="list-style-type: none"><li>Check the connection status of the GPS antenna.</li><li>Replace the GPS antenna.<br/>Refer to <a href="#">AV-382, "Removal and Installation"</a>.</li></ul> |

### Diagnosis Procedure

INFOID:000000009343751

#### 1.CHECK THE GPS ANTENNA CONNECTOR.

Check the connection status of the GPS antenna connector.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

#### 2.CHECK THE GPS ANTENNA FEEDER.

Check the GPS antenna feeder visually.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the GPS antenna. Refer to [AV-382, "Removal and Installation"](#).

#### 3.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect AV control unit connector M121.
2. Turn power switch ON.
3. Check voltage between AV control unit connector M121 and ground.

| AV control unit |          | Ground | Voltage<br>(Approx.) |
|-----------------|----------|--------|----------------------|
| Connector       | Terminal |        |                      |
| M121            | 83       | —      | 5.0 V                |

Is the inspection result normal?

YES >> Replace the GPS antenna. Refer to [AV-382, "Removal and Installation"](#).

NO >> Replace the AV control unit. Refer to [AV-377, "Removal and Installation"](#).

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# U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

## U1258 SATELLITE RADIO ANTENNA

### DTC Logic

INFOID:000000009343752

| CONSULT Display            | DTC Detection Condition                                     | Possible Cause                         |
|----------------------------|---|--|
| XM ANTENNA CONN<br>[U1258] | Satellite radio antenna connection malfunction is detected. | Satellite radio antenna disconnection. |

### Diagnosis Procedure

INFOID:000000009343753

#### 1.CHECK THE SATELLITE ANTENNA CONNECTOR.

Check the connection status of the satellite antenna connector.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

#### 2.CHECK THE SATELLITE ANTENNA FEEDER.

Check the satellite antenna feeder visually.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the satellite antenna. Refer to [AV-385, "Removal and Installation"](#).

#### 3.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect AV control unit connector M123.
2. Turn power switch ON.
3. Check voltage between AV control unit connector M123 and ground.

| AV control unit |          | Ground | Voltage<br>(Approx.) |
|-----------------|----------|--------|----------------------|
| Connector       | Terminal |        |                      |
| M123            | 88       | —      | 5.0 V                |

Is the inspection result normal?

YES >> Replace the satellite antenna. Refer to [AV-385, "Removal and Installation"](#).

NO >> Replace the AV control unit. Refer to [AV-377, "Removal and Installation"](#).

# U1263 USB

## DTC Logic

INFOID:000000009343754

### DTC DETECTION LOGIC

#### NOTE:

Before performing diagnosis, make sure that the external input device is not malfunctioning.

| CONSULT Display            | DTC Detection Condition                       | Possible Cause   |
|----------------------------|---|--|
| USB overcurrent<br>[U1263] | Overcurrent of the USB connector is detected. | Check the USB harness between the AV control unit and USB connector. |

## Diagnosis Procedure

INFOID:000000009343755

### 1.CHECK USB HARNESS

Check USB harness visually for pinching.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the USB harness. Refer to [AV-388, "Removal and Installation"](#).

### 2.CHECK USB HARNESS

Check USB harness continuity. Refer to [AV-362, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to [AV-377, "Removal and Installation"](#).

NO >> Replace the USB harness. Refer to [AV-388, "Removal and Installation"](#).

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## U1266 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

### U1266 AV CONTROL UNIT

#### DTC Logic

INFOID:0000000009343756

| CONSULT Display     | DTC Detection Condition                                      | Possible Cause  |
|---------------------|--|---|
| TCU CONN<br>[U1266] | Malfunction is detected between the AV control unit and TCU. | Check connection between the AV control unit and TCU. |

## U1300 AV COMM CIRCUIT

### Description

INFOID:000000009343757

U1300 is displayed when the AV signal error is detected for the multi AV system. It is always displayed together with the error of the control unit connected to the AV control unit via AV communication. Determine the possible malfunction cause from the table below.

### SELF-DIAGNOSIS RESULTS DISPLAY ITEM

| CONSULT Display  | DTC Detection Condition  | Possible Cause  |
|--|--|---|
| <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 the 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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## U1304 CAMERA IMAGE CALIBRATION

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

### U1304 CAMERA IMAGE CALIBRATION

#### DTC Logic

INFOID:000000009354603

| CONSULT Display               | DTC Detection Condition                 | Possible Cause   |
|-------------------------------|---|--|
| CAMERA IMAGE CALIB<br>[U1304] | Camera image calibration is incomplete. | Perform calibration of camera image with CONSULT.<br>Refer to <a href="#">AV-258, "CONSULT Function"</a> . |

#### Diagnosis Procedure

INFOID:000000009354604

#### 1.PERFORM THE SELF-DIAGNOSIS

When U1304 is detected, perform calibration of camera image with CONSULT.

>> Perform calibration of camera image. Refer to [AV-258, "CONSULT Function"](#).

## U1305 CONFIG UNFINISH

## DTC Logic

INFOID:000000009354605

| CONSULT Display         | DTC Detection Condition  | Possible Cause  |
|-------------------------|--|---|
| CONFIG UNFINISH [U1305] | Configuration of around view monitor control unit is incomplete. | Perform configuration of around view monitor control unit with CONSULT. |

## Diagnosis Procedure

INFOID:000000009354606

**1**.PERFORM THE SELF-DIAGNOSIS

When U1305 is detected, perform configuration of around view monitor control unit with CONSULT.

>> Perform configuration of around view monitor control unit. Refer to [AV-316, "CONFIGURATION \(AROUND VIEW MONITOR CONTROL UNIT\) : Work Procedure"](#).

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## U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

### U1310 AV CONTROL UNIT

#### DTC Logic

INFOID:0000000009343758

| CONSULT Display              | DTC Detection Condition  | Possible Cause   |
|------------------------------|--|--|
| CONTROL UNIT (AV)<br>[U1310] | AV communication circuit initial diagnosis malfunction is detected | Replace the AV control unit if the malfunction constantly occurs.<br>Refer to <a href="#">AV-377, "Removal and Installation"</a> . |



# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

## POWER SUPPLY AND GROUND CIRCUIT

### AV CONTROL UNIT

#### AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000009343759

#### 1.CHECK FUSE

Check that the following fuses are not blown.

| Terminal No. | Signal name          | Fuse No. |
|--------------|----------------------|----------|
| 26           | Power signal         | 3 (10A)  |
| 7            | ACC power supply     | 19 (10A) |
| 19           | Battery power supply | 34 (20A) |

Are the fuses blown?

- YES >> Replace the blown fuse after repairing the affected circuit.  
NO >> GO TO 2.

#### 2.CHECK POWER SUPPLY CIRCUIT

1. Turn power switch OFF.
2. Disconnect AV control unit connectors M100 and M103.
3. Check voltage between AV control unit connectors and ground.

| AV control unit |          | Ground | Condition         | Voltage (Approx.) |
|-----------------|----------|--------|-------------------|-------------------|
| Connector       | Terminal |        |                   |                   |
| M103            | 26       | —      | Power switch: ON  | Battery voltage   |
| M100            | 7        |        | Power switch: ACC |                   |
|                 | 19       |        | Power switch: OFF |                   |

Is the inspection result normal?

- YES >> GO TO 3.  
NO >> Repair or replace harness or connectors.

#### 3.CHECK GROUND CIRCUIT

1. Turn power switch OFF.
2. Check continuity between AV control unit connector M103 and ground.

| AV control unit |          | Ground | Continuity |
|-----------------|----------|--------|------------|
| Connector       | Terminal |        |            |
| M103            | 58       | —      | Yes        |

Is the inspection result normal?

- YES >> Inspection End.  
NO >> Repair or replace harness or connectors.

### BOSE AMP.

#### BOSE AMP. : Diagnosis Procedure

INFOID:000000009352054

#### 1.CHECK FUSE

Check that the following fuses are not blown.

| Terminal No. | Signal name  | Fuse No. |
|--------------|--------------|----------|
| 4            | Power signal | 36 (20A) |

Are the fuses blown?

- YES >> Replace the blown fuse after repairing the affected circuit.  
NO >> GO TO 2.

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# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

## 2.CHECK POWER SUPPLY CIRCUIT

1. Disconnect BOSE speaker amp. connector B11.
2. Check voltage between BOSE speaker amp. connector B11 and ground.

| BOSE speaker amp. |          | Ground | Condition        | Voltage<br>(Approx.) |
|-------------------|----------|--------|------------------|----------------------|
| Connector         | Terminal |        |                  |                      |
| B11               | 4        | —      | Power switch: ON | Battery voltage      |

Is the inspection result normal?

- YES >> GO TO 3.  
NO >> Repair or replace harness or connectors.

## 3.CHECK GROUND CIRCUIT

1. Turn power switch OFF.
2. Check continuity between BOSE speaker amp. connector B11 and ground.

| BOSE speaker amp. |          | Ground | Continuity |
|-------------------|----------|--------|------------|
| Connector         | Terminal |        |            |
| B11               | 8        | —      | Yes        |

Is the inspection result normal?

- YES >> Inspection End.  
NO >> Repair or replace harness or connectors.

## AROUND VIEW MONITOR CONTROL UNIT

### AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:000000009352055

## 1.CHECK FUSE

Check that the following fuses are not blown.

| Terminal No. | Signal name          | Fuse No. |
|--------------|----------------------|----------|
| 4            | Power signal         | 3 (10A)  |
| 2            | Battery power supply | 34 (20A) |

Are the fuses blown?

- YES >> Replace the blown fuse after repairing the affected circuit.  
NO >> GO TO 2.

## 2.CHECK POWER SUPPLY CIRCUIT

1. Turn power switch OFF.
2. Disconnect around view monitor control unit connector M32.
3. Check voltage between around view monitor control unit connector M32 and ground.

| Around view monitor control unit |          | Ground | Condition         | Voltage<br>(Approx.) |
|----------------------------------|----------|--------|-------------------|----------------------|
| Connector                        | Terminal |        |                   |                      |
| M32                              | 4        | —      | Power switch: ON  | Battery voltage      |
|                                  | 2        |        | Power switch: OFF |                      |

Is the inspection result normal?

- YES >> GO TO 3.  
NO >> Repair or replace harness or connectors.

## 3.CHECK GROUND CIRCUIT

1. Turn power switch OFF.
2. Check continuity between around view monitor control unit connector M32 and ground.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

| Around view monitor control unit |          | Ground | Continuity |
|----------------------------------|----------|--------|------------|
| Connector                        | Terminal |        |            |
| M32                              | 1        | —      | Yes        |

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Repair or replace harness or connectors.

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## FRONT DOOR SPEAKER

### Diagnosis Procedure

INFOID:000000009346921

#### 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 terminals or connectors.

#### 2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect BOSE speaker amp. connector B20 and suspect front door speaker connector.
2. Check continuity between BOSE speaker amp. connector B20 and suspect front door speaker connector.

| BOSE speaker amp. |          | Front door speaker |          | Continuity |
|-------------------|----------|--------------------|----------|------------|
| Connector         | Terminal | Connector          | Terminal |            |
| B20               | 9        | D24 (LH)           | 1        | Yes        |
|                   | 17       |                    | 2        |            |
|                   | 10       | D124 (RH)          | 1        |            |
|                   | 11       |                    | 2        |            |

3. Check continuity between BOSE speaker amp. connector B20 and ground.

| BOSE speaker amp. |          | Ground | Continuity |
|-------------------|----------|--------|------------|
| Connector         | Terminal |        |            |
| B20               | 9        | —      | No         |
|                   | 17       |        |            |
|                   | 10       |        |            |
|                   | 11       |        |            |

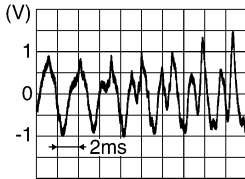
Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

#### 3.CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect BOSE speaker amp. connector B20 and suspect front door speaker connector.
2. Turn power switch to ACC.
3. Push AV control unit POWER switch.
4. Check the signal between the terminals of BOSE speaker amp. connector B20.

| BOSE speaker amp. connector B20 |          | Condition           | Reference value   |
|---------------------------------|----------|---------------------|---|
| (+)                             | (-)      |                     |   |
| Terminal                        | Terminal |                     |   |
| 9                               | 17       | Audio signal output |  |
| 10                              | 11       |                     |   |

SKIB3609E

# FRONT DOOR SPEAKER

[NAVIGATION WITH BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

### Is the inspection result normal?

- YES >> Replace front door speaker. Refer to [AV-379, "Removal and Installation"](#).  
 NO >> GO TO 4.

## 4.CHECK PRE-AMP SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M100 and BOSE speaker amp. connector B27.
2. Check continuity between AV control unit connector M100 and BOSE speaker amp. connector B27.

| AV control unit |          | BOSE speaker amp. |          | Continuity |
|-----------------|----------|-------------------|----------|------------|
| Connector       | Terminal | Connector         | Terminal |            |
| M100            | 2        | B27               | 38       | Yes        |
|                 | 3        |                   | 30       |            |
|                 | 11       |                   | 29       |            |
|                 | 12       |                   | 37       |            |

3. Check continuity between AV control unit connector M100 and ground.

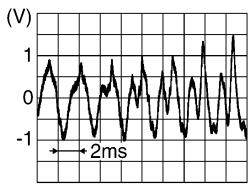
| AV control unit |          | Ground | Continuity |
|-----------------|----------|--------|------------|
| Connector       | Terminal |        |            |
| M100            | 2        | —      | No         |
|                 | 3        |        |            |
|                 | 11       |        |            |
|                 | 12       |        |            |

### Is the inspection result normal?

- YES >> GO TO 5.  
 NO >> Repair or replace harness or connectors.

## 5.CHECK PRE-AMP SIGNAL

1. Connect AV control unit connector M100 and BOSE speaker amp. connector B27.
2. Turn power switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of AV control unit connector M100.

| AV control unit connector M100 |          | Condition           | Reference value   |
|--------------------------------|----------|---------------------|---|
| (+)                            | (-)      |                     |   |
| Terminal                       | Terminal |                     |   |
| 2                              | 3        | Audio signal output |  |
| 11                             | 12       |                     |   |

### Is the inspection result normal?

- YES >> Replace BOSE speaker amp. Refer to [AV-390, "Removal and Installation"](#).  
 NO >> Replace AV control unit. Refer to [AV-377, "Removal and Installation"](#).

## TWEETER

## Diagnosis Procedure

INFOID:000000009346923

## 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 terminals or connectors.

## 2.CHECK TWEETER SIGNAL CIRCUIT CONTINUITY

1. Disconnect BOSE speaker amp. connector B20 and suspect tweeter connector.
2. Check continuity between BOSE speaker amp. connector B20 and suspect tweeter connector.

| BOSE speaker amp. |          | Tweeter   |          | Continuity |
|-------------------|----------|-----------|----------|------------|
| Connector         | Terminal | Connector | Terminal |            |
| B20               | 13       | M15 (LH)  | 1        | Yes        |
|                   | 12       |           | 2        |            |
|                   | 15       | M14 (RH)  | 1        |            |
|                   | 14       |           | 2        |            |

3. Check continuity between BOSE speaker amp. connector B20 and ground.

| BOSE speaker amp. |          | Ground | Continuity |
|-------------------|----------|--------|------------|
| Connector         | Terminal |        |            |
| B20               | 13       | —      | No         |
|                   | 12       |        |            |
|                   | 15       |        |            |
|                   | 14       |        |            |

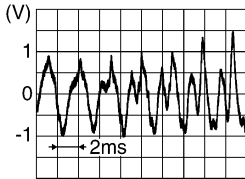
Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

## 3.CHECK TWEETER SIGNAL

1. Connect BOSE speaker amp. connector B20 and suspect tweeter connector.
2. Turn power switch to ACC.
3. Push AV control unit POWER switch.
4. Check the signal between the terminals of BOSE speaker amp. connector B20.

| BOSE speaker amp. connector B20 |          | Condition           | Reference value   |
|---------------------------------|----------|---------------------|---|
| (+)                             | (-)      |                     |   |
| Terminal                        | Terminal |                     |   |
| 13                              | 12       | Audio signal output |  |
| 15                              | 14       |                     |   |

SKIB3609E

# TWEETER

[NAVIGATION WITH BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

### Is the inspection result normal?

- YES >> Replace tweeter. Refer to [AV-380, "Removal and Installation"](#).  
NO >> GO TO 4.

## 4.CHECK PRE-AMP SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M100 and BOSE speaker amp. connector B27.
2. Check continuity between AV control unit connector M100 and BOSE speaker amp. connector B27.

| AV control unit |          | BOSE speaker amp. |          | Continuity |
|-----------------|----------|-------------------|----------|------------|
| Connector       | Terminal | Connector         | Terminal |            |
| M100            | 2        | B27               | 38       | Yes        |
|                 | 3        |                   | 30       |            |
|                 | 11       |                   | 29       |            |
|                 | 12       |                   | 37       |            |

3. Check continuity between AV control unit connector M100 and ground.

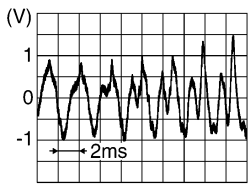
| AV control unit |          | Ground | Continuity |
|-----------------|----------|--------|------------|
| Connector       | Terminal |        |            |
| M100            | 2        | —      | No         |
|                 | 3        |        |            |
|                 | 11       |        |            |
|                 | 12       |        |            |

### Is the inspection result normal?

- YES >> GO TO 5.  
NO >> Repair or replace harness or connectors.

## 5.CHECK PRE-AMP SIGNAL

1. Connect AV control unit connector M100 and BOSE speaker amp. connector B27.
2. Turn power switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of AV control unit connector M100.

| AV control unit connector M100 |          | Condition           | Reference value   |
|--------------------------------|----------|---------------------|---|
| (+)                            | (-)      |                     |   |
| Terminal                       | Terminal |                     |   |
| 2                              | 3        | Audio signal output |  |
| 11                             | 12       |                     |   |

### Is the inspection result normal?

- YES >> Replace BOSE speaker amp. Refer to [AV-390, "Removal and Installation"](#).  
NO >> Replace AV control unit. Refer to [AV-377, "Removal and Installation"](#).

## REAR DOOR SPEAKER

### Diagnosis Procedure

INFOID:000000009346922

#### 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 terminals or connectors.

#### 2.CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect BOSE speaker amp. connectors and suspect rear door speaker connector.
2. Check continuity between BOSE speaker amp. connectors and suspect rear door speaker connector.

| BOSE speaker amp. |          | Rear door speaker |          | Continuity |
|-------------------|----------|-------------------|----------|------------|
| Connector         | Terminal | Connector         | Terminal |            |
| B11               | 1        | D205 (LH)         | 1        | Yes        |
|                   | 5        |                   | 2        |            |
| B20               | 16       | D305 (RH)         | 1        |            |
|                   | 24       |                   | 2        |            |

3. Check continuity between BOSE speaker amp. connectors and ground.

| BOSE speaker amp. |          | Ground | Continuity |
|-------------------|----------|--------|------------|
| Connector         | Terminal |        |            |
| B11               | 1        | —      | No         |
|                   | 5        |        |            |
| B20               | 16       |        |            |
|                   | 24       |        |            |

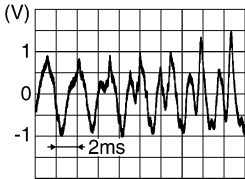
Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

#### 3.CHECK REAR DOOR SPEAKER SIGNAL

1. Connect BOSE speaker amp. connectors and suspect rear door speaker connector.
2. Turn power switch to ACC.
3. Push AV control unit POWER switch.
4. Check the signal between the terminals of BOSE speaker amp. connectors.

| BOSE speaker amp. |                 |                 | Condition           | Reference value   |
|-------------------|-----------------|-----------------|---------------------|---|
| Connector         | (+)<br>Terminal | (-)<br>Terminal |                     |   |
| B11               | 1               | 5               | Audio signal output |  |
| B20               | 16              | 24              |                     |   |

SKIB3609E



# REAR DOOR SPEAKER

[NAVIGATION WITH BOSE]

## < DTC/CIRCUIT DIAGNOSIS >

### Is the inspection result normal?

- YES >> Replace rear door speaker. Refer to [AV-381, "Removal and Installation"](#).  
 NO >> GO TO 4.

## 4.CHECK PRE-AMP SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M100 and BOSE speaker amp. connector B27.
2. Check continuity between AV control unit connector M100 and BOSE speaker amp. connector B27.

| AV control unit |          | BOSE speaker amp. |          | Continuity |
|-----------------|----------|-------------------|----------|------------|
| Connector       | Terminal | Connector         | Terminal |            |
| M100            | 4        | B27               | 36       | Yes        |
|                 | 5        |                   | 28       |            |
|                 | 13       |                   | 27       |            |
|                 | 14       |                   | 35       |            |

3. Check continuity between AV control unit connector M100 and ground.

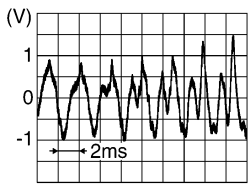
| AV control unit |          | Ground | Continuity |
|-----------------|----------|--------|------------|
| Connector       | Terminal |        |            |
| M100            | 4        | —      | No         |
|                 | 5        |        |            |
|                 | 13       |        |            |
|                 | 14       |        |            |

### Is the inspection result normal?

- YES >> GO TO 5.  
 NO >> Repair or replace harness or connectors.

## 5.CHECK PRE-AMP SIGNAL

1. Connect AV control unit connector M100 and BOSE speaker amp. connector B27.
2. Turn power switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of AV control unit connector M100.

| AV control unit connector M100 |          | Condition           | Reference value   |
|--------------------------------|----------|---------------------|---|
| (+)                            | (-)      |                     |   |
| Terminal                       | Terminal |                     |   |
| 4                              | 5        | Audio signal output |  |
| 13                             | 14       |                     |   |

### Is the inspection result normal?

- YES >> Replace BOSE speaker amp. Refer to [AV-390, "Removal and Installation"](#).  
 NO >> Replace AV control unit. Refer to [AV-377, "Removal and Installation"](#).

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## SUBWOOFER

## Diagnosis Procedure

INFOID:000000009346924

## 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.CHECK SUBWOOFER SIGNAL CIRCUIT CONTINUITY

1. Disconnect BOSE speaker amp. connector B11 and subwoofer connector.
2. Check continuity between BOSE speaker amp. connector B11 and subwoofer connector.

| BOSE speaker amp. |          | Subwoofer |          | Continuity |
|-------------------|----------|-----------|----------|------------|
| Connector         | Terminal | Connector | Terminal |            |
| B11               | 6        | B43       | 1        | Yes        |
|                   | 2        |           | 2        |            |

3. Check continuity between BOSE speaker amp. connector B11 and ground.

| BOSE speaker amp. |          | Ground | Continuity |
|-------------------|----------|--------|------------|
| Connector         | Terminal |        |            |
| B11               | 6        | —      | No         |
|                   | 2        |        |            |

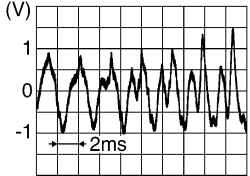
Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

## 3.CHECK SUBWOOFER SIGNAL

1. Connect BOSE speaker amp. connector B11 and subwoofer connector.
2. Turn power switch to ACC.
3. Push AV control unit POWER switch.
4. Check the signal between the terminals of BOSE speaker amp. connector B11.

| BOSE speaker amp. connector B11 |          | Condition           | Reference value   |
|---------------------------------|----------|---------------------|---|
| (+)                             | (-)      |                     |   |
| Terminal                        | Terminal |                     |   |
| 6                               | 2        | Audio signal output |  |

Is the inspection result normal?

YES >> Replace subwoofer. Refer to [AV-389, "Removal and Installation"](#).

NO >> GO TO 4.

## 4.CHECK PRE-AMP SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M100 and BOSE speaker amp. connector B27.

# SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

- Check continuity between AV control unit connector M100 and BOSE speaker amp. connector B27.

| AV control unit |          | BOSE speaker amp. |          | Continuity |
|-----------------|----------|-------------------|----------|------------|
| Connector       | Terminal | Connector         | Terminal |            |
| M100            | 4        | B27               | 36       | Yes        |
|                 | 5        |                   | 28       |            |
|                 | 13       |                   | 27       |            |
|                 | 14       |                   | 35       |            |

- Check continuity between AV control unit connector M100 and ground.

| AV control unit |          | Ground | Continuity |
|-----------------|----------|--------|------------|
| Connector       | Terminal |        |            |
| M100            | 4        | —      | No         |
|                 | 5        |        |            |
|                 | 13       |        |            |
|                 | 14       |        |            |

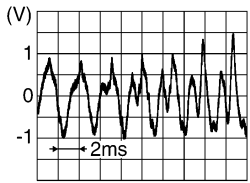
Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

## 5.CHECK PRE-AMP SIGNAL

- Connect AV control unit connector M100 and BOSE speaker amp. connector B27.
- Turn power switch to ACC.
- Push AV control unit POWER switch.
- Check signal between the terminals of AV control unit connector M100.

| AV control unit connector M100 |          | Condition           | Reference value   |
|--------------------------------|----------|---------------------|---|
| (+)                            | (-)      |                     |   |
| Terminal                       | Terminal |                     |   |
| 4                              | 5        | Audio signal output |  |
| 13                             | 14       |                     |   |

Is the inspection result normal?

YES >> Replace BOSE speaker amp. Refer to [AV-390. "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-377. "Removal and Installation"](#).

# AMP ON SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

## AMP ON SIGNAL CIRCUIT

### Diagnosis Procedure

INFOID:000000009352078

#### 1. CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND BOSE SPEAKER AMP.

1. Turn power switch OFF.
2. Disconnect AV control unit connector M100 and Bose speaker amp. connector B20.
3. Check continuity between audio unit connector M100 and Bose speaker amp. connector B20.

| AV control unit |          | Bose speaker amp. |          | Continuity |
|-----------------|----------|-------------------|----------|------------|
| Connector       | Terminal | Connector         | Terminal |            |
| M100            | 1        | B20               | 22       | Yes        |

4. Check continuity between AV control unit connector M100 and ground.

| AV control unit |          | Ground | Continuity |
|-----------------|----------|--------|------------|
| Connector       | Terminal |        |            |
| M100            | 1        | —      | No         |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

#### 2. CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector M100.
2. Turn power switch ON.
3. Check voltage between AV control unit connector M100 and ground.

| AV control unit |          | Ground | Voltage<br>(Approx.) |
|-----------------|----------|--------|----------------------|
| (+)             |          |        |                      |
| Connector       | Terminal | (-)    |                      |
| M100            | 1        | —      | Battery voltage      |

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to [AV-390, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-377, "Removal and Installation"](#).

# AUXILIARY INPUT JACK

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

## AUXILIARY INPUT JACK

### Diagnosis Procedure

INFOID:000000009352079

#### 1. CHECK AUXILIARY INPUT JACK HARNESS CONTINUITY

1. Turn power switch OFF.
2. Disconnect audio unit connector M103 and auxiliary input jack connector M52.
3. Check continuity between audio unit connector M103 and auxiliary input jack connector M52.

| Audio unit |          | Auxiliary input jack |          | Continuity |
|------------|----------|----------------------|----------|------------|
| Connector  | Terminal | Connector            | Terminal |            |
| M103       | 35       | M52                  | 4        | Yes        |
|            | 36       |                      | 1        |            |
|            | 55       |                      | 2        |            |

4. Check continuity between audio unit connector M103 and ground.

| Audio unit |          | —      | Continuity |
|------------|----------|--------|------------|
| Connector  | Terminal |        |            |
| M103       | 35       | Ground | No         |
|            | 55       |        |            |

#### Is the inspection result normal?

- YES >> Replace auxiliary input jack. Refer to [AV-387, "Removal and Installation"](#).
- NO >> Repair or replace harness or connectors.

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

## MICROPHONE SIGNAL CIRCUIT

### Diagnosis Procedure

INFOID:000000009352662

#### 1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn power switch OFF.
2. Disconnect AV control unit connector M103 and microphone connector R3.
3. Check continuity between AV control unit connector M103 and microphone connector R3.

| AV control unit |          | Microphone |          | Continuity |
|-----------------|----------|------------|----------|------------|
| Connector       | Terminal | Connector  | Terminal |            |
| M103            | 34       | R3         | 4        | Yes        |
|                 | 53       |            | 1        |            |
|                 | 54       |            | 2        |            |

4. Check continuity between AV control unit connector M103 and ground.

| AV control unit |          | Ground | Continuity |
|-----------------|----------|--------|------------|
| Connector       | Terminal |        |            |
| M103            | 34       | —      | No         |
|                 | 53       |        |            |

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

#### 2.CHECK MICROPHONE VCC VOLTAGE

1. Connect AV control unit connector M103.
2. Turn power switch ON.
3. Check voltage between terminals of AV control unit connector M103.

| AV control unit connector M103 |          | Voltage<br>(Approx.) |
|--------------------------------|----------|----------------------|
| (+)                            | (-)      |                      |
| Terminal                       | Terminal |                      |
| 34                             | 54       | 5.0 V                |

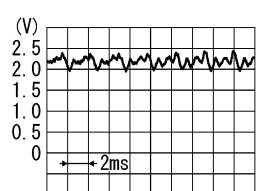
Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace AV control unit. Refer to [AV-377, "Removal and Installation"](#).

#### 3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of AV control unit connector M103.

| AV control unit connector M103 |          | Condition              | Reference value  |
|--------------------------------|----------|------------------------|--|
| (+)                            | (-)      |                        |  |
| Terminal                       | Terminal |                        |  |
| 53                             | 54       | Speak into microphone. | <br>PKIB5037J |

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-377, "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-383, "Removal and Installation"](#).

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AV

## STEERING SWITCH

## Diagnosis Procedure

INFOID:000000009352080

**1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE**

1. Turn power switch OFF.
2. Disconnect combination switch connector M112.
3. Check resistance between the terminals of combination switch connector M112.

| Combination switch connector M112 |          | Condition              | Resistance Ω<br>(Approx.) |
|-----------------------------------|----------|------------------------|---------------------------|
| Terminal                          | Terminal |                        |                           |
| 14                                | 17       | Depress SOURCE switch. | 1                         |
|                                   |          | Depress △ switch.      | 121                       |
|                                   |          | Depress ▽ switch.      | 321                       |
|                                   |          | Depress ⚡ switch.      | 723                       |
|                                   |          | Depress ⌚ switch.      | 2023                      |
| 15                                |          | Depress - 🔊 switch.    | 1                         |
|                                   |          | Depress 🔊+ switch.     | 121                       |
|                                   |          | Depress 🔊 switch.      | 321                       |
|                                   |          | Depress ↻ switch.      | 723                       |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering switches. Refer to [AV-386. "Removal and Installation"](#).

**2. CHECK COMBINATION SWITCH**

Check continuity between combination switch connectors M112 and M92.

| Combination switch |          |           |          | Continuity |
|--------------------|----------|-----------|----------|------------|
| Connector          | Terminal | Connector | Terminal |            |
| M112               | 14       | M92       | 24       | Yes        |
|                    | 15       |           | 31       |            |
|                    | 17       |           | 33       |            |

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace spiral cable. Refer to [SR-23. "Removal and Installation"](#).

**3. CHECK HARNESS BETWEEN COMBINATION SWITCH AND AUDIO UNIT**

1. Disconnect AV control unit connector M100.
2. Check continuity between combination switch connector M92 and AV control unit connector M100.

| Combination switch |          | AV control unit |          | Continuity |
|--------------------|----------|-----------------|----------|------------|
| Connector          | Terminal | Connector       | Terminal |            |
| M92                | 24       | M100            | 6        | Yes        |
|                    | 31       |                 | 16       |            |
|                    | 33       |                 | 15       |            |

3. Check continuity between combination switch connector M92 and ground.



## STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

| Combination switch |          | Ground | Continuity |
|--------------------|----------|--------|------------|
| Connector          | Terminal |        |            |
| M92                | 24       | —      | No         |
|                    | 31       |        |            |
|                    | 33       |        |            |

Is the inspection result normal?

YES >> Replace AV control unit. Refer to [AV-377, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

AV

## USB CONNECTOR

### Diagnosis Procedure

INFOID:000000009352062

#### 1. CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn power switch OFF.
2. Disconnect AV control unit connector M107 and USB connector M53.
3. Check continuity between AV control unit connector M107 and USB connector M53.

| AV control unit |          | USB       |          | Continuity |
|-----------------|----------|-----------|----------|------------|
| Connector       | Terminal | Connector | Terminal |            |
| M107            | 78       | M53       | 2        | Yes        |
|                 | 79       |           | 1        |            |
|                 | 80       |           | 4        |            |
|                 | 81       |           | 3        |            |
|                 | 82       |           | 5        |            |

4. Check continuity between AV control unit connector M107 and ground.

| AV control unit |          | —      | Continuity |
|-----------------|----------|--------|------------|
| Connector       | Terminal |        |            |
| M107            | 78       | Ground | No         |
|                 | 80       |        |            |

#### Is the inspection result normal?

- YES >> Replace the USB connector. Refer to [AV-388. "Removal and Installation"](#).
- NO >> Repair or replace harness or connectors.

## SYMPTOM DIAGNOSIS

### MULTI AV SYSTEM

#### Symptom Table

INFOID:000000009352050

#### RELATED TO AUDIO

| 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-248, "On Board Diagnosis Function"</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-275, "Wiring Diagram"</a>.</li> <li>• Bose amp. ON signal circuit malfunction.<br/>Refer to <a href="#">AV-356, "Diagnosis Procedure"</a>.</li> <li>• Bose speaker amp. power supply and ground circuits malfunction.<br/>Refer to <a href="#">AV-345, "BOSE AMP. : 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) 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: <ul style="list-style-type: none"> <li>- <a href="#">AV-348, "Diagnosis Procedure"</a> (front door speaker).</li> <li>- <a href="#">AV-350, "Diagnosis Procedure"</a> (tweeter).</li> <li>- <a href="#">AV-352, "Diagnosis Procedure"</a> (rear door speaker).</li> <li>- <a href="#">AV-354, "Diagnosis Procedure"</a> (subwoofer).</li> </ul> </li> <li>• Sound signal circuit malfunction between Bose speaker amp. and speaker.<br/>Refer to: <ul style="list-style-type: none"> <li>- <a href="#">AV-348, "Diagnosis Procedure"</a> (front door speaker).</li> <li>- <a href="#">AV-350, "Diagnosis Procedure"</a> (tweeter).</li> <li>- <a href="#">AV-352, "Diagnosis Procedure"</a> (rear door speaker).</li> <li>- <a href="#">AV-354, "Diagnosis Procedure"</a> (subwoofer).</li> </ul> </li> <li>• Malfunction in speaker.<br/>Refer to: <ul style="list-style-type: none"> <li>- <a href="#">AV-379, "Removal and Installation"</a> (front door speaker).</li> <li>- <a href="#">AV-380, "Removal and Installation"</a> (tweeter).</li> <li>- <a href="#">AV-381, "Removal and Installation"</a> (rear door speaker).</li> <li>- <a href="#">AV-389, "Removal and Installation"</a> (subwoofer).</li> </ul> </li> <li>• Malfunction in AV control unit.<br/>Refer to <a href="#">AV-248, "On Board Diagnosis Function"</a>.</li> <li>• Malfunction in Bose speaker amp.<br/>Replace Bose speaker amp. Refer to <a href="#">AV-390, "Removal and Installation"</a>.</li> </ul> |

# MULTI AV SYSTEM

## < SYMPTOM DIAGNOSIS >

## [NAVIGATION WITH 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.<br/>Refer to <a href="#">AV-248. "On Board Diagnosis Function"</a>.</li> <li>Malfunction in Bose speaker amp.<br/>Replace Bose speaker amp. Refer to <a href="#">AV-390. "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, subwoofer).   | <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: <ul style="list-style-type: none"> <li><a href="#">AV-348. "Diagnosis Procedure"</a> (front door speaker).</li> <li><a href="#">AV-350. "Diagnosis Procedure"</a> (tweeter).</li> <li><a href="#">AV-352. "Diagnosis Procedure"</a> (rear door speaker).</li> <li><a href="#">AV-354. "Diagnosis Procedure"</a> (subwoofer).</li> </ul> </li> <li>Sound signal circuit malfunction between Bose speaker amp. and speaker.<br/>Refer to: <ul style="list-style-type: none"> <li><a href="#">AV-348. "Diagnosis Procedure"</a> (front door speaker).</li> <li><a href="#">AV-350. "Diagnosis Procedure"</a> (tweeter).</li> <li><a href="#">AV-352. "Diagnosis Procedure"</a> (rear door speaker).</li> <li><a href="#">AV-354. "Diagnosis Procedure"</a> (subwoofer).</li> </ul> </li> <li>Malfunction in speaker.</li> <li>Poor Installation of speaker (e.g. backlash and looseness).<br/>Refer to: <ul style="list-style-type: none"> <li><a href="#">AV-379. "Removal and Installation"</a> (front door speaker).</li> <li><a href="#">AV-380. "Removal and Installation"</a> (tweeter).</li> <li><a href="#">AV-381. "Removal and Installation"</a> (rear door speaker).</li> <li><a href="#">AV-389. "Removal and Installation"</a> (subwoofer).</li> </ul> </li> <li>Malfunction in AV control unit.<br/>Refer to <a href="#">AV-248. "On Board Diagnosis Function"</a>.</li> <li>Malfunction in Bose speaker amp.<br/>Replace Bose speaker amp. Refer to <a href="#">AV-390. "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.<br/>Refer to <a href="#">AV-384. "Antenna Feeder"</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.<br/>Refer to <a href="#">AV-356. "Diagnosis Procedure"</a>.</li> <li>Poor connector connection of antenna or antenna feeder.<br/>Refer to <a href="#">AV-384. "Antenna Feeder"</a>.</li> </ul>   |









# MULTI AV SYSTEM

## < SYMPTOM DIAGNOSIS >

## [NAVIGATION WITH 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-257. "CONSULT Function"</a> .                                  | <ul style="list-style-type: none"> <li>Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis. Refer to <a href="#">AV-257. "CONSULT Function"</a>.</li> <li>Poor continuity in antenna feeder.</li> <li>Poor connector connection of antenna or antenna feeder. Refer to <a href="#">AV-384. "Antenna Feeder"</a>.</li> </ul> |
|                                | There is no malfunction in the CONSULT self diagnosis result.<br>Refer to <a href="#">AV-257. "CONSULT Function"</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-384. "Antenna Feeder"</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

| 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.   | Malfunction in AV control unit.<br>Replace AV control unit. Refer to <a href="#">AV-377. "Removal and Installation"</a> . |
| 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>  |   |
| 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-358. "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 + , - , and  switch works, but  does not work.</li> </ul> | Steering switch malfunction.<br>Replace steering switch. Refer to <a href="#">AV-386. "Removal and Installation"</a> .    |
|  | Steering switch's  ,  + ,  - , and  switches do not work.  | Steering switch signal circuit malfunction.<br>Refer to <a href="#">AV-360. "Diagnosis Procedure"</a> .                   |
|  | All steering switches do not work.   | Steering switch ground circuit malfunction.<br>Refer to <a href="#">AV-360. "Diagnosis Procedure"</a> .                   |

## RELATED TO NAVIGATION

# MULTI AV SYSTEM

## < SYMPTOM DIAGNOSIS >

## [NAVIGATION WITH BOSE]

| Symptoms                          | Check items                          | Probable malfunction location   |
|-----------------------------------|--------------------------------------|---|
| Navigation system is inoperative. | Navigation malfunction.              | <ul style="list-style-type: none"> <li>Malfunction in hard disk drive (HDD).</li> <li>Malfunction in AV control unit.</li> </ul> Refer to <a href="#">AV-248, "On Board Diagnosis Function"</a> .             |
|                                   | Steering switches malfunction.       | Steering switch signal circuit malfunction.<br>Refer to <a href="#">AV-360, "Diagnosis Procedure"</a> .   |
|                                   | Voice activated control malfunction. | Microphone signal circuit malfunction.<br>Refer to <a href="#">AV-358, "Diagnosis Procedure"</a> .<br>Steering switch signal circuit malfunction.<br>Refer to <a href="#">AV-360, "Diagnosis Procedure"</a> . |

