SECTION AV
AUDIO, VISUAL & NAVIGATION SYSTEM

CONTENTS

BASE AUDIO

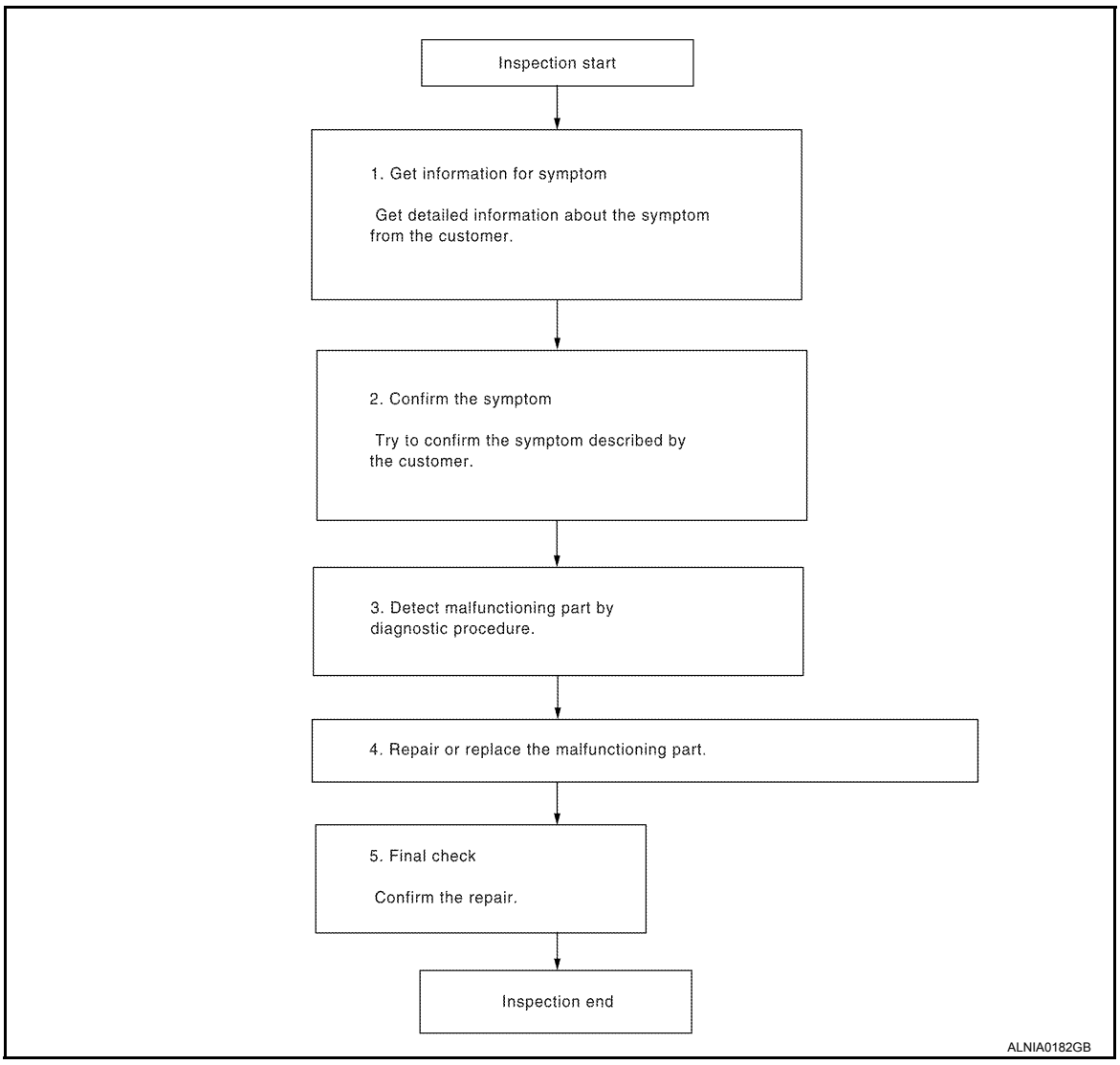
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000009820763

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.

Is malfunctioning part detected?

YES >> GO TO 4.
NO >> GO TO 2.