## RELATED TO AROUND VIEW MONITOR

| Symptoms   | Check items  | Probable malfunction location  |
|--|--|--|
| Display does not switch to camera image when CAMERA switch is pressed or selector lever is in R (reverse).                           | Around view monitor control unit malfunction.      | Around view monitor control unit power supply and ground circuits malfunction.<br>Refer to <a href="#">AV-346, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"</a> .  |
|  | Camera image signal circuit (output) malfunction.  | Camera image signal circuit (output) malfunction between around view monitor control unit and AV control unit.<br>Refer to <a href="#">AV-271, "Reference Value"</a> .   |
| Display switches to camera image when CAMERA switch is pressed or selector lever is in R (reverse), but all views are not displayed. | Camera image signal circuit (input) malfunction.   | Camera image signal circuit (input) malfunction between camera and around view monitor control unit.<br>Refer to: <ul style="list-style-type: none"> <li><a href="#">AV-331, "Diagnosis Procedure"</a> (front camera).</li> <li><a href="#">AV-327, "Diagnosis Procedure"</a> (rear view camera).</li> <li><a href="#">AV-333, "Diagnosis Procedure"</a> (side camera LH).</li> <li><a href="#">AV-329, "Diagnosis Procedure"</a> (side camera RH).</li> </ul> |
| Camera image is rolling.   | Camera image signal circuit (output) malfunction.  | Camera image signal circuit (output) malfunction between around view monitor control unit and AV control unit.<br>Refer to <a href="#">AV-271, "Reference Value"</a> .   |
| Display does not switch to rear view monitor even when selector lever is in R (reverse).   | Reverse signal circuit malfunction.                | Reverse signal circuit between BCM and around view monitor control unit.<br>Refer to <a href="#">AV-271, "Reference Value"</a> .   |
| Predicted course line display in front view and rear view is malfunctioning.   | Steering angle sensor malfunction.                 | Predicted course line center position is malfunctioning.<br>Refer to <a href="#">AV-317, "PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure"</a> .  |
| Front view and front of birds-eye view is not displayed.   | Front camera malfunction.                          | <ul style="list-style-type: none"> <li>Front camera power supply and ground circuits malfunction.</li> <li>Front camera image signal circuit malfunction between front camera and around view monitor control unit.</li> </ul> Refer to <a href="#">AV-331, "Diagnosis Procedure"</a> .  |
|  | Front camera image signal circuit malfunction.     |  |
| Rear view and rear of birds-eye view is not displayed.   | Rear view camera malfunction.                      | <ul style="list-style-type: none"> <li>Rear view camera power supply and ground circuits malfunction.</li> <li>Rear view camera image signal circuit malfunction between rear camera and around view monitor control unit.</li> </ul> Refer to <a href="#">AV-327, "Diagnosis Procedure"</a> .   |
|  | Rear view camera image signal circuit malfunction. |  |
| Front-side and driver side of birds-eye view is not displayed.   | Side camera LH malfunction.                        | <ul style="list-style-type: none"> <li>Side camera LH power supply and ground circuits malfunction.</li> <li>Side camera LH image signal circuit malfunction between side camera LH and around view monitor control unit.</li> </ul> Refer to <a href="#">AV-333, "Diagnosis Procedure"</a> .  |
|  | Side camera LH image signal circuit malfunction.   |  |

# MULTI AV SYSTEM

## < SYMPTOM DIAGNOSIS >

## [NAVIGATION WITH BOSE]

| Symptoms  | Check items                                      | Probable malfunction location  |
|---|--|--|
| Front-side and passenger side of birds-eye view is not displayed.   | Side camera RH malfunction.                      | <ul style="list-style-type: none"> <li>Side camera RH power supply and ground circuits malfunction.</li> <li>Side camera RH image signal circuit malfunction between side camera RH and around view monitor control unit.</li> </ul> |
|   | Side camera RH image signal circuit malfunction. | Refer to <a href="#">AV-329, "Diagnosis Procedure"</a> .   |
| Selector lever is in a position other than R (reverse) and front, rear, front-side and Birds-Eye views are displayed even as vehicle speed increases. | Vehicle speed signal malfunction.                | Vehicle speed signal malfunction (CAN communication) between combination meter and around view monitor control unit.   |

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AV

## NORMAL OPERATING CONDITION

### Description

INFOID:000000009352051

#### RELATED TO NOISE

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

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, power 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>• Power 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). | <p>Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module.</p> <p>Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in <a href="#">AV-363, "Symptom Table"</a>.</p>  |
| 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 >

[NAVIGATION WITH 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. |

## RELATED TO NAVIGATION

### Basic Operation

| Symptom  | Cause   | Remedy  |
|--|---|---|
| No image is shown.   | Display brightness adjustment is set fully to DARK side.  | Adjust the display brightness.  |
| No guide sound is heard.<br>Audio guide volume is too low or too high. | Volume control is set to OFF, MIN or MAX.<br>Audio guidance is not available while the vehicle is driving on a dark pink route. | Adjust the audio guide volume.<br>System is not malfunctioning.               |
| Screen is too dark.<br>Motion of the image is too slow.                | Temperature inside the vehicle is low.  | Wait until the temperature inside the vehicle reaches the proper temperature. |
| Small black or bright spots appear on the screen.                      | Symptom peculiar to a liquid crystal display (display unit).  | System is not malfunction.  |

### Vehicle Mark

| Symptom  | Cause  | Remedy   |
|--|--|--|
| Map screen and BIRDVIEW™ Name of the place vary with the screen.                 | Some thinning of the character data is done to prevent the display becoming to complex. In some cases and in some locations, the display contents may differ.<br>The same place name, street name, etc. may not be displayed every time on account of the data processing. | System is not malfunctioning.  |
| Vehicle mark is not positioned correctly.  | Vehicle is transferred by ferry or by towing after its power switch is turned to OFF.  | Drive the vehicle for a while in the GPS satellite signal receiving condition. |
| Screen will not switch to nighttime mode after the lighting switch is turned ON. | The daytime screen is selected by the "SWITCH SCREENS" when the last time the screen dimming setting is done.<br>Switching between daytime/nighttime screen may be inhibited by the automatic illumination adjustment function.  | Perform screen dimming and select the nighttime screen by "SWITCH SCREENS".    |
| Map screen will not scroll in accordance with the vehicle travel.                | Current location is not displayed.   | Press "MAP" button to display the current location.                            |
| Vehicle mark will not be shown.  | Current location is not displayed.   | Press "MAP" button to display the current location.                            |
| Accuracy indicator (GPS satellite mark) on the map screen stays gray.            | GPS satellite signal is intercepted because the vehicle is in or behind a building.  | Move the vehicle out to an open space.   |
|  | GPS satellite signal cannot be received because an obstacle is placed on top of the instrument panel.  | Do not place anything on top of the meter display (instrument panel).          |
|  | GPS satellites are not visible from current location.  | Wait until GPS satellites are visible by moving the vehicle.                   |

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

| Symptom                           | Cause  | Remedy  |
|-----------------------------------|--|---|
| Vehicle location accuracy is low. | Accuracy indicator (GPS satellite mark) on the map screen stays gray.  | Current location is not determined.   |
|                                   | Vehicle speed setting by the vehicle speed pulse has been deviated (advanced or retarded) from the actual vehicle speed because tire chain is fitted or the system has been used on another vehicle. | Drive the vehicle for a while [for approx. 30 minutes at approx. 30 km/h (19 MPH)] and the deviation will be automatically adjusted. If advancement or retard still occur, perform the distance adjustment by CONFIRMATION/ADJUSTMENT mode of diagnosis function. |
|                                   | Map data has error or omission. (Vehicle mark is always deviated to the same position.)  | As a rule, an updated map DVD-ROM will be released once a year.   |

### Destination, Passing Points and Menu Items Cannot be Selected/Set

| Symptom   | Cause  | Remedy  |
|---|--|---|
| Destination cannot be set.  | Destination to be set is on an expressway.   | Set the destination on an ordinary road.  |
| Passing point is not searched when re-searching the route.  | The vehicle has already passed the passing point, or the system judged so.   | To include the passing points that have been passed into the route again, set the route again.                            |
| Route information will not be displayed.  | Route searching has not been done.   | Set the destination and perform route searching.  |
|   | Vehicle mark is not on the recommended route.  | Drive on the recommended route.   |
|   | Route guide is turned OFF.   | Turn route guide ON.  |
|   | Route information is not available on the dark pink route.   | System is not malfunctioning.   |
| After the route searching, no guide sign will appear as the vehicle goes near the entrance/exit to the toll road.     | Vehicle mark is not on the recommended route. (On the display, only guide signs related to the recommended route will be shown.) | Drive on the recommended route.   |
| Automatic route searching is not possible.  | Vehicle is driving on a highway (gray route), or no recommended route is available.  | Drive on a road to be searched. Or re-search the route manually. In this case, however, the whole route will be searched. |
| Performed automatic detour search (or detour search). However, the result is the same as that of the previous search. | Performed search with every conditions considered. However, the result is the same as that of the previous search.               | System is not malfunctioning.   |
| Passing points cannot be set.   | More than five passing points were set.  | Passing points can be set up to five. To stop at more than five points, perform sharing in several steps.                 |
| When setting the route, the starting point cannot be selected.  | The current vehicle location is always set as the starting point of a route.   | System is not malfunctioning.   |
| Some menu items cannot be selected.   | The vehicle is being driven.   | Stop the vehicle at a safe place and then operate the system.   |

### Voice Guide

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

| Symptom   | Cause  | Remedy  |
|---|--|---|
| Voice guide will not operate.                       | Note: Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction. | System is not malfunctioning.                           |
|   | The vehicle is not on the recommended route.   | Return to the recommended route or re-search the route. |
|   | Voice guide is turned OFF.   | Turn voice guide ON.                                    |
|   | Route guide is turned OFF.   | Turn route guide ON.                                    |
| Voice guide does not match the actual road pattern. | Voice guide may vary with the direction to which the vehicle is turn and the connection of the road to other roads.  | Drive in conformity to the actual traffic rules.        |

## Route Search

| Symptom  | Cause  | Remedy  |
|--|--|---|
| No route is shown.   | No road to be searched is found around the destination.  | Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads. |
|  | Starting point and the destination are too close.  | Set the destination at more distant point.  |
|  | Conditional traffic regulation (day of the week/ time of the day) is set at the area around the current location or the destination.   | Turn the time-regulating search conditions OFF. Turn "Avoid regulation time" in the search conditions OFF.  |
| Indicated route is intermittent.   | In some areas, highways (gray routes) are not used for the search <sup>(Note)</sup> . Therefore, the route to the current location or the passing points may be intermittent.  | System is not malfunctioning.   |
| When the vehicle has passed the recommended route, it is deleted from the screen.  | A recommended route is controlled by each section. When the vehicle has passed the passing point 1, then the map data from the starting point up to the passing point 1 will be deleted. (The data may remain undeleted in some area.) | System is not malfunctioning.   |
| Detouring route is recommended.  | In some areas, highways (gray routes) are not used for the search. (Note). Therefore, detour route may be recommended.   | Set the route closer to the basic route (gray route).   |
|  | A detour route may be shown when some traffic regulation (one-way traffic, etc.) is set at the area around the starting point or the destination.  | Slightly move the starting point or the destination, or set the passing point on the route of your choice.  |
|  | In the area where highways (gray routes) are used for the search, left turn has priority around the current location and the destination (passing points). For this reason, the recommended route may be detouring.                    | System is not malfunctioning.   |
| Landmarks on the map do not match the actual ones.                                 | This can be happen due to omission or error in the map data.   | As a rule, an updated map DVD-ROM will be released once a year. Wait until the latest map has become available.   |
| Recommended route is far from the starting point, passing points, and destination. | Starting point, passing points, and destination of the route guide were set far from the desired points because route searching data around these area were not stored.  | Reset the destination onto the road nearby. If this road is one of the highways (gray routes), an ordinary road nearby may be displayed as the recommended route.                   |

### NOTE:

Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

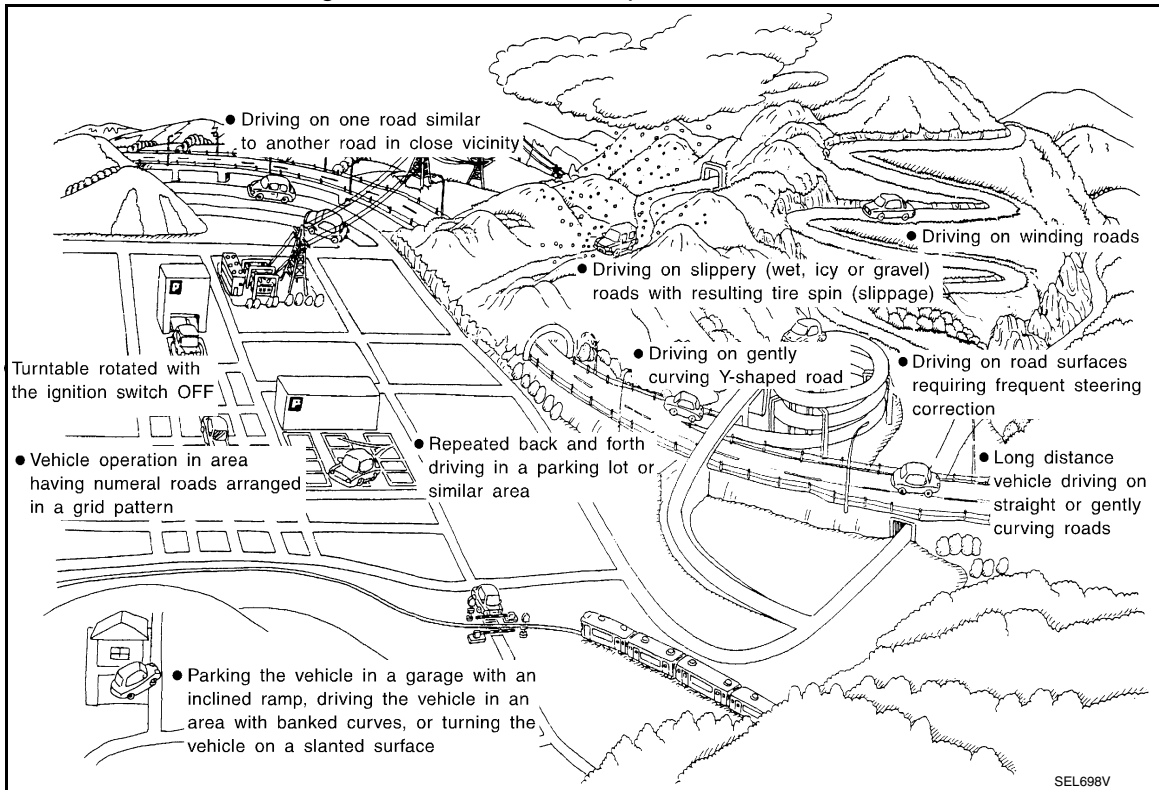
## Examples of Current-Location Mark Displacement

## NORMAL OPERATING CONDITION

### < SYMPTOM DIAGNOSIS >

### [NAVIGATION WITH BOSE]

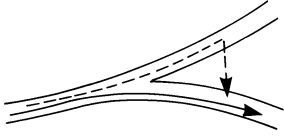
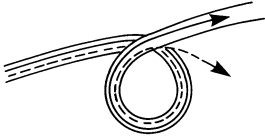
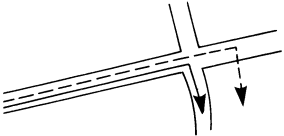
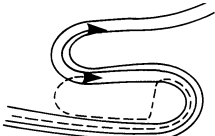
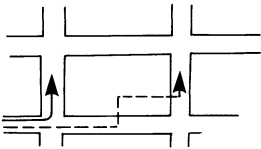
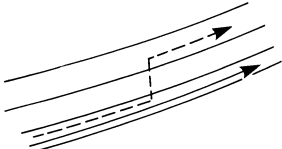
Vehicle's travel amount is calculated by reading its travel distance and turning angle. Therefore, if the vehicle is driven in the following manner, an error will occur in the vehicle's current location display. If correct location has not been restored after driving the vehicle for a while, perform location correction.



# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

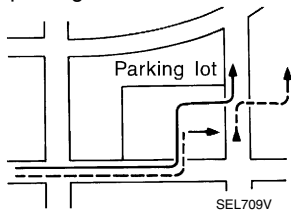
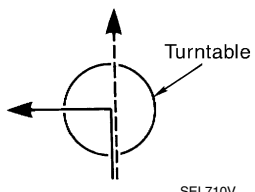
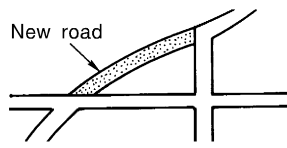
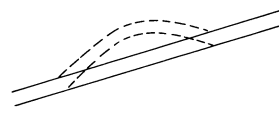
| Cause (condition) -: While driving ooo: Display |  | Driving condition  | Remarks (correction, etc.)   |
|---|--|--|--|
| Road configuration                              | <b>Y-intersections</b><br><br>ELK0192D                    | At a Y intersection or similar gradual division of roads, an error in the direction of travel deduced by the sensor may result in the current-location mark appearing on the wrong road.   | If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction. |
|   | <b>Spiral roads</b><br><br>ELK0193D                       | When driving on a large, continuous spiral road (such as loop bridge), turning angle error is accumulated and the vehicle mark may deviate from the correct location.  |  |
|   | <b>Straight roads</b><br><br>ELK0194D                     | When driving on a long, straight road and slow curve without stopping, map-matching does not work effectively enough and distance errors may accumulate. As a result, the vehicle mark may deviate from the correct location when the vehicle is turned at a corner. |  |
|   | <b>Zigzag roads</b><br><br>ELK0195D                     | When driving on a zigzag road, the map may be matched to other roads in the similar direction nearby at every turn, and the vehicle mark may deviate from the correct location.  |  |
|   | <b>Roads laid out in a grid pattern</b><br><br>ELK0196D | When driving where roads are laid out in a grid pattern, or where many roads are running in the similar direction nearby, the map may be matched to them by mistake and the vehicle mark may deviate from the correct location.                                      |  |
|   | <b>Parallel roads</b><br><br>ELK0197D                   | When two roads are running in parallel (such as highway and sideways), the map may be matched to the other road by mistake and the vehicle mark may deviate from the correct location.   |  |
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# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

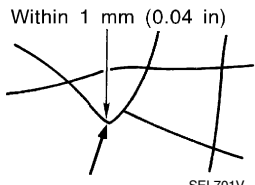
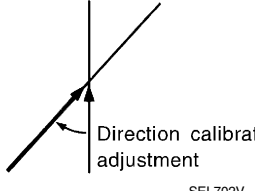
[NAVIGATION WITH BOSE]

| Cause (condition)    -: While driving    ooo: Display |  | Driving condition  | Remarks (correction, etc.)  |
|---|--|--|---|
| Place   | In a parking lot<br><br>SEL709V                                     | When driving in a parking lot, or other location where there are no roads on the map, matching may place the vehicle mark on a nearby road. When the vehicle returns to the road, the vehicle mark may have deviated from the correct location.<br>When driving in circle or turning the steering wheel repeatedly, direction errors accumulate, and the vehicle mark may deviate from the correct location. | If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.                      |
|   | Turntable<br><br>SEL710V  | When the power switch is OFF, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a turntable with the power OFF.  |   |
|   | Slippery roads   | On snow, wet roads, gravel, or other roads where tires may slip easily, accumulated mileage errors may cause the vehicle mark to deviate from the correct road.  |   |
|   | Slopes   | When parking in sloped garages, when travelling on banked roads, or in other cases where the vehicle turns when tilted, an error in the turning angle will occur, and the vehicle mark may deviate from the road.  |   |
| Map data  | Road not displayed on the map screen<br><br>SEL699V               | When driving on new roads or other roads not displayed on the map screen, map matching does not function correctly and matches the location to a nearby road. When the vehicle returns to a road which is on the map, the vehicle mark may deviate from the correct road.  |   |
|   | Different road pattern<br>(Changed due to repair)<br><br>ELK0201D | If the road pattern stored in the map data and the actual road pattern are different, map matching does not function correctly and matches the location to a nearby road. The vehicle mark may deviate from the correct road.  |   |
| Vehicle   | Use of tire chains   | When tire chains are used, the mileage is not correctly detected, and the vehicle mark may deviate from the correct road.  | Drive the vehicle for a while. If the distance still deviates, adjust it by using the distance adjustment function. (If the tire chain is removed, recover the original value.) |

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

| Cause (condition)    -: While driving    ooo: Display |  | Driving condition  | Remarks (correction, etc.)   |
|---|--|--|--|
| Precautions for driving                               | Just after the engine is started   | If the vehicle is driven just after the engine is started when the gyroscope (angular speed sensor) correction is not completed, the vehicle can lose its direction and may have deviated from the correct location. | Wait for a short while before driving after starting the engine.   |
|   | Continuous driving without stopping  | When driving long distances without stopping, direction errors may accumulate, and the current-location mark may deviate from the correct road.  | Stop and adjust the orientation.   |
|   | Abusive driving  | Spinning the wheels or engaging in other kinds of abusive driving may result in the system being unable perform correct detection, and may cause the vehicle mark to deviate from the correct road.                  | If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction. |
| How to correct location                               | Position correction accuracy<br>          | If the accuracy of location settings is poor, accuracy may be reduced when the correct road cannot be found, particularly in places where there are many roads.  | Enter in the road displayed on the screen with an accuracy of approx. 1mm.<br>Caution: Whenever possible, use detailed map for the correction.             |
|   | Direction when location is corrected<br> | If the accuracy of location settings during correction is poor, accuracy may be reduced afterwards.  | Perform direction correction.  |

## Location Correction by Map-Matching is Slow

- The map-matching function needs to refer to the data of the surrounding area. It is necessary to drive some distance for the function to work.
- Because map-matching operates on this principle, when there are many roads running in similar directions in the surrounding area, no matching determination may be made. The location may not be corrected until some special feature is found.

## Name of Road is Not Displayed

The current road name may not be displayed if there are no road names displayed on the map screen.

## Contents of Display Differ for Birdview™ and the (Flat) Map Screen

Difference of the BIRDVIEW™ screen from the flat map screen are as follows.

- The current place name displays names which are primarily in the direction of vehicle travel.
- The amount of time before the vehicle travel or turn angle is updated on the screen is longer than for the (flat) map display.
- The conditions for display of place names, roads, and other data are different for nearby areas and for more distant areas.
- Some thinning of the character data is done to prevent the display becoming too complex. In some cases and in some locations, the display contents may differ.
- The same place name, street name, etc. may be displayed multiple times.

## Vehicle Mark Shows a Position Which is Completely Wrong

In the following cases, the vehicle mark may appear on completely different position in the map depending on the GPS satellite signal receiving conditions. In this case, perform location correction and direction correction.

- When location correction has not been done
- If the receiving conditions of the GPS satellite signal is poor, if the vehicle mark becomes out of place, it may move to a completely different location and not come back if location correction is not done. The position will be corrected if the GPS signal can be received.
- When the vehicle has traveled by ferry, or when the vehicle has been being towed

## NORMAL OPERATING CONDITION

### < SYMPTOM DIAGNOSIS >

### [NAVIGATION WITH BOSE]

- Because calculation of the current location cannot be done when traveling with the power off, for example when traveling by ferry or when being towed, the location before travel is displayed. If the precise location can be detected with GPS, the location will be corrected.

#### Vehicle Mark Jumps

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location.

- When map matching has been done
- If the current location and the vehicle mark are different when map matching is done, the vehicle mark may seem to jump. At this time, the location may be “corrected” to the wrong road or to a location which is not on a road.
- When GPS location correction has been done
- If the current location and the vehicle mark are different when the location is corrected using GPS measurements, the vehicle mark may seem to jump. At this time, the location may be “corrected” to a location which is not on a road.

#### Vehicle Mark is in a River or Sea

The navigation system moves the vehicle mark with no distinction between land and rivers or sea. If the vehicle mark is somehow out of place, it may appear that the vehicle is driving in a river or the sea.

#### Vehicle Mark Automatically Rotates

The system wrongly memorizes the rotating status as stopping when the power switch is turned ON with the turntable rotating. That causes the vehicle mark to rotate when the vehicle is stopped.

#### When Driving on Same Road, Sometimes Vehicle Mark is in Right Place and Sometimes it is in Wrong Place

The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.



## REMOVAL AND INSTALLATION

### AV CONTROL UNIT

#### Removal and Installation

INFOID:000000009344989

#### REMOVAL

##### **CAUTION:**

**Remove AV control unit after a lapse of 30 seconds or more after turning the power switch OFF.**

##### **NOTE:**

After the power switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if 12V battery voltage is cut off within 30 seconds.

1. Disconnect the 12V negative battery terminal. Refer to [PG-65, "Removal and Installation"](#).
2. Remove cluster lid C. Refer to [IP-17, "Removal and Installation"](#).
3. Remove the AV control unit screws, disconnect the harness connectors from the AV control unit and remove with the brackets attached.
4. Remove the bracket screws and the brackets from AV control unit (if necessary).

#### INSTALLATION

Note the following, and install in the reverse order of removal.

##### **CAUTION:**

- If the AV control unit is replaced, input of the user ID and password and time adjustment with VCM are required.
- If the AV control unit is not replaced, time adjustment with VCM is required.

Input Method of User ID and Password

1. Turn power switch ON.
2. Select "Sign in" from the CARWINGS screen.
3. Enter the user ID and password.

##### **NOTE:**

Since the user ID and password are determined by the user in advance, they are input by the user.

Time Adjustment and Check Method with VCM

Refer to [AV-166, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Work Procedure"](#).

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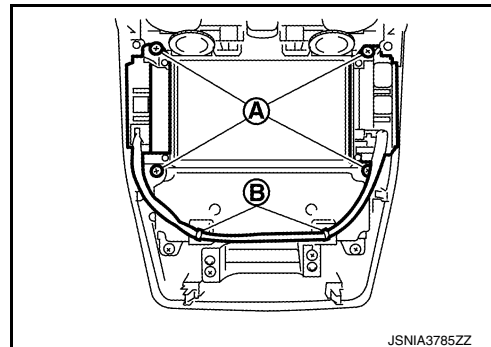
## MULTIFUNCTION SWITCH

### Removal and Installation

INFOID:000000009344991

#### REMOVAL

1. Remove cluster lid C. Refer to [IP-17, "Removal and Installation"](#).
2. Remove the screws (A), clips (B) and the multifunction switch from cluster lid C.



#### INSTALLATION

Install in the reverse order of removal.

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FRONT DOOR SPEAKER

## Removal and Installation

INFOID:000000009344980

## REMOVAL

1. Remove the front door finisher. Refer to [INT-19. "Removal and Installation"](#).
2. Remove the screws and disconnect the connector to remove the front door speaker.

## INSTALLATION

Install in the reverse order of removal.

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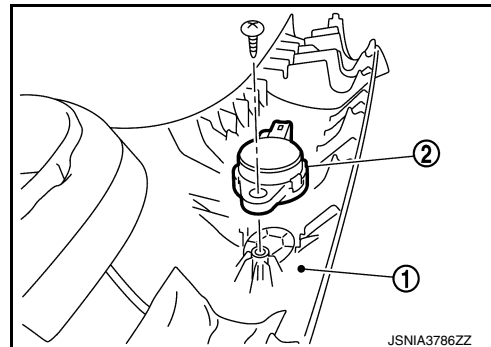
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**TWEETER****Removal and Installation**

INFOID:000000009344992

**REMOVAL**

1. Remove the front pillar garnish. Refer to [INT-26. "FRONT PILLAR GARNISH : Removal and Installation"](#).
2. Remove the screws and the tweeter from the front pillar garnish.

**INSTALLATION**

Install in the reverse order of removal.

## REAR DOOR SPEAKER

### Removal and Installation

INFOID:000000009344981

#### REMOVAL

1. Remove the rear door finisher. Refer to [INT-22. "Removal and Installation"](#).
2. Remove the screws and disconnect the connector to remove the rear door speaker.

#### INSTALLATION

Install in the reverse order of removal.

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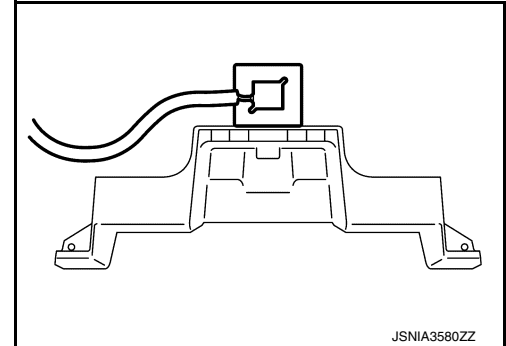
## GPS ANTENNA

### Removal and Installation

INFOID:000000009344993

#### REMOVAL

1. Remove the instrument panel assembly. Refer to [IP-17. "Removal and Installation"](#).
2. Remove the screws, clips and the GPS antenna.



JSNIA3580ZZ

#### INSTALLATION

Install in the reverse order of removal.

## MICROPHONE

## Removal and Installation

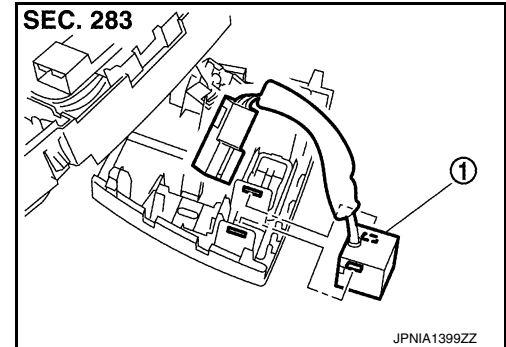
INFOID:000000009344982

## REMOVAL

1. Remove the map lamp assembly. Refer to [INL-73, "Removal and Installation"](#).
2. Press the pawl to remove the microphone (1) from the map lamp assembly.

**CAUTION:**

Use care when handling the microphone pawl to avoid damaging.



## INSTALLATION

Install in the reverse order of removal.

**NOTE:**

Check the microphone for looseness after the installation.

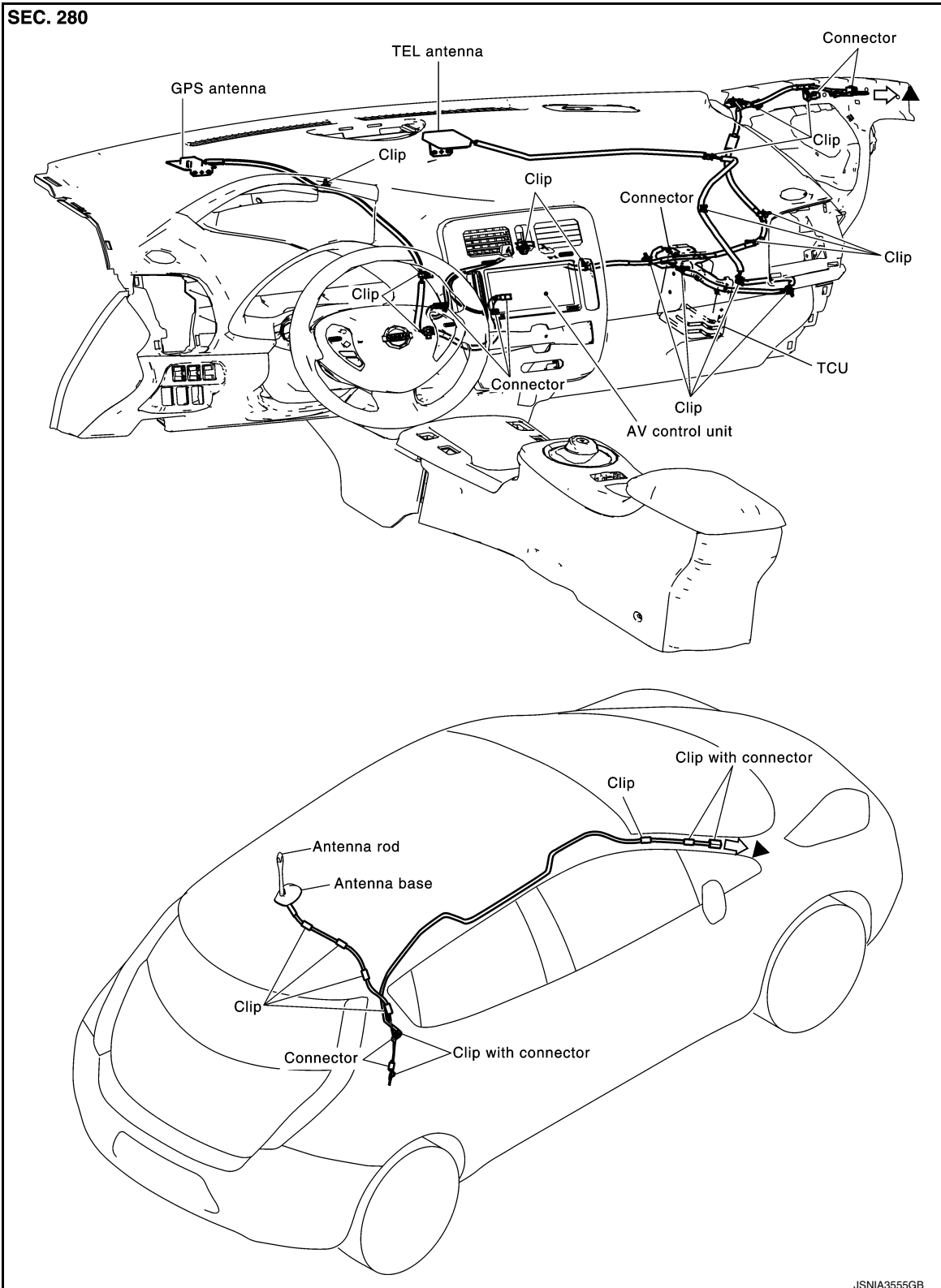
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## ANTENNA FEEDER

### Antenna Feeder

INFOID:000000009354886



▲: Indicates that the part is connected at points with same symbol in actual vehicle.



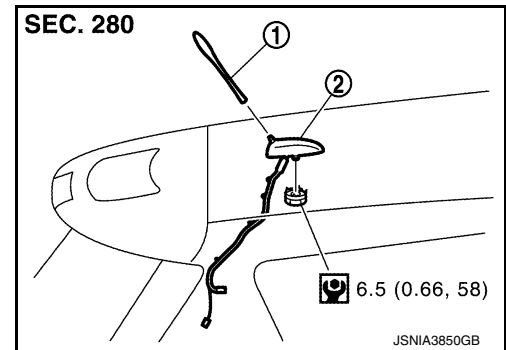
## ANTENNA BASE

### Removal and Installation

INFOID:000000009344983

#### REMOVAL

1. Partially remove the headlining (rear side) to obtain space to work between vehicle and headlining. Refer to [INT-37, "Removal and Installation"](#).
2. Disconnect the antenna feeder connector.
3. Remove the nut and the antenna base (2) from the vehicle.  
(1): Antenna rod



#### INSTALLATION

Install in the reverse order of removal.

#### CAUTION:

- Do not bend headlining when pulling down.
- Tighten the antenna base nut to specification.
- If the antenna base nut is less than the specified torque, it could affect the performance of the antenna sensitivity.
- If the antenna base nut is greater than the specified torque, it could damage the roof panel.

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## STEERING SWITCH

### Exploded View

INFOID:000000009344985

Refer to [SR-20, "Exploded View"](#).

### Removal and Installation

INFOID:000000009344984

#### REMOVAL

Refer to [SR-20, "Removal and Installation"](#).

#### INSTALLATION

Install in the reverse order of removal.

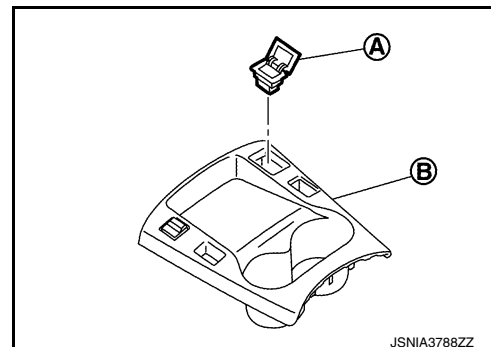
## AUXILIARY INPUT JACK

## Removal and Installation

INFOID:000000009344997

## REMOVAL

1. Remove the instrument lower center cover. Refer to [IP-17. "Removal and Installation"](#).
2. Press the tab from the rear of the instrument lower center cover (B) and remove the auxiliary input jack (A).



## INSTALLATION

Install in the reverse order of removal.

**NOTE:**

Align the notch of the instrument panel center lower cover and assemble it.

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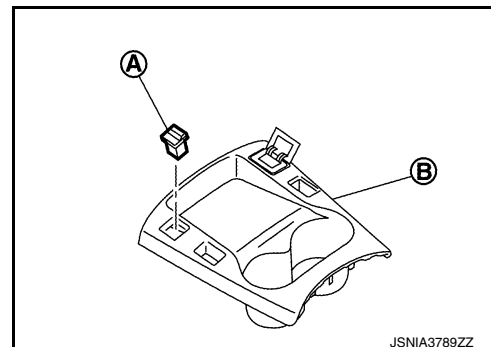
## USB CONNECTOR

### Removal and Installation

INFOID:000000009344986

#### REMOVAL

1. Remove the instrument lower center cover. Refer to [IP-17, "Removal and Installation"](#).
2. Press the tab from the rear of the instrument lower center cover (B) and remove the USB connector (A).



#### INSTALLATION

Install in the reverse order of removal.

**NOTE:**

Align the notch of the instrument panel center lower cover and assemble it.

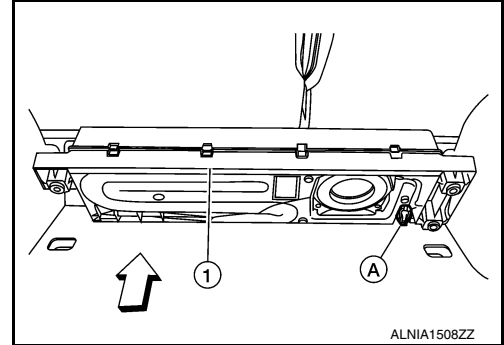
## SUBWOOFER

### Removal and Installation

INFOID:000000009344927

#### REMOVAL

1. Open the back door.
2. Remove the three subwoofer bolts.
3. Lift rear of subwoofer (1) to disconnect the harness connector (A) and remove.  
⇐: Front



#### INSTALLATION

Installation is in the reverse order of removal.

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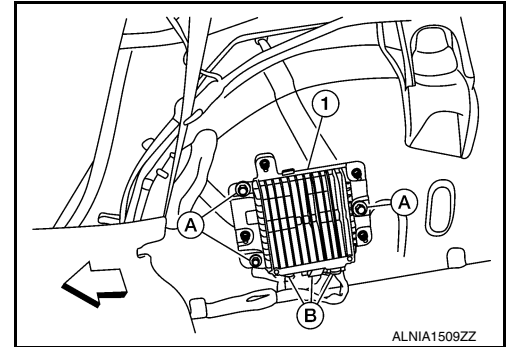
AV

**BOSE SPEAKER AMP****Removal and Installation**

INFOID:000000009344928

**REMOVAL**

1. Remove the luggage side lower finisher (RH). Refer to [INT-43. "LUGGAGE SIDE LOWER FINISHER : Removal and Installation"](#).
2. Remove the three Bose speaker amp. bolts (A).
3. Disconnect the harness connectors (B) from the Bose speaker amp. (1) and remove.  
⇐: Front

**INSTALLATION**

Installation is in the reverse order of removal.

# AROUND VIEW MONITOR CONTROL UNIT

< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

## AROUND VIEW MONITOR CONTROL UNIT

### Removal and Installation

INFOID:000000009345430

#### REMOVAL

1. Remove the TCU. Refer to [AV-504. "Removal and Installation"](#).
2. Remove the around view monitor control unit screws.
3. Disconnect the harness connectors from the around view monitor control unit and remove.

#### INSTALLATION

Install in the reverse order of removal.

##### **NOTE:**

Perform camera image calibration. Refer to [AV-317. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

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**FRONT CAMERA****Removal and Installation**

INFOID:000000009345542

**REMOVAL**

1. Open charge port lid.
2. Release the pawls and remove the access cover on the rear of the charge port lid.
3. Disconnect the harness connector from the front camera.
4. Remove the front camera from the charge port lid.

**INSTALLATION**

Install in the reverse order of removal.



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SIDE CAMERA

## Removal and Installation

INFOID:000000009345541

The side camera is serviced as part of the door mirror assembly. Refer to [MIR-23, "DOOR MIRROR ASSEMBLY : Removal and Installation"](#).

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## REAR VIEW CAMERA

### Removal and Installation

INFOID:000000009344987

#### REMOVAL

1. Remove the back door opener switch assembly. Refer to [INT-48. "BACK DOOR LOWER FINISHER : Removal and Installation"](#).
2. Remove the screws and the rear view camera from the switch finisher.

#### INSTALLATION

Install in the reverse order of removal.

**NOTE:**

If the side distance guiding lines are dislocated after installation of the rear view camera, refer to [AV-317. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#) and correct the side distance guiding lines.

## PRECAUTION

### PRECAUTIONS

#### Precaution for Technicians Using Medical Electric

INFOID:000000009344946

##### OPERATION PROHIBITION

**WARNING:**

- Parts with strong magnet is used in this vehicle.
- Technicians using a medical electric device such as pacemaker must never perform operation on the vehicle, as magnetic field can affect the device function by approaching to such parts.

##### NORMAL CHARGE PRECAUTION

**WARNING:**

- If a technician uses a medical electric device such as an implantable cardiac pacemaker or an implantable cardioverter defibrillator, the possible effects on the devices must be checked with the device manufacturer before starting the charge operation.
- As radiated electromagnetic wave generated by PDM (Power Delivery Module) at normal charge operation may affect medical electric devices, a technician using a medical electric device such as implantable cardiac pacemaker or an implantable cardioverter defibrillator must not approach motor room [PDM (Power Delivery Module)] at the hood-opened condition during normal charge operation.

##### PRECAUTION AT TELEMATICS SYSTEM OPERATION

**WARNING:**

- If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.
- The electromagnetic wave of TCU might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), when using the service, etc.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of TCU might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before TCU use.

##### PRECAUTION AT INTELLIGENT KEY SYSTEM OPERATION

**WARNING:**

- If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.
- The electromagnetic wave of Intelligent Key might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), at door operation, at each request switch operation, or at engine starting.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of Intelligent Key might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before Intelligent Key use.

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

INFOID:000000009344941

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:**

# PRECAUTIONS

< PRECAUTION >

[TELEMATICS SYSTEM]

- 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:000000009344942

## AV COMMUNICATION SYSTEM

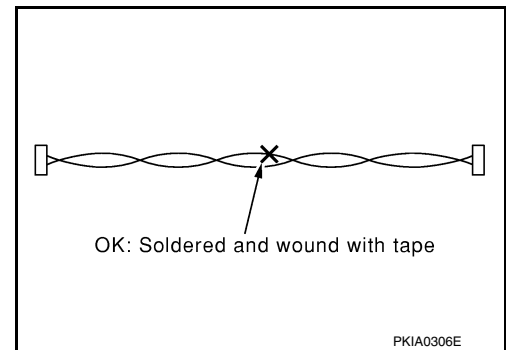
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn power switch OFF and disconnect the battery cable from the negative terminal before checking the circuit. Refer to [AV-396, "Precaution for Removing 12V Battery"](#).

## Precaution for Harness Repair

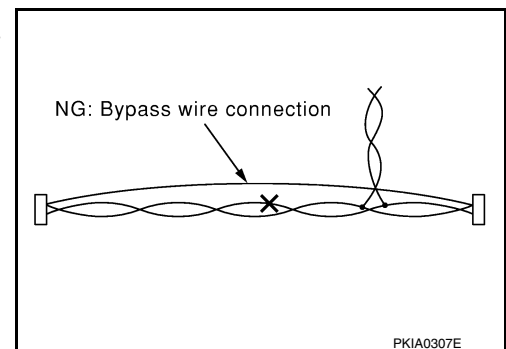
INFOID:000000009344943

## AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



- 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 Removing 12V Battery

INFOID:000000009344944

1. Check that EVSE is not connected.

### NOTE:

If EVSE is connected, the air conditioning system may be automatically activated by the timer A/C function.

## PRECAUTIONS

### < PRECAUTION >

### [TELEMATICS SYSTEM]

2. Turn the power switch OFF → ON → OFF. Get out of the vehicle. Close all doors (including back door).
3. Check that the charge status indicator lamp does not blink and wait for 5 minutes or more.

#### NOTE:

If the battery is removed within 5 minutes after the power switch is turned OFF, plural DTCs may be detected.

4. Remove 12V battery within 1 hour after turning the power switch OFF → ON → OFF.

#### NOTE:

- The 12V battery automatic charge control may start automatically even when the power switch is in OFF state.
- Once the power switch is turned ON → OFF, the 12V battery automatic charge control does not start for approximately 1 hour.

#### CAUTION:

- **After all doors (including back door) are closed, if a door (including back door) is opened before battery terminals are disconnected, start over from Step 1.**
- **After turning the power switch OFF, if “Remote A/C” is activated by user operation, stop the air conditioner and start over from Step 1.**

### Cautions in Removing AV Control Unit (Models with AV Control Unit)

INFOID:0000000009344945

#### CAUTION:

**Remove AV control unit after a lapse of 30 seconds or more after turning the power switch OFF.**

#### NOTE:

After the power switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if 12V battery voltage is cut off within 30 seconds.

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AV

## PREPARATION

### PREPARATION

#### Commercial Service Tool

INFOID:000000009344940

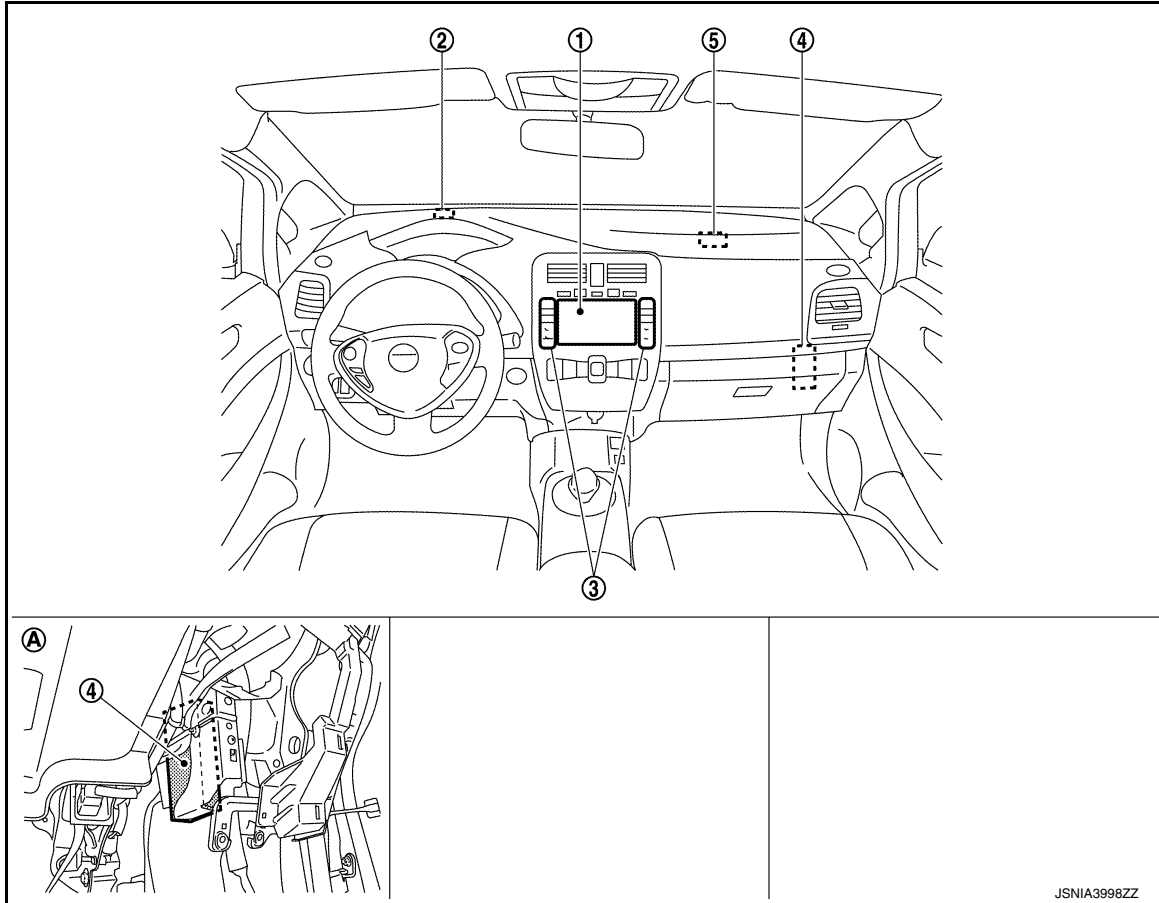
| Tool name  | Description   |
|--|---|
| <p>Power tool</p>  <p>P11B1407E</p> | <p>Loosening nuts, screws and bolts</p> |

## SYSTEM DESCRIPTION

### COMPONENT PARTS

#### Component Parts Location

INFOID:000000008743751



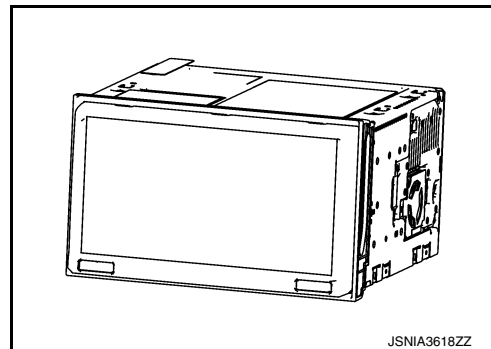
A. Glove box cover assembly removed.

| No. | Component            | Function  |
|-----|----------------------|---|
| 1.  | AV control unit      | Refer to <a href="#">AV-400, "AV Control Unit"</a> .  |
| 2.  | GPS antenna          | <ul style="list-style-type: none"> <li>For parts explanation, refer to <a href="#">AV-400, "GPS Antenna"</a>.</li> <li>For antenna feeder layout, refer to <a href="#">AV-401, "Antenna Feeder"</a></li> </ul>  |
| 3.  | Multifunction switch | Refer to <a href="#">AV-400, "Multifunction Switch"</a>   |
| 4.  | TCU                  | Refer to <a href="#">AV-400, "TCU"</a> .  |
| 5.  | TEL antenna          | <ul style="list-style-type: none"> <li>For parts explanation, refer to <a href="#">AV-401, "TEL Antenna"</a>.</li> <li>For antenna feeder layout, refer to <a href="#">AV-401, "Antenna Feeder"</a>.</li> </ul> |

## AV Control Unit

INFOID:000000008743752

- The high-resolution 7-inch wide VGA display integrated AV control unit is installed at the center of the instrument panel.
- AV control unit is connected to TCU with the USB harness, and signals necessary for Telematics function and CARWINGS function are sent and received.
- When the Telematics system is used, the user ID and password registered by the user are memorized.
- Switch operation signals used for the Telematics system are sent to TCU with USB communication via the AV control unit.



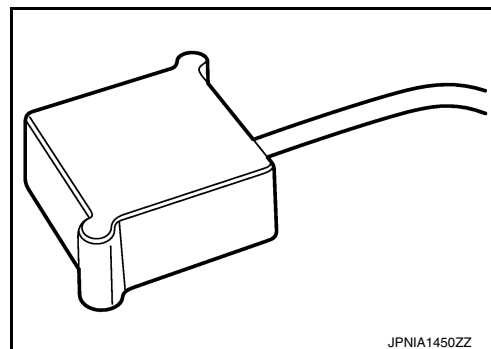
## GPS Antenna

INFOID:000000008743753

- The GPS antenna is installed in the instrument panel.
- Power is supplied from the AV control unit. Radio waves received from the GPS satellite are amplified and sent to the AV control unit as a GPS signal.
- The GPS antenna is used to obtain time information and vehicle position information necessary for probe information.

### NOTE:

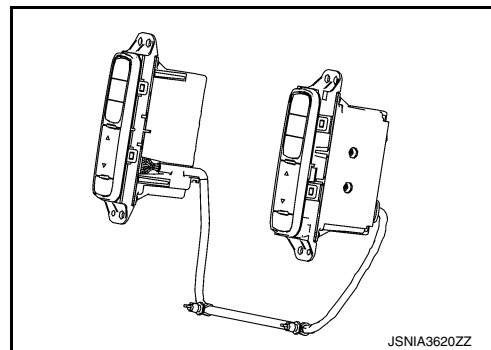
An object placed on the instrument panel may cause the reception sensitivity to be decreased.



## Multifunction Switch

INFOID:000000008743754

- CARWINGS or Telematics can be controlled using the malfunction switch.
- Switch operation signals are input to the AV control unit with AV communication and sent to TCU.



## TCU

INFOID:000000008743755

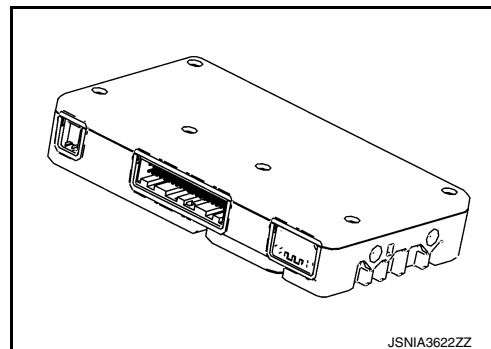
- TCU is installed on the lower right side of the instrument panel.
- A radio communication terminal and SIM card are built into the unit and data is sent and received in SMS\*1 and packet communication\*2 with the NISSAN CARWINGS data center via the TEL antenna.

### NOTE:

\*1: SMS stands for Short Message Service. It is also referred to as Text Messaging, Short Mail, etc. It is the service that performs text-based message communication.

\*2: Packet communication is the communication method that sends/receives data in a small packet. Divided data is referred to as a packet and the communication line can be efficiently used.

- TCU is connected to the AV control unit with the USB harness for sound signal input/output and USB communication.
- VIN information necessary for the Telematics service is memorized.

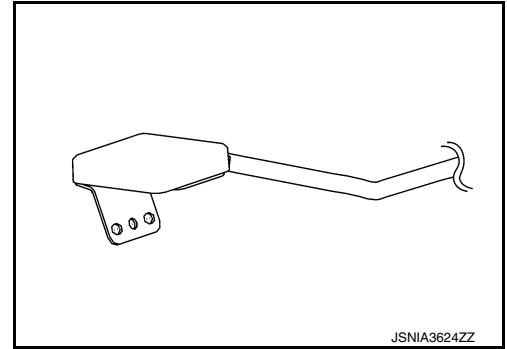




## TEL Antenna

INFOID:000000008743756

- TEL antenna is installed in the instrument panel.
- Power is supplied with TCU activated.



JSNIA3624ZZ

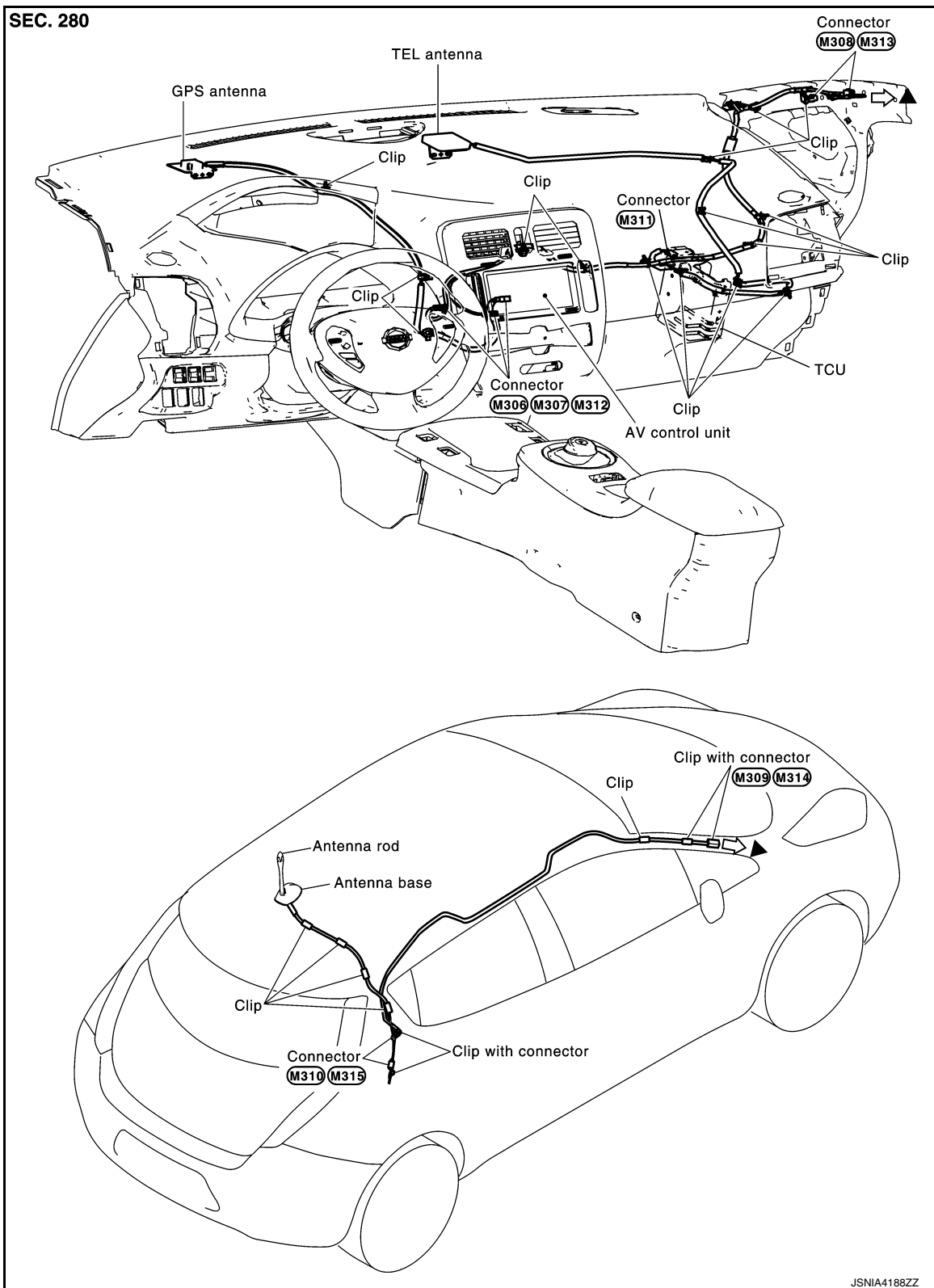
INFOID:000000008743757

## Antenna Feeder

### FEEDER LAYOUT

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AV

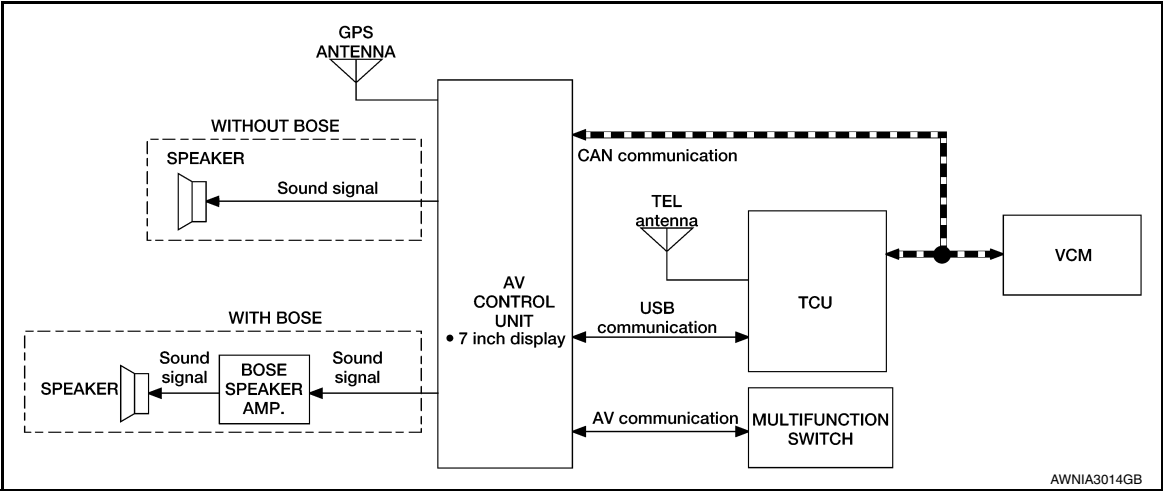


▲: Indicates that the part is connected at points with same symbol in actual vehicle.

SYSTEM  
TELEMATICS SYSTEM

TELEMATICS SYSTEM : System Diagram

INFOID:0000000008743758



CAN COMMUNICATION

AV Control Unit Input Signal

| Transmit unit         | Signal name  |
|-----------------------|--|
| Steering angle sensor | Steering angle sensor signal                                     |
| Combination meter     | Odometer signal  |
|                       | A/C OFF average electricity consumption for driving range signal |
|                       | A/C ON average electricity consumption for driving range signal  |
|                       | Driving range difference signal                                  |
| VCM                   | A/C consumption power status display signal                      |
|                       | A/C consumption signal   |
|                       | Current motor power signal                                       |
|                       | ECO tree signal  |
|                       | Li-ion battery charging data signal                              |
|                       | Auxiliary consumption signal                                     |
|                       | Pre-A/C priority signal  |
|                       | Pre-A/C timer signal   |
|                       | Remaining time to charge completion (200 V) signal               |
|                       | Remaining time to charge completion (100 V) signal               |
|                       | Traction motor consumption signal                                |
|                       | VCM activation/deactivation command signal                       |
|                       | VCM status signal  |
|                       |  |

TCU Input Signal

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AV

| Transmit unit    | Signal name  |
|------------------|--|
| VCM              | A/C expected consumption signal                    |
|                  | Charge status signal                               |
|                  | Pre-A/C status signal                              |
|                  | Remaining time to charge completion (200 V) signal |
|                  | Remaining time to charge completion (100 V) signal |
|                  | VCM activation/deactivation command signal         |
|                  | VCM status signal                                  |
|                  | Li-ion battery available charge signal             |
|                  | Li-ion battery capacity signal                     |
|                  | Li-battery gradual capacity loss signal            |
| On board charger | AC input type signal                               |

## TELEMATICS SYSTEM : System Description

INFOID:000000008743759

### NOTE:

To use the Telematics systems Users must apply for subscription separately.

- The Telematics system provides information and services that can support secure and comfortable use of vehicles by a constant link of the vehicle and user through the Nissan CARWINGS Data Center.
- Available service functions of the Telematics system are CARWINGS service functions.
- TCU integrates a wireless communication terminal and sends/receives data with the Nissan CARWINGS Data Center via TEL antenna using packet communication \*1 and SMS \*2.

### NOTE:

- \*1: Packet communication is the communication method that sends/receives data in a small packet. Divided data is referred to as a packet and the communication line can be efficiently used.
- \*2: SMS stands for Short Message Service. It is also referred to as Text Messaging, Short Mail, etc. It is the service that performs text based message communication.
- The AV control unit and TCU are connected with the USB communication for sending/receiving operation signals and data signals.
- To use the Telematics system, it is necessary to activate TCU. The necessary conditions are as per the following items.
  - Join the Telematics service.
  - Register the user ID and password in advance. (They are required for activation.)
  - For activation operation, refer to [AV-485, "ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM \(WORK STEP VIEW\) : Process Chart"](#).

### COMMUNICATION SIGNAL

- TCU is connected to the AV control unit through USB communication (USB 1.0), and it sends/receives reception data of TCU and operation signals of the AV control unit.
- TCU is connected to VCM, HVBAT (Li-ion Battery) and OBC (On-Board Charger) through EV CAN, and it sends/receives vehicle information.

### CARWINGS SERVICE FUNCTION

The following services are provided for each situation.

| Situation | Service item                                    |
|-----------|---|
| On board  | Automatic update of charge facility information |
|           | Search for nearest charge station               |
|           | Information channel                             |
|           | Probe information                               |

# SYSTEM

## < SYSTEM DESCRIPTION >

## [TELEMATICS SYSTEM]

| Situation             |                                | Service item   |
|-----------------------|--------------------------------|--|
| Before/after on board | Remote operation function      | Remote air conditioning (immediate ON/timer reservation) |
|                       |                                | Remote charge  |
|                       |                                | Charge check   |
|                       | Notifying function             | Notification of unplugged status                         |
|                       |                                | Notification of charge status                            |
|                       | User's operation (mobile etc.) | Drive plan (Send-to-car)                                 |
|                       |                                | ECO drive  |

### Automatic Update of Charge Facility/Search for Nearest Charge Station

#### Automatic update of charge facility

- Nearby charge stations around the user's vehicle (area of within a radius of 25 km <15-1/2 miles> from the vehicle) are automatically updated when the low battery warning lamp turns ON.
- Neighborhood charge stations around user's house (area within approximately 160 km <approx. 100 miles>) are automatically updated periodically.

#### Search for nearest charge station

- If the battery capacity is low during driving, a charge warning is given in 3 steps. If the user follows the warning, data is sent/received to/from the Nissan CARWINGS Data Center. Charge facilities around the vehicle are searched, and guidance is started on the navigation system. The search location is memorized on the AV control unit as charge station information.
- When the user selects update of the charge facilities in the area, data is sent and received to/from the Nissan CARWINGS Data Center. Charge facilities around the area are searched, and the locations searched are memorized to the AV control unit as charge station information.

#### NOTE:

Up to approximately 1,000 charge stations can be memorized.

#### Information channel/probe information

- Start the navigation menu or power switch with external signals and perform data communication with the Nissan CARWINGS Data Center through TCU.
- Information channel obtains various kinds of information such as Internet content prepared by the Nissan CARWINGS Data Center and provides voice guidance and display guidance.
- For voice sound used in the information channel, TCU receives the text data from the Nissan CARWINGS Data Center through the TEL antenna in packet communication and sends it to the AV control unit. The AV control unit converts the text data to voice signal and sends it to the front speaker.
- If CARWINGS reading voice is output while the audio is ON and/or the voice guidance is being output, these audio sounds are muted and only the CARWINGS reading voice is output.
- Various vehicle information data (battery condition, driving distance, warning display, etc.) is sent to the Nissan CARWINGS Data Center to store the data. The timing for transmission is the information channel, ECO drive connection, fastest route search and connection to operator service.

#### Remote Air Conditioning (Immediate ON/Timer Reservation) Operation

Before/after driving the vehicle, remote air conditioning operation can be performed through the Nissan CARWINGS Data Center by operating a user's cellular phone or PC. When using the remote control operation, the vehicle must be stopped in a location where radio waves between the Nissan CARWINGS Data Center and the vehicle can be received.

#### Immediate ON operation

- Vehicle air conditioning can be turned ON by remote control by operating a user's cellular phone or PC.

#### NOTE:

If air conditioning is operated with the charging plug inserted, battery power is saved.

#### OPERATION PRINCIPLE

- The user operates the remote air conditioning with a cellular phone or PC and sends the data to the Nissan CARWINGS Data Center via the web site.
- The Nissan CARWINGS Data Center sends the TCU start signal to the vehicle via SMS.
- The vehicle processes the TCU start signal in TCU that is received by the TEL antenna, and starts TCU.
- After startup, TCU checks the EV-CAN communication status. If it is OK, TCU receives the remote air conditioning operation from the Nissan CARWINGS Data Center via packet communication.

- TCU sends the EV system start request signal to VCM via hard wire and sends the remote air conditioning request signal via EV-CAN.
- VCM is activated to start the air conditioning. VCM sends the VCM status signal and VCM activate/deactivate signal to TCU to notify that VCM is activated. For A/C-heater operation, refer to [EVC-58. "AIR CONDITIONER CONTROL : System Description"](#).
- When the air conditioning operation is started, TCU receives the pre-A/C signal from VCM and notifies the user's cellular phone or PC through the Nissan CARWINGS Data Center via packet communication that the air conditioning is activated.

### Timer reservation operation

- The vehicle air conditioning is turned ON at the time set by the user with a cellular phone or PC.

#### NOTE:

- If the air conditioning is operated with the charging plug inserted, battery power is saved.
- The timer is controlled by the Nissan CARWINGS Data Center.

### OPERATION PRINCIPLE

- The user operates the remote air conditioning timer reservation with a cellular phone or PC and sends the data to the Nissan CARWINGS Data Center via the web site.
- The Nissan CARWINGS Data Center sends the TCU start signal to the vehicle via SMS when the timer reservation time is reached.
- The vehicle processes the TCU start signal in TCU that is received by the TEL antenna, and starts TCU.
- After startup, TCU checks the EV-CAN communication status. If it is OK, TCU receives the remote air conditioning operation from the Nissan CARWINGS Data Center via packet communication.
- TCU sends the EV system start request signal to VCM through hard wire and sends the remote air conditioning request signal via EV-CAN.
- VCM is activated to start the air conditioning. VCM sends the VCM status signal and VCM activate/deactivate signal to TCU to notify that VCM is activated. For A/C-heater operation, refer to [EVC-58. "AIR CONDITIONER CONTROL : System Description"](#).
- When the air conditioning operation is started, TCU receives the pre-A/C signal from VCM and notifies the user's cellular phone or PC through the Nissan CARWINGS Data Center via packet communication that the air conditioning is activated.
- When the operation is completed, TCU sends the VCM sleep signal to VCM via EV-CAN communication to stop operation.

#### NOTE:

- If the air conditioning is not turned ON, the Nissan CARWINGS Data Center sends an e-mail to the user for notification.
- During operation of the remote air conditioning, the vehicle is operating the air conditioning circuit only.
- If the power switch is turned ON during operation of the remote air conditioning, the operation stops.

### Remote Charge Operation

Before/after driving the vehicle, remote charge operation can be performed through the Nissan CARWINGS Data Center by operating a user's cellular phone or PC. When using the remote control operation, the charging plug must be inserted into the vehicle and the vehicle must be stopped in a location where radio waves between the Nissan CARWINGS Data Center and vehicle can be received.

### OPERATION PRINCIPLE

1. The user operates remote charge start with a cellular phone or PC and sends the data to the Nissan CARWINGS Data Center via the web site.
2. The Nissan CARWINGS Data Center sends the TCU start signal to the vehicle via SMS.
3. The vehicle processes the TCU start signal in TCU that is received by the TEL antenna, and starts TCU.
4. After startup, TCU checks the EV-CAN communication status. If it is OK, TCU receives the remote charge operation from the Nissan CARWINGS Data Center via packet communication.
5. TCU sends the EV system start request signal to VCM via hard wire and sends the remote air conditioning request signal via EV-CAN.
6. When VCM is activated and charging is started, VCM sends the VCM status signal and VCM activate/deactivate signal to TCU to notify that VCM is activated. For charging operation, refer to [EVC-53. "LI-ION BATTERY CHARGE CONTROL : System Description"](#).
7. When charge is started, TCU receives the charge status signal and the remaining time to charge completion signal from VCM, and the charge status is sent to the user's cellular phone or PC through the Nissan CARWINGS Data Center via packet communication.
8. When charge is completed, TCU receives the charge status signal from VCM that charge is stopped, and notifies the user's cellular phone or PC through the Nissan CARWINGS Data Center via packet communication that the charge is completed.

## &lt; SYSTEM DESCRIPTION &gt;

9. When the timer operation is completed, TCU sends the VCM sleep signal to VCM to stop operation.

**NOTE:**

- If charge is not started, the Nissan CARWINGS Data Center sends an e-mail to the user for notification.
- If charge is abnormally ended for any reason, an e-mail indicating completion of charge in the same manner as a normal charge is notified. After charging, check the charge status.

## Automatic Notification for Unplugged Status/Charge Status

TCU detects the charge status and notifies the Nissan CARWINGS Data Center of non-plug insertion and charge stop.

## Notification of unplugged status

- When the power switch is OFF, check the charging plug fitting status after the time set on the screen. If the charging plug is not inserted, a notification is sent to the user's cellular phone and PC through the Nissan CARWINGS Data Center.
- The system operates within 100 m of the location registered by the user.

## OPERATION PRINCIPLE

- When the charging plug fitting check time is reached after the power switch is OFF, VCM is activated.
- Check the charging plug fitting with the charging plug connection signal and if the charging plug is not inserted, a notification is sent to the user's cellular phone and PC through the Nissan CARWINGS Data Center.

**NOTE:**

This process is effective only for normal charging plug and it is not compatible with quick charge.

## Notification of charge status

- A completion of charge notification is sent to the user's cellular phone and PC through the Nissan CARWINGS Data Center.

## OPERATION PRINCIPLE

- When charge is completed, TCU receives the charge status signal from VCM that charge is stopped, and notifies the user's cellular phone or PC through the Nissan CARWINGS Data Center via packet communication that the charge is completed.

**NOTE:**

- For abnormal completion (loose charging plug for any reason), the function to notify that charge operation is stopped sends an e-mail in the same manner as a normal end.
- Notification of charge status can be set between ON and OFF on the CARWINGS menu screen.

## Charge Check

- The vehicle charge condition can be checked.

## OPERATION PRINCIPLE

- The user operates a charge check with a cellular phone or PC and the data is sent to the Nissan CARWINGS Data Center through the web site.
- The Nissan CARWINGS Data Center sends the TCU start signal to the vehicle via SMS.
- The vehicle processes the TCU start signal in TCU that is received by the TEL antenna, and starts TCU.
- After startup, TCU checks the EV-CAN communication status. If it is OK, TCU receives the charge status check operation from the Nissan CARWINGS Data Center via packet communication.
- TCU sends the EV system start request signal to VCM via hard wire and sends the remote air conditioning request signal via EV-CAN.
- VCM starts. VCM sends the VCM status signal and VCM activate/deactivate signal to TCU to notify that VCM is activated.
- TCU receives the Li-ion battery capacity signal necessary for the remaining battery indication and full charge capacity indication from VCM and the Li-ion battery deterioration signal from Li-ion battery via EV-CAN communication.
- TCU sends the charge status to the user's cellular phone and PC through the Nissan CARWINGS Data Center via packet communication.
- When the timer operation is completed, TCU sends the VCM sleep signal to VCM to stop operation.

## Drive plan

- A drive plan determined in advance can be sent to the vehicle from a PC to the vehicle through the Nissan CARWINGS Data Center.
- TCU receives the data through the TEL antenna and sends it to the AV control unit. The AV control unit converts the data into signals for display on the navigation route guide.

## ECO drive

## SYSTEM

< SYSTEM DESCRIPTION >

[TELEMATICS SYSTEM]

- Based on the data stored at the Nissan CARWINGS Data Center, ECO drive history, advice, ECO rank, etc. are displayed and checked with probe information.



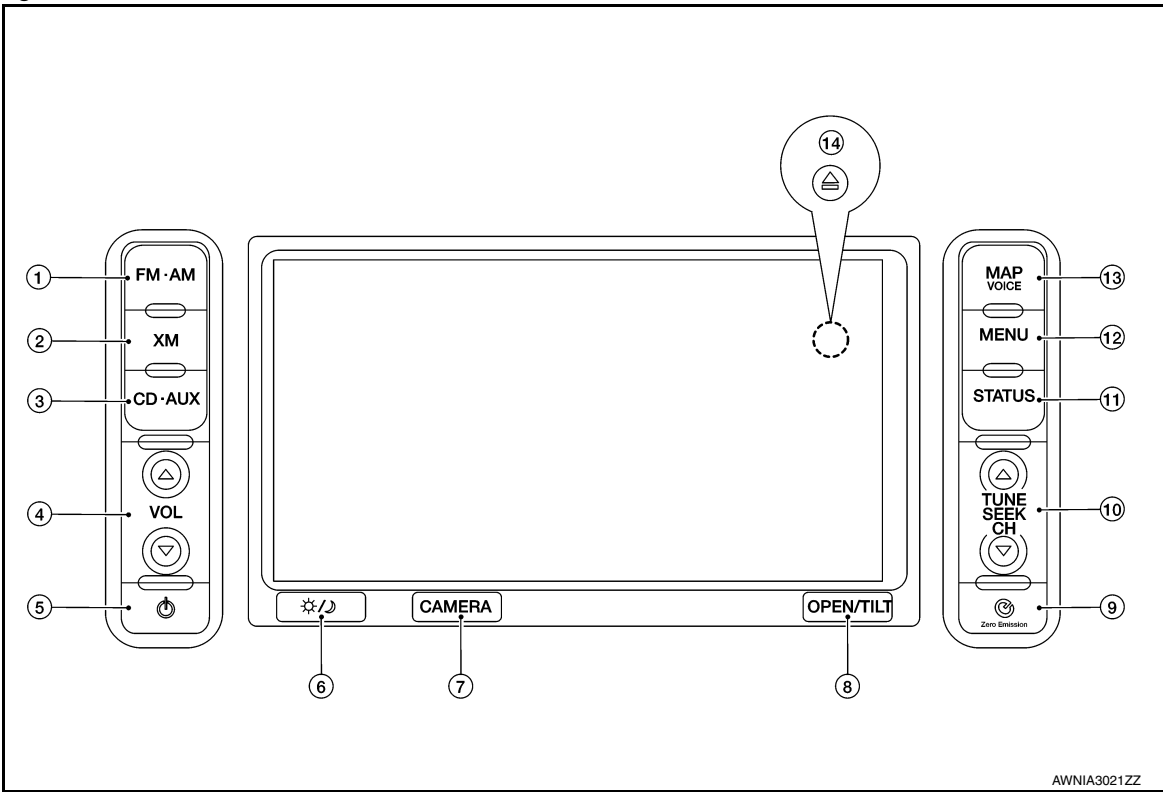
OPERATION

Switch Name and Function

INFOID:000000008743761

Names and functions of AV control unit switches

1. Design




2. Switch name and function

| No. | Switch name                         | Function  |
|-----|-------------------------------------|---|
| 1   | FM-AM                               | Press to switch between the FM radio band and the AM radio band.  |
| 2   | XM                                  | Press to switch to an XM satellite radio band.  |
| 3   | CD-AUX                              | Press to switch between USB memory/iPod player <sup>*1</sup> /CD/Bluetooth <sup>®</sup> streaming audio <sup>*2</sup> / AUX screens.  |
| 4   | VOL (volume control)                | Press to adjust the volume of the stereo.   |
| 5   | ⏻ (audio system ON-OFF)             | Press to turn the audio system ON or OFF.   |
| 6   | ☀/🌙 (Day/Night)                     | <ul style="list-style-type: none"><li>• Press to switch between the day screen (bright) and the night screen (dark).</li><li>• Press and hold to turn OFF the display, then press again to turn ON the display.</li></ul> |
| 7   | CAMERA (Bose audio with navigation) | Press to turn the around view monitor system ON or OFF.   |
| 8   | OPEN/TILT                           | <ul style="list-style-type: none"><li>• Press to open the monitor to access the CD slot and the SD card slot.</li><li>• Press and hold to adjust the monitor angle (6 angles).</li></ul>                                  |
| 9   | 🔌 (Zero emission)                   | Press to display the setting screen where several useful functions for electric vehicle driving are determined.   |
| 10  | TUNE/SEEK/CH                        | <ul style="list-style-type: none"><li>• Press to select a track/station.</li><li>• Press and hold to search for a track/station automatically or to fast-forward/back-forward when listening to music.</li></ul>          |
| 11  | STATUS                              | Press to display the current status of the air conditioner, radio, audio, vehicle information (estimated distance, drivable distance and average energy economy) and navigation systems.                                  |
| 12  | MENU                                | Press to display the setting menu (destination, route, information, settings, phone and car-wings) screen.  |

# OPERATION

## < SYSTEM DESCRIPTION >

## [TELEMATICS SYSTEM]

| No. | Switch name  | Function  |
|-----|--|---|
| 13  | MAP/VOICE  | <ul style="list-style-type: none"> <li>Press to display the current location map screen.</li> <li>Press and hold to repeat voice guidance.</li> </ul> |
| 14  |  (Disk eject) | Press to eject a disk.  |

- \*1: Displayed when iPod® is connected.
- \*2: Displayed when Bluetooth® audio is registered and "Bluetooth connection" setting is ON.

## Menu Display by Pressing Each Switch

INFOID:000000008743762

### NOTE:

For Navigation system and Telematics system operation detailed information, refer to Navigation system Owner's Manual.

### MENU

When the MENU switch is pressed, the menu screen is displayed.



| Menu list   |                     | Description  |
|-------------|---------------------|--|
| Destination | Change Country      | When setting a destination, the country can be selected. The country that is last selected is automatically selected by the system as the default.                       |
|             | New Address         | Searches for a destination by address.   |
|             | Home                | Searches for a route from the current location to the previously stored home destination.  |
|             | Points of interest  | Searches for a destination from various categories of businesses or locations.   |
|             | Charging Station    | Searches for the charging stations near the current vehicle location.  |
|             | Quick Stop          | Searches for points of interest near the current vehicle location, such as restaurants, charging stations, etc.  |
|             | Address Book        | Searches for a destination from the list of the stored locations.  |
|             | History             | <ul style="list-style-type: none"> <li>Sets the previous starting point as destination.</li> <li>Searches for the destination from the previous destinations.</li> </ul> |
|             | M-way Entrance/Exit | Searches for a destination from a motorway entrance/exit.  |
|             | Stored Routes       | Selects a stored route.  |
|             | Latitude/Longitude  | Searches for a destination by entering the latitude and the longitude.   |
|             | Junction            | Searches for a destination from junctions.   |


# OPERATION

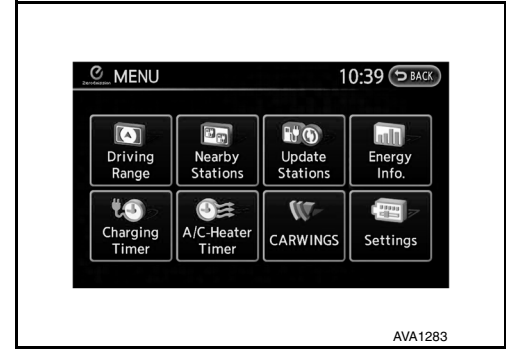
## < SYSTEM DESCRIPTION >


## [TELEMATICS SYSTEM]

| Menu list   |                               | Description  |
|-------------|-------------------------------|--|
| Route       | Cancel Route/<br>Resume Route | Cancels the current route guidance. A cancelled route can also be reactivated. If the suggested route is cancelled, "Cancel Route" changes to "Resume Route".  |
|             | Edit Route                    | Edit or add a destination or waypoints to the route that is already set.   |
|             | Route Info                    | Confirm the route by the route information or simulation. The confirmed route can also be stored.  |
|             | Guidance Voice                | Activates or deactivates route, voice guidance and/or traffic announcement and adjust the volume level of voice guidance.  |
|             | Recalculate                   | Manually search for the route again after changing the search condition and have the system calculate a route.   |
|             | Detour                        | A detour of a specified distance can be calculated.  |
|             | Traffic Detour                | Manually search for an alternative detour route taking the traffic information into consideration.   |
|             | Route Calculation Criteria    | Changes the route calculation conditions anywhere along the route.   |
| Information | Traffic Information           | Displays the Traffic Information.  |
|             | Energy Info.                  | Energy information is displayed on the screen.   |
|             | Maintenance                   | Displays the vehicle maintenance information.  |
|             | Charging Station Info         | Displays charging station information for the current location.  |
|             | Where am I?                   | Displays information regarding the current vehicle location.   |
|             | Voice Recognition             | Displays the voice command list.   |
|             | GPS Position                  | Displays GPS information regarding the current vehicle location.   |
|             | Navigation Version            | Displays the current navigation system version.  |
| Settings    |                               | The following system items can be customized.  |
| Phone       | Phonebook                     | Select a telephone number from the phone book, and then make a call. Before making a call, the telephone number must be registered in the phone book.  |
|             | Call History                  | Select a telephone number from the incoming or outgoing history lists, and then make a call.   |
|             | Handset Memory                | Download the phone book from a cellular phone that is connected to the vehicle, select a telephone number from the phone book, and then make a call. Phone book data should be registered in the system after downloading the phone book from the cellular phone that is connected to the vehicle. If the phone book is not registered, a message that reminds of phone book data download is displayed. |
|             | Keypad                        | Input the phone number manually using the keypad displayed on the screen.  |
|             | Volume                        | Adjust various settings of phone volume.   |
|             | Pair Phone                    | <ul style="list-style-type: none"> <li>When a PIN code appears on the screen, operate the compatible Bluetooth® cellular phone to enter the PIN code.</li> <li>When the connection process is completed, the screen will returns to the Phone menu display.</li> </ul>   |
|             | Paired Phone                  | The list of the registered cellular phones is displayed.   |
|             |                               |  |
| CARWINGS    | Favorite Channels             | A maximum of 16 favorite channels selected from the information channels can be stored in a folder.  |
|             | Information Channels          | Touch the preferred folder. An information channel list is displayed.  |
|             | CARWINGS Records              | The information channels that are referred to previously are displayed. A maximum of 3 channels are stored in the history.   |
|             | Update Stations               | Charging station information is updated through connection to the Nissan CARWINGS Data Center.   |
|             | CARWINGS Settings             | The CARWINGS system can be customized.   |

### ZERO EMISSION MENU

When the  ZERO EMISSION switch is pressed, the menu screen is displayed.



| Menu list  | Description   |
|--|---|
| Driving Range  | The estimated driving area within range, including the current position is displayed on the map screen. |
| Nearby Stations  | Charging station information for the current position area is displayed.                                |
| Update Stations  | Charging station information is updated through connection to the Nissan CARWINGS Data Center.          |
| Energy Info.   | Energy information is displayed on the screen.  |
| Charging Timer   | The timer charge function can be set.   |
| A/C-Heater Timer (Climate Ctrl. Timer)   | The A/C-Heater Timer (Climate Ctrl. Timer) function can be set.   |
|  CARWINGS | Information channels are displayed and settings for CARWINGS can be performed.                          |
| Settings   | Setting of the warning message display or the charging status notification can be performed.            |

### MAP MENU

Map menu at current location

If the following operation is performed at the current location, the available map menu is displayed.