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5. FINAL CHECK

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

Has the symptom been repaired?

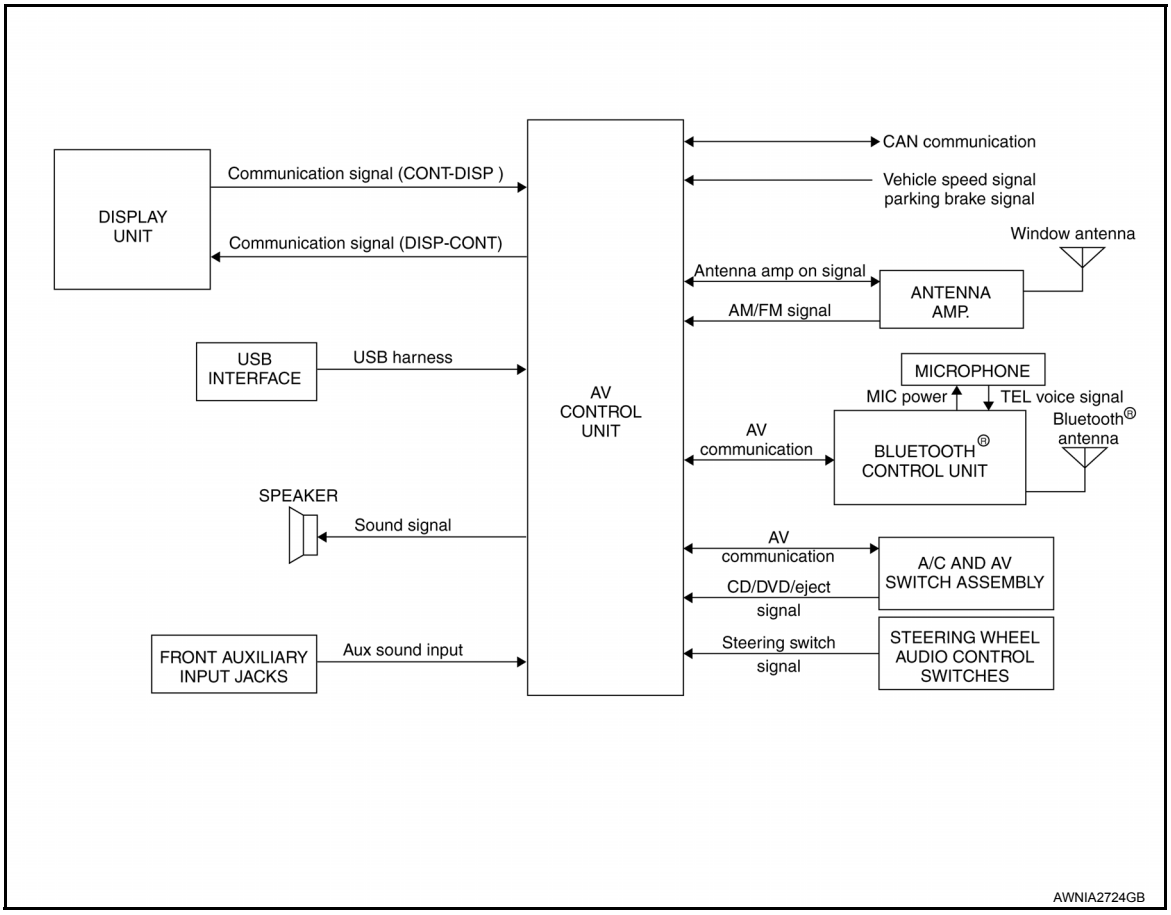
YES >> Inspection End.
NO >> GO TO 2.

SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram

INFOID:0000000009820764



System Description

INFOID:0000000009820765

AUDIO SYSTEM

The audio system consists of the following components

- AV control unit
- Display unit
- Window antenna
- Steering wheel audio control switches
- A/C and AV switch assembly
- USB interface
- Front door speakers
- Front tweeters
- Rear door speakers
- Rear door tweeters

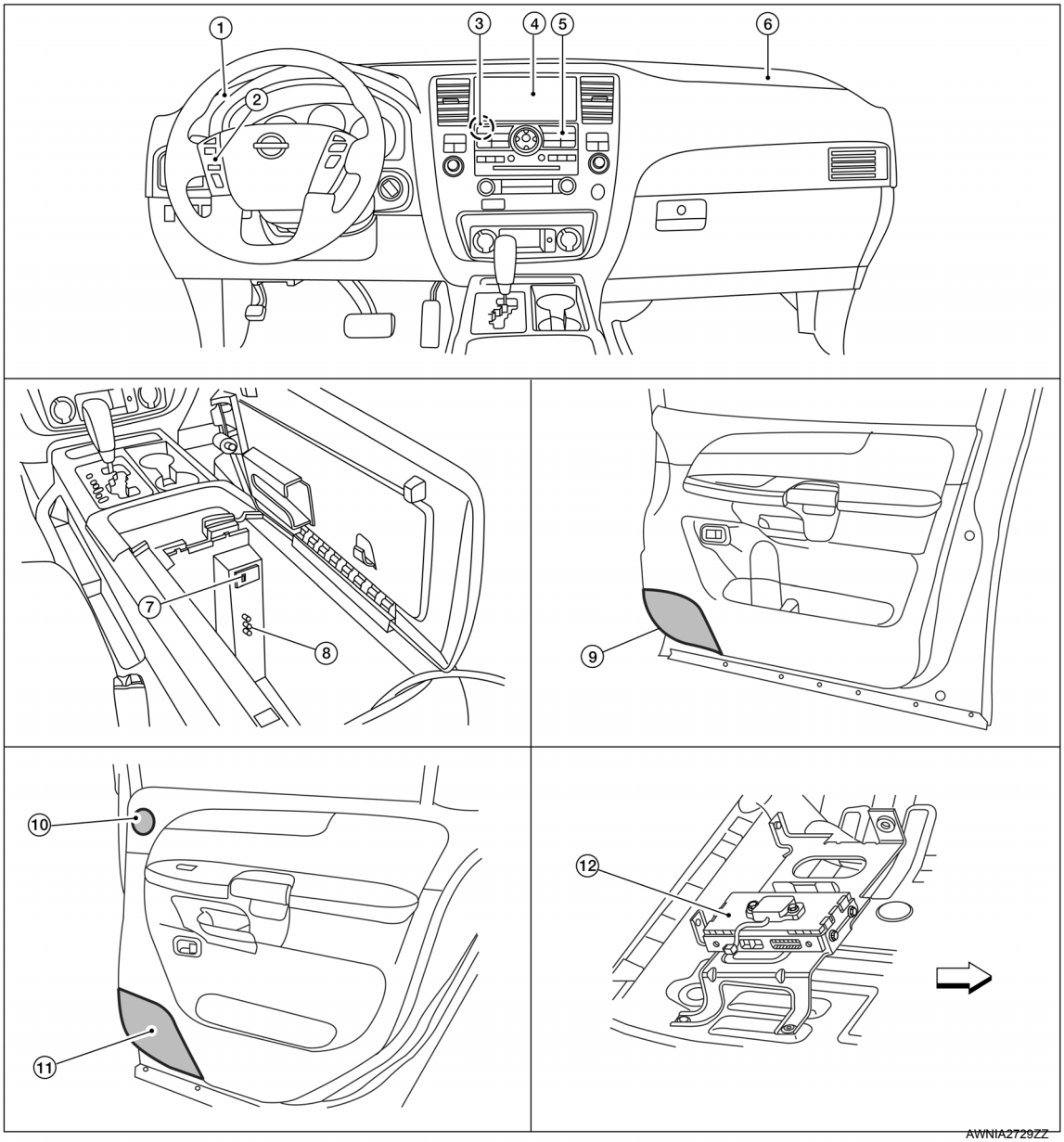
When the audio system is on, radio signals are received by the window antenna. The AV control unit then sends audio signals to the front door speakers, front tweeters, rear door speakers and rear door tweeters. Refer to Owner's Manual for audio system operating instructions.