- Touch the "Map Menu" switch on the map.



| Menu item      | Description   |
|----------------|---|
| Store Location | Stores the current vehicle location in the Address Book. The stored location can be retrieved as necessary to set it as a destination (waypoint). |
| Quick Stop     | Searches for points of interest near the current vehicle location, such as restaurants and charging stations, etc.                                |

# OPERATION

## < SYSTEM DESCRIPTION >

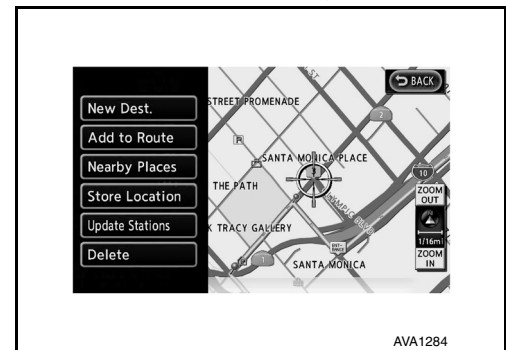
## [TELEMATICS SYSTEM]

| Menu item      |              | Description  |
|----------------|--------------|--|
| Map Settings   | Map View     | The screen display [Plan view, Birdview <sup>®</sup> , split screen (2D/2D), split screen (2D/2D)] can be changed.   |
|                | Split Screen |  |
|                | Map Settings | Map Orientation (sets the map direction to North Up or Heading Up), Long Range (on/off), Birdview Angle (Changes the Birdview <sup>®</sup> angle), Left Settings (sets the map settings for the left screen of the split map) and Automatic Display of Highway Mode (on/off) can be set. |
|                | Back to Map. | Return to the current position screen.   |
| Landmark Icons |              | Displays map icons of certain points of interest (such as restaurants and charging stations, etc.) on the map around the current vehicle location  |
| Update Station |              | Contact the Nissan CARWINGS Data Center to update charging station around the current vehicle location.  |

Map menu after scroll of map

If the following operation is performed after scrolling the map, the available map menu is displayed.

- Touch the "Map Menu" switch on the map.



| Menu item       | Description  |
|-----------------|--|
| New Dest.       | Sets the destination to the map location where [New Dest.] is touched. If a destination is already set, the location is set as the new destination.        |
| Add to Route    | Sets the map location where [Add to Route] is touched as the destination or a waypoint. This is available only when a suggested route is already set.      |
| Quick Stop      | Searches for points of interest such as restaurants and charging stations, etc. near the location by scrolling the map.                                    |
| Store Location  | Store the map location where [Store location] is touched in the Address Book. The stored location can be retrieved to set it as a destination or waypoint. |
| Update Stations | Contact the Nissan CARWINGS Data Center to update charging station around the point of the cursor.   |
| Delete          | Deletes a destination, waypoint or stored location. To delete, place the cross pointer over the corresponding icon.  |

## HANDLING PRECAUTION

### Telematics&CARWINGS

INFOID:000000008743763

- In the following cases, no CARWINGS services are available.
  - When the user is not subscribed to the service.
  - When the vehicle moves out of the radio receiving zone
  - When the radio wave reception environment is not suitable for data communication.
  - When the vehicle is in a location that may block radio waves such as in an underground parking lot, behind a building, and in mountainous areas.
- Because the voice exchange with the CARWINGS information center uses the data communication mode, the service area may be narrower and the connection availability may be worse than the normal telephone system.
- Communication and calls to the CARWINGS information center require additional charges.
- If the vehicle is outside the communication area of TCU or the radio wave reception condition is poor, the connection to the CARWINGS information center may not be available or interrupted.
- If the communication is interrupted during a data download through any of the available services, the data must be downloaded again from the beginning.
- Because each of the available services uses data communication services, the connection to the CARWINGS information center may not be available even when the radio reception symbols indicate a good status. This is not a malfunction. In such a case, try to connect again after a short period of time.
- When transferring the vehicle, always cancel the membership. For details about the cancellation procedure, contact the CARWINGS customer center.

## DIAGNOSIS SYSTEM (TCU)

## CONSULT Function

INFOID:000000008743764

## CONSULT FUNCTIONS

CONSULT performs the following functions via communication with the TCU.

| Direct Diagnostic Mode | Description   |
|------------------------|---|
| Ecu Identification     | The AV control unit part number is displayed.   |
| Self Diagnostic Result | The AV control unit self diagnostic results are displayed.  |
| Data Monitor           | The AV control unit input/output data is displayed in real time.  |
| Work support           | The settings for AV control unit functions can be changed.  |
| CAN Diag Support Mntr  | <ul style="list-style-type: none"> <li>The result of transmit/receive diagnosis of AV communication is displayed.</li> <li>The result of transmit/receive diagnosis of CAN communication is displayed.</li> </ul> |

## ECU IDENTIFICATION

The part number of TCU is displayed.

## SELF DIAGNOSTIC RESULT

Refer to [AV-417, "DTC Index"](#).

## DATA MONITOR

| Monitor Item [Unit]                    | Description                     |
|--|---------------------------------|
| ECHO CANCEL [TYPE 1]                   | Echo cancel type is displayed.  |
| NOISE CANCEL [TYPE 1]                  | Noise cancel type is displayed. |
| TCU STANDBY TIME [2DAYS/14DAYS/30DAYS] | TCU standby time is displayed.  |
| NAD OUTPUT STATUS [On/Off]             | TCU activation is displayed.    |

## WORK SUPPORT

| Conditions                | Description  |
|---------------------------|--|
| SAVE VIN DATA             | VIN data saved in TCU is stored in CONSULT.            |
| CENTER CONNECTION SETTING | Connection to CARWINGS data center can be set.         |
| TCU ACTIVATE SETTING      | Off: TCU activation Off.                               |
|                           | On: TCU activation On.                                 |
| WRITE VIN DATA            | VIN data from SAVE VIN DATA can be written to new TCU. |
| WRITE VIN DATA (MANUAL)   | VIN data can be manually written to new TCU.           |

## CAN DIAG SUPPORT MNTR

Refer to [LAN-13, "CAN Diagnostic Support Monitor"](#).

AV

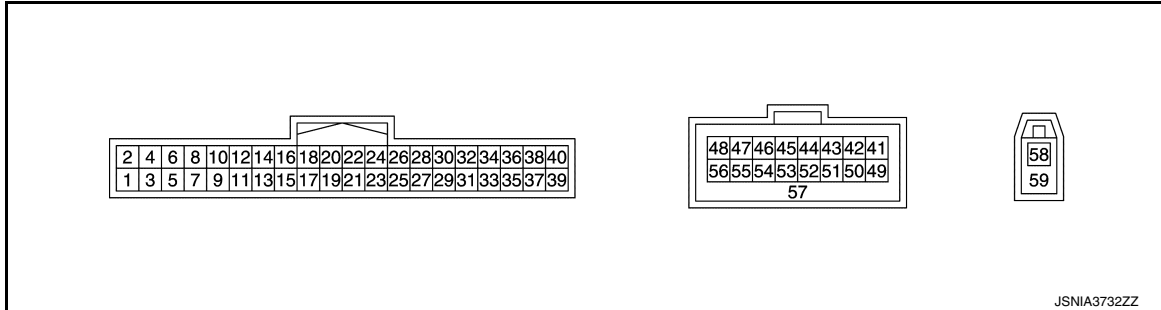
## ECU DIAGNOSIS INFORMATION

## TCU

## Reference Value

INFOID:000000008743768

## TERMINAL LAYOUT



## INPUT/OUTPUT SIGNAL STANDARD

| Terminal<br>(Wire color) |        | Description                  |                  | Condition       |           | Reference value<br>(Approx.) |
|--------------------------|--------|------------------------------|------------------|-----------------|-----------|------------------------------|
| +                        | —      | Signal name                  | Input/<br>Output | Power<br>switch | Operation |                              |
| 1<br>(W)                 | Ground | Battery power supply         | Input            | OFF             | —         | Battery Voltage              |
| 2<br>(B)                 | —      | Ground                       | —                | —               | —         | —                            |
| 3<br>(L)                 | Ground | ACC power supply             | Input            | ACC             | —         | Battery Voltage              |
| 4<br>(W)                 | Ground | Power signal                 | Input            | ON              | —         | Battery Voltage              |
| 9<br>(L)                 | —      | CAN (H)                      | Input/<br>Output | —               | —         | —                            |
| 10<br>(G)                | —      | CAN (L)                      | Input/<br>Output | —               | —         | —                            |
| 41<br>(Y)                | Ground | U-VOICE signal               | Input            | —               | —         | —                            |
| 42<br>(B)                | —      | VOICE ground                 | —                | —               | —         | —                            |
| 46<br>(V)                | Ground | Manufacturer Specific signal | —                | —               | —         | —                            |
| 47<br>(BR)               | Ground | USB V BUS signal             | Input            | ON              | —         | 5 V                          |
| 48<br>(L)                | Ground | USB D- signal                | Input/<br>Output | —               | —         | —                            |
| 49<br>(G)                | Ground | D-VOICE signal               | Output           | —               | —         | —                            |
| 55<br>(Shield)           | —      | USB ground                   | —                | ON              | —         | —                            |
| 56<br>(R)                | Ground | USB D+ signal                | Input/<br>Output | ON              | —         | —                            |
| 57<br>(Shield)           | —      | USB signal shield            | —                | —               | —         | —                            |



# TCU

## < ECU DIAGNOSIS INFORMATION >

## [TELEMATICS SYSTEM]

| Terminal<br>(Wire color) |   | Description               |                  | Condition       |                           | Reference value<br>(Approx.) |
|--------------------------|---|---------------------------|------------------|-----------------|---------------------------|------------------------------|
| +                        | — | Signal name               | Input/<br>Output | Power<br>switch | Operation                 |                              |
| 58                       | — | TEL antenna signal        | Input            | ACC             | TEL antenna disconnected. | 2.8 V                        |
| 59<br>(Shield)           | — | TEL antenna signal shield | —                | —               | —                         | —                            |

## DTC Index

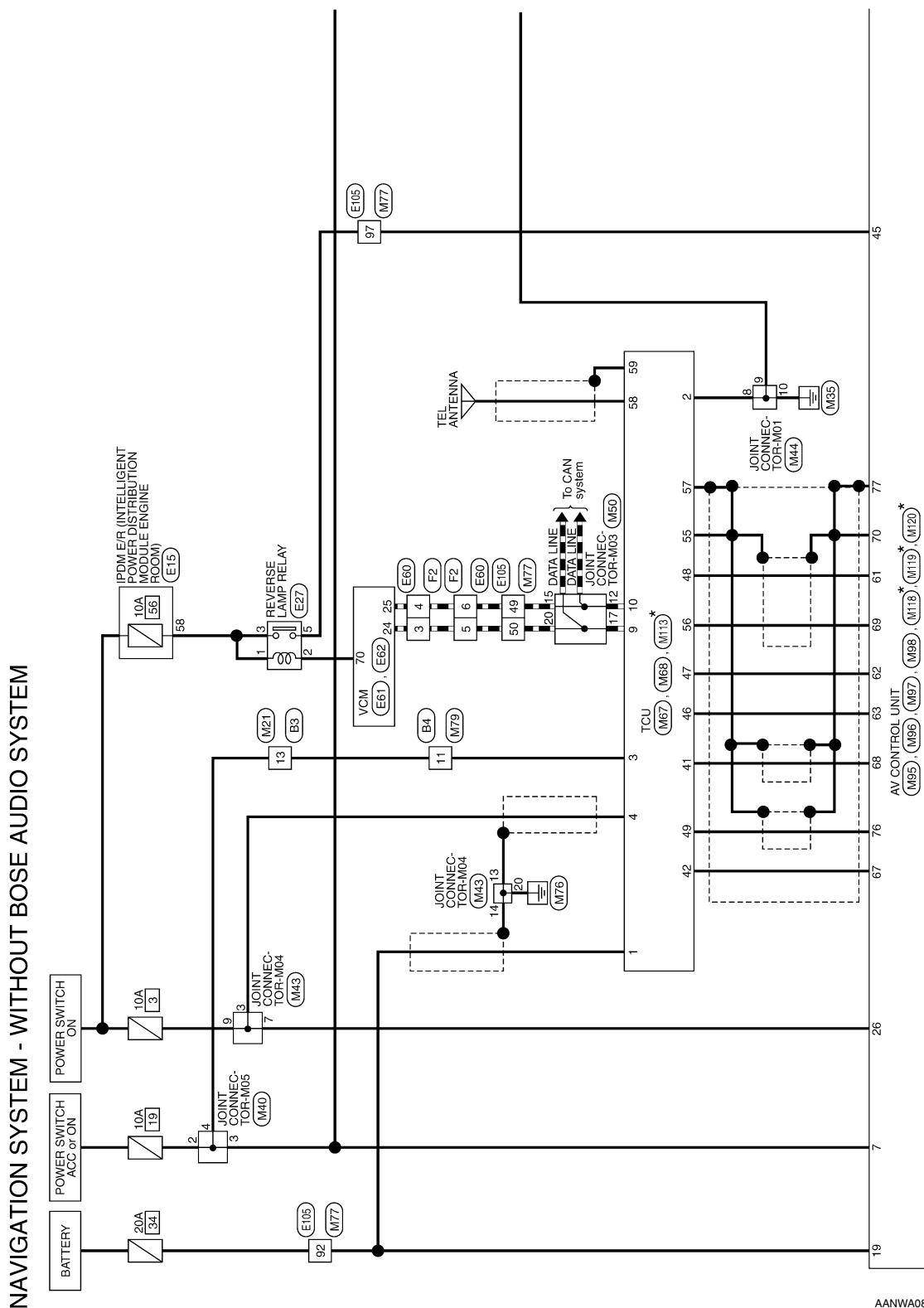
INFOID:000000008743769

| DTC   | Display item                     | Refer to                                      |
|-------|----------------------------------|---|
| U1000 | CAN COMM CIRC [U1000]            | <a href="#">AV-490, "Diagnosis Procedure"</a> |
| U1010 | CONTROL UNIT (CAN) [U1010]       | <a href="#">AV-491, "DTC Logic"</a>           |
| U1A00 | ACC NO CONN [U1A00]              | <a href="#">AV-492, "Diagnosis Procedure"</a> |
| U1A01 | INTERNAL ERROR (TCU) [U1A01]     | <a href="#">AV-493, "DTC Logic"</a>           |
| U1A02 | TEL COMMUNICATION MODULE [U1A02] | <a href="#">AV-494, "DTC Logic"</a>           |
| U1A03 | SIM CARD [U1A03]                 | <a href="#">AV-495, "DTC Logic"</a>           |
| U1A04 | VIN UNFINISHED [U1A04]           | <a href="#">AV-496, "DTC Logic"</a>           |
| U1A05 | USB COMM [U1A05]                 | <a href="#">AV-497, "Diagnosis Procedure"</a> |
| U1A07 | TEL ANTENNA SHORT [U1A07]        | <a href="#">AV-498, "Diagnosis Procedure"</a> |
| U1A08 | TEL ANTENNA NO CONN [U1A08]      | <a href="#">AV-499, "Diagnosis Procedure"</a> |

AV

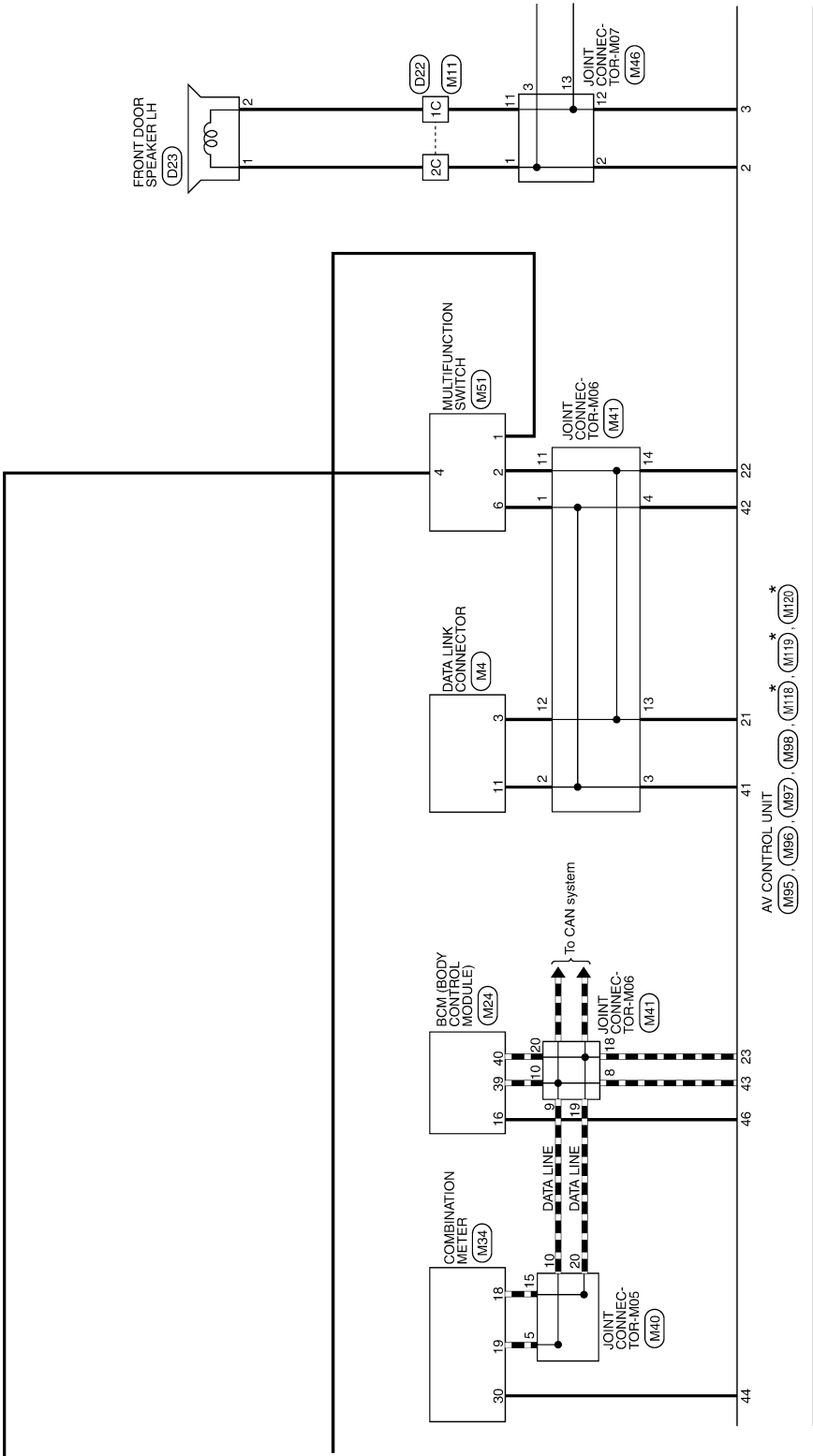
## Wiring Diagram

INFOID:0000000009352081



★ : This connector is not shown in "Harness layout".

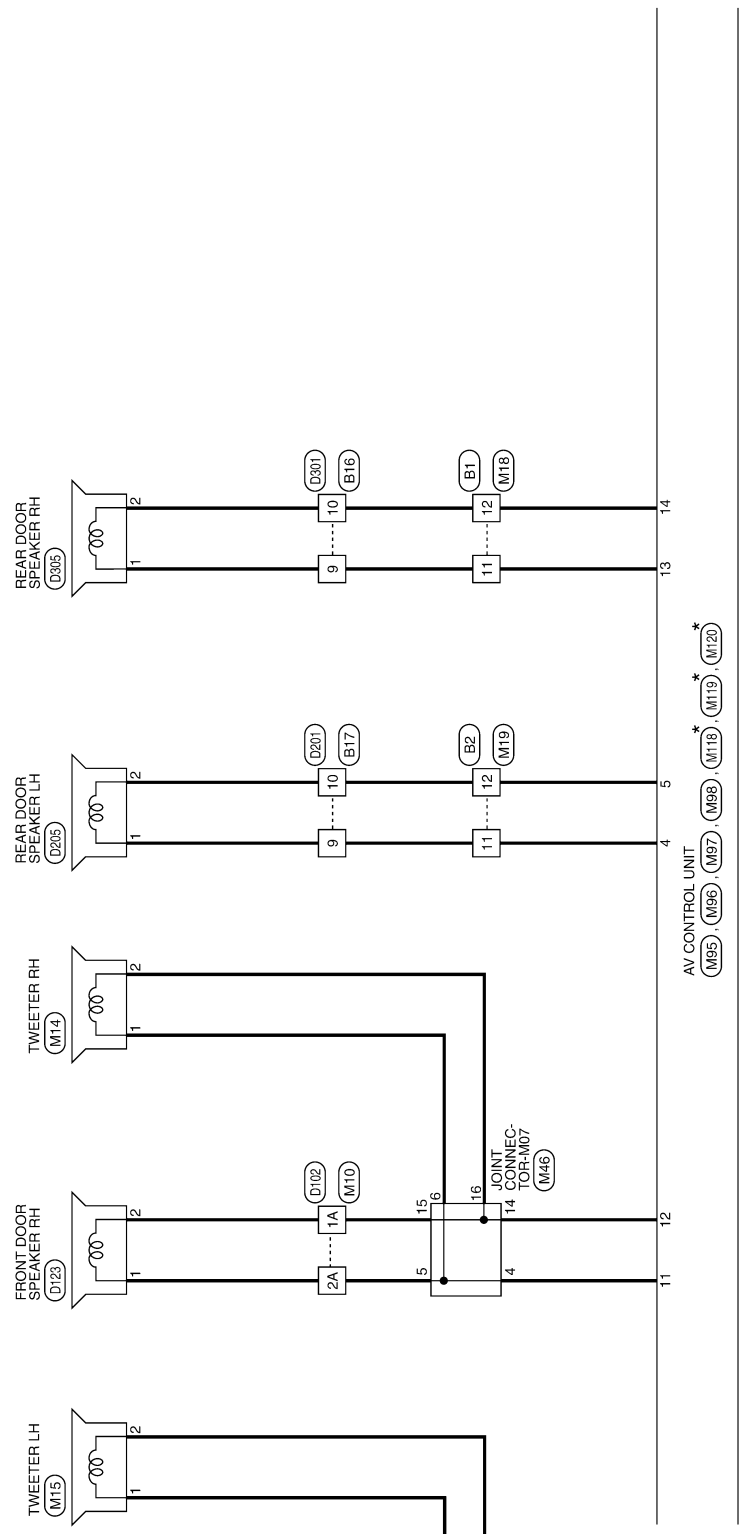
AANWA0894GB



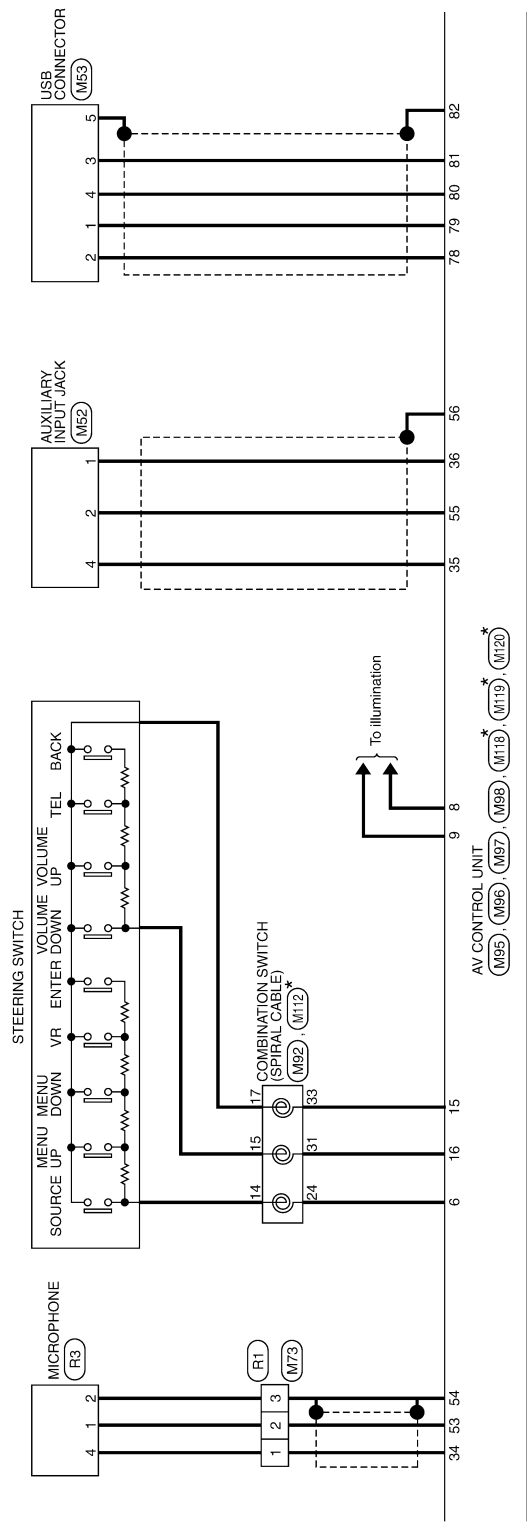
AANWA0895GB

A  
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AV



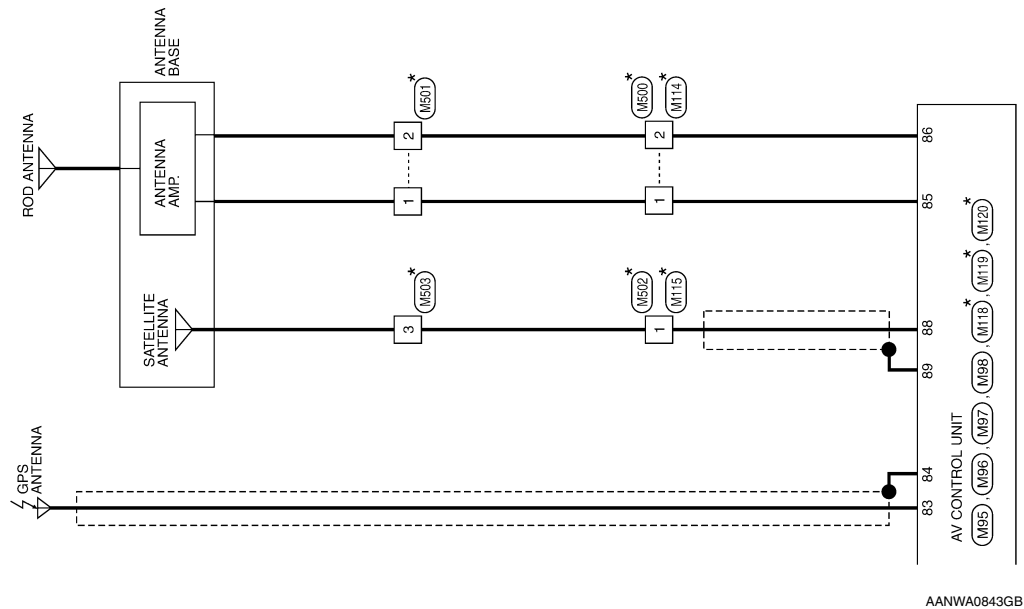
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AANWA0896GB

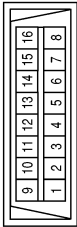
AV

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NAVIGATION SYSTEM - WITHOUT BOSE AUDIO SYSTEM - CONNECTORS

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M4                  |
| Connector Name  | DATA LINK CONNECTOR |
| Connector Color | WHITE               |



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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1A  | 2A  | 3A  | 4A  | 5A  | 6A  | 7A  | 8A  | 9A  | 10A | 11A | 12A | 13A | 14A | 15A |
| 16A | 17A | 18A | 19A | 20A | 21A | 22A | 23A | 24A | 25A | 26A | 27A | 28A | 29A | 30A |
| 31A | 32A | 33A | 34A | 35A | 36A | 37A | 38A | 39A | 40A | 41A | 42A | 43A | 44A | 45A |
| 46A | 47A | 48A | 49A | 50A | 51A | 52A | 53A | 54A | 55A | 56A | 57A | 58A | 59A | 60A |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | LG            | -           |
| 4            | B             | -           |
| 5            | B             | -           |
| 6            | L             | -           |
| 7            | GR            | -           |
| 8            | G             | -           |
| 9            | -             | -           |
| 10           | -             | -           |
| 11           | SB            | -           |
| 12           | G             | -           |
| 13           | L             | -           |
| 14           | P             | -           |
| 15           | -             | -           |
| 16           | Y             | -           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1A           | L             | - (WITH BOSE)    |
| 1A           | R             | - (WITHOUT BOSE) |
| 2A           | P             | - (WITH BOSE)    |
| 2A           | G             | - (WITHOUT BOSE) |
| 3A           | SHIELD        | -                |
| 4A           | LG            | -                |
| 5A           | V             | -                |
| 10A          | BR            | -                |
| 11A          | Y             | -                |
| 12A          | B             | -                |
| 13A          | W             | -                |
| 14A          | SB            | -                |
| 15A          | L             | -                |
| 24A          | Y             | -                |
| 25A          | BR            | -                |
| 26A          | SHIELD        | -                |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 36A          | B             | -           |
| 37A          | P             | -           |
| 38A          | Y             | -           |
| 39A          | LG            | -           |
| 43A          | V             | -           |
| 44A          | L             | -           |
| 45A          | LG            | -           |
| 46A          | BR            | -           |
| 47A          | W             | -           |
| 48A          | B             | -           |
| 49A          | R             | -           |
| 50A          | SHIELD        | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 32C          | –             | –           |
| 33C          | –             | –           |
| 34C          | –             | –           |
| 35C          | –             | –           |
| 36C          | LG            | –           |
| 37C          | R             | –           |
| 38C          | GR            | –           |
| 39C          | W             | –           |
| 40C          | P             | –           |
| 41C          | V             | –           |
| 42C          | V             | –           |
| 43C          | B             | –           |
| 44C          | L             | –           |
| 45C          | BR            | –           |
| 46C          | L             | –           |
| 47C          | Y             | –           |
| 48C          | BR            | –           |
| 49C          | B             | –           |
| 50C          | W             | –           |
| 51C          | R             | –           |
| 52C          | SHIELD        | –           |
| 53C          | –             | –           |
| 54C          | R             | –           |
| 55C          | LG            | –           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9C           | LG            | –           |
| 10C          | Y             | –           |
| 11C          | W             | –           |
| 12C          | SB            | –           |
| 13C          | B             | –           |
| 14C          | L             | –           |
| 15C          | R             | –           |
| 16C          | –             | –           |
| 17C          | –             | –           |
| 18C          | –             | –           |
| 19C          | –             | –           |
| 20C          | –             | –           |
| 21C          | –             | –           |
| 22C          | –             | –           |
| 23C          | –             | –           |
| 24C          | G             | –           |
| 25C          | R             | –           |
| 26C          | SHIELD        | –           |
| 27C          | –             | –           |
| 28C          | –             | –           |
| 29C          | –             | –           |
| 30C          | –             | –           |
| 31C          | –             | –           |

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



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1C  | 2C  | 3C  | 4C  | 5C  | 6C  | 7C  | 8C  | 9C  | 10C | 11C | 12C | 13C | 14C | 15C |
| 16C | 17C | 18C | 19C | 20C | 21C | 22C | 23C | 24C | 25C | 26C | 27C | 28C | 29C | 30C |
| 31C | 32C | 33C | 34C | 35C | 36C | 37C | 38C | 39C | 40C | 41C | 42C | 43C | 44C | 45C |
| 46C | 47C | 48C | 49C | 50C | 51C | 52C | 53C | 54C | 55C |     |     |     |     |     |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1C           | R             | – (WITH BOSE)    |
| 1C           | P             | – (WITHOUT BOSE) |
| 2C           | G             | – (WITH BOSE)    |
| 2C           | L             | – (WITHOUT BOSE) |
| 3C           | SHIELD        | –                |
| 4C           | G             | –                |
| 5C           | V             | –                |
| 6C           | –             | –                |
| 7C           | BR            | –                |
| 8C           | SB            | –                |

|                 |            |
|-----------------|------------|
| Connector No.   | M14        |
| Connector Name  | TWEETER RH |
| Connector Color | BROWN      |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | V             | – (WITH BOSE)    |
| 1            | G             | – (WITHOUT BOSE) |
| 2            | SB            | – (WITH BOSE)    |
| 2            | R             | – (WITHOUT BOSE) |

AANIA2052GB



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10           | R             | -           |
| 11           | LG            | -           |
| 12           | P             | -           |
| 13           | W             | -           |
| 14           | Y             | -           |
| 15           | LG            | -           |
| 16           | L             | -           |

| Connector No.   | M18          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | -           |
| 2            | -             | -           |
| 3            | GR            | -           |
| 4            | L             | -           |
| 5            | G             | -           |
| 6            | V             | -           |
| 7            | P             | -           |
| 8            | P             | -           |
| 9            | B             | -           |

| Connector No.   | M15        |
|-----------------|------------|
| Connector Name  | TWEETER LH |
| Connector Color | BROWN      |

|   |   |
|---|---|
| 2 | 1 |
|---|---|



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | G             | - (WITH BOSE)    |
| 1            | W             | - (WITHOUT BOSE) |
| 2            | R             | - (WITH BOSE)    |
| 2            | P             | - (WITHOUT BOSE) |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | -             | -           |
| 10           | V             | -           |
| 11           | V             | -           |
| 12           | LG            | -           |
| 13           | BR            | -           |
| 14           | SB            | -           |
| 15           | L             | -           |
| 16           | G             | -           |

| Connector No.   | M19          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | LG            | -           |
| 3            | P             | -           |
| 4            | GR            | -           |
| 5            | GR            | -           |
| 6            | W             | -           |
| 7            | -             | -           |
| 8            | -             | -           |

AANIA2053GB

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# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[TELEMATICS SYSTEM]

|                 |              |
|-----------------|--------------|
| Connector No.   | M21          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | -             | -           |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | -             | -           |

|                 |                           |
|-----------------|---------------------------|
| Connector No.   | M24                       |
| Connector Name  | BCM (BODY CONTROL MODULE) |
| Connector Color | BLACK                     |

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 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            |
|--------------|---------------|------------------------|
| 2            | L             | COMBINATION SW INPUT 5 |
| 3            | GR            | COMBINATION SW INPUT 4 |
| 4            | BR            | COMBINATION SW INPUT 3 |
| 5            | G             | COMBINATION SW INPUT 2 |
| 6            | V             | COMBINATION SW INPUT 1 |
| 7            | GR            | KEY CYLINDER UNLOCK SW |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | B             | -           |
| 8            | SHIELD        | -           |
| 9            | R             | -           |
| 10           | SB            | -           |
| 11           | P             | -           |
| 12           | V             | -           |
| 13           | GR            | -           |
| 14           | P             | -           |
| 15           | L             | -           |
| 16           | G             | -           |
| 17           | -             | -           |
| 18           | -             | -           |
| 19           | -             | -           |

| Terminal No. | Color of Wire | Signal Name                               |
|--------------|---------------|---|
| 8            | R             | KEY CYLINDER LOCK SW                      |
| 9            | BR            | BRAKE SW1                                 |
| 12           | Y             | CENTRAL DOOR LOCK SW                      |
| 13           | BR            | CENTRAL DOOR UNLOCK SW                    |
| 14           | G             | AUTO LIGHT SENSOR INPUT                   |
| 15           | W             | REAR DEFOGGER SW                          |
| 16           | R             | MR OUTPUT                                 |
| 17           | Y             | AUTO LIGHT SENSOR POWER SUPPLY OUTPUT     |
| 18           | L             | KEYLESS TUNER, AUTO LIGHT SENSOR GND      |
| 21           | P             | IMMOBILIZER ONE WAY COMMUNICATION (CLOCK) |
| 23           | R             | SECURITY INDICATOR OUTPUT                 |
| 24           | SB            | DONGLE LINK                               |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 20           | -             | -           |
| 21           | -             | -           |
| 22           | -             | -           |
| 23           | -             | -           |
| 24           | W             | -           |
| 25           | B             | -           |
| 26           | W             | -           |
| 27           | Y             | -           |
| 28           | -             | -           |
| 29           | W             | -           |
| 30           | L             | -           |
| 31           | L             | -           |
| 32           | P             | -           |

| Terminal No. | Color of Wire | Signal Name                           |
|--------------|---------------|---------------------------------------|
| 25           | LG            | IMMOBILIZER TWO WAY COMMUNICATION     |
| 29           | G             | HAZARD SW                             |
| 30           | V             | TRUNK/BACK DOOR OPENER SW             |
| 31           | W             | DOOR LOCK STATUS SW (DR)              |
| 32           | GR            | COMBINATION SW OUTPUT 5               |
| 33           | Y             | COMBINATION SW OUTPUT 4               |
| 34           | W             | COMBINATION SW OUTPUT 3               |
| 35           | BG            | COMBINATION SW OUTPUT 2               |
| 36           | P             | COMBINATION SW OUTPUT 1               |
| 37           | V             | SHIFT P POSITION, PARKING POSITION SW |
| 38           | SB            | INTELLIGENT TUNER                     |
| 39           | L             | CAN-H                                 |
| 40           | P             | CAN-L                                 |

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| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 24           | BG            | PKB SW          |
| 25           | SB            | BRAKE OIL       |
| 26           | B             | ILL CONT OUT    |
| 27           | R             | A/BAG WARN      |
| 28           | R             | SECURITY        |
| 29           | -             | -               |
| 30           | GR            | 8 P/R O/P       |
| 31           | -             | -               |
| 32           | W             | SDA (12C)       |
| 33           | G             | SCL (12C)       |
| 34           | L             | CHARGE LAMP     |
| 35           | -             | -               |
| 36           | -             | -               |
| 37           | -             | -               |
| 38           | V             | LED H LAMP R    |
| 39           | LG            | LED H LAMP L    |
| 40           | W             | BUCKLE SW FR DR |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 8            | Y             | WASHER SW       |
| 9            | BR            | CHARGE CONNECT  |
| 10           | -             | -               |
| 11           | -             | -               |
| 12           | V             | SW GND          |
| 13           | G             | MODE B SW       |
| 14           | Y             | MODE A SW       |
| 15           | BR            | TRIP RESET SW   |
| 16           | P             | ILL CONT UP     |
| 17           | G             | UPPER ILL CONT  |
| 18           | P             | CAN-H           |
| 19           | L             | CAN-L           |
| 20           | LG            | AS SEATBELT W/L |
| 21           | -             | -               |
| 22           | GR            | GND (FOR UPPER) |
| 23           | -             | -               |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | M34               |
| Connector Name  | COMBINATION METER |
| Connector Color | WHITE             |



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

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 1            | LG            | BAT             |
| 2            | Y             | BAT (FOR UPPER) |
| 3            | GR            | IGN             |
| 4            | BG            | IGN (FOR UPPER) |
| 5            | B             | GND1 (ILL)      |
| 6            | B             | GND2 (POWER)    |
| 7            | -             | -               |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 8            | L             | -           |
| 9            | L             | -           |
| 10           | L             | -           |
| 11           | LG            | -           |
| 12           | LG            | -           |
| 13           | L             | -           |
| 14           | R             | -           |
| 15           | P             | -           |
| 16           | P             | -           |
| 17           | P             | -           |
| 18           | P             | -           |
| 19           | P             | -           |
| 20           | P             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M40                 |
| Connector Name  | JOINT CONNECTOR-M05 |
| Connector Color | BLUE                |



|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 10 | 9  | 8  | 7  | 6  | 5  | 4  | 3  | 2  | 1  |
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | L             | -           |
| 3            | BR            | -           |
| 4            | GR            | -           |
| 5            | L             | -           |
| 6            | L             | -           |
| 7            | L             | -           |

AANIA2055GB

# NAVIGATION WITHOUT BOSE

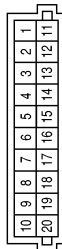
< WIRING DIAGRAM >

[TELEMATICS SYSTEM]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 12           | LG            | -           |
| 13           | LG            | -           |
| 14           | LG            | -           |
| 15           | P             | -           |
| 16           | P             | -           |
| 17           | P             | -           |
| 18           | P             | -           |
| 19           | P             | -           |
| 20           | P             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | L             | -           |
| 6            | L             | -           |
| 7            | L             | -           |
| 8            | L             | -           |
| 9            | L             | -           |
| 10           | L             | -           |
| 11           | LG            | -           |

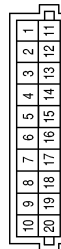
|                 |                     |
|-----------------|---------------------|
| Connector No.   | M41                 |
| Connector Name  | JOINT CONNECTOR-M06 |
| Connector Color | BLUE                |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | W             | -           |
| 6            | Y             | -           |
| 7            | Y             | -           |
| 8            | G             | -           |
| 9            | W             | -           |
| 10           | W             | -           |
| 11           | Y             | -           |
| 12           | Y             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |
| 17           | -             | -           |
| 18           | B             | -           |
| 19           | B             | -           |
| 20           | B             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M43                 |
| Connector Name  | JOINT CONNECTOR-M04 |
| Connector Color | GRAY                |



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

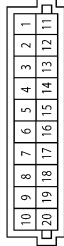
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# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

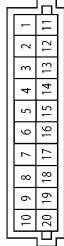
[TELEMATICS SYSTEM]

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M50                 |
| Connector Name  | JOINT CONNECTOR-M03 |
| Connector Color | PINK                |



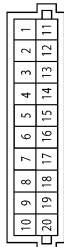
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |
| 3            | B             | -           |
| 4            | B             | -           |
| 5            | B             | -           |
| 6            | B             | -           |
| 7            | B             | -           |
| 8            | B             | -           |
| 9            | B             | -           |
| 10           | B             | -           |
| 11           | G             | -           |
| 12           | G             | -           |
| 13           | G             | -           |
| 14           | G             | -           |
| 15           | G             | -           |
| 16           | L             | -           |
| 17           | L             | -           |
| 18           | L             | -           |
| 19           | L             | -           |
| 20           | L             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M46                 |
| Connector Name  | JOINT CONNECTOR-M07 |
| Connector Color | ORANGE              |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | L             | -           |
| 3            | W             | -           |
| 4            | G             | -           |
| 5            | G             | -           |
| 6            | G             | -           |
| 7            | BR            | -           |
| 8            | GR            | -           |
| 9            | BR            | -           |
| 10           | BR            | -           |
| 11           | P             | -           |
| 12           | P             | -           |
| 13           | P             | -           |
| 14           | R             | -           |
| 15           | R             | -           |
| 16           | R             | -           |
| 17           | -             | -           |
| 18           | SB            | -           |
| 19           | SB            | -           |
| 20           | SB            | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M44                 |
| Connector Name  | JOINT CONNECTOR-M01 |
| Connector Color | GRAY                |



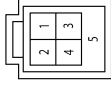
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | -             | -           |
| 3            | -             | -           |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | -             | -           |
| 7            | -             | -           |
| 8            | B             | -           |
| 9            | B             | -           |
| 10           | B             | -           |
| 11           | P             | -           |
| 12           | P             | -           |
| 13           | W             | -           |
| 14           | W             | -           |
| 15           | LG            | -           |
| 16           | R             | -           |
| 17           | R             | -           |
| 18           | W             | -           |
| 19           | W             | -           |
| 20           | W             | -           |

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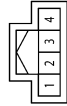
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| Connector No.   | M53           |
| Connector Name  | USB CONNECTOR |
| Connector Color | GREEN         |



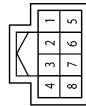
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | -           |
| 2            | W             | -           |
| 3            | R             | -           |
| 4            | L             | -           |
| 5            | SHIELD        | -           |

|                 |                      |
|-----------------|----------------------|
| Connector No.   | M52                  |
| Connector Name  | AUXILIARY INPUT JACK |
| Connector Color | WHITE                |



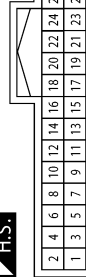
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | W             | -           |
| 3            | -             | -           |
| 4            | R             | -           |

|                 |                      |
|-----------------|----------------------|
| Connector No.   | M51                  |
| Connector Name  | MULTIFUNCTION SWITCH |
| Connector Color | WHITE                |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | LG            | -           |
| 3            | -             | -           |
| 4            | L             | -           |
| 5            | B             | -           |
| 6            | SB            | -           |
| 7            | -             | -           |
| 8            | W             | -           |

|                 |       |
|-----------------|-------|
| Connector No.   | M67   |
| Connector Name  | TCU   |
| Connector Color | WHITE |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | +B          |
| 2            | B             | GND         |
| 3            | L             | ACC         |
| 4            | W             | IGN         |
| 5            | -             | -           |
| 6            | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 24           | -             | -           |
| 25           | -             | -           |
| 26           | -             | -           |
| 27           | -             | -           |
| 28           | -             | -           |
| 29           | -             | -           |
| 30           | -             | -           |
| 31           | -             | -           |
| 32           | -             | -           |
| 33           | -             | -           |
| 34           | -             | -           |
| 35           | -             | -           |
| 36           | -             | -           |
| 37           | -             | -           |
| 38           | -             | -           |
| 39           | -             | -           |
| 40           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | L             | EV CAN H    |
| 10           | G             | EV CAN L    |
| 11           | -             | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |
| 17           | -             | -           |
| 18           | -             | -           |
| 19           | -             | -           |
| 20           | -             | -           |
| 21           | -             | -           |
| 22           | -             | -           |
| 23           | -             | -           |

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| Terminal No. | Color of Wire | Signal Name          |
|--------------|---------------|----------------------|
| 46           | V             | MANUFACTURE SPECIFIC |
| 47           | BR            | USB VBUS             |
| 48           | L             | USB D-               |
| 49           | G             | D VOICE              |
| 50           | -             | -                    |
| 51           | -             | -                    |
| 52           | -             | -                    |
| 53           | -             | -                    |
| 54           | -             | -                    |
| 55           | SHIELD        | USB GND              |
| 56           | R             | USB D+               |
| 57           | SHIELD        | SHIELD               |

|                 |      |
|-----------------|------|
| Connector No.   | M68  |
| Connector Name  | TCU  |
| Connector Color | GRAY |

|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 |
| 56 | 55 | 54 | 53 | 52 | 51 | 50 | 49 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 41           | Y             | U VOICE     |
| 42           | B             | VOICE GND   |
| 43           | -             | -           |
| 44           | -             | -           |
| 45           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10           | B             | -           |
| 11           | W             | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M73          |
| 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 |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | L             | -           |
| 3            | SHIELD        | -           |
| 4            | -             | -           |
| 5            | B             | -           |
| 6            | BR            | -           |
| 7            | P             | -           |
| 8            | Y             | -           |
| 9            | R             | -           |

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# NAVIGATION WITHOUT BOSE

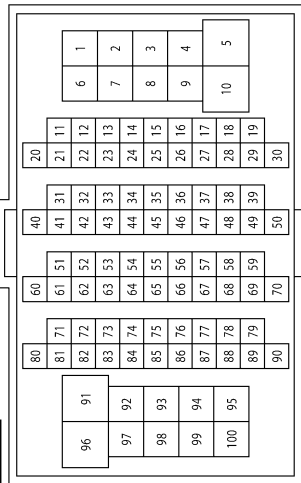
< WIRING DIAGRAM >

[TELEMATICS SYSTEM]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 60           | Y             | -           |
| 61           | GR            | -           |
| 62           | W             | -           |
| 63           | BR            | -           |
| 64           | SHIELD        | -           |
| 65           | W             | -           |
| 66           | LG            | -           |
| 67           | R             | -           |
| 68           | G             | -           |
| 69           | BG            | -           |
| 70           | GR            | -           |
| 71           | R             | -           |
| 72           | R             | -           |
| 73           | B             | -           |
| 74           | W             | -           |
| 76           | L             | -           |
| 80           | W             | -           |
| 81           | LG            | -           |
| 83           | GR            | -           |
| 84           | L             | -           |
| 85           | Y             | -           |
| 86           | SB            | -           |
| 88           | R             | -           |
| 89           | G             | -           |
| 90           | SHIELD        | -           |
| 91           | Y             | -           |
| 92           | BR            | -           |
| 93           | W             | -           |
| 94           | P             | -           |
| 95           | L             | -           |
| 96           | P             | -           |
| 97           | G             | -           |
| 98           | V             | -           |
| 99           | LG            | -           |
| 100          | R             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 22           | B             | -           |
| 23           | BG            | -           |
| 24           | B             | -           |
| 26           | G             | -           |
| 27           | B             | -           |
| 28           | B             | -           |
| 25           | W             | -           |
| 29           | R             | -           |
| 31           | R             | -           |
| 32           | W             | -           |
| 33           | GR            | -           |
| 34           | BR            | -           |
| 35           | BR            | -           |
| 36           | W             | -           |
| 37           | L             | -           |
| 38           | LG            | -           |
| 39           | SB            | -           |
| 40           | V             | -           |
| 41           | P             | -           |
| 42           | SB            | -           |
| 43           | G             | -           |
| 44           | LG            | -           |
| 45           | Y             | -           |
| 46           | R             | -           |
| 47           | W             | -           |
| 48           | L             | -           |
| 49           | G             | -           |
| 50           | L             | -           |
| 51           | SB            | -           |
| 52           | L             | -           |
| 54           | B             | -           |
| 55           | R             | -           |
| 56           | V             | -           |
| 57           | Y             | -           |
| 58           | L             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M77          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | L             | -           |
| 3            | V             | -           |
| 4            | LG            | -           |
| 6            | P             | -           |
| 7            | GR            | -           |
| 9            | G             | -           |
| 10           | L             | -           |
| 11           | L             | -           |
| 12           | Y             | -           |
| 13           | V             | -           |
| 14           | R             | -           |
| 15           | G             | -           |
| 16           | W             | -           |
| 17           | R             | -           |
| 18           | G             | -           |
| 19           | W             | -           |
| 20           | GR            | -           |
| 21           | P             | -           |

AANIA2060GB



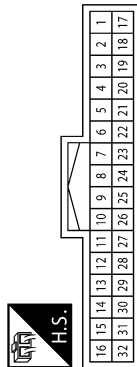
|                 |                    |
|-----------------|--------------------|
| Connector No.   | M92                |
| Connector Name  | COMBINATION SWITCH |
| Connector Color | GRAY               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 21           | -             | -           |
| 22           | -             | -           |
| 24           | R             | -           |
| 25           | LG            | -           |
| 27           | -             | -           |
| 31           | W             | -           |
| 32           | SB            | -           |
| 33           | B             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | B             | -           |
| 14           | -             | -           |
| 15           | R             | -           |
| 16           | G             | -           |
| 17           | R             | -           |
| 18           | G             | -           |
| 19           | SHIELD        | -           |
| 20           | BR            | -           |
| 21           | V             | -           |
| 22           | SB            | -           |
| 23           | W             | -           |
| 24           | B             | -           |
| 25           | W             | -           |
| 26           | R             | -           |
| 27           | -             | -           |
| 28           | -             | -           |
| 29           | W             | -           |
| 30           | R             | -           |
| 31           | G             | -           |
| 32           | -             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M79          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

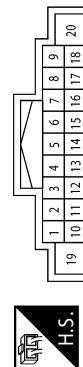


| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | P             | -           |
| 3            | SHIELD        | -           |
| 4            | G             | -           |
| 5            | R             | -           |
| 6            | SHIELD        | -           |
| 7            | L             | -           |
| 8            | GR            | -           |
| 9            | R             | -           |
| 10           | BR            | -           |
| 11           | L             | -           |
| 12           | BR            | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | LG            | RR RH PRE + |
| 14           | P             | RR RH PRE - |
| 15           | B             | STRG SW GND |
| 16           | W             | STRG SW B   |
| 17           | -             | -           |
| 18           | -             | -           |
| 19           | BR            | BAT         |
| 20           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3            | P             | FR LH PRE - |
| 4            | V             | RR LH PRE + |
| 5            | LG            | RR LH PRE - |
| 6            | R             | STRG SW A   |
| 7            | BR            | ACC         |
| 8            | B             | ILL CONT    |
| 9            | W             | ILL         |
| 10           | -             | -           |
| 11           | G             | FR RH PRE + |
| 12           | R             | FR RH PRE - |

|                 |   |
|-----------------|---|
| Connector No.   | M95   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITHOUT BOSE) |
| Connector Color | WHITE   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | L             | FR LH PRE + |

AANIA2061GB

# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[TELEMATICS SYSTEM]

|                 |   |
|-----------------|---|
| Connector No.   | M96   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITHOUT BOSE) |
| Connector Color | WHITE   |



|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 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 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 21           | LG            | M CAN L TRM |
| 22           | LG            | M CAN L     |
| 23           | P             | V CAN L     |
| 24           | -             | -           |
| 25           | Y             | PKB SIG     |
| 26           | V             | IGN         |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 27           | -             | -             |
| 28           | -             | -             |
| 29           | -             | -             |
| 30           | -             | -             |
| 31           | -             | -             |
| 32           | -             | -             |
| 33           | -             | -             |
| 34           | P             | MIC VCC       |
| 35           | R             | AUX AUDIO LH  |
| 36           | B             | AUX AUDIO-    |
| 37           | -             | -             |
| 38           | -             | -             |
| 39           | R             | CAMERA V+     |
| 40           | R             | R CAMERA COMP |
| 41           | SB            | M CAN H TRM   |
| 42           | SB            | M CAN H       |
| 43           | L             | V CAN H       |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 44           | GR            | SPEED           |
| 45           | G             | REVERSE SIG     |
| 46           | R             | MR OUTPUT       |
| 47           | -             | -               |
| 48           | -             | -               |
| 49           | -             | -               |
| 50           | -             | -               |
| 51           | -             | -               |
| 52           | -             | -               |
| 53           | L             | MIC SIG         |
| 54           | SHIELD        | MIC GND         |
| 55           | W             | AUX AUDIO RH    |
| 56           | SHIELD        | AUX SHIELD      |
| 57           | -             | -               |
| 58           | B             | RV CAM SIG      |
| 59           | W             | CAMERA GND      |
| 60           | SHIELD        | R CAMERA SHIELD |

|                 |   |
|-----------------|---|
| Connector No.   | M97   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITHOUT BOSE) |
| Connector Color | GRAY  |



|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| 68 | 67 | 66 | 65 | 64 | 63 | 62 | 61 |
| 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 |

| Terminal No. | Color of Wire | Signal Name         |
|--------------|---------------|---------------------|
| 61           | L             | USB D-              |
| 62           | BR            | USB VBUS            |
| 63           | V             | MANUFACTURE PECIFIC |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 64           | -             | -           |
| 65           | -             | -           |
| 66           | -             | -           |
| 67           | B             | GND         |
| 68           | Y             | -           |
| 69           | R             | USB D+      |
| 70           | SHIELD        | USB GND     |
| 71           | -             | -           |
| 72           | -             | -           |
| 73           | -             | -           |
| 74           | -             | -           |
| 75           | -             | -           |
| 76           | G             | -           |
| 77           | SHIELD        | -           |

|                 |   |
|-----------------|---|
| Connector No.   | M98   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITHOUT BOSE) |
| Connector Color | BLUE  |



|    |    |
|----|----|
| 79 | 78 |
| 81 | 80 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 78           | W             | V BUS       |
| 79           | G             | USB GND     |
| 80           | L             | USB D+      |
| 81           | R             | USB D-      |
| 82           | SHIELD        | -           |

# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[TELEMATICS SYSTEM]

|                 |              |
|-----------------|--------------|
| Connector No.   | M114         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

|                 |      |
|-----------------|------|
| Connector No.   | M113 |
| Connector Name  | TCU  |
| Connector Color | GRAY |



| Terminal No. | Color of Wire | Signal Name        |
|--------------|---------------|--------------------|
| 58           | B             | TEL ANTENNA SIGNAL |
| 59           | SHIELD        | SHIELD             |

|                 |                                   |
|-----------------|-----------------------------------|
| Connector No.   | M112                              |
| Connector Name  | COMBINATION SWITCH (SPIRAL CABLE) |
| Connector Color | GRAY                              |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | R             | -           |
| 14           | W             | -           |
| 15           | L             | -           |
| 16           | B             | -           |
| 17           | BR            | -           |
| 18           | B             | -           |
| 19           | Y             | -           |
| 20           | Y             | -           |

|                 |  |
|-----------------|--|
| Connector No.   | M119   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM - WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | GRAY   |



| Terminal No. | Color of Wire | Signal Name            |
|--------------|---------------|------------------------|
| 85           | B             | ANTENNA AMP. ON SIGNAL |
| 86           | B             | RADIO ANTENNA SIGNAL   |
| 87           | -             | -                      |

|                 |  |
|-----------------|--|
| Connector No.   | M118   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM - WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | GRAY   |



| Terminal No. | Color of Wire | Signal Name        |
|--------------|---------------|--------------------|
| 83           | B             | GPS ANTENNA SIGNAL |
| 84           | SHIELD        | SHIELD             |

|                 |              |
|-----------------|--------------|
| Connector No.   | M115         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

AANIA2205GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

AV

# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[TELEMATICS SYSTEM]

|                 |              |
|-----------------|--------------|
| Connector No.   | M501         |
| Connector Name  | ANTENNA BASE |
| Connector Color | GRAY         |



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

|                 |              |
|-----------------|--------------|
| Connector No.   | M500         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

|                 |  |
|-----------------|--|
| Connector No.   | M120   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM "C" WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | PINK   |



| Terminal No. | Color of Wire | Signal Name       |
|--------------|---------------|-------------------|
| 88           | B             | SATELLITE ANTENNA |
| 89           | SHIELD        | SHIELD            |

|                 |              |
|-----------------|--------------|
| Connector No.   | M503         |
| Connector Name  | ANTENNA BASE |
| Connector Color | GRAY         |



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

|                 |              |
|-----------------|--------------|
| Connector No.   | M502         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

AANIA2206GB

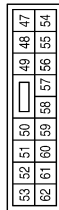
|                 |                    |
|-----------------|--------------------|
| Connector No.   | E27                |
| Connector Name  | REVERSE LAMP RELAY |
| Connector Color | BLUE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | O             | -           |
| 2            | SB            | -           |
| 3            | O             | -           |
| 5            | G             | -           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 54           | -             | -                |
| 55           | LG            | FAST CHARGE      |
| 56           | -             | -                |
| 57           | R             | VCM IGN          |
| 58           | O             | REVERSE LAMP IGN |
| 59           | BR            | ABS ECU IGN      |
| 60           | GR            | F/S RLY CONT     |
| 61           | -             | -                |
| 62           | V             | E-ACT/HAS IGN    |

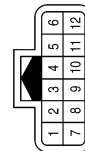
|                 |  |
|-----------------|--|
| Connector No.   | E15  |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE  |



| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 47           | -             | -            |
| 48           | -             | -            |
| 49           | Y             | H/LAMP HI RH |
| 50           | G             | H/LAMP HI LH |
| 51           | L             | H/LAMP LO LH |
| 52           | P             | H/LAMP LO RH |
| 53           | -             | -            |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | L             | -           |
| 6            | G             | -           |
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | -             | -           |
| 10           | GR            | -           |
| 11           | BR            | -           |
| 12           | Y             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | E60          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BLACK        |



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

AANIA2207GB

# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[TELEMATICS SYSTEM]

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 23           | R             | CHARGE PORT LID OPENER ACTUATOR RELAY                     |
| 24           | L             | EV SYSTEM CAN-H   |
| 25           | G             | EV SYSTEM CAN-L   |
| 28           | R             | SYSTEM MAIN RELAY 2                                       |
| 30           | W             | READY SIGNAL  |
| 32           | B             | VENC  |
| 33           | L             | N POSITION OUTPUT (SELECT INDICATOR)                      |
| 34           | R             | D POSITION OUTPUT (SELECT INDICATOR)                      |
| 36           | W             | SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1) |
| 39           | R             | MOTOR COIL A W-PHASE                                      |
| 40           | B             | PRE-CHARGE RELAY  |
| 44           | P             | ENCODER SIGNAL B  |
| 45           | V             | ENCODER SIGNAL A  |
| 46           | B             | P POSITION OUTPUT (SELECT INDICATOR)                      |
| 47           | LG            | P/N POSITION SIGNAL                                       |
| 48           | W             | P POSITION SIGNAL   |
| 49           | R             | ACCELERATOR PEDAL POSITION SENSOR 1                       |
| 51           | R             | POWER ON POWER SUPPLY                                     |
| 54           | W             | SYSTEM MAIN RELAY 1                                       |
| 56           | G             | ENCODER GROUND  |
| 57           | O             | ELECTRIC SHIFT SENSOR GND 1                               |
| 58           | B/R           | VCM GROUND  |
| 62           | B             | SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)       |
| 65           | B             | VCM GROUND  |

|                 |       |
|-----------------|-------|
| Connector No.   | E61   |
| Connector Name  | VCM   |
| Connector Color | BLACK |

|    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 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 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 |
| 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 |



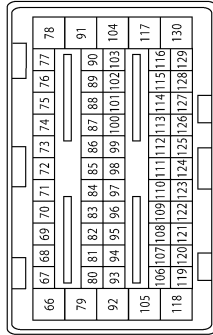
| Terminal No. | Color of Wire | Signal Name                          |
|--------------|---------------|--------------------------------------|
| 1            | B             | MOTOR COIL A U-PHASE                 |
| 3            | W             | ELECTRIC SHIFT SENSOR NO.5           |
| 5            | LG            | F/S RELAY POWER SUPPLY               |
| 7            | O/L           | ELECTRIC SHIFT SENSOR POWER SUPPLY 1 |
| 8            | W             | F/S CHG RELAY                        |
| 9            | SB            | PARKING ACTUATOR RELAY A             |
| 11           | BR            | 12V BATTERY POWER SUPPLY             |
| 13           | SB            | MOTOR COIL A V-PHASE                 |
| 16           | R             | ELECTRIC SHIFT SENSOR NO.3           |
| 17           | B             | ELECTRIC SHIFT SENSOR NO.1           |
| 18           | Y             | R POSITION OUTPUT (SELECT INDICATOR) |
| 19           | W             | WATER PUMP SIGNAL                    |
| 20           | G             | WATER PUMP SIGNAL                    |
| 21           | GR            | F/S RELAY                            |

AANIA2208GB

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 110          | Y             | COOLANT TEMPERATURE SENSOR                          |
| 111          | SB            | ASCD STEERING SWITCH                                |
| 112          | B             | P POSITION SW NO.2                                  |
| 113          | O             | BRAKE PEDAL POSITION SWITCH                         |
| 115          | V             | CHARGING STATUS INDICATOR 1                         |
| 116          | SB            | A/C RELAY   |
| 117          | LG            | CHARGE CONNECTOR LOCK ACTUATOR (+)                  |
| 118          | B             | VCM GROUND  |
| 120          | L             | SENSOR GROUND (BATTERY CURRENT SENSOR)              |
| 121          | W             | SENSOR GROUND (COOLANT TEMPERATURE SENSOR)          |
| 122          | B             | SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2) |
| 123          | BR            | SENSOR GROUND (REFRIGERANT PRESSURE SENSOR)         |
| 124          | W/L           | ELECTRIC SHIFT SENSOR GND 2                         |
| 125          | BR            | ASCD STEERING SWITCH GROUND                         |
| 126          | B/R           | VCM GROUND  |
| 128          | V             | COOLING FAN CONTROL SIGNAL                          |
| 129          | Y             | IMMEDIATE CHARGING SWITCH                           |
| 130          | W             | CHARGE CONNECTOR LOCK ACTUATOR (-)                  |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 87           | V             | CHARGE CONNECTOR LOCK SWITCH INDICATOR (LOCK)             |
| 88           | SB            | M/C RELAY   |
| 89           | BR            | CHARGING STATUS INDICATOR 2                               |
| 90           | G             | CHARGING STATUS INDICATOR 3                               |
| 91           | O             | CHARGE CONNECTOR LOCK SWITCH INDICATOR (AUTO)             |
| 93           | BR            | CHARGE PORT ID OPENER SWITCH                              |
| 94           | O             | CHARGE CONNECTOR LOCK SWITCH (LOCK)                       |
| 95           | Y             | BATTERY CURRENT SENSOR                                    |
| 96           | R             | SENSOR POWER SUPPLY (BATTERY CURRENT SENSOR)              |
| 97           | W             | SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2) |
| 98           | L             | SENSOR POWER SUPPLY (REFRIGERANT PRESSURE SENSOR)         |
| 99           | R             | P POSITION SW NO.1  |
| 101          | P             | STOP LAMP SWITCH  |
| 103          | L             | PLUG IN INDICATOR LAMP                                    |
| 104          | R             | CHARGE CONNECTOR LOCK RELAY POWER SUPPLY                  |
| 107          | L             | BATTERY TEMPERATURE SENSOR                                |
| 108          | R             | ACCELERATOR PEDAL POSITION SENSOR 2                       |
| 109          | B             | REFRIGERANT PRESSURE SENSOR                               |

|                 |       |
|-----------------|-------|
| Connector No.   | E62   |
| Connector Name  | VCM   |
| Connector Color | BROWN |



| Terminal No. | Color of Wire | Signal Name                               |
|--------------|---------------|---|
| 70           | SB            | REVERSE LAMP RELAY                        |
| 72           | P             | CONNECTION DETECTING CIRCUIT SIGNAL       |
| 73           | O             | CONNECTION DETECTING CIRCUIT POWER SUPPLY |
| 74           | G             | POWER ON POWER SUPPLY                     |
| 75           | L             | CAN-H                                     |
| 76           | P             | CAN-L                                     |
| 78           | SB            | CHARGE CONNECTOR LOCK RELAY               |
| 79           | R             | 12V BATTERY POWER SUPPLY                  |
| 81           | L             | CHARGE CONNECTOR LOCK SWITCH (AUTO)       |
| 82           | GR            | CHARGE PORT LIGHT                         |
| 83           | W             | ELECTRIC SHIFT SENSOR POWER SUPPLY 2      |
| 84           | W             | ELECTRIC SHIFT SENSOR NO.2                |
| 85           | G             | ELECTRIC SHIFT SENSOR NO.4                |
| 86           | G             | ELECTRIC SHIFT SENSOR NO.6                |

AANIA2209GB

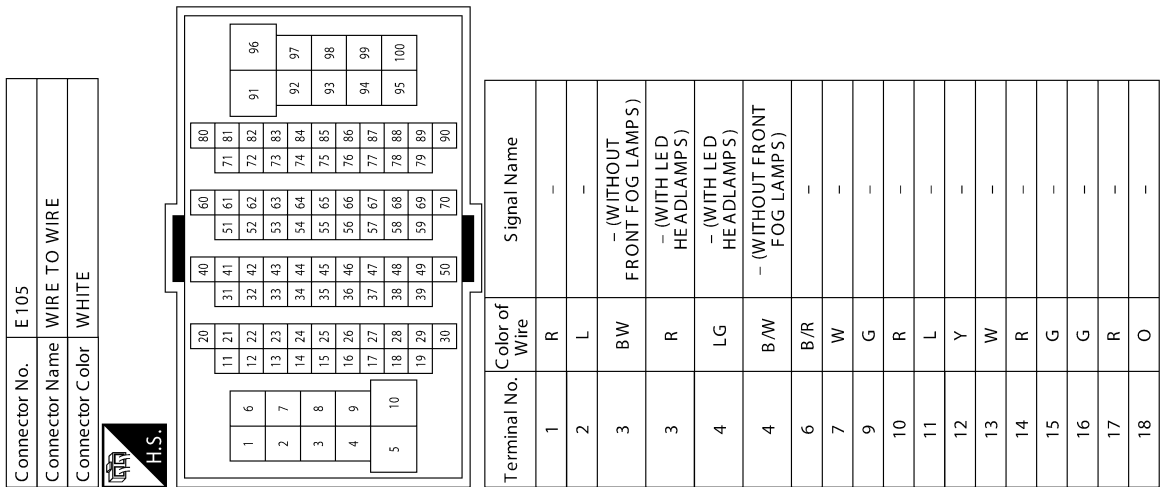
# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[TELEMATICS SYSTEM]

|     |        |   |
|-----|--------|---|
| 57  | Y      | - |
| 58  | L      | - |
| 60  | LG     | - |
| 61  | GR     | - |
| 62  | W      | - |
| 63  | SB     | - |
| 64  | SHIELD | - |
| 65  | W      | - |
| 66  | G      | - |
| 67  | V      | - |
| 68  | R      | - |
| 69  | B      | - |
| 70  | BR     | - |
| 71  | LG     | - |
| 72  | R      | - |
| 73  | B      | - |
| 74  | O      | - |
| 76  | L      | - |
| 77  | Y      | - |
| 80  | P      | - |
| 81  | SB     | - |
| 83  | GR     | - |
| 84  | L      | - |
| 85  | O      | - |
| 86  | BR     | - |
| 88  | B      | - |
| 89  | W      | - |
| 90  | SHIELD | - |
| 91  | Y      | - |
| 92  | BR     | - |
| 93  | O      | - |
| 94  | R      | - |
| 95  | V      | - |
| 96  | P      | - |
| 97  | G      | - |
| 98  | W      | - |
| 99  | O      | - |
| 100 | SB     | - |

|    |     |   |
|----|-----|---|
| 19 | W/L | - |
| 20 | BR  | - |
| 21 | R   | - |
| 22 | B   | - |
| 23 | LG  | - |
| 24 | B   | - |
| 25 | W   | - |
| 26 | W   | - |
| 27 | B   | - |
| 28 | O/L | - |
| 29 | W   | - |
| 31 | R   | - |
| 32 | W   | - |
| 33 | G   | - |
| 34 | BR  | - |
| 35 | V   | - |
| 36 | O   | - |
| 37 | L   | - |
| 38 | SB  | - |
| 39 | P   | - |
| 40 | V   | - |
| 41 | O   | - |
| 42 | Y   | - |
| 43 | BR  | - |
| 44 | W   | - |
| 45 | G   | - |
| 46 | P   | - |
| 47 | LG  | - |
| 47 | R   | - |
| 48 | B   | - |
| 49 | L   | - |
| 50 | G   | - |
| 51 | W   | - |
| 52 | O   | - |
| 54 | B   | - |
| 55 | R   | - |
| 56 | Y   | - |

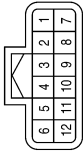


AANIA2210GB



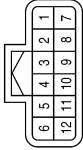
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | V             | -           |
| 14           | Y             | -           |
| 15           | W             | -           |
| 16           | L             | -           |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | -           |
| 2            | -             | -           |
| 3            | GR            | -           |
| 4            | L             | -           |
| 5            | G             | -           |
| 6            | R             | -           |
| 7            | BR            | -           |
| 8            | SB            | -           |
| 9            | GR            | -           |
| 10           | W             | -           |
| 11           | LG            | -           |
| 12           | P             | -           |

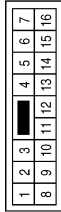
| Connector No.   | F2           |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | BLACK        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | L             | -           |
| 4            | G             | -           |
| 5            | L             | -           |
| 6            | G             | -           |
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | -             | -           |
| 10           | GR            | -           |
| 11           | V             | -           |
| 12           | R             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | GR            | -           |
| 6            | W             | -           |
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | -             | -           |
| 10           | SB            | -           |
| 11           | V             | -           |
| 12           | LG            | -           |
| 13           | SB            | -           |
| 14           | Y             | -           |
| 15           | L             | -           |
| 16           | G             | -           |

| Connector No.   | B2           |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | LG            | -           |
| 3            | P             | -           |
| 4            | GR            | -           |

AANIA2211GB

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# NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[TELEMATICS SYSTEM]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 22           | —             | —           |
| 23           | —             | —           |
| 24           | R             | —           |
| 25           | W             | —           |
| 26           | LG            | —           |
| 27           | Y             | —           |
| 28           | —             | —           |
| 29           | R             | —           |
| 30           | GR            | —           |
| 31           | L             | —           |
| 32           | P             | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 8            | SHIELD        | —           |
| 9            | B             | —           |
| 10           | SB            | —           |
| 11           | P             | —           |
| 12           | BR            | —           |
| 13           | GR            | —           |
| 14           | P             | —           |
| 15           | L             | —           |
| 16           | G             | —           |
| 17           | —             | —           |
| 18           | —             | —           |
| 19           | —             | —           |
| 20           | —             | —           |
| 21           | —             | —           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B3           |
| Connector Name  | WIRE TO WIRE |
| 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 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | —             | —           |
| 2            | —             | —           |
| 3            | —             | —           |
| 4            | —             | —           |
| 5            | —             | —           |
| 6            | —             | —           |
| 7            | B             | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 22           | GR            | —           |
| 23           | G             | —           |
| 24           | B             | —           |
| 25           | W             | —           |
| 26           | R             | —           |
| 27           | —             | —           |
| 28           | —             | —           |
| 29           | W             | —           |
| 30           | V             | —           |
| 31           | LG            | —           |
| 32           | SHIELD        | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 8            | SB            | —           |
| 9            | R             | —           |
| 10           | BR            | —           |
| 11           | GR            | —           |
| 12           | BR            | —           |
| 13           | B             | —           |
| 14           | —             | —           |
| 15           | R             | —           |
| 16           | G             | —           |
| 17           | R             | —           |
| 18           | G             | —           |
| 19           | SHIELD        | —           |
| 20           | LG            | —           |
| 21           | V             | —           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B4           |
| Connector Name  | WIRE TO WIRE |
| 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 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | —           |
| 2            | P             | —           |
| 3            | SHIELD        | —           |
| 4            | R             | —           |
| 5            | L             | —           |
| 6            | SHIELD        | —           |
| 7            | P             | —           |

ABNIA5865GB

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 7            | -             | -                |
| 8            | G             | -                |
| 9            | L             | - (WITH BOSE)    |
| 9            | LG            | - (WITHOUT BOSE) |
| 10           | P             | - (WITH BOSE)    |
| 10           | P             | - (WITHOUT BOSE) |
| 11           | SHIELD        | -                |
| 12           | -             | -                |

|                 |              |
|-----------------|--------------|
| Connector No.   | B16          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |    |  |   |   |   |
|----|----|----|--|---|---|---|
| 5  | 4  |    |  | 3 | 2 | 1 |
| 12 | 11 | 10 |  | 9 | 8 | 7 |
|    |    |    |  |   |   | 6 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | W             | -           |
| 3            | R             | -           |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | Y             | -           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 6            | SB            | -                |
| 7            | -             | -                |
| 8            | GR            | -                |
| 9            | R             | - (WITH BOSE)    |
| 9            | V             | - (WITHOUT BOSE) |
| 10           | G             | - (WITH BOSE)    |
| 10           | LG            | - (WITHOUT BOSE) |
| 11           | SHIELD        | -                |
| 12           | -             | -                |

|                 |              |
|-----------------|--------------|
| Connector No.   | B17          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |    |   |   |   |   |
|----|----|----|---|---|---|---|
| 5  | 4  |    |   | 3 | 2 | 1 |
| 12 | 11 | 10 | 9 | 8 | 7 | 6 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | Y             | -           |
| 2            | L             | -           |
| 3            | W             | -           |
| 4            | -             | -           |
| 5            | -             | -           |

AANIA2212GB

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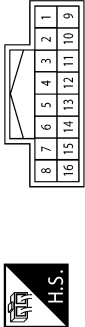
AV

|                 |            |
|-----------------|------------|
| Connector No.   | R 3        |
| Connector Name  | MICROPHONE |
| Connector Color | WHITE      |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             |             |
| 2            | SHIELD        |             |
| 3            |               |             |
| 4            | P             |             |
| 5            |               |             |
| 6            |               |             |

|                 |              |
|-----------------|--------------|
| Connector No.   | R 1          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



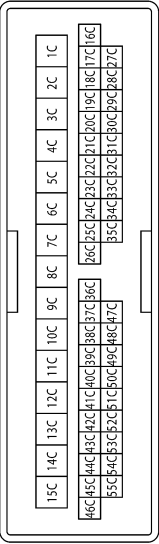
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | L             | -           |
| 3            | GR            | -           |
| 4            | -             | -           |
| 5            | B             | -           |
| 6            | R             | -           |
| 7            | Y             | -           |
| 8            | -             | -           |
| 9            | V             | -           |
| 10           | G             | -           |
| 11           | B/R           | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |

AANIA2213GB

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33C          | -             | -           |
| 34C          | -             | -           |
| 35C          | -             | -           |
| 36C          | LG            | -           |
| 37C          | R             | -           |
| 38C          | L             | -           |
| 39C          | G             | -           |
| 40C          | P             | -           |
| 41C          | -             | -           |
| 42C          | P             | -           |
| 43C          | GR            | -           |
| 44C          | L             | -           |
| 45C          | BR            | -           |
| 46C          | L             | -           |
| 47C          | Y             | -           |
| 48C          | BR            | -           |
| 49C          | B             | -           |
| 50C          | W             | -           |
| 51C          | R             | -           |
| 52C          | SHIELD        | -           |
| 53C          | -             | -           |
| 54C          | V             | -           |
| 55C          | LG            | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9C           | LG            | -           |
| 10C          | Y             | -           |
| 11C          | W             | -           |
| 12C          | SB            | -           |
| 13C          | B             | -           |
| 14C          | V             | -           |
| 15C          | R             | -           |
| 16C          | -             | -           |
| 17C          | -             | -           |
| 18C          | -             | -           |
| 19C          | -             | -           |
| 20C          | -             | -           |
| 21C          | -             | -           |
| 22C          | -             | -           |
| 23C          | -             | -           |
| 24C          | G             | -           |
| 25C          | R             | -           |
| 26C          | SHIELD        | -           |
| 27C          | -             | -           |
| 28C          | -             | -           |
| 29C          | -             | -           |
| 30C          | -             | -           |
| 31C          | -             | -           |
| 32C          | -             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D22          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1C           | R             | - (WITH BOSE)    |
| 1C           | L             | - (WITHOUT BOSE) |
| 2C           | G             | - (WITH BOSE)    |
| 2C           | V             | - (WITHOUT BOSE) |
| 3C           | SHIELD        | -                |
| 4C           | SB            | -                |
| 5C           | V             | -                |
| 6C           | -             | -                |
| 7C           | P             | -                |
| 8C           | BR            | -                |

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

|                 |   |
|-----------------|---|
| Connector No.   | D23   |
| Connector Name  | FRONT DOOR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM) |
| Connector Color | WHITE   |



AANIA2392GB

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# NAVIGATION WITHOUT BOSE

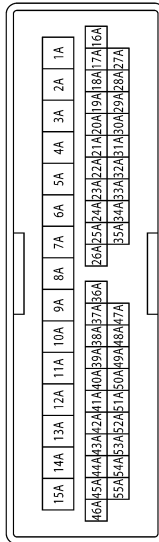
< WIRING DIAGRAM >

[TELEMATICS SYSTEM]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33A          | -             | -           |
| 34A          | -             | -           |
| 35A          | -             | -           |
| 36A          | B             | -           |
| 37A          | P             | -           |
| 38A          | Y             | -           |
| 39A          | LG            | -           |
| 40A          | -             | -           |
| 41A          | -             | -           |
| 42A          | -             | -           |
| 43A          | V             | -           |
| 44A          | V             | -           |
| 45A          | W             | -           |
| 46A          | BG            | -           |
| 47A          | W             | -           |
| 48A          | B             | -           |
| 49A          | R             | -           |
| 50A          | SHIELD        | -           |
| 51A          | -             | -           |
| 52A          | -             | -           |
| 53A          | -             | -           |
| 54A          | -             | -           |
| 55A          | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9A           | -             | -           |
| 10A          | BR            | -           |
| 11A          | Y             | -           |
| 12A          | B             | -           |
| 13A          | W             | -           |
| 14A          | SB            | -           |
| 15A          | R             | -           |
| 16A          | -             | -           |
| 17A          | -             | -           |
| 18A          | -             | -           |
| 19A          | -             | -           |
| 20A          | -             | -           |
| 21A          | -             | -           |
| 22A          | -             | -           |
| 23A          | -             | -           |
| 24A          | Y             | -           |
| 25A          | BR            | -           |
| 26A          | SHIELD        | -           |
| 27A          | -             | -           |
| 28A          | -             | -           |
| 29A          | -             | -           |
| 30A          | -             | -           |
| 31A          | -             | -           |
| 32A          | -             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D102         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1A           | L             | - (WITH BOSE)    |
| 1A           | BR            | - (WITHOUT BOSE) |
| 2A           | P             | - (WITH BOSE)    |
| 2A           | R             | - (WITHOUT BOSE) |
| 3A           | SHIELD        | -                |
| 4A           | Y             | -                |
| 5A           | V             | -                |
| 6A           | -             | -                |
| 7A           | -             | -                |
| 8A           | -             | -                |

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

|                 |   |
|-----------------|---|
| Connector No.   | D123  |
| Connector Name  | FRONT DOOR SPEAKER<br>RH (WITHOUT BOSE<br>AUDIO SYSTEM) |
| Connector Color | WHITE   |



AANIA2393GB

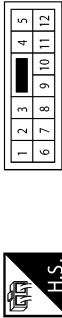
|                 |                      |
|-----------------|----------------------|
| Connector No.   | D205                 |
| Connector Name  | REAR DOOR SPEAKER LH |
| Connector Color | WHITE                |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | R             | – (WITH BOSE)    |
| 1            | V             | – (WITHOUT BOSE) |
| 2            | G             | – (WITH BOSE)    |
| 2            | LG            | – (WITHOUT BOSE) |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 4            | –             | –                |
| 5            | –             | –                |
| 6            | BR            | –                |
| 7            | –             | –                |
| 8            | G             | –                |
| 9            | R             | – (WITH BOSE)    |
| 9            | V             | – (WITHOUT BOSE) |
| 10           | G             | – (WITH BOSE)    |
| 10           | LG            | – (WITHOUT BOSE) |
| 11           | SHIELD        | –                |
| 12           | –             | –                |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | Y             | –           |
| 2            | L             | –           |
| 3            | V             | –           |

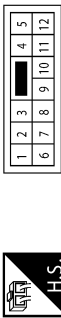
|                 |                      |
|-----------------|----------------------|
| Connector No.   | D305                 |
| Connector Name  | REAR DOOR SPEAKER RH |
| Connector Color | WHITE                |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | L             | – (WITH BOSE)    |
| 1            | LG            | – (WITHOUT BOSE) |
| 2            | P             | –                |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 7            | –             | –                |
| 8            | G             | –                |
| 9            | L             | – (WITH BOSE)    |
| 9            | LG            | – (WITHOUT BOSE) |
| 10           | P             | –                |
| 11           | SHIELD        | –                |
| 12           | –             | –                |

|                 |              |
|-----------------|--------------|
| Connector No.   | D301         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | –           |
| 2            | LG            | –           |
| 3            | V             | –           |
| 4            | –             | –           |
| 5            | –             | –           |
| 6            | Y             | –           |

AANIA2394GB

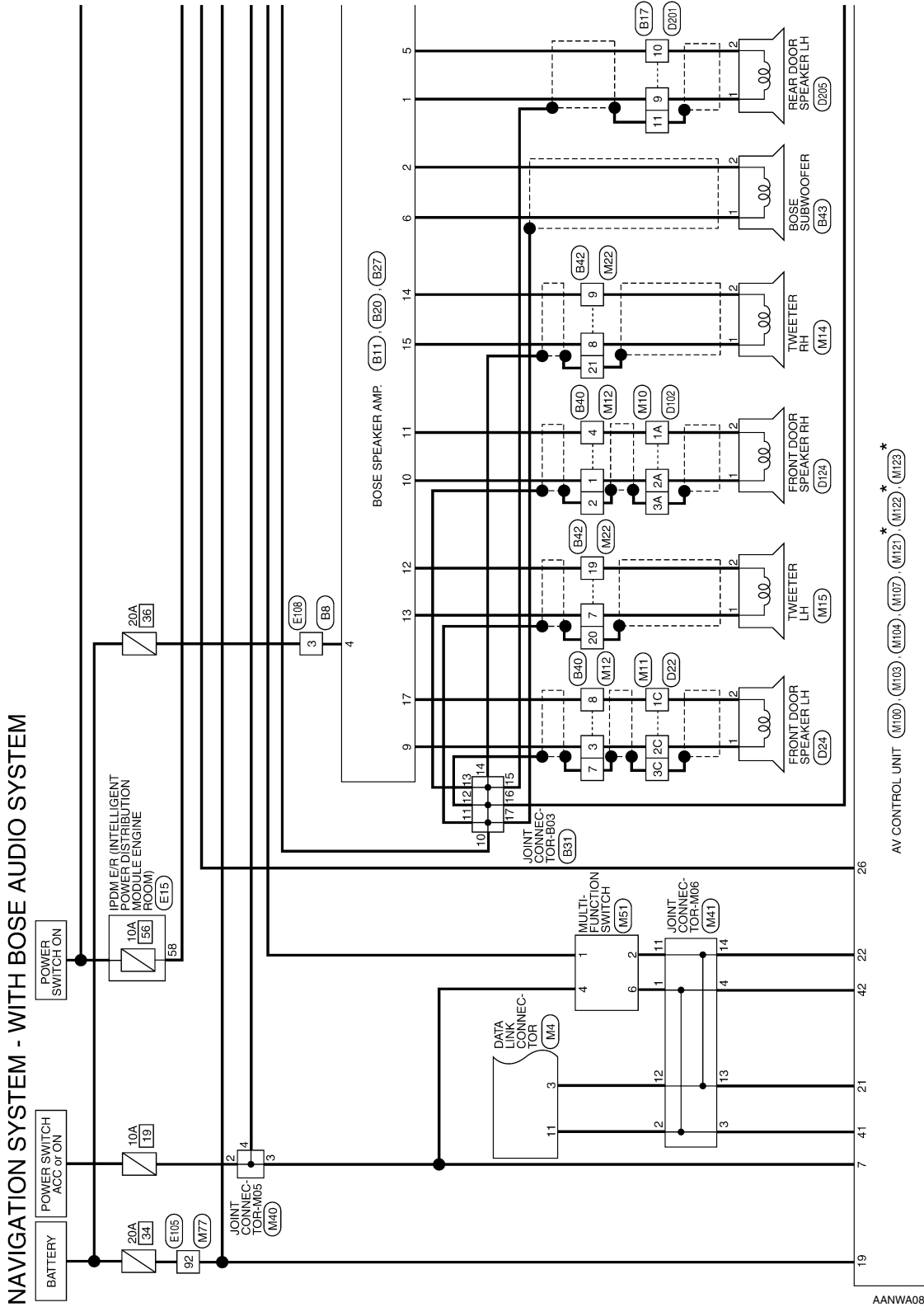
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AV

## NAVIGATION WITH BOSE

### Wiring Diagram

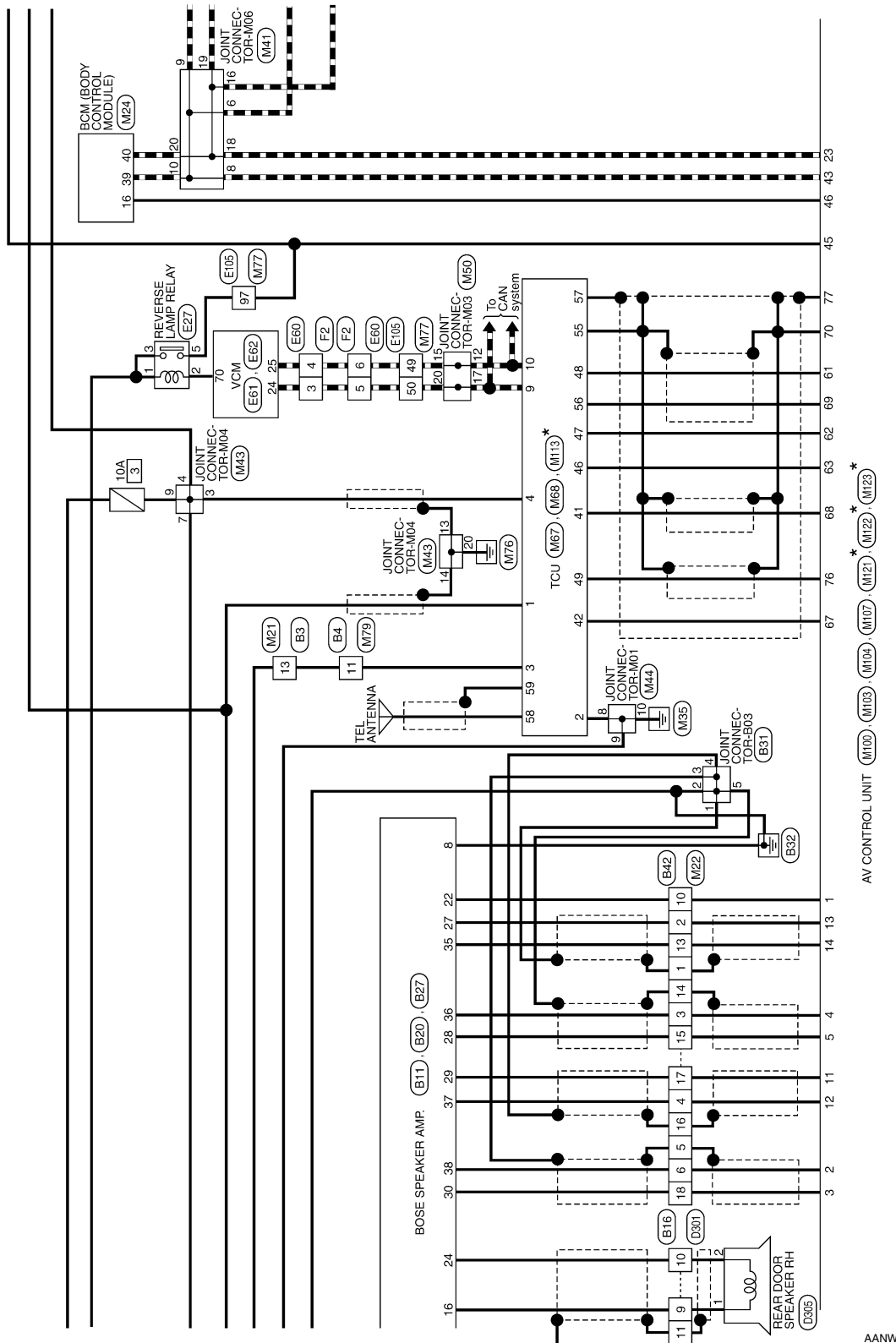
INFOID:000000009346907



\* : This connector is not shown in "Harness Layout".

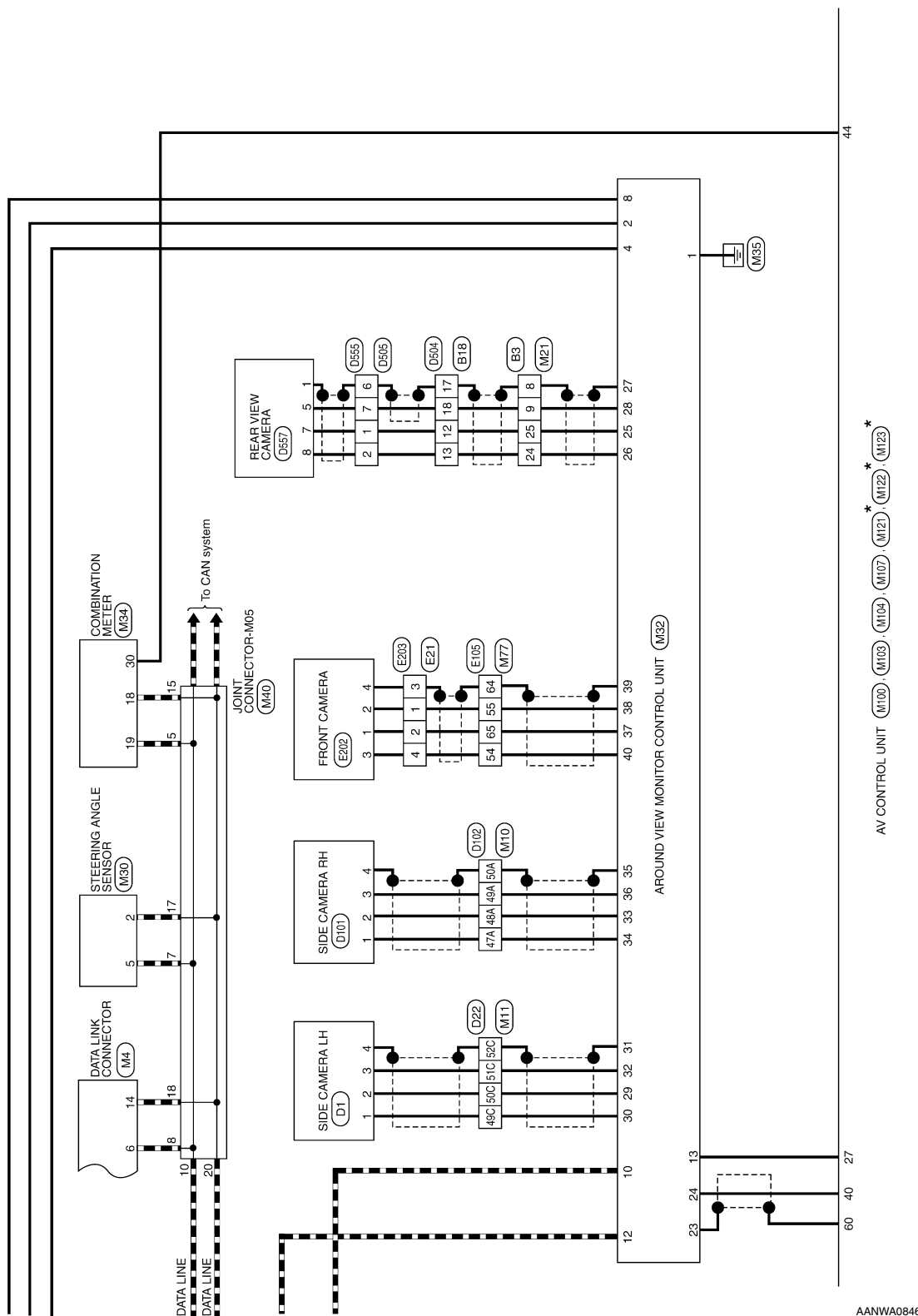
AANWA0844GB



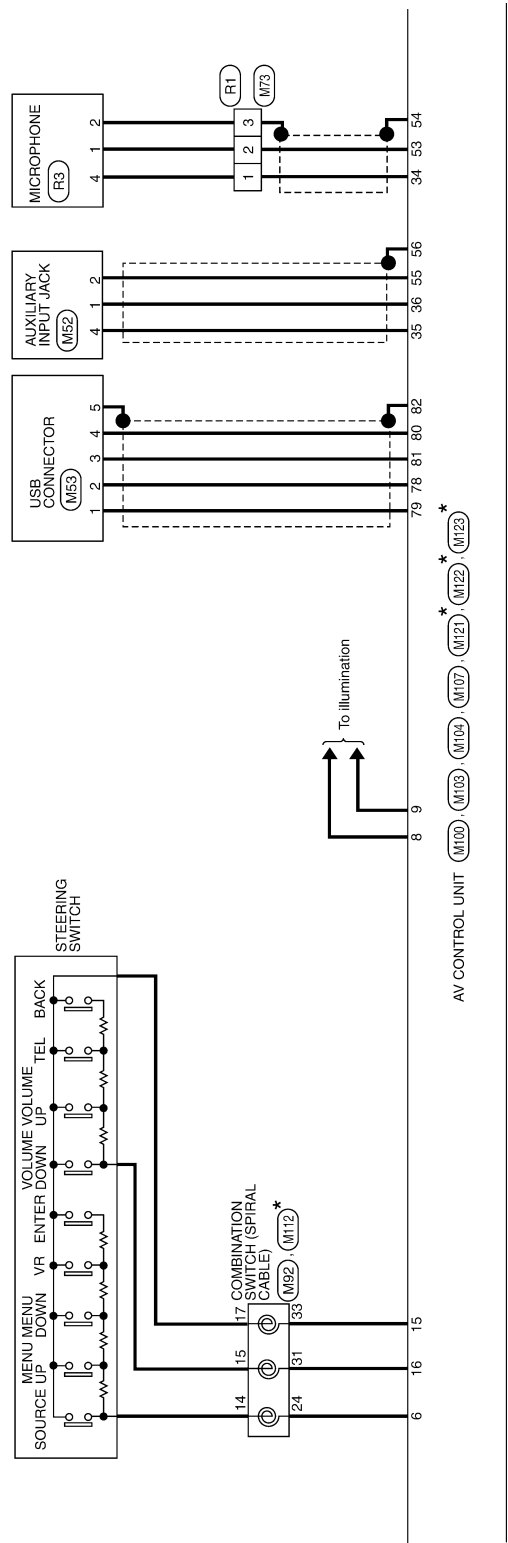


\*: This connector is not shown in "Harness Layout".

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AANWA0846GB

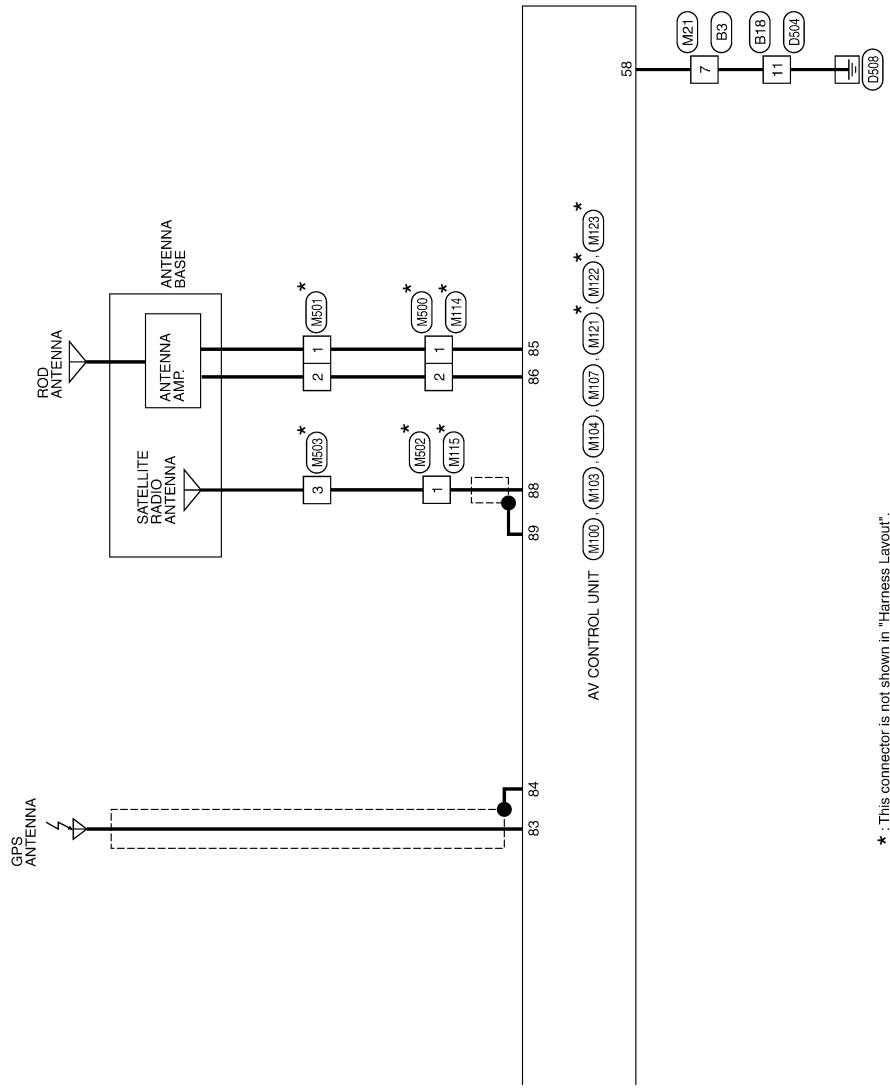


\* : This connector is not shown in "Harness Layout".

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AV

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
O  
P

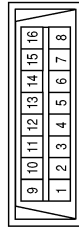


\* : This connector is not shown in "Harness Layout".

AANWA0848GB

## NAVIGATION SYSTEM - WITH BOSE AUDIO SYSTEM - CONNECTORS

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M4                  |
| Connector Name  | DATA LINK CONNECTOR |
| Connector Color | WHITE               |



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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | LG            | -           |
| 4            | B             | -           |
| 5            | B             | -           |
| 6            | L             | -           |
| 7            | GR            | -           |
| 8            | G             | -           |
| 9            | -             | -           |
| 10           | -             | -           |
| 11           | SB            | -           |
| 12           | G             | -           |
| 13           | L             | -           |
| 14           | P             | -           |
| 15           | -             | -           |
| 16           | Y             | -           |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1A  | 2A  | 3A  | 4A  | 5A  | 6A  | 7A  | 8A  | 9A  | 10A | 11A | 12A | 13A | 14A | 15A |
| 16A | 17A | 18A | 19A | 20A | 21A | 22A | 23A | 24A | 25A | 26A | 27A | 28A | 29A | 30A |
| 31A | 32A | 33A | 34A | 35A | 36A | 37A | 38A | 39A | 40A | 41A | 42A | 43A | 44A | 45A |
| 46A | 47A | 48A | 49A | 50A | 51A | 52A | 53A | 54A | 55A | 56A | 57A | 58A | 59A | 60A |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1A           | L             | - (WITH BOSE)    |
| 1A           | R             | - (WITHOUT BOSE) |
| 2A           | P             | - (WITH BOSE)    |
| 2A           | G             | - (WITHOUT BOSE) |
| 3A           | SHIELD        | -                |
| 4A           | LG            | -                |
| 5A           | V             | -                |
| 10A          | BR            | -                |
| 11A          | Y             | -                |
| 12A          | B             | -                |
| 13A          | W             | -                |
| 14A          | SB            | -                |
| 15A          | L             | -                |
| 24A          | Y             | -                |
| 25A          | BR            | -                |
| 26A          | SHIELD        | -                |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 36A          | B             | -           |
| 37A          | P             | -           |
| 38A          | Y             | -           |
| 39A          | LG            | -           |
| 43A          | V             | -           |
| 44A          | L             | -           |
| 45A          | LG            | -           |
| 46A          | BR            | -           |
| 47A          | W             | -           |
| 48A          | B             | -           |
| 49A          | R             | -           |
| 50A          | SHIELD        | -           |

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| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 32C          | —             | —           |
| 33C          | —             | —           |
| 34C          | —             | —           |
| 35C          | —             | —           |
| 36C          | LG            | —           |
| 37C          | R             | —           |
| 38C          | GR            | —           |
| 39C          | W             | —           |
| 40C          | P             | —           |
| 41C          | V             | —           |
| 42C          | V             | —           |
| 43C          | B             | —           |
| 44C          | L             | —           |
| 45C          | BR            | —           |
| 46C          | L             | —           |
| 47C          | Y             | —           |
| 48C          | BR            | —           |
| 49C          | B             | —           |
| 50C          | W             | —           |
| 51C          | R             | —           |
| 52C          | SHIELD        | —           |
| 53C          | —             | —           |
| 54C          | R             | —           |
| 55C          | LG            | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9C           | LG            | —           |
| 10C          | Y             | —           |
| 11C          | W             | —           |
| 12C          | SB            | —           |
| 13C          | B             | —           |
| 14C          | L             | —           |
| 15C          | R             | —           |
| 16C          | —             | —           |
| 17C          | —             | —           |
| 18C          | —             | —           |
| 19C          | —             | —           |
| 20C          | —             | —           |
| 21C          | —             | —           |
| 22C          | —             | —           |
| 23C          | —             | —           |
| 24C          | G             | —           |
| 25C          | R             | —           |
| 26C          | SHIELD        | —           |
| 27C          | —             | —           |
| 28C          | —             | —           |
| 29C          | —             | —           |
| 30C          | —             | —           |
| 31C          | —             | —           |

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



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1C  | 2C  | 3C  | 4C  | 5C  | 6C  | 7C  | 8C  | 9C  | 10C | 11C | 12C | 13C | 14C | 15C |
| 16C | 17C | 18C | 19C | 20C | 21C | 22C | 23C | 24C | 25C | 26C | 27C | 28C | 29C | 30C |
| 31C | 32C | 33C | 34C | 35C | 36C | 37C | 38C | 39C | 40C | 41C | 42C | 43C | 44C | 45C |
| 46C | 47C | 48C | 49C | 50C | 51C | 52C | 53C | 54C | 55C |     |     |     |     |     |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1C           | R             | — (WITH BOSE)    |
| 1C           | P             | — (WITHOUT BOSE) |
| 2C           | G             | — (WITH BOSE)    |
| 2C           | L             | — (WITHOUT BOSE) |
| 3C           | SHIELD        | —                |
| 4C           | G             | —                |
| 5C           | V             | —                |
| 6C           | —             | —                |
| 7C           | BR            | —                |
| 8C           | SB            | —                |

|                 |              |
|-----------------|--------------|
| Connector No.   | M12          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 6            | —             | —           |
| 7            | SHIELD        | —           |
| 8            | R             | —           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | P             | — (WITH NAVI)    |
| 1            | BR            | — (WITHOUT NAVI) |
| 2            | SHIELD        | —                |
| 3            | G             | —                |
| 4            | L             | —                |
| 5            | —             | —                |

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|                 |            |
|-----------------|------------|
| Connector No.   | M15        |
| Connector Name  | TWEETER LH |
| Connector Color | BROWN      |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | G             | – (WITH BOSE)    |
| 1            | W             | – (WITHOUT BOSE) |
| 2            | R             | – (WITH BOSE)    |
| 2            | P             | – (WITHOUT BOSE) |

|                 |            |
|-----------------|------------|
| Connector No.   | M14        |
| Connector Name  | TWEETER RH |
| Connector Color | BROWN      |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | V             | – (WITH BOSE)    |
| 1            | G             | – (WITHOUT BOSE) |
| 2            | SB            | – (WITH BOSE)    |
| 2            | R             | – (WITHOUT BOSE) |

|                 |              |
|-----------------|--------------|
| Connector No.   | M21          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | –             | –           |
| 2            | –             | –           |
| 3            | –             | –           |
| 4            | –             | –           |
| 5            | –             | –           |
| 6            | –             | –           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | B             | –           |
| 8            | SHIELD        | –           |
| 9            | R             | –           |
| 10           | SB            | –           |
| 11           | P             | –           |
| 12           | V             | –           |
| 13           | GR            | –           |
| 14           | P             | –           |
| 15           | L             | –           |
| 16           | G             | –           |
| 17           | –             | –           |
| 18           | –             | –           |
| 19           | –             | –           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 20           | –             | –           |
| 21           | –             | –           |
| 22           | –             | –           |
| 23           | –             | –           |
| 24           | W             | –           |
| 25           | B             | –           |
| 26           | W             | –           |
| 27           | Y             | –           |
| 28           | –             | –           |
| 29           | W             | –           |
| 30           | L             | –           |
| 31           | L             | –           |
| 32           | P             | –           |

AANIA2039GB

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 14           | SHIELD        | -           |
| 15           | L             | -           |
| 16           | SHIELD        | -           |
| 17           | G             | -           |
| 18           | BR            | -           |
| 19           | R             | -           |
| 20           | SHIELD        | -           |
| 21           | SHIELD        | -           |
| 22           | -             | -           |
| 23           | -             | -           |
| 24           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | SHIELD        | -           |
| 6            | Y             | -           |
| 7            | G             | -           |
| 8            | V             | -           |
| 9            | SB            | -           |
| 10           | L             | -           |
| 11           | -             | -           |
| 12           | -             | -           |
| 13           | Y             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M22          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|
| 12 | 11 | 10 | 9  | 8  | 7  | 6  | 5  | 4  | 3  | 2  | 1  |
| 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 |

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

| Terminal No. | Color of Wire | Signal Name                           |
|--------------|---------------|---------------------------------------|
| 25           | LG            | IMMOBILIZER TWO WAY COMMUNICATION     |
| 29           | G             | HAZARD SW                             |
| 30           | V             | TRUNK/BACK DOOR OPENER SW             |
| 31           | W             | DOOR LOCK STATUS SW (DR)              |
| 32           | GR            | COMBINATION SW OUTPUT 5               |
| 33           | Y             | COMBINATION SW OUTPUT 4               |
| 34           | W             | COMBINATION SW OUTPUT 3               |
| 35           | BG            | COMBINATION SW OUTPUT 2               |
| 36           | P             | COMBINATION SW OUTPUT 1               |
| 37           | V             | SHIFT P POSITION, PARKING POSITION SW |
| 38           | SB            | INTELLIGENT TUNER                     |
| 39           | L             | CAN-H                                 |
| 40           | P             | CAN-L                                 |

| Terminal No. | Color of Wire | Signal Name                               |
|--------------|---------------|---|
| 8            | R             | KEY CYLINDER LOCK SW                      |
| 9            | BR            | BRAKE SW1                                 |
| 12           | Y             | CENTRAL DOOR LOCK SW                      |
| 13           | BR            | CENTRAL DOOR UNLOCK SW                    |
| 14           | G             | AUTO LIGHT SENSOR INPUT                   |
| 15           | W             | REAR DEFOGGER SW                          |
| 16           | R             | MR OUTPUT                                 |
| 17           | Y             | AUTO LIGHT SENSOR POWER SUPPLY OUTPUT     |
| 18           | L             | KEYLESS TUNER, AUTO LIGHT SENSOR GND      |
| 21           | P             | IMMOBILIZER ONE WAY COMMUNICATION (CLOCK) |
| 23           | R             | SECURITY INDICATOR OUTPUT                 |
| 24           | SB            | DONGLE LINK                               |

|                 |                           |
|-----------------|---------------------------|
| Connector No.   | M24                       |
| Connector Name  | BCM (BODY CONTROL MODULE) |
| Connector Color | BLACK                     |

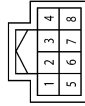
|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 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            |
|--------------|---------------|------------------------|
| 2            | L             | COMBINATION SW INPUT 5 |
| 3            | GR            | COMBINATION SW INPUT 4 |
| 4            | BR            | COMBINATION SW INPUT 3 |
| 5            | G             | COMBINATION SW INPUT 2 |
| 6            | V             | COMBINATION SW INPUT 1 |
| 7            | GR            | KEY CYLINDER UNLOCK SW |

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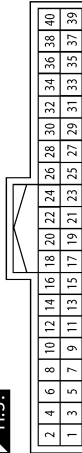


|                 |                       |
|-----------------|-----------------------|
| Connector No.   | M30                   |
| Connector Name  | STEERING ANGLE SENSOR |
| Connector Color | WHITE                 |



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

|                 |                                  |
|-----------------|----------------------------------|
| Connector No.   | M32                              |
| Connector Name  | AROUND VIEW MONITOR CONTROL UNIT |
| Connector Color | WHITE                            |



|              |               |               |
|--------------|---------------|---------------|
| Terminal No. | Color of Wire | Signal Name   |
| 1            | B             | GND           |
| 2            | SB            | +B            |
| 3            | B             | SERIAL GND    |
| 4            | W             | IGN           |
| 5            | LG            | FROM PC TO CU |
| 6            | -             | -             |
| 7            | BR            | FROM CU TO PC |
| 8            | SB            | REVERSE       |

|              |               |             |
|--------------|---------------|-------------|
| Terminal No. | Color of Wire | Signal Name |
| 2            | P             | -           |
| 3            | -             | -           |
| 4            | R             | -           |
| 5            | L             | -           |
| 6            | -             | -           |
| 7            | -             | -           |
| 8            | -             | -           |

|              |               |                              |
|--------------|---------------|------------------------------|
| Terminal No. | Color of Wire | Signal Name                  |
| 9            | -             | -                            |
| 10           | P             | V-CAN L                      |
| 11           | -             | -                            |
| 12           | L             | V-CAN H                      |
| 13           | L             | LOW-PRICE AVM DISTINCTION    |
| 14           | -             | -                            |
| 15           | -             | -                            |
| 16           | -             | -                            |
| 17           | -             | -                            |
| 18           | -             | -                            |
| 19           | SHIELD        | EXTERNAL-VIDEO OUTPUT GND    |
| 20           | W             | EXTERNAL-VIDEO OUTPUT SIGNAL |
| 21           | -             | -                            |
| 22           | -             | -                            |

|              |               |                     |
|--------------|---------------|---------------------|
| Terminal No. | Color of Wire | Signal Name         |
| 23           | SHIELD        | VIDEO OUTPUT GND    |
| 24           | W             | VIDEO OUTPUT SIGNAL |
| 25           | B             | RV-POWER GND        |
| 26           | W             | RV-POWER 6.2V       |
| 27           | SHIELD        | RV-VIDEO GND        |
| 28           | R             | RV-VIDEO SIGNAL     |
| 29           | W             | SV2-POWER GND       |
| 30           | B             | SV2-POWER 6.2V      |
| 31           | SHIELD        | SV2-VIDEO GND       |
| 32           | R             | SV2-VIDEO SIGNAL    |
| 33           | B             | SV1-POWER GND       |
| 34           | W             | SV1-POWER 6.2V      |
| 35           | SHIELD        | SV1-VIDEO GND       |
| 36           | R             | SV1-VIDEO SIGNAL    |
| 37           | W             | FV-POWER GND        |
| 38           | R             | FV-POWER 6.2V       |
| 39           | SHIELD        | FV VIDEO GND        |
| 40           | B             | FV-VIDEO SIGNAL     |

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|                 |                   |
|-----------------|-------------------|
| Connector No.   | M34               |
| Connector Name  | COMBINATION METER |
| Connector Color | WHITE             |



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

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 1            | LG            | BAT             |
| 2            | Y             | BAT (FOR UPPER) |
| 3            | GR            | IGN             |
| 4            | BG            | IGN (FOR UPPER) |
| 5            | B             | GND1 (ILL)      |
| 6            | B             | GND2 (POWER)    |
| 7            | -             | -               |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 8            | Y             | WASHER SW       |
| 9            | BR            | CHARGE CONNECT  |
| 10           | -             | -               |
| 11           | -             | -               |
| 12           | V             | SW GND          |
| 13           | G             | MODE B SW       |
| 14           | Y             | MODE A SW       |
| 15           | BR            | TRIP RESET SW   |
| 16           | P             | ILL CONT UP     |
| 17           | G             | UPPER ILL CONT  |
| 18           | P             | CAN-H           |
| 19           | L             | CAN-L           |
| 20           | LG            | AS SEATBELT W/L |
| 21           | -             | -               |
| 22           | GR            | GND (FOR UPPER) |
| 23           | -             | -               |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 24           | BG            | PKB SW          |
| 25           | SB            | BRAKE OIL       |
| 26           | B             | ILL CONT OUT    |
| 27           | R             | A/BAG WARN      |
| 28           | R             | SECURITY        |
| 29           | -             | -               |
| 30           | GR            | 8 P/R O/P       |
| 31           | -             | -               |
| 32           | W             | SDA (12C)       |
| 33           | G             | SCL (12C)       |
| 34           | L             | CHARGE LAMP     |
| 35           | -             | -               |
| 36           | -             | -               |
| 37           | -             | -               |
| 38           | V             | LED H LAMP R    |
| 39           | LG            | LED H LAMP L    |
| 40           | W             | BUCKLE SW FR DR |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M40                 |
| Connector Name  | JOINT CONNECTOR-M05 |
| Connector Color | BLUE                |



|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 10 | 9  | 8  | 7  | 6  | 5  | 4  | 3  | 2  | 1  |
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 8            | L             | -           |
| 9            | L             | -           |
| 10           | L             | -           |
| 11           | LG            | -           |
| 12           | LG            | -           |
| 13           | L             | -           |
| 14           | R             | -           |
| 15           | P             | -           |
| 16           | P             | -           |
| 17           | P             | -           |
| 18           | P             | -           |
| 19           | P             | -           |
| 20           | P             | -           |

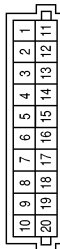
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | L             | -           |
| 3            | BR            | -           |
| 4            | GR            | -           |
| 5            | L             | -           |
| 6            | L             | -           |
| 7            | L             | -           |

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| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 12           | LG            | -           |
| 13           | LG            | -           |
| 14           | LG            | -           |
| 15           | P             | -           |
| 16           | P             | -           |
| 17           | P             | -           |
| 18           | P             | -           |
| 19           | P             | -           |
| 20           | P             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | L             | -           |
| 6            | L             | -           |
| 7            | L             | -           |
| 8            | L             | -           |
| 9            | L             | -           |
| 10           | L             | -           |
| 11           | LG            | -           |

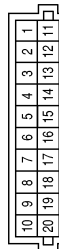
|                 |                     |
|-----------------|---------------------|
| Connector No.   | M41                 |
| Connector Name  | JOINT CONNECTOR-M06 |
| Connector Color | BLUE                |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | W             | -           |
| 6            | Y             | -           |
| 7            | Y             | -           |
| 8            | G             | -           |
| 9            | W             | -           |
| 10           | W             | -           |
| 11           | Y             | -           |
| 12           | Y             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |
| 17           | -             | -           |
| 18           | B             | -           |
| 19           | B             | -           |
| 20           | B             | -           |

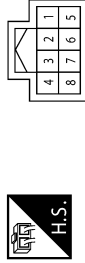
|                 |                     |
|-----------------|---------------------|
| Connector No.   | M43                 |
| Connector Name  | JOINT CONNECTOR-M04 |
| Connector Color | GRAY                |



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

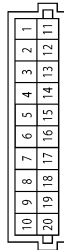
AANIA2043GB

|                 |                      |
|-----------------|----------------------|
| Connector No.   | M51                  |
| Connector Name  | MULTIFUNCTION SWITCH |
| Connector Color | WHITE                |



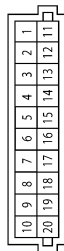
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | LG            | -           |
| 3            | -             | -           |
| 4            | L             | -           |
| 5            | B             | -           |
| 6            | SB            | -           |
| 7            | -             | -           |
| 8            | W             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M50                 |
| Connector Name  | JOINT CONNECTOR-M03 |
| Connector Color | PINK                |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | B             | -           |
| 3            | B             | -           |
| 4            | B             | -           |
| 5            | B             | -           |
| 6            | B             | -           |
| 7            | B             | -           |
| 8            | B             | -           |
| 9            | B             | -           |
| 10           | B             | -           |
| 11           | G             | -           |
| 12           | G             | -           |
| 13           | G             | -           |
| 14           | G             | -           |
| 15           | G             | -           |
| 16           | L             | -           |
| 17           | L             | -           |
| 18           | L             | -           |
| 19           | L             | -           |
| 20           | L             | -           |

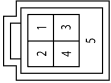
|                 |                     |
|-----------------|---------------------|
| Connector No.   | M44                 |
| Connector Name  | JOINT CONNECTOR-M01 |
| Connector Color | GRAY                |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | -             | -           |
| 3            | -             | -           |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | -             | -           |
| 7            | -             | -           |
| 8            | B             | -           |
| 9            | B             | -           |
| 10           | B             | -           |
| 11           | P             | -           |
| 12           | P             | -           |
| 13           | W             | -           |
| 14           | W             | -           |
| 15           | LG            | -           |
| 16           | R             | -           |
| 17           | R             | -           |
| 18           | W             | -           |
| 19           | W             | -           |
| 20           | W             | -           |

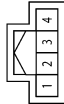
AANIA2044GB

|                 |               |
|-----------------|---------------|
| Connector No.   | M53           |
| Connector Name  | USB CONNECTOR |
| Connector Color | GREEN         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | -           |
| 2            | W             | -           |
| 3            | R             | -           |
| 4            | L             | -           |
| 5            | SHIELD        | -           |

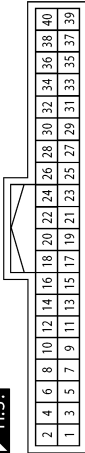
|                 |                      |
|-----------------|----------------------|
| Connector No.   | M52                  |
| Connector Name  | AUXILIARY INPUT JACK |
| Connector Color | WHITE                |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | L             | EV CAN H    |
| 10           | G             | EV CAN L    |
| 11           | -             | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |
| 17           | -             | -           |
| 18           | -             | -           |
| 19           | -             | -           |
| 20           | -             | -           |
| 21           | -             | -           |
| 22           | -             | -           |
| 23           | -             | -           |

|                 |       |
|-----------------|-------|
| Connector No.   | M67   |
| Connector Name  | TCU   |
| Connector Color | WHITE |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | +B          |
| 2            | B             | GND         |
| 3            | L             | ACC         |
| 4            | W             | IGN         |
| 5            | -             | -           |
| 6            | -             | -           |

AANIA2045GB

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| Terminal No. | Color of Wire | Signal Name          |
|--------------|---------------|----------------------|
| 46           | V             | MANUFACTURE SPECIFIC |
| 47           | BR            | USB VBUS             |
| 48           | L             | USB D-               |
| 49           | G             | D VOICE              |
| 50           | -             | -                    |
| 51           | -             | -                    |
| 52           | -             | -                    |
| 53           | -             | -                    |
| 54           | -             | -                    |
| 55           | SHIELD        | USB GND              |
| 56           | R             | USB D+               |
| 57           | SHIELD        | SHIELD               |

|                 |      |
|-----------------|------|
| Connector No.   | M68  |
| Connector Name  | TCU  |
| Connector Color | GRAY |

|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 |
| 56 | 55 | 54 | 53 | 52 | 51 | 50 | 49 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 41           | Y             | U VOICE     |
| 42           | B             | VOICE GND   |
| 43           | -             | -           |
| 44           | -             | -           |
| 45           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10           | B             | -           |
| 11           | W             | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M73          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

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



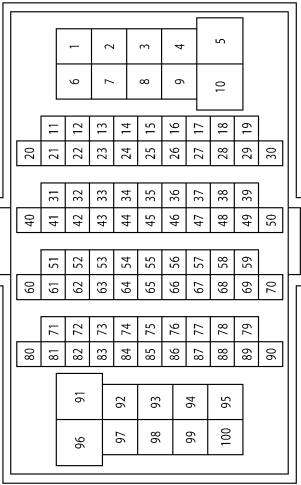
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | L             | -           |
| 3            | SHIELD        | -           |
| 4            | -             | -           |
| 5            | B             | -           |
| 6            | BR            | -           |
| 7            | P             | -           |
| 8            | Y             | -           |
| 9            | R             | -           |

AANIA2046GB

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 60           | Y             | -           |
| 61           | GR            | -           |
| 62           | W             | -           |
| 63           | BR            | -           |
| 64           | SHIELD        | -           |
| 65           | W             | -           |
| 66           | LG            | -           |
| 67           | R             | -           |
| 68           | G             | -           |
| 69           | BG            | -           |
| 70           | GR            | -           |
| 71           | R             | -           |
| 72           | R             | -           |
| 73           | B             | -           |
| 74           | W             | -           |
| 76           | L             | -           |
| 80           | W             | -           |
| 81           | LG            | -           |
| 83           | GR            | -           |
| 84           | L             | -           |
| 85           | Y             | -           |
| 86           | SB            | -           |
| 88           | R             | -           |
| 89           | G             | -           |
| 90           | SHIELD        | -           |
| 91           | Y             | -           |
| 92           | BR            | -           |
| 93           | W             | -           |
| 94           | P             | -           |
| 95           | L             | -           |
| 96           | P             | -           |
| 97           | G             | -           |
| 98           | V             | -           |
| 99           | LG            | -           |
| 100          | R             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 22           | B             | -           |
| 23           | BG            | -           |
| 24           | B             | -           |
| 26           | G             | -           |
| 27           | B             | -           |
| 28           | B             | -           |
| 25           | W             | -           |
| 29           | R             | -           |
| 31           | R             | -           |
| 32           | W             | -           |
| 33           | GR            | -           |
| 34           | BR            | -           |
| 35           | BR            | -           |
| 36           | W             | -           |
| 37           | L             | -           |
| 38           | LG            | -           |
| 39           | SB            | -           |
| 40           | V             | -           |
| 41           | P             | -           |
| 42           | SB            | -           |
| 43           | G             | -           |
| 44           | LG            | -           |
| 45           | Y             | -           |
| 46           | R             | -           |
| 47           | W             | -           |
| 48           | L             | -           |
| 49           | G             | -           |
| 50           | L             | -           |
| 51           | SB            | -           |
| 52           | L             | -           |
| 54           | B             | -           |
| 55           | R             | -           |
| 56           | V             | -           |
| 57           | Y             | -           |
| 58           | L             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M77          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | L             | -           |
| 3            | V             | -           |
| 4            | LG            | -           |
| 6            | P             | -           |
| 7            | GR            | -           |
| 9            | G             | -           |
| 10           | L             | -           |
| 11           | L             | -           |
| 12           | Y             | -           |
| 13           | V             | -           |
| 14           | R             | -           |
| 15           | G             | -           |
| 16           | W             | -           |
| 17           | R             | -           |
| 18           | G             | -           |
| 19           | W             | -           |
| 20           | GR            | -           |
| 21           | P             | -           |

AANIA2047GB

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AV

|                 |              |
|-----------------|--------------|
| Connector No.   | M79          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | P             | -           |
| 3            | SHIELD        | -           |
| 4            | G             | -           |
| 5            | R             | -           |
| 6            | SHIELD        | -           |
| 7            | L             | -           |
| 8            | GR            | -           |
| 9            | R             | -           |
| 10           | BR            | -           |
| 11           | L             | -           |
| 12           | BR            | -           |

|                 |  |
|-----------------|--|
| Connector No.   | M100   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITH BOSE) |
| Connector Color | WHITE  |



|    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  |    |    |
| 19 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 20 |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 1            | L             | AMP_ON        |
| 2            | Y             | FR_LH_PRE/SP+ |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | B             | -           |
| 14           | -             | -           |
| 15           | R             | -           |
| 16           | G             | -           |
| 17           | R             | -           |
| 18           | G             | -           |
| 19           | SHIELD        | -           |
| 20           | BR            | -           |
| 21           | V             | -           |
| 22           | SB            | -           |
| 23           | W             | -           |
| 24           | B             | -           |
| 25           | W             | -           |
| 26           | R             | -           |
| 27           | -             | -           |
| 28           | -             | -           |
| 29           | W             | -           |
| 30           | R             | -           |
| 31           | G             | -           |
| 32           | -             | -           |

|                 |                    |
|-----------------|--------------------|
| Connector No.   | M92                |
| Connector Name  | COMBINATION SWITCH |
| Connector Color | GRAY               |



|    |    |    |    |    |
|----|----|----|----|----|
| 25 | 24 | 31 | 32 | 33 |
|----|----|----|----|----|

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 21           | -             | -           |
| 22           | -             | -           |
| 24           | R             | -           |
| 25           | LG            | -           |
| 27           | -             | -           |
| 31           | W             | -           |
| 32           | SB            | -           |
| 33           | B             | -           |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 3            | BR            | FR_LH_PRE/SP- |
| 4            | P             | RR_LH_PRE/SP+ |
| 5            | L             | RR_LH_PRE/SP- |
| 6            | R             | STRG_SW_A     |
| 7            | BR            | ACC           |
| 8            | B             | ILL_CONT      |
| 9            | W             | ILL           |
| 10           | -             | -             |
| 11           | G             | FR_RH_PRE/SP+ |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 12           | R             | FR_RH_PRE/SP- |
| 13           | BR            | RR_RH_PRE/SP+ |
| 14           | Y             | RR_RH_PRE/SP- |
| 15           | B             | STRG_SW_GND   |
| 16           | W             | STRG_SW_B     |
| 17           | -             | -             |
| 18           | -             | -             |
| 19           | BR            | +B            |
| 20           | -             | -             |

AANIA2048GB



|                 |  |
|-----------------|--|
| Connector No.   | M103   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITH BOSE) |
| Connector Color | WHITE  |



|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 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 |

| Terminal No. | Color of Wire | Signal Name    |
|--------------|---------------|----------------|
| 21           | LG            | M-CAN2-L       |
| 22           | LG            | M-CAN1_L       |
| 23           | P             | V-CAN_L        |
| 24           | -             | -              |
| 25           | Y             | PKB_SIG        |
| 26           | V             | IGN            |
| 27           | L             | AFFORBABLE_SIG |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 28           | -             | -             |
| 29           | -             | -             |
| 30           | -             | -             |
| 31           | -             | -             |
| 32           | -             | -             |
| 33           | -             | -             |
| 34           | P             | MIC_VCC       |
| 35           | R             | AUX_AUDIO_LH  |
| 36           | B             | AUX_AUDIO     |
| 37           | -             | -             |
| 38           | -             | -             |
| 39           | -             | -             |
| 40           | B             | R_CAMERA_COMP |
| 41           | SB            | M-CAN2_H      |
| 42           | SB            | M-CAN1_H      |
| 43           | L             | V-CAN_H       |

| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 44           | GR            | SPEED_8P     |
| 45           | G             | REVERSE_SIG  |
| 46           | R             | MR_OUTPUT    |
| 47           | -             | -            |
| 48           | -             | -            |
| 49           | -             | -            |
| 50           | -             | -            |
| 51           | -             | -            |
| 52           | -             | -            |
| 53           | L             | MIC_SIG      |
| 54           | SHIELD        | -            |
| 55           | W             | AUX_AUDIO_RH |
| 56           | SHIELD        | -            |
| 57           | -             | -            |
| 58           | B             | RV_CAM_SIG   |
| 59           | -             | -            |
| 60           | SHIELD        | -            |

|                 |  |
|-----------------|--|
| Connector No.   | M104   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITH BOSE) |
| Connector Color | GRAY   |



|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| 68 | 67 | 66 | 65 | 64 | 63 | 62 | 61 |
| 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 61           | L             | USB_ACQ     |
| 62           | BR            | USB_VBUS    |
| 63           | V             | -           |
| 64           | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 65           | -             | -           |
| 66           | -             | -           |
| 67           | B             | VOICE_GND   |
| 68           | Y             | U-VOICE     |
| 69           | R             | USB_D+      |
| 70           | SHIELD        | -           |
| 71           | -             | -           |
| 72           | -             | -           |
| 73           | -             | -           |
| 74           | -             | -           |
| 75           | -             | -           |
| 76           | G             | DVOICE      |
| 77           | SHIELD        | -           |

|                 |  |
|-----------------|--|
| Connector No.   | M107   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITH BOSE) |
| Connector Color | BLUE   |



|    |    |    |    |
|----|----|----|----|
| 79 | 78 | 81 | 80 |
| 82 |    |    |    |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 78           | W             | V_BUS       |
| 79           | G             | USB_GND     |
| 80           | L             | USB_D+      |
| 81           | R             | USB_D-      |
| 82           | SHIELD        | -           |

AA02049GB

|                 |                                      |
|-----------------|--------------------------------------|
| Connector No.   | M112                                 |
| Connector Name  | COMBINATION SWITCH<br>(SPIRAL CABLE) |
| Connector Color | GRAY                                 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13           | R             | -           |
| 14           | W             | -           |
| 15           | L             | -           |
| 16           | B             | -           |
| 17           | BR            | -           |
| 18           | B             | -           |
| 19           | Y             | -           |
| 20           | Y             | -           |

|                 |      |
|-----------------|------|
| Connector No.   | M113 |
| Connector Name  | TCU  |
| Connector Color | GRAY |



| Terminal No. | Color of Wire | Signal Name        |
|--------------|---------------|--------------------|
| 58           | B             | TEL ANTENNA SIGNAL |
| 59           | SHIELD        | SHIELD             |

|                 |              |
|-----------------|--------------|
| Connector No.   | M114         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

|                 |              |
|-----------------|--------------|
| Connector No.   | M115         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

|                 |   |
|-----------------|---|
| Connector No.   | M121  |
| Connector Name  | AV CONTROL UNIT (WITH<br>NAVIGATION SYSTEM-<br>WITH BOSE AUDIO<br>SYSTEM) |
| Connector Color | GRAY  |



| Terminal No. | Color of Wire | Signal Name        |
|--------------|---------------|--------------------|
| 83           | B             | GPS ANTENNA SIGNAL |
| 84           | SHIELD        | SHIELD             |

|                 |   |
|-----------------|---|
| Connector No.   | M122  |
| Connector Name  | AV CONTROL UNIT (WITH<br>NAVIGATION SYSTEM-<br>WITH BOSE AUDIO<br>SYSTEM) |
| Connector Color | GRAY  |



| Terminal No. | Color of Wire | Signal Name               |
|--------------|---------------|---------------------------|
| 85           | B             | ANTENNA AMP.<br>ON SIGNAL |
| 86           | B             | RADIO ANTENNA<br>SIGNAL   |
| 87           | -             | -                         |

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|                 |              |
|-----------------|--------------|
| Connector No.   | M501         |
| Connector Name  | ANTENNA BASE |
| Connector Color | GRAY         |



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

|                 |              |
|-----------------|--------------|
| Connector No.   | M500         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



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

|                 |  |
|-----------------|--|
| Connector No.   | M123   |
| Connector Name  | AV CONTROL UNIT (WITH NAVIGATION SYSTEM- WITH BOSE AUDIO SYSTEM) |
| Connector Color | PINK   |



| Terminal No. | Color of Wire | Signal Name       |
|--------------|---------------|-------------------|
| 88           | B             | SATELLITE ANTENNA |
| 89           | SHIELD        | SHIELD            |

|                 |              |
|-----------------|--------------|
| Connector No.   | M503         |
| Connector Name  | ANTENNA BASE |
| Connector Color | GRAY         |



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

|                 |              |
|-----------------|--------------|
| Connector No.   | M502         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



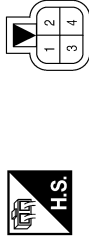
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |

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A  
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AV

|                 |              |
|-----------------|--------------|
| Connector No.   | E21          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BLACK        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | W             | -           |
| 3            | SHIELD        | -           |
| 4            | B             | -           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 54           | -             | -                |
| 55           | LG            | FAST CHARGE      |
| 56           | -             | -                |
| 57           | R             | VCM IGN          |
| 58           | O             | REVERSE LAMP IGN |
| 59           | BR            | ABS ECU IGN      |
| 60           | GR            | F/S RLY CONT     |
| 61           | -             | -                |
| 62           | V             | E-ACT/HAS IGN    |

|                 |  |
|-----------------|--|
| Connector No.   | E15  |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE  |

|    |    |    |    |             |    |    |    |    |
|----|----|----|----|-------------|----|----|----|----|
| 53 | 52 | 51 | 50 | <div></div> | 49 | 48 | 47 |    |
| 62 | 61 | 60 | 59 | 58          | 57 | 56 | 55 | 54 |



| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 47           | -             | -            |
| 48           | -             | -            |
| 49           | Y             | H/LAMP HI RH |
| 50           | G             | H/LAMP HI LH |
| 51           | L             | H/LAMP LO LH |
| 52           | P             | H/LAMP LO RH |
| 53           | -             | -            |

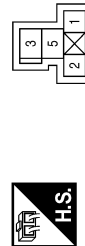
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | L             | -           |
| 6            | G             | -           |
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | -             | -           |
| 10           | GR            | -           |
| 11           | BR            | -           |
| 12           | Y             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | E60          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BLACK        |



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

|                 |                    |
|-----------------|--------------------|
| Connector No.   | E27                |
| Connector Name  | REVERSE LAMP RELAY |
| Connector Color | BLUE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | O             | -           |
| 2            | SB            | -           |
| 3            | O             | -           |
| 5            | G             | -           |

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| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 49           | R             | ACCELERATOR PEDAL POSITION SENSOR 1                 |
| 51           | R             | POWER ON POWER SUPPLY                               |
| 54           | W             | SYSTEM MAIN RELAY 1                                 |
| 56           | G             | ENCODER GROUND                                      |
| 57           | O             | ELECTRIC SHIFT SENSOR GND 1                         |
| 58           | B/R           | VCM GROUND  |
| 62           | B             | SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1) |
| 65           | B             | VCM GROUND  |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 19           | W             | WATER PUMP SIGNAL   |
| 20           | G             | WATER PUMP SIGNAL   |
| 21           | GR            | F/S RELAY   |
| 23           | R             | CHARGE PORT LID OPENER ACTUATOR RELAY                     |
| 24           | L             | EV SYSTEM CAN-H   |
| 25           | G             | EV SYSTEM CAN-L   |
| 28           | R             | SYSTEM MAIN RELAY 2                                       |
| 30           | W             | READY SIGNAL  |
| 32           | B             | VENC  |
| 33           | L             | N POSITION OUTPUT (SELECT INDICATOR)                      |
| 34           | R             | D POSITION OUTPUT (SELECT INDICATOR)                      |
| 36           | W             | SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1) |
| 39           | R             | MOTOR COIL A W-PHASE                                      |
| 40           | B             | PRE-CHARGE RELAY  |
| 44           | P             | ENCODER SIGNAL B  |
| 45           | V             | ENCODER SIGNAL A  |
| 46           | B             | P POSITION OUTPUT (SELECT INDICATOR)                      |
| 47           | LG            | P/N POSITION SIGNAL                                       |
| 48           | W             | P POSITION SIGNAL   |

|                 |       |
|-----------------|-------|
| Connector No.   | E61   |
| Connector Name  | VCM   |
| Connector Color | BLACK |

|    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 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 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 |
| 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 |



| Terminal No. | Color of Wire | Signal Name                          |
|--------------|---------------|--------------------------------------|
| 1            | B             | MOTOR COIL A U-PHASE                 |
| 3            | W             | ELECTRIC SHIFT SENSOR NO.5           |
| 5            | LG            | F/S RELAY POWER SUPPLY               |
| 7            | O/L           | ELECTRIC SHIFT SENSOR POWER SUPPLY 1 |
| 8            | W             | F/S CHG RELAY                        |
| 9            | SB            | PARKING ACTUATOR RELAY A             |
| 11           | BR            | 12V BATTERY POWER SUPPLY             |
| 13           | SB            | MOTOR COIL A V-PHASE                 |
| 16           | R             | ELECTRIC SHIFT SENSOR NO.3           |
| 17           | B             | ELECTRIC SHIFT SENSOR NO.1           |
| 18           | Y             | R POSITION OUTPUT (SELECT INDICATOR) |

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| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 110          | Y             | COOLANT TEMPERATURE SENSOR                          |
| 111          | SB            | ASCD STEERING SWITCH                                |
| 112          | B             | P POSITION SW NO.2                                  |
| 113          | O             | BRAKE PEDAL POSITION SWITCH                         |
| 115          | V             | CHARGING STATUS INDICATOR 1                         |
| 116          | SB            | A/C RELAY   |
| 117          | LG            | CHARGE CONNECTOR LOCK ACTUATOR (+)                  |
| 118          | B             | VCM GROUND  |
| 120          | L             | SENSOR GROUND (BATTERY CURRENT SENSOR)              |
| 121          | W             | SENSOR GROUND (COOLANT TEMPERATURE SENSOR)          |
| 122          | B             | SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2) |
| 123          | BR            | SENSOR GROUND (REFRIGERANT PRESSURE SENSOR)         |
| 124          | W/L           | ELECTRIC SHIFT SENSOR GND 2                         |
| 125          | BR            | ASCD STEERING SWITCH GROUND                         |
| 126          | B/R           | VCM GROUND  |
| 128          | V             | COOLING FAN CONTROL SIGNAL                          |
| 129          | Y             | IMMEDIATE CHARGING SWITCH                           |
| 130          | W             | CHARGE CONNECTOR LOCK ACTUATOR (-)                  |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---|
| 87           | V             | CHARGE CONNECTOR LOCK SWITCH INDICATOR (LOCK)             |
| 88           | SB            | M/C RELAY   |
| 89           | BR            | CHARGING STATUS INDICATOR 2                               |
| 90           | G             | CHARGING STATUS INDICATOR 3                               |
| 91           | O             | CHARGE CONNECTOR LOCK SWITCH INDICATOR (AUTO)             |
| 93           | BR            | CHARGE PORT ID OPENER SWITCH                              |
| 94           | O             | CHARGE CONNECTOR LOCK SWITCH (LOCK)                       |
| 95           | Y             | BATTERY CURRENT SENSOR                                    |
| 96           | R             | SENSOR POWER SUPPLY (BATTERY CURRENT SENSOR)              |
| 97           | W             | SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2) |
| 98           | L             | SENSOR POWER SUPPLY (REFRIGERANT PRESSURE SENSOR)         |
| 99           | R             | P POSITION SW NO.1  |
| 101          | P             | STOP LAMP SWITCH  |
| 103          | L             | PLUG IN INDICATOR LAMP                                    |
| 104          | R             | CHARGE CONNECTOR LOCK RELAY POWER SUPPLY                  |
| 107          | L             | BATTERY TEMPERATURE SENSOR                                |
| 108          | R             | ACCELERATOR PEDAL POSITION SENSOR 2                       |
| 109          | B             | REFRIGERANT PRESSURE SENSOR                               |

|                 |       |
|-----------------|-------|
| Connector No.   | E62   |
| Connector Name  | VCM   |
| Connector Color | BROWN |

|     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 66  | 67  | 68  | 69  | 70  | 71  | 72  | 73  | 74  | 75  | 76  | 77  | 78  |
| 79  | 80  | 81  | 82  | 83  | 84  | 85  | 86  | 87  | 88  | 89  | 90  | 91  |
| 92  | 93  | 94  | 95  | 96  | 97  | 98  | 99  | 100 | 101 | 102 | 103 | 104 |
| 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 |
| 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 |

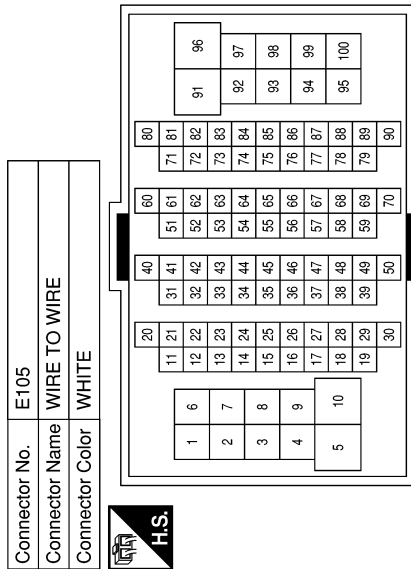


| Terminal No. | Color of Wire | Signal Name                               |
|--------------|---------------|---|
| 70           | SB            | REVERSE LAMP RELAY                        |
| 72           | P             | CONNECTION DETECTING CIRCUIT SIGNAL       |
| 73           | O             | CONNECTION DETECTING CIRCUIT POWER SUPPLY |
| 74           | G             | POWER ON POWER SUPPLY                     |
| 75           | L             | CAN-H                                     |
| 76           | P             | CAN-L                                     |
| 78           | SB            | CHARGE CONNECTOR LOCK RELAY               |
| 79           | R             | 12V BATTERY POWER SUPPLY                  |
| 81           | L             | CHARGE CONNECTOR LOCK SWITCH (AUTO)       |
| 82           | GR            | CHARGE PORT LIGHT                         |
| 83           | W             | ELECTRIC SHIFT SENSOR POWER SUPPLY 2      |
| 84           | W             | ELECTRIC SHIFT SENSOR NO.2                |
| 85           | G             | ELECTRIC SHIFT SENSOR NO.4                |
| 86           | G             | ELECTRIC SHIFT SENSOR NO.6                |

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|     |        |   |
|-----|--------|---|
| 58  | L      | - |
| 60  | LG     | - |
| 61  | GR     | - |
| 62  | W      | - |
| 63  | SB     | - |
| 64  | SHIELD | - |
| 65  | W      | - |
| 66  | G      | - |
| 67  | V      | - |
| 68  | R      | - |
| 69  | B      | - |
| 70  | BR     | - |
| 71  | LG     | - |
| 72  | R      | - |
| 73  | B      | - |
| 74  | O      | - |
| 76  | L      | - |
| 77  | Y      | - |
| 80  | P      | - |
| 81  | SB     | - |
| 83  | GR     | - |
| 84  | L      | - |
| 85  | O      | - |
| 86  | BR     | - |
| 88  | B      | - |
| 89  | W      | - |
| 90  | SHIELD | - |
| 91  | Y      | - |
| 92  | BR     | - |
| 93  | O      | - |
| 94  | R      | - |
| 95  | V      | - |
| 96  | P      | - |
| 97  | G      | - |
| 98  | W      | - |
| 99  | O      | - |
| 100 | SB     | - |

|    |     |   |
|----|-----|---|
| 20 | BR  | - |
| 21 | R   | - |
| 22 | B   | - |
| 23 | LG  | - |
| 24 | B   | - |
| 25 | W   | - |
| 26 | W   | - |
| 27 | B   | - |
| 28 | O/L | - |
| 29 | W   | - |
| 31 | R   | - |
| 32 | W   | - |
| 33 | G   | - |
| 34 | BR  | - |
| 35 | V   | - |
| 36 | O   | - |
| 37 | L   | - |
| 38 | SB  | - |
| 39 | P   | - |
| 40 | V   | - |
| 41 | O   | - |
| 42 | Y   | - |
| 43 | BR  | - |
| 44 | W   | - |
| 45 | G   | - |
| 46 | P   | - |
| 47 | LG  | - |
| 47 | R   | - |
| 48 | B   | - |
| 49 | L   | - |
| 50 | G   | - |
| 51 | W   | - |
| 52 | O   | - |
| 54 | B   | - |
| 55 | R   | - |
| 56 | Y   | - |
| 57 | Y   | - |



| Terminal No. | Color of Wire | Signal Name                |
|--------------|---------------|----------------------------|
| 1            | R             | -                          |
| 2            | L             | -                          |
| 3            | BW            | -(WITHOUT FRONT FOG LAMPS) |
| 3            | R             | -(WITH LED HEADLAMPS)      |
| 4            | LG            | -(WITH LED HEADLAMPS)      |
| 4            | B/W           | -(WITHOUT FRONT FOG LAMPS) |
| 6            | B/R           | -                          |
| 7            | W             | -                          |
| 9            | G             | -                          |
| 10           | R             | -                          |
| 11           | L             | -                          |
| 12           | Y             | -                          |
| 13           | W             | -                          |
| 14           | R             | -                          |
| 15           | G             | -                          |
| 16           | G             | -                          |
| 17           | R             | -                          |
| 18           | O             | -                          |
| 19           | W/L           | -                          |

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AV

|                 |              |
|-----------------|--------------|
| Connector No.   | E108         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | -           |
| 2            | Y             | -           |
| 3            | SB            | -           |
| 4            | R             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | E202         |
| Connector Name  | FRONT CAMERA |
| Connector Color | BLACK        |



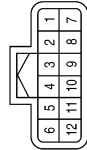
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             |             |
| 2            | R             |             |
| 3            | W             |             |
| 4            | L             |             |

|                 |              |
|-----------------|--------------|
| Connector No.   | E203         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BLACK        |



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

|                 |              |
|-----------------|--------------|
| Connector No.   | F2           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | BLACK        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | L             | -           |
| 4            | G             | -           |
| 5            | L             | -           |
| 6            | G             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | -             | -           |
| 10           | GR            | -           |
| 11           | V             | -           |
| 12           | R             | -           |

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| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 22           | —             | —           |
| 23           | —             | —           |
| 24           | R             | —           |
| 25           | W             | —           |
| 26           | LG            | —           |
| 27           | Y             | —           |
| 28           | —             | —           |
| 29           | R             | —           |
| 30           | GR            | —           |
| 31           | L             | —           |
| 32           | P             | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 8            | SHIELD        | —           |
| 9            | B             | —           |
| 10           | SB            | —           |
| 11           | P             | —           |
| 12           | BR            | —           |
| 13           | GR            | —           |
| 14           | P             | —           |
| 15           | L             | —           |
| 16           | G             | —           |
| 17           | —             | —           |
| 18           | —             | —           |
| 19           | —             | —           |
| 20           | —             | —           |
| 21           | —             | —           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B3           |
| Connector Name  | WIRE TO WIRE |
| 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 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | —             | —           |
| 2            | —             | —           |
| 3            | —             | —           |
| 4            | —             | —           |
| 5            | —             | —           |
| 6            | —             | —           |
| 7            | B             | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 20           | LG            | —           |
| 21           | V             | —           |
| 22           | GR            | —           |
| 23           | G             | —           |
| 24           | B             | —           |
| 25           | W             | —           |
| 26           | R             | —           |
| 27           | —             | —           |
| 28           | —             | —           |
| 29           | W             | —           |
| 30           | V             | —           |
| 31           | LG            | —           |
| 32           | SHIELD        | —           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | P             | —           |
| 8            | SB            | —           |
| 9            | R             | —           |
| 10           | BR            | —           |
| 11           | GR            | —           |
| 12           | BR            | —           |
| 13           | B             | —           |
| 14           | —             | —           |
| 15           | R             | —           |
| 16           | G             | —           |
| 17           | R             | —           |
| 18           | G             | —           |
| 19           | SHIELD        | —           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B4           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

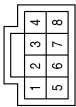


|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | —           |
| 2            | P             | —           |
| 3            | SHIELD        | —           |
| 4            | R             | —           |
| 5            | L             | —           |
| 6            | SHIELD        | —           |

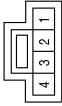
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|                 |                   |
|-----------------|-------------------|
| Connector No.   | B11               |
| Connector Name  | BOSE SPEAKER AMP. |
| Connector Color | BLACK             |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | -           |
| 2            | L             | -           |
| 3            | -             | -           |
| 4            | R             | -           |
| 5            | G             | -           |
| 6            | P             | -           |
| 7            | -             | -           |
| 8            | B             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B8           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



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

ABNIA5864GB

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 9            | L             | – (WITH BOSE)    |
| 9            | LG            | – (WITHOUT BOSE) |
| 10           | P             | – (WITH BOSE)    |
| 10           | P             | – (WITHOUT BOSE) |
| 11           | SHIELD        | –                |
| 12           | –             | –                |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3            | R             | –           |
| 4            | –             | –           |
| 5            | –             | –           |
| 6            | Y             | –           |
| 7            | –             | –           |
| 8            | G             | –           |

| Connector No.   | B16          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |    |   |   |   |   |
|----|----|----|---|---|---|---|
| 5  | 4  |    |   | 3 | 2 | 1 |
| 12 | 11 | 10 | 9 | 8 | 7 | 6 |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 14           | L             | –           |
| 15           | LG            | –           |
| 16           | –             | –           |
| 17           | SHIELD        | –           |
| 18           | B             | –           |
| 19           | –             | –           |
| 20           | GR            | –           |

| Connector No.   | B18          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|   |   |    |    |    |    |    |
|---|---|----|----|----|----|----|
| 1 | 2 | 3  | 4  |    | 5  | 6  |
| 7 | 8 | 9  | 10 | 11 | 12 | 13 |
|   |   | 14 | 15 | 16 | 17 | 18 |
|   |   | 19 |    |    |    |    |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | –             | –           |
| 2            | –             | –           |
| 3            | –             | –           |
| 4            | P             | –           |
| 5            | P             | –           |
| 6            | BR            | –           |
| 7            | –             | –           |
| 8            | –             | –           |
| 9            | P             | –           |
| 10           | Y             | –           |
| 11           | B             | –           |
| 12           | W             | –           |
| 13           | R             | –           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | Y             | –                |
| 2            | L             | –                |
| 3            | W             | –                |
| 4            | –             | –                |
| 5            | –             | –                |
| 6            | SB            | –                |
| 7            | –             | –                |
| 8            | GR            | –                |
| 9            | R             | – (WITH BOSE)    |
| 9            | V             | – (WITHOUT BOSE) |
| 10           | G             | – (WITH BOSE)    |
| 10           | LG            | – (WITHOUT BOSE) |
| 11           | SHIELD        | –                |
| 12           | –             | –                |

|    |    |    |   |   |   |   |
|----|----|----|---|---|---|---|
| 5  | 4  |    |   | 3 | 2 | 1 |
| 12 | 11 | 10 | 9 | 8 | 7 | 6 |



| Connector No.   | B17          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

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|                 |                     |
|-----------------|---------------------|
| Connector No.   | B31                 |
| Connector Name  | JOINT CONNECTOR-B03 |
| Connector Color | BLUE                |



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| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | SHIELD        | -           |
| 2            | B             | -           |
| 3            | SHIELD        | -           |
| 4            | SHIELD        | -           |
| 5            | SHIELD        | -           |
| 6            | -             | -           |
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | -             | -           |
| 10           | B             | -           |
| 11           | SHIELD        | -           |
| 12           | SHIELD        | -           |
| 13           | SHIELD        | -           |
| 14           | SHIELD        | -           |
| 15           | SHIELD        | -           |
| 16           | SHIELD        | -           |
| 17           | SHIELD        | -           |
| 18           | -             | -           |
| 19           | -             | -           |
| 20           | -             | -           |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | B27               |
| Connector Name  | BOSE SPEAKER AMP. |
| Connector Color | BLACK             |



|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 25           | -             | -           |
| 26           | -             | -           |
| 27           | BR            | -           |
| 28           | V             | -           |
| 29           | G             | -           |
| 30           | B             | -           |
| 31           | -             | -           |
| 32           | -             | -           |
| 33           | -             | -           |
| 34           | -             | -           |
| 35           | Y             | -           |
| 36           | LG            | -           |
| 37           | R             | -           |
| 38           | W             | -           |
| 39           | -             | -           |
| 40           | -             | -           |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | B20               |
| Connector Name  | BOSE SPEAKER AMP. |
| Connector Color | BLACK             |



|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | G             | -           |
| 10           | P             | -           |
| 11           | L             | -           |
| 12           | R             | -           |
| 13           | G             | -           |
| 14           | SB            | -           |
| 15           | V             | -           |
| 16           | L             | -           |
| 17           | R             | -           |
| 18           | -             | -           |
| 19           | -             | -           |
| 20           | -             | -           |
| 21           | -             | -           |
| 22           | L             | -           |
| 23           | -             | -           |
| 24           | P             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5            | -             | -           |
| 6            | -             | -           |
| 7            | SHIELD        | -           |
| 8            | R             | -           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | P             | - (WITH NAVI)    |
| 1            | BR            | - (WITHOUT NAVI) |
| 2            | SHIELD        | -                |
| 3            | G             | -                |
| 4            | L             | -                |

|                 |              |
|-----------------|--------------|
| Connector No.   | B40          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



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

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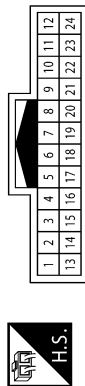
|                 |                |
|-----------------|----------------|
| Connector No.   | B43            |
| Connector Name  | BOSE SUBWOOFER |
| Connector Color | GRAY           |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9            | SB            | -           |
| 10           | L             | -           |
| 11           | -             | -           |
| 12           | -             | -           |
| 13           | Y             | -           |
| 14           | SHIELD        | -           |
| 15           | V             | -           |
| 16           | SHIELD        | -           |
| 17           | G             | -           |
| 18           | B             | -           |
| 19           | R             | -           |
| 20           | SHIELD        | -           |
| 21           | SHIELD        | -           |
| 22           | -             | -           |
| 23           | -             | -           |
| 24           | -             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B42          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | SHIELD        | -           |
| 2            | BR            | -           |
| 3            | LG            | -           |
| 4            | R             | -           |
| 5            | SHIELD        | -           |
| 6            | W             | -           |
| 7            | G             | -           |
| 8            | V             | -           |

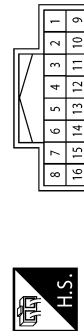
|                 |            |
|-----------------|------------|
| Connector No.   | R3         |
| Connector Name  | MICROPHONE |
| Connector Color | WHITE      |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | SHIELD        | -           |
| 3            | -             | -           |
| 4            | P             | -           |
| 5            | -             | -           |
| 6            | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 6            | R             | -           |
| 7            | Y             | -           |
| 8            | -             | -           |
| 9            | V             | -           |
| 10           | G             | -           |
| 11           | B/R           | -           |
| 12           | -             | -           |
| 13           | -             | -           |
| 14           | -             | -           |
| 15           | -             | -           |
| 16           | -             | -           |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | L             | -           |
| 3            | GR            | -           |
| 4            | -             | -           |
| 5            | B             | -           |

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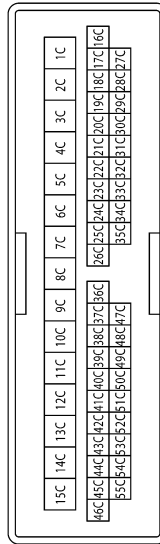
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | B             | -           |
| 2            | W             | -           |
| 3            | R             | -           |
| 4            | SHIELD        | -           |

| Connector No.   | D1             |
|-----------------|----------------|
| Connector Name  | SIDE CAMERA LH |
| Connector Color | WHITE          |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9C           | LG            | -           |
| 10C          | Y             | -           |
| 11C          | W             | -           |
| 12C          | SB            | -           |
| 13C          | B             | -           |
| 14C          | V             | -           |
| 15C          | R             | -           |
| 16C          | -             | -           |
| 17C          | -             | -           |
| 18C          | -             | -           |
| 19C          | -             | -           |
| 20C          | -             | -           |
| 21C          | -             | -           |
| 22C          | -             | -           |
| 23C          | -             | -           |
| 24C          | G             | -           |
| 25C          | R             | -           |
| 26C          | SHIELD        | -           |
| 27C          | -             | -           |
| 28C          | -             | -           |
| 29C          | -             | -           |
| 30C          | -             | -           |
| 31C          | -             | -           |
| 32C          | -             | -           |

| Connector No.   | D22          |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1C           | R             | - (WITH BOSE)    |
| 1C           | L             | - (WITHOUT BOSE) |
| 2C           | G             | - (WITH BOSE)    |
| 2C           | V             | - (WITHOUT BOSE) |
| 3C           | SHIELD        | -                |
| 4C           | SB            | -                |
| 5C           | V             | -                |
| 6C           | -             | -                |
| 7C           | P             | -                |
| 8C           | BR            | -                |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33C          | -             | -           |
| 34C          | -             | -           |
| 35C          | -             | -           |
| 36C          | LG            | -           |
| 37C          | R             | -           |
| 38C          | L             | -           |
| 39C          | G             | -           |
| 40C          | P             | -           |
| 41C          | -             | -           |
| 42C          | P             | -           |
| 43C          | GR            | -           |
| 44C          | L             | -           |
| 45C          | BR            | -           |
| 46C          | L             | -           |
| 47C          | Y             | -           |
| 48C          | BR            | -           |
| 49C          | B             | -           |
| 50C          | W             | -           |
| 51C          | R             | -           |
| 52C          | SHIELD        | -           |
| 53C          | -             | -           |
| 54C          | V             | -           |
| 55C          | LG            | -           |

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

| Connector No.   | D101           |
|-----------------|----------------|
| Connector Name  | SIDE CAMERA RH |
| Connector Color | WHITE          |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | -           |

| Connector No.   | D24  |
|-----------------|--|
| Connector Name  | FRONT DOOR SPEAKER LH (WITH BOSE AUDIO SYSTEM) |
| Connector Color | BROWN  |

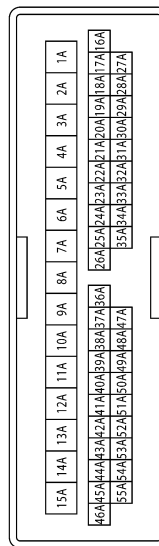


| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | -           |
| 2            | R             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 33A          | -             | -           |
| 34A          | -             | -           |
| 35A          | -             | -           |
| 36A          | B             | -           |
| 37A          | P             | -           |
| 38A          | Y             | -           |
| 39A          | LG            | -           |
| 40A          | -             | -           |
| 41A          | -             | -           |
| 42A          | -             | -           |
| 43A          | V             | -           |
| 44A          | V             | -           |
| 45A          | W             | -           |
| 46A          | BG            | -           |
| 47A          | W             | -           |
| 48A          | B             | -           |
| 49A          | R             | -           |
| 50A          | SHIELD        | -           |
| 51A          | -             | -           |
| 52A          | -             | -           |
| 53A          | -             | -           |
| 54A          | -             | -           |
| 55A          | -             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10A          | BR            | -           |
| 11A          | Y             | -           |
| 12A          | B             | -           |
| 13A          | W             | -           |
| 14A          | SB            | -           |
| 15A          | R             | -           |
| 16A          | -             | -           |
| 17A          | -             | -           |
| 18A          | -             | -           |
| 19A          | -             | -           |
| 20A          | -             | -           |
| 21A          | -             | -           |
| 22A          | -             | -           |
| 23A          | -             | -           |
| 24A          | Y             | -           |
| 25A          | BR            | -           |
| 26A          | SHIELD        | -           |
| 27A          | -             | -           |
| 28A          | -             | -           |
| 29A          | -             | -           |
| 30A          | -             | -           |
| 31A          | -             | -           |
| 32A          | -             | -           |

| Connector No.   | D102         |
|-----------------|--------------|
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1A           | L             | - (WITH BOSE)    |
| 1A           | BR            | - (WITHOUT BOSE) |
| 2A           | P             | - (WITH BOSE)    |
| 2A           | R             | - (WITHOUT BOSE) |
| 3A           | SHIELD        | -                |
| 4A           | Y             | -                |
| 5A           | V             | -                |
| 6A           | -             | -                |
| 7A           | -             | -                |
| 8A           | -             | -                |
| 9A           | -             | -                |

AANIA2362GB

|                 |  |
|-----------------|--|
| Connector No.   | D124   |
| Connector Name  | FRONT DOOR SPEAKER<br>RH (WITH BOSE AUDIO<br>SYSTEM) |
| Connector Color | BROWN  |



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

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



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | Y             | -                |
| 2            | L             | -                |
| 3            | V             | -                |
| 4            | -             | -                |
| 5            | -             | -                |
| 6            | BR            | -                |
| 7            | -             | -                |
| 8            | G             | -                |
| 9            | R             | - (WITH BOSE)    |
| 9            | V             | - (WITHOUT BOSE) |
| 10           | G             | - (WITH BOSE)    |
| 10           | LG            | - (WITHOUT BOSE) |
| 11           | SHIELD        | -                |
| 12           | -             | -                |

|                 |                      |
|-----------------|----------------------|
| Connector No.   | D205                 |
| Connector Name  | REAR DOOR SPEAKER LH |
| Connector Color | WHITE                |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | R             | - (WITH BOSE)    |
| 1            | V             | - (WITHOUT BOSE) |
| 2            | G             | - (WITH BOSE)    |
| 2            | LG            | - (WITHOUT BOSE) |

|                 |              |
|-----------------|--------------|
| Connector No.   | D301         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | LG            | -           |
| 3            | V             | -           |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | Y             | -           |

| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 7            | -             | -                |
| 8            | G             | -                |
| 9            | L             | - (WITH BOSE)    |
| 9            | LG            | - (WITHOUT BOSE) |
| 10           | P             | -                |
| 11           | SHIELD        | -                |
| 12           | -             | -                |

|                 |                      |
|-----------------|----------------------|
| Connector No.   | D305                 |
| Connector Name  | REAR DOOR SPEAKER RH |
| Connector Color | WHITE                |



| Terminal No. | Color of Wire | Signal Name      |
|--------------|---------------|------------------|
| 1            | L             | - (WITH BOSE)    |
| 1            | LG            | - (WITHOUT BOSE) |
| 2            | P             | -                |

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|                 |              |
|-----------------|--------------|
| Connector No.   | D504         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |             |   |   |   |   |
|----|----|-------------|---|---|---|---|
| 5  | 4  | <div></div> | 3 | 2 | 1 |   |
| 12 | 11 | 10          | 9 | 8 | 7 | 6 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | -             | -           |
| 8            | -             | -           |
| 9            | P             | -           |
| 10           | SB            | -           |
| 11           | B             | -           |
| 12           | W             | -           |
| 13           | R             | -           |
| 14           | L             | -           |
| 15           | LG            | -           |
| 16           | -             | -           |
| 17           | SHIELD        | -           |
| 18           | Y             | -           |
| 19           | -             | -           |
| 20           | GR            | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | D504         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|    |    |    |    |    |    |    |   |   |
|----|----|----|----|----|----|----|---|---|
| 6  | 5  | 4  | 3  |    | 2  | 1  |   |   |
| 20 | 19 | 13 | 12 | 11 | 10 | 9  | 8 | 7 |
|    |    | 18 | 17 | 16 | 15 | 14 |   |   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | -             | -           |
| 2            | -             | -           |
| 3            | -             | -           |
| 4            | P             | -           |
| 5            | W             | -           |
| 6            | R             | -           |

| Terminal No. | Color of Wire | Signal Name                     |
|--------------|---------------|---------------------------------|
| 3            | P             | -                               |
| 4            | W             | -                               |
| 5            | R             | -                               |
| 6            | SHIELD        | -                               |
| 7            | Y             | - (WITHOUT AROUND VIEW MONITOR) |
| 7            | R             | - (WITH AROUND VIEW MONITOR)    |
| 8            | P             | -                               |
| 9            | L             | -                               |
| 10           | SB            | -                               |
| 11           | LG            | -                               |
| 12           | GR            | -                               |

|                 |              |
|-----------------|--------------|
| Connector No.   | D555         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

|   |   |   |   |    |    |    |
|---|---|---|---|----|----|----|
| 1 | 2 | 3 | 4 | 5  |    |    |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |



| Terminal No. | Color of Wire | Signal Name                     |
|--------------|---------------|---------------------------------|
| 1            | W             | - (WITHOUT AROUND VIEW MONITOR) |
| 1            | B             | - (WITH AROUND VIEW MONITOR)    |
| 2            | R             | - (WITHOUT AROUND VIEW MONITOR) |
| 2            | W             | - (WITH AROUND VIEW MONITOR)    |

AANIA2390GB

|                 |   |
|-----------------|---|
| Connector No.   | D557  |
| Connector Name  | REAR VIEW CAMERA<br>(WITH AROUND VIEW<br>MONITOR) |
| Connector Color | WHITE   |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | SHIELD        | -           |
| 2            | -             | -           |
| 3            | -             | -           |
| 4            | -             | -           |
| 5            | R             | -           |
| 6            | -             | -           |
| 7            | B             | -           |
| 8            | W             | -           |

AANIA2391GB

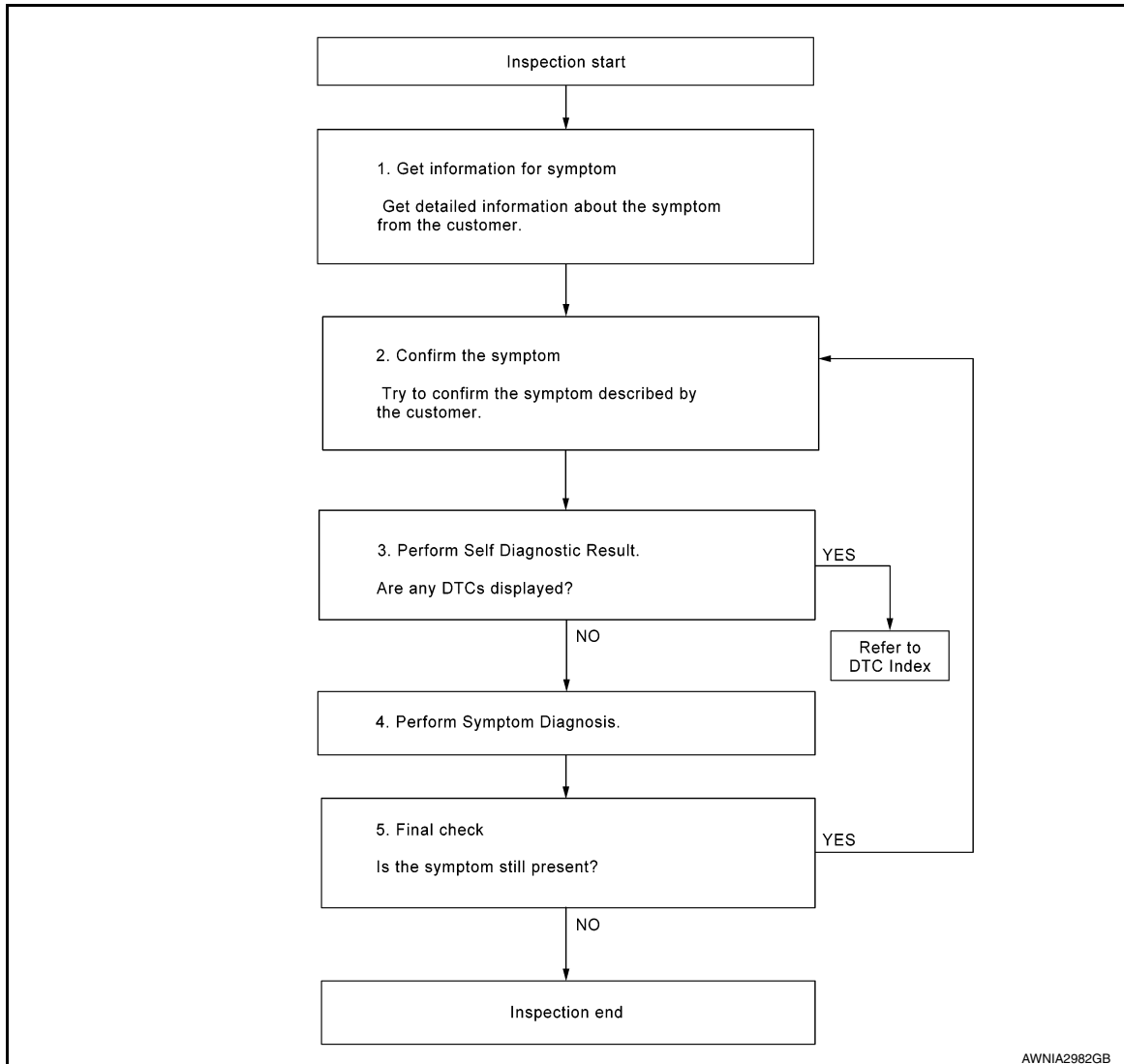
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORK FLOW

#### Work Flow

INFOID:000000008743771

#### 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.PERFORM SELF DIAGNOSTIC RESULT

1. Turn power switch ON and wait for 2 seconds or more.

## DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[TELEMATICS SYSTEM]

2. Depending on system being diagnosed, perform Self Diagnostic Result for:

- MULTI AV.
- AVM.

Are any DTCs displayed?

YES >> Refer to [AV-417, "DTC Index"](#).

NO >> GO TO 4.

### 4.PERFORM SYMPTOM DIAGNOSIS

---

Refer to [AV-501, "Symptom Table"](#).

>> GO TO 5

### 5.FINAL CHECK

---

Refer to symptom described by the customer in step 1.

Is the symptom still present?

YES >> GO TO 2

NO >> Inspection End.

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[TELEMATICS SYSTEM]

## INSPECTION AND ADJUSTMENT

### ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM (WORK STEP VIEW)

### ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM (WORK STEP VIEW) : Process Chart

INFOID:000000008743772

|   | Initial Sub-<br>scription<br>(AV-485) | TCU Replace-<br>ment<br>(AV-487) | Cancellation/<br>Scrap | Re-subscrip-<br>tion<br>(AV-485) | Data Center<br>relocate<br>(AV-489) |
|---|---------------------------------------|----------------------------------|------------------------|----------------------------------|-------------------------------------|
| TCU; Read VIN data                                  |                                       | 1                                |                        |                                  |                                     |
| TCU; Remove and Install                             |                                       | 2                                |                        |                                  |                                     |
| TCU; Write VIN data                                 |                                       | 3                                |                        |                                  |                                     |
| TCU; Turn on RF                                     | 1                                     | 4                                |                        |                                  |                                     |
| Multi channel to confirm connection                 | 2                                     | 5                                |                        | 1                                |                                     |
| VIN Check   | 3                                     | 6                                |                        | 2                                |                                     |
| SIM ID; Notice to Carrier<br>(Activation New TCU)   |                                       | 7                                |                        |                                  |                                     |
| SIM ID; Notice to Carrier<br>(Deactivation Old TCU) |                                       | 8                                | 1                      |                                  |                                     |
| TCU; Input User ID & Password                       | 4                                     | 9                                |                        | 3                                |                                     |
| Telematics system; Confirmation of operation        | 5                                     | 10                               |                        | 4                                |                                     |
| Change of APN Manually                              |                                       |                                  |                        |                                  | 1                                   |

### ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM FOR THE FIRST TIME/RE-SUBSCRIPTION

### ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM FOR THE FIRST TIME/RE-SUBSCRIPTION : Description

INFOID:000000008743773

When the driver uses telematics system for the first time/re-subscription, TCU activation operation is required.

#### PREPARATION FOR ACTIVATION

- Subscribe to telematics service.
- Pre-register user ID and password (can be performed from owner homepage).

### ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM FOR THE FIRST TIME/RE-SUBSCRIPTION : Work Procedure

INFOID:000000008743774

#### 1.TCU ACTIVATION (1)

##### ④With CONSULT

1. Connect CONSULT to vehicle.
2. Check that "TELEMATICS" is displayed on the CONSULT screen.

##### Is the inspection result normal?

YES >> GO TO 2.

NO >> Perform steps, referring to [AV-396, "Precaution for Removing 12V Battery"](#). After disconnecting battery terminal, let it stand for 1 second or more. Reconnect the battery terminal to perform "1.TCU ACTIVATION (1)" again.

#### 2.TCU ACTIVATION (2)

##### ④CONSULT work support

1. Wait for 5 seconds or more after turning the power switch ON.
2. Touch "TELEMATICS" on the CONSULT screen.

# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

## [TELEMATICS SYSTEM]

3. After performing System Call of CONSULT, touch the "Work support" tab.
4. On the work support screen of CONSULT, select "TCU ACTIVATE SETTING" and touch "Start."
5. On the TCU ACTIVATE SETTING screen, touch "Start" to set to "ON". Touch "End."
6. Exit from CONSULT.
7. Turn the power switch OFF.
8. Wait (at least 10 seconds) until the power switch indicator turns OFF to shut down TCU.

>> GO TO 3.

### 3.COMMUNICATION TEST (1)

#### NOTE:

If communicated with the NISSAN CARWINGS Data Center with TCU turned ON before establishing the connections of the network line, TCU cannot perform communications. In this case, "The connection to the center failed." is shown on the display, and the communication function of TCU is deactivated.

To restore the communication function, turn OFF the TCU battery power and turn it ON again (after disconnecting battery negative terminal, reconnect it) to reset the shutdown condition of TCU communication function. The communication function recovers 20 seconds after turning ON the power again.

1. Perform TCU communication test by vehicle operation.
2. Turn the power switch ON. Select "OK" on the START-UP SCREEN screen. Wait for 2 minutes or more.
3. Press "⓪ (Zero emission)" of multifunction switch.
4. Select "CARWINGS" and check radio wave status of TELEMATICS indicated on the top right.

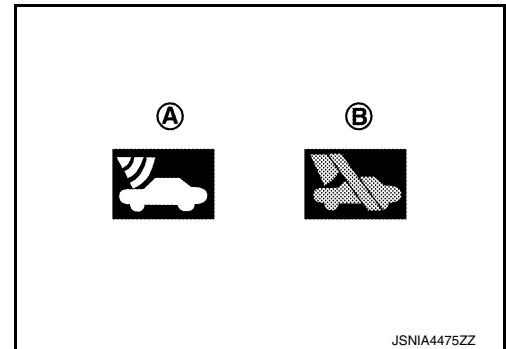
- A. Radio wave state (Service Area)
- B. Radio wave state (Out of Service Area)

#### Does the radio wave status show Service Area?

YES >> GO TO 4.

NO >> TCU activation error or vehicle is in an out of service area. Move vehicle to a service area. GO TO 2.

NO DISPLAY>>Refer to [AV-193. "Symptom Table"](#) (Navigation without Bose) or [AV-363. "Symptom Table"](#) (Navigation with Bose).



### 4.COMMUNICATION TEST (2)

1. Select "All Information Feeds"→"Info from NISSAN"→"Info from NISSAN (Simple Electrical Efficiency Channel)."
2. Voice guidance is heard, and the communication test starts.
3. Test results from the Information Center are shown on the display.

#### Check displayed results.

Displays message "Subscription is required to receive service. Please confirm subscription and password." >> GO TO 5.

Announce voice message "To use CARWINGS service, you need to create an account.">>GO TO 5.

Displays "Can't connect to center">>GO TO 2.

### 5.INPUT OF PERSONAL ID AND PASSWORD (USER OPERATION)

1. Enter personal ID and password by vehicle operation.
2. Press "⓪ (Zero emission)" of multifunction switch.
3. Select "CARWINGS"→"CARWINGS settings"→"Sign in."
4. Enter user ID and password to select "Register."
5. Voice guidance is heard, and the communication with the Information Center starts.
6. Test results from the Information Center are shown on the display.

#### Check displayed results.

Displays Security Settings Activated.>>GO TO 6.

The connection to the center failed.>>Check user ID and password. Go back to Step 5 [5.INPUT OF PERSONAL ID AND PASSWORD (USER OPERATION)].

### 6.CONFIRMATION OF OPERATION

1. Press "⓪ (Zero emission)" of multifunction switch.

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[TELEMATICS SYSTEM]

2. Select "CARWINGS"→"All Information Feeds"→Contents of Info from NISSAN.

Check displayed results.

Displays contents of All Information Feeds.>>WORK END

Displays "Can't connect to center">>Select and check a different item of All Information Feeds, or GO TO 3.

## ADDITIONAL SERVICE WHEN REPLACING TCU

### ADDITIONAL SERVICE WHEN REPLACING TCU : Description

INFOID:0000000008743775

When TCU is replaced, TCU activation operation is required.

Preparation before activation operation

- Subscribe to telematics service
- Preregister user ID and password (can be performed from owner homepage)

### ADDITIONAL SERVICE WHEN REPLACING TCU : Work Procedure

INFOID:0000000008743776

#### 1. READING OF VIN DATA

⑧CONSULT work support

Select "SAVE VIN DATA", "START SAVE VIN DATA" then "YES" on START SAVE VIN DATA screen to save the VIN data stored in replaced TCU in CONSULT. If it cannot be saved, writing operation must be performed manually.

>> GO TO 2.

#### 2. TCU REPLACEMENT

Replace TCU. Refer to [AV-504, "Removal and Installation"](#).

>> GO TO 3.

#### 3. NOTICE TO CARRIER "ATX HELP DESK"

Contact ATX help desk to notice the termination of replaced TCU and connection of new TCU. (VIN is required)

Can ID data be saved to CONSULT at 1st step?

YES >> GO TO 4.

NO >> GO TO 5.

#### 4. AUTOMATIC WRITING OF VIN DATA TO TCU

⑧CONSULT work support

Select "WRITE VIN DATA", "WRITE SAVED VIN DATA" then "YES" at WRITE SAVED VIN DATA screen to write the VIN data saved in CONSULT into new TCU.

>> GO TO 6.

#### 5. MANUAL WRITING OF VIN DATA TO TCU

⑧CONSULT work support

Select "WRITE VIN DATA (MANUAL)", "WRITE VIN DATA" then "START" on changing screen to write the VIN data saved into new TCU.

>> GO TO 6.

#### 6. TCU ACTIVATION

⑧CONSULT work support

1. Wait for 5 seconds or more after turning the power switch ON.
2. Touch "TELEMATICS" on the CONSULT screen.
3. After performing System Call of CONSULT, touch the "Work support" tab.
4. On the work support screen of CONSULT, select "TCU ACTIVATE SETTING" and touch "Start."
5. On the TCU ACTIVATE SETTING screen, touch "Start" to set to "ON". Touch "End."

6. Exit from CONSULT.
7. Turn the power switch OFF.
8. Wait (at least 10 seconds) until the power switch indicator turns OFF to shut down TCU.

>> GO TO 7.

## 7.COMMUNICATION TEST (1)

### NOTE:

If communicated with the NISSAN CARWINGS Data Center with TCU turned ON before establishing the connections of the network line, TCU cannot perform communications. In this case, "The connection to the center failed." is shown on the display, and the communication function of TCU is deactivated.

To restore the communication function, turn OFF the TCU battery power and turn it ON again (after disconnecting battery negative terminal, reconnect it) to reset the shutdown condition of TCU communication function. The communication function recovers 20 seconds after turning ON the power again.

1. Perform TCU communication test by vehicle operation.
2. Turn the power switch ON. Select "OK" on the START-UP SCREEN screen. Wait for 2 minutes or more.
3. Press "Ⓒ (Zero emission)" of multifunction switch.
4. Select "CARWINGS" and check radio wave status of TELEMATICS indicated on the top right.

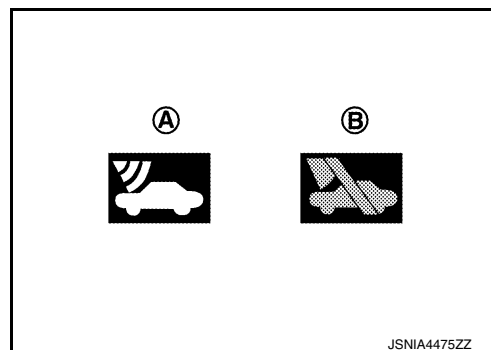
- A. Radio wave state (Service Area)
- B. Radio wave state (Out of Service Area)

### Does the radio wave status show Service Area?

YES >> GO TO 8.

NO >> TCU activation error or vehicle is in an out of service area. Move vehicle to a service area. GO TO 6.

NO DISPLAY>>Refer to [AV-193. "Symptom Table"](#) (Navigation without Bose) or [AV-363. "Symptom Table"](#) (Navigation with Bose).



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## 8.COMMUNICATION TEST (2)

1. Select "CARWINGS"→"All Information Feeds"→"ID Check"→"ID Check."
2. Communication test is performed and the result of communication with Nissan CARWINGS Data Center is displayed on the monitor.

### Is communication test result normal?

"Change" is displayed for "VIN">>VIN data write error. GO TO 4.

Displays "Can't connect to center">>TCU ACTIVATION setting is "OFF". GO TO 6.

"Change" is displayed for "TCU" and "SIM">>GO TO 9.

## 9.INPUT OF PERSONAL ID AND PASSWORD (USER OPERATION)

1. Enter personal ID and password by vehicle operation.
2. Press "Ⓒ (Zero emission)" of multifunction switch.
3. Select "CARWINGS"→"CARWINGS settings"→"Sign in."
4. Enter user ID and password to select "Register."
5. Voice guidance is heard, and the communication with the Information Center starts.
6. Test results from the Information Center are shown on the display.

### Check displayed results.

Displays Security Settings Activated.>>GO TO 10.

The connection to the center failed.>>Check user ID and password. Go back to Step 9 [9.INPUT OF PERSONAL ID AND PASSWORD (USER OPERATION)].

## 10.CONFIRMATION OF OPERATION

1. Press "Ⓒ (Zero emission)" of multifunction switch.
2. Select "CARWINGS"→"All Information Feeds"→Contents of Info from NISSAN.

### Check displayed results.

Displays contents of All Information Feeds.>>WORK END

Displays "Can't connect to center">>Select and check a different item of All Information Feeds, or GO TO 7.



## ADDITIONAL SERVICE WHEN TCU CONNECTING CENTER CHANGED

## ADDITIONAL SERVICE WHEN TCU CONNECTING CENTER CHANGED : Description

INFOID:000000008743777

When TCU connecting center change must be performed manually, below operation is required.

Operation to change the connecting center

Use CONSULT and enter connecting center of TCU.

## ADDITIONAL SERVICE WHEN TCU CONNECTING CENTER CHANGED : Work Procedure

INFOID:000000008743778


## 1. INFORMATION CENTER CONNECTION SETTINGS

 CONSULT work support

1. Wait for 5 seconds or more after turning the power switch ON.
2. Touch "TELEMATICS" on the CONSULT screen.
3. After performing System Call of CONSULT, touch the "Work support" tab.
4. On the work support screen of CONSULT, select "CENTER CONNECTION SETTING" and touch "Start."
5. On the CENTER CONNECTION SETTING screen, touch "Start."

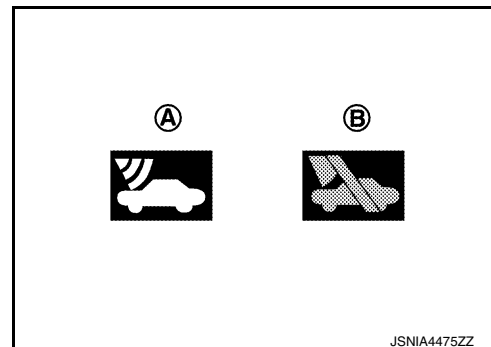
>> GO TO 2.

## 2. INPUT OF PERSONAL ID AND PASSWORD (USER OPERATION)

1. Enter personal ID and password by vehicle operation.
2. Press " (Zero emission)" of multifunction switch.
3. Select "CARWINGS" and check radio wave status of TELEMATICS indicated on the top right.

- A. Radio wave state (Service Area)
- B. Radio wave state (Out of Service Area)


4. Select "CARWINGS" → "CARWINGS settings" → "Sign in."
5. Enter user ID and password to select "Register."
6. Voice guidance is heard, and the communication with the Information Center starts.
7. Test results from the Information Center are shown on the display.

Check displayed results.

Displays registration completion screen. >> GO TO 3.

Displays "Can't connect to center" >> Check user ID and password. Go back to Step 2 [2.INPUT OF PERSONAL ID AND PASSWORD (USER OPERATION)].

## 3. CONFIRMATION OF OPERATION

1. Press " (Zero emission)" of multifunction switch.
2. Select "CARWINGS" → "All Information Feeds" → Contents of Info from NISSAN.

Check displayed results.

Displays contents of All Information Feeds. >> WORK END

Displays "Can't connect to center" >> Select and check a different item of All Information Feeds, or GO TO 2.

## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000008743779

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on board multiplex communication line with high data communication speed and excellent error detection ability. A modern vehicle is equipped with many ECMs, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, 2 control units are connected with 2 communication lines (CAN H-line and CAN L-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

Refer to [LAN-36, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#) for details of the communication signal.

#### DTC Logic

INFOID:000000008743780

#### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT | Malfunction detection condition                                    | Probable malfunction location |
|-------|-----------------------------|--|-------------------------------|
| U1000 | CAN COMM CIRC [U1000]       | When the AV control unit cannot communicate for 2 seconds or more. | CAN communication system      |

#### Diagnosis Procedure

INFOID:000000008743781

#### 1.PERFORM SELF-DIAGNOSIS

1. Turn the power switch ON and hold it for 2 seconds or more.
2. Check the self-diagnosis result of "multi-AV".

Is CAN communication system displayed?

- YES >> Refer to [LAN-16, "Trouble Diagnosis Procedure"](#).  
NO >> Refer to [GI-53, "Intermittent Incident"](#).

# U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

## U1010 CONTROL UNIT (CAN)

### DTC Logic

INFOID:000000008743782

### DTC DETECTION LOGIC

| DTC   | Display contents of CONSULT   | Malfunction detection condition   | Action to take  |
|-------|-------------------------------|---|---|
| U1010 | CONTROL UNIT (CAN)<br>[U1010] | Malfunction is detected during initial diagnosis of the AV control unit CAN controller. | Replace the AV control unit if malfunction constantly occurs. Refer to <a href="#">AV-503, "Removal and Installation"</a> . |

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## U1A00 TCU

## DTC Logic

INFOID:000000008743783

| DTC   | Display contents of CONSULT | DTC detection condition | Action to take  |
|-------|-----------------------------|-------------------------|---|
| U1A00 | ACC NO CONN<br>[U1A00]      | No input of ACC signal  | <ul style="list-style-type: none"> <li>Check the ACC power circuit. Refer to <a href="#">AV-500, "TCU : Diagnosis Procedure"</a>.</li> <li>If the ACC circuit is normal, replace TCU. Refer to <a href="#">AV-504, "Removal and Installation"</a>.</li> </ul> |

## Diagnosis Procedure

INFOID:000000008743784

## 1. CHECK ACC POWER CIRCUIT

1. Check the ACC power circuit. Refer to [AV-500, "TCU : Diagnosis Procedure"](#).

Is the check result normal?

- YES >> Replace TCU. Refer to [AV-504, "Removal and Installation"](#).  
 NO >> Repair or replace the harness or connectors.

## U1A01 TCU

## DTC Logic

INFOID:000000008743785

| DTC   | Display contents of CONSULT     | DTC detection condition         | Action to take   |
|-------|---------------------------------|---------------------------------|--|
| U1A01 | INTERNAL ERROR (TCU)<br>[U1A01] | Malfunction in TCU is detected. | <ul style="list-style-type: none"><li>• Check the connector wiring and erase DTC.</li><li>• Replace TCU if the malfunction constantly occurs. Refer to <a href="#">AV-504, "Removal and Installation"</a>.</li></ul> |

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## U1A02 TCU

## DTC Logic

INFOID:000000008743786

| DTC   | Display contents of CONSULT         | DTC detection condition                                     | Action to take   |
|-------|-------------------------------------|---|--|
| U1A02 | TEL COMMUNICATION MODULE<br>[U1A02] | Malfunction on the communication module in TCU is detected. | <ul style="list-style-type: none"><li>• Check the harness connection and erase DTC.</li><li>• Replace TCU if the malfunction constantly occurs. Refer to <a href="#">AV-504, "Removal and Installation"</a>.</li></ul> |

# U1A03 TCU

< DTC/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

## U1A03 TCU

### DTC Logic

INFOID:000000008743787

| DTC   | Display contents of CONSULT | DTC detection condition                        | Action to take  |
|-------|-----------------------------|--|---|
| U1A03 | SIM CARD<br>[U1A03]         | SIM card is not inserted or unable to be read. | <ul style="list-style-type: none"><li>• Check if there is a contact malfunction at the SIM card and card slot.</li><li>• Check the harness connection and erase DTC.</li><li>• Replace TCU if the malfunction constantly occurs. Refer to <a href="#">AV-504, "Removal and Installation"</a>.</li></ul> |

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## U1A04 TCU

## DTC Logic

INFOID:000000008743788

| DTC   | Display contents of CONSULT | DTC detection condition             | Action to take  |
|-------|-----------------------------|-------------------------------------|---|
| U1A04 | VIN UNFINISHED<br>[U1A04]   | No write of VIN number is detected. | <ul style="list-style-type: none"><li>• Write VIN number using CONSULT. Refer to <a href="#">AV-487, "ADDITIONAL SERVICE WHEN REPLACING TCU : Work Procedure"</a>.</li><li>• Replace TCU if the malfunction is detected after VIN number is written. Refer to <a href="#">AV-504, "Removal and Installation"</a>.</li></ul> |



## U1A05 TCU

### DTC Logic

INFOID:000000008743789

| DTC   | Display contents of CONSULT | DTC detection condition  | Action to take   |
|-------|-----------------------------|--|--|
| U1A05 | USB COMM [U1A05]            | It is detected for malfunction of the USB communication module (communication disabled) between TCU and AV control unit. | <ul style="list-style-type: none"> <li>Check the USB harness connection and erase DTC.</li> <li>Replace TCU if the malfunction constantly occurs.</li> </ul> Refer to <a href="#">AV-504. "Removal and Installation"</a> . |

### Diagnosis Procedure

INFOID:000000008743790

#### 1. CHECK USB HARNESS CONTINUITY

- Turn the power switch OFF.
- Disconnect TCU and AV control unit connectors.
- Check the continuity between TCU harness connector and AV control unit harness connector.

| TCU       |          | AV control unit                        |          | Continuity |
|-----------|----------|--|----------|------------|
| Connector | Terminal | Connector                              | Terminal |            |
| M68       | 47       | M97 (without Bose)<br>M104 (with Bose) | 62       | Yes        |
|           | 48       |  | 61       |            |
|           | 55       |  | 70       |            |
|           | 56       |  | 69       |            |

- Check the continuity between TCU harness connector and ground.

| TCU       |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M68       | 47       | Ground | No         |
|           | 48       |        |            |
|           | 56       |        |            |

#### Is the check result normal?

- YES >> Replace TCU. Refer to [AV-504. "Removal and Installation"](#).
- NO >> Repair or replace the harness or connectors.

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## U1A07 TEL ANTENNA

## DTC Logic

INFOID:000000008743791

| DTC   | Display contents of CONSULT | DTC detection condition          | Action to take  |
|-------|-----------------------------|----------------------------------|---|
| U1A07 | TEL ANTENNA SHORT [U1A07]   | TEL antenna was short-circuited. | <ul style="list-style-type: none"> <li>Check the TEL antenna harness connection and the harness condition, and erase DTC.</li> <li>If poor harness condition or the malfunction constantly occurs, replace the TEL antenna. Refer to <a href="#">AV-507, "Removal and Installation"</a>.</li> </ul> |

## Diagnosis Procedure

INFOID:000000008743792

## 1. HARNESS INSPECTION

1. Turn the power switch OFF.
2. Disconnect the TEL antenna feeder connector of TCU.
3. Check the continuity between TEL antenna-side harness connector.

| TEL antenna |          |    | Continuity |
|-------------|----------|----|------------|
| Connector   | Terminal |    |            |
| M113        | 58       | 59 | No         |

Is the check result normal?

- YES >> Replace TCU. Refer to [AV-504, "Removal and Installation"](#).
- NO >> Replace the TEL antenna. Refer to [AV-507, "Removal and Installation"](#).

## U1A08 TEL ANTENNA

## DTC Logic

INFOID:000000008743793

| DTC   | Display contents of CONSULT    | DTC detection condition | Action to take  |
|-------|--------------------------------|-------------------------|---|
| U1A08 | TEL ANTENNA NO CONN<br>[U1A08] | TEL ANTENNA NO CONN     | <ul style="list-style-type: none"> <li>Check the harness connection and erase DTC.</li> <li>Replace TCU if the malfunction constantly occurs. Refer to <a href="#">AV-504, "Removal and Installation"</a>.</li> </ul> |

## Diagnosis Procedure

INFOID:000000008743794

## 1.CHECK OF TEL ANTENNA

- Turn the power switch OFF.
- Disconnect the TEL antenna feeder connector.
- Visually check TEL antenna and antenna feeder.

Is the inspection result normal?

YES &gt;&gt; GO TO 2.

NO &gt;&gt; Repair malfunctioning parts.

## 2.CHECK AV CONTROL UNIT VOLTAGE

- Disconnect TEL antenna connector.
- Turn power switch ON.
- Check voltage between TCU and ground.

| (+)      |           | (-)    | Reference value |
|----------|-----------|--------|-----------------|
| TCU      |           |        |                 |
| Terminal | Connector |        |                 |
| M113     | 58        | Ground | 2.8 V           |

Is the inspection result normal?YES >> Replace TEL antenna. Refer to [AV-507, "Removal and Installation"](#).NO >> Replace TCU. Refer to [AV-504, "Removal and Installation"](#).
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# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

## POWER SUPPLY AND GROUND CIRCUIT

### TCU

#### TCU : Diagnosis Procedure

INFOID:000000008743795

#### 1.CHECK FUSE

Check if the fuse is blown.

| Power supply           | Fuse No. |
|------------------------|----------|
| BAT                    | 34       |
| Power switch ACC or ON | 19       |
| Power switch ON        | 3        |

Is the check result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

#### 2.CHECK TCU VOLTAGE CIRCUITS

Check the voltage between the TCU harness connector and ground.

| Signal | TCU       | Terminal |     | Test condition | Standard | Reference value |
|--------|-----------|----------|-----|----------------|----------|-----------------|
|        | Connector | (+)      | (-) | Power switch   |          |                 |
| BAT    | M67       | 1        | 2   | OFF            | 9 – 16 V | Battery Voltage |
| ACC    |           | 3        |     | ACC            | 9 – 16 V | 12 V            |
| ON     |           | 4        |     | ON             | 9 – 16 V | 12 V            |

Is the check result normal?

YES >> GO TO 3.

NO >> Repair or replace the harness or connectors.

#### 3.CHECK TCU GROUND CIRCUIT

1. Turn the power switch OFF.
2. Disconnect the TCU connector.
3. Check the continuity between TCU harness connector and ground.

| Signal | Connector | Terminal | Power switch | Continuity |
|--------|-----------|----------|--------------|------------|
| Ground | M67       | 2        | OFF          | Yes        |

Is the check result normal?

YES >> Inspection End.

NO >> Repair or replace the harness or connectors.



## SYMPTOM DIAGNOSIS

## TELEMATICS SYSTEM

## Symptom Table

INFOID:000000009352048

## TELEMATICS SYSTEM

| Symptom                             | Display icon  | Error message                              | Possible cause   |
|-------------------------------------|---|--|--|
| Telematics operation not available. | —   | Telematics unit is not connected.          | Perform self-diagnosis with CONSULT.<br>Refer to <a href="#">AV-415, "CONSULT Function"</a> .  |
|                                     |    | The connection to the center failed.       | Check ON/OFF status of TCU using the data monitor of CONSULT.<br>• Replace TCU if it is ON.<br>Refer to <a href="#">AV-504, "Removal and Installation"</a> .<br>• Turn it ON again if it is OFF. Replace TCU if ON is switched to OFF.<br>Refer to <a href="#">AV-504, "Removal and Installation"</a> .  |
|                                     |   | No service.                                | Use a cellular phone to check reception.<br>• If service is available, replace TCU or TEL antenna.<br>- For TCU replacement, refer to <a href="#">AV-504, "Removal and Installation"</a> .<br>- For TEL antenna replacement, refer to <a href="#">AV-507, "Removal and Installation"</a> .<br>• If the service is not available, move the vehicle to the position where service is available and perform the operation again.  |
|                                     |  | Service inoperative due to poor reception. | Use a cellular phone to check reception.<br>• If it is OK, there may be a cause at the INFINITI CONNECTION Data Center. Check connection after a short period of time. If there is no problem at the INFINITI CONNECTION Data Center, replace TCU or TEL antenna.<br>- For TCU replacement, refer to <a href="#">AV-504, "Removal and Installation"</a> .<br>- For TEL antenna replacement, refer to <a href="#">AV-507, "Removal and Installation"</a> .<br>• If it is NG, check connection again after a short period of time. |
|                                     |   | Service not registered.                    | Check input of user ID and password from the navigation setting screen. If malfunction such as input or no memory despite input is detected, replace AV control unit.<br>Refer to <a href="#">AV-205, "Removal and Installation"</a> (without Bose Audio) or <a href="#">AV-377, "Removal and Installation"</a> (with Bose Audio).   |
|                                     |   | TCU line is used.                          | Check connection after a short period of time.<br>Replace TCU if it is frequently displayed.<br>Refer to <a href="#">AV-504, "Removal and Installation"</a> .  |
|                                     |   | The connection to the center failed.       | There may be a cause at the INFINITI CONNECTION Data Center. Check connection after a short period of time. If there is no problem at the INFINITI CONNECTION Data Center, replace TCU or TEL antenna.<br>• For TCU replacement, refer to <a href="#">AV-504, "Removal and Installation"</a> .<br>• For TEL antenna replacement, refer to <a href="#">AV-507, "Removal and Installation"</a> .   |
|                                     |   |  |  |

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[TELEMATICS SYSTEM]

### NORMAL OPERATING CONDITION

#### Description

INFOID:000000009352049

#### NOTE:

For Telematics system operation detail information, refer to Navigation system Owner's Manual.

| Symptom   | Possible cause   | Possible solution  |
|---|--|--|
| The system cannot connect to the Infiniti CONNECT Data Center.              | A subscription for the CONNECT service has not been established. | Sign up for a subscription to the CONNECT service. For details about subscriptions, contact an Infiniti dealer or visit the Infiniti CONNECT Data Center website.  |
|   | The user ID and password are not entered.                        | Enter the user ID and password.  |
|   | The communication line is busy.                                  | Try again after a short period of time.  |
|   | The vehicle is in a location where reception is difficult.       | When the vehicle moves to an area where radio waves can be transmitted sufficiently, communication will be restored. When the icon on the display shows that the vehicle is inside the communication area, the system can be used. |
|   | TCU reception is insufficient.                                   | When the vehicle moves to an area where radio waves can be transmitted sufficiently, communication will be restored. When the icon on the display shows that the vehicle is inside the communication area, the system can be used. |
| Some of the items that are displayed on the menu screen cannot be selected. | The vehicle is being driven and some menu items are disabled.    | The vehicle is being driven. Stop the vehicle in a safe location and apply the parking brake before operating the functions.   |
| Some parts of the screen are not displayed                                  |  | Operate the system after stopping the vehicle in a safe location and applying the parking brake.   |
| The system does not announce information.                                   | The volume level is set to the minimum.                          | Adjust the volume level by operating the VOL switches located on the control panel or on the steering wheel switch while the system is announcing information.   |

## REMOVAL AND INSTALLATION

### AV CONTROL UNIT

#### Removal and Installation

INFOID:000000009344990

#### REMOVAL

##### **CAUTION:**

**Remove AV control unit after a lapse of 30 seconds or more after turning the power switch OFF.**

##### **NOTE:**

After the power switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if 12V battery voltage is cut off within 30 seconds.

1. Disconnect the 12V negative battery terminal. Refer to [PG-65, "Removal and Installation"](#).
2. Remove cluster lid C. Refer to [IP-17, "Removal and Installation"](#).
3. Remove the AV control unit screws, disconnect the harness connectors from the AV control unit and remove with the brackets attached.
4. Remove the bracket screws and the brackets from AV control unit (if necessary).

#### INSTALLATION

Note the following, and install in the reverse order of removal.

##### **CAUTION:**

- If the AV control unit is replaced, input of the user ID and password and time adjustment with VCM are required.
- If the AV control unit is not replaced, time adjustment with VCM is required.

Input Method of User ID and Password

1. Turn power switch ON.
2. Select "Sign in" from the CARWINGS screen.
3. Enter the user ID and password.

##### **NOTE:**

Since the user ID and password are determined by the user in advance, they are input by the user.

Time Adjustment and Check Method with VCM

Refer to [AV-166, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Work Procedure"](#).

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## TCU

## Removal and Installation

INFOID:000000009344951

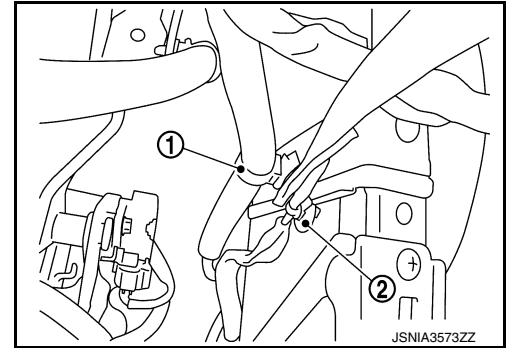
## REMOVAL

1. Check the SIM ID. Refer to [AV-415, "CONSULT Function"](#).
2. When replacing TCU, perform activation. Refer to [AV-487, "ADDITIONAL SERVICE WHEN REPLACING TCU : Work Procedure"](#).
3. Remove the glove box cover assembly. Refer to [JP-17, "Removal and Installation"](#).
4. Remove the harness clip (1) and antenna feeder clip (2) from the upper bracket.

**NOTE:**

If it is difficult to remove the harness clip and the antenna feeder clip, remove the TCU screw first and pull TCU forward together with the bracket. Use care not to damage the harness.

5. Remove the TCU screws, disconnect the harness connectors and remove the TCU with the bracket attached.
6. Remove the bracket screw and the bracket from TCU (if necessary).



## INSTALLATION

1. Install in the reverse order of removal.
2. When replacing TCU, perform activation. Refer to [AV-487, "ADDITIONAL SERVICE WHEN REPLACING TCU : Work Procedure"](#).

**NOTE:**

When replacing the TCU, it is necessary to contact the communications service provider to activate the new TCU. Please refer to the appropriate Nissan LEAF Technical Service Bulletin for the correct TCU activation procedure and communications provider contact information.



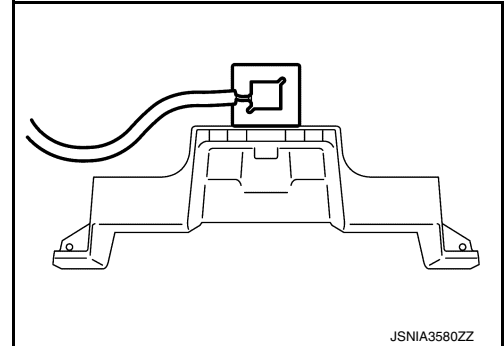
## GPS ANTENNA

## Removal and Installation

INFOID:000000009344995

## REMOVAL

1. Remove the instrument panel assembly. Refer to [IP-17](#).  
["Removal and Installation"](#).
2. Remove the screws, clips and the GPS antenna.



## INSTALLATION

Install in the reverse order of removal.

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## MICROPHONE

## Removal and Installation

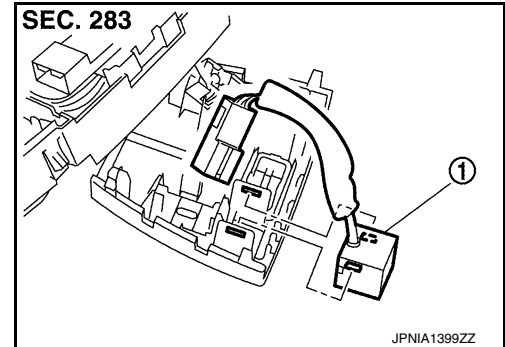
INFOID:000000009344988

## REMOVAL

1. Remove the map lamp assembly. Refer to [INL-73. "Removal and Installation"](#).
2. Press the pawl to remove the microphone (1) from the map lamp assembly.

**CAUTION:**

Use care when handling the microphone pawl to avoid damaging.



## INSTALLATION

Install in the reverse order of removal.

**NOTE:**

Check the microphone for looseness after the installation.

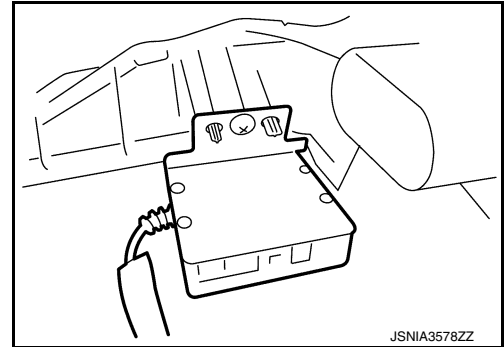
## TEL ANTENNA

## Removal and Installation

INFOID:000000009344947

## REMOVAL

1. Remove the front defroster nozzle. Refer to [VTL-15. "FRONT DEFROSTER DUCT : Removal and Installation"](#).
2. Remove screws and tel antenna from the front defroster nozzle.



## INSTALLATION

Install in the reverse order of removal.

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