SPEED SENSITIVE VOLUME SYSTEM

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

Component Parts Location

INFOID:0000000009820766



1. Front tweeter LH M109
2. Steering wheel audio control switches
3. AV control unit M42, M43, M44, M46, M48, M124
4. Display unit M93
5. A/C and AV switch assembly M98
6. Front tweeter RH M111
7. USB interface M214
8. Front auxiliary input jacks M206
9. Front door speaker
   LH D12
   RH D112
10. Rear door tweeter
    LH D209
    RH D309
11. Rear door speaker
    LH D209
    RH D309
12. Bluetooth® control unit B141, B142, B143 (view with front passenger seat removed)

Component Description

INFOID:0000000009820767

Part name	Description
AV control unit	Controls audio system functions
Display unit	Displays audio and climate control related information
A/C and AV switch assembly	• All audio and A/C operations can be operated • switch signal is output to the AV control unit and A/C auto amp
Steering wheel audio control switches	• Audio operation can be operated • Steering switch signal (operation signal) is output to AV control unit
USB interface	Portable storage devices can be operated
Front door speakers	• Outputs audio signal from AV control unit • Outputs high, mid and low range sounds
Front tweeters	• Outputs audio signal from AV control unit • Outputs high range sounds
Rear door tweeters	• Outputs audio signal from AV control unit • Outputs high range sounds
Rear door speakers	• Outputs audio signal from AV control unit • Outputs high, mid and low range sounds
Antenna amp.	• Radio signal received by window antenna is amplified and sent to AV control unit • Power (antenna amp. ON signal) is supplied from AV control unit

HANDS-FREE PHONE SYSTEM

System Diagram

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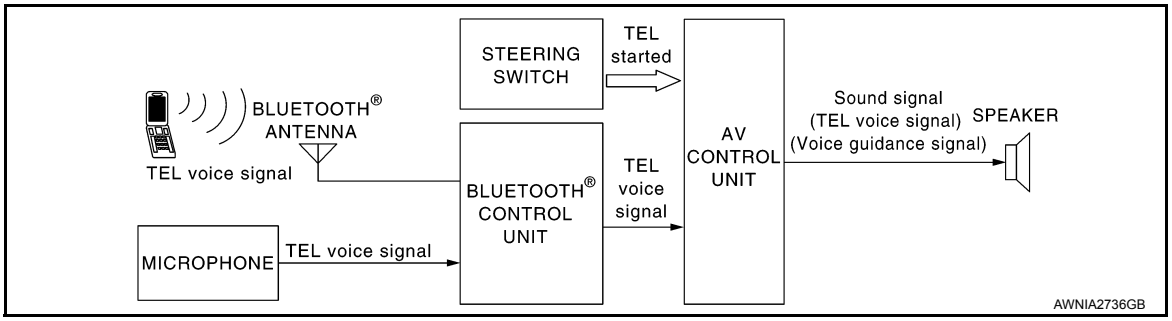

System Description

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Refer to the Owner's Manual for Bluetooth® telephone system operating instructions.
NOTE:
Cellular telephones must have their wireless connection set up (paired) before using the Bluetooth® telephone system.
Bluetooth® telephone system allows users who have a Bluetooth® equipped cellular telephone to make a wireless connection between their cellular telephone and the Bluetooth® control unit. Hands-free cellular telephone calls can be sent and received. Some Bluetooth® cellular telephones may not be recognized by the Bluetooth® control unit. When a cellular telephone or the Bluetooth® control unit is replaced, the telephone must be paired with the Bluetooth® control unit. Different cellular telephones may have different pairing procedures. Refer to the cellular telephone operating manual.

BLUETOOTH® CONTROL UNIT

When the ignition switch is turned to ACC or ON, the Bluetooth® control unit will power up. During power up, the Bluetooth® control unit is initialized and performs various self checks. Initialization may take up to 10 seconds.

STEERING WHEEL AUDIO CONTROL SWITCHES

When buttons on the steering wheel audio control switch are pushed, the resistance in steering wheel audio control switch circuit changes depending on which button is pushed. The Bluetooth® control unit uses this signal to perform various functions.
The following functions can be performed using the steering wheel audio control switch:

- Initiate Self Diagnosis of the Bluetooth® telephone system
- Answer and end telephone calls
- Adjust the volume of calls

MICROPHONE

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

AV CONTROL UNIT

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

Component Parts Location

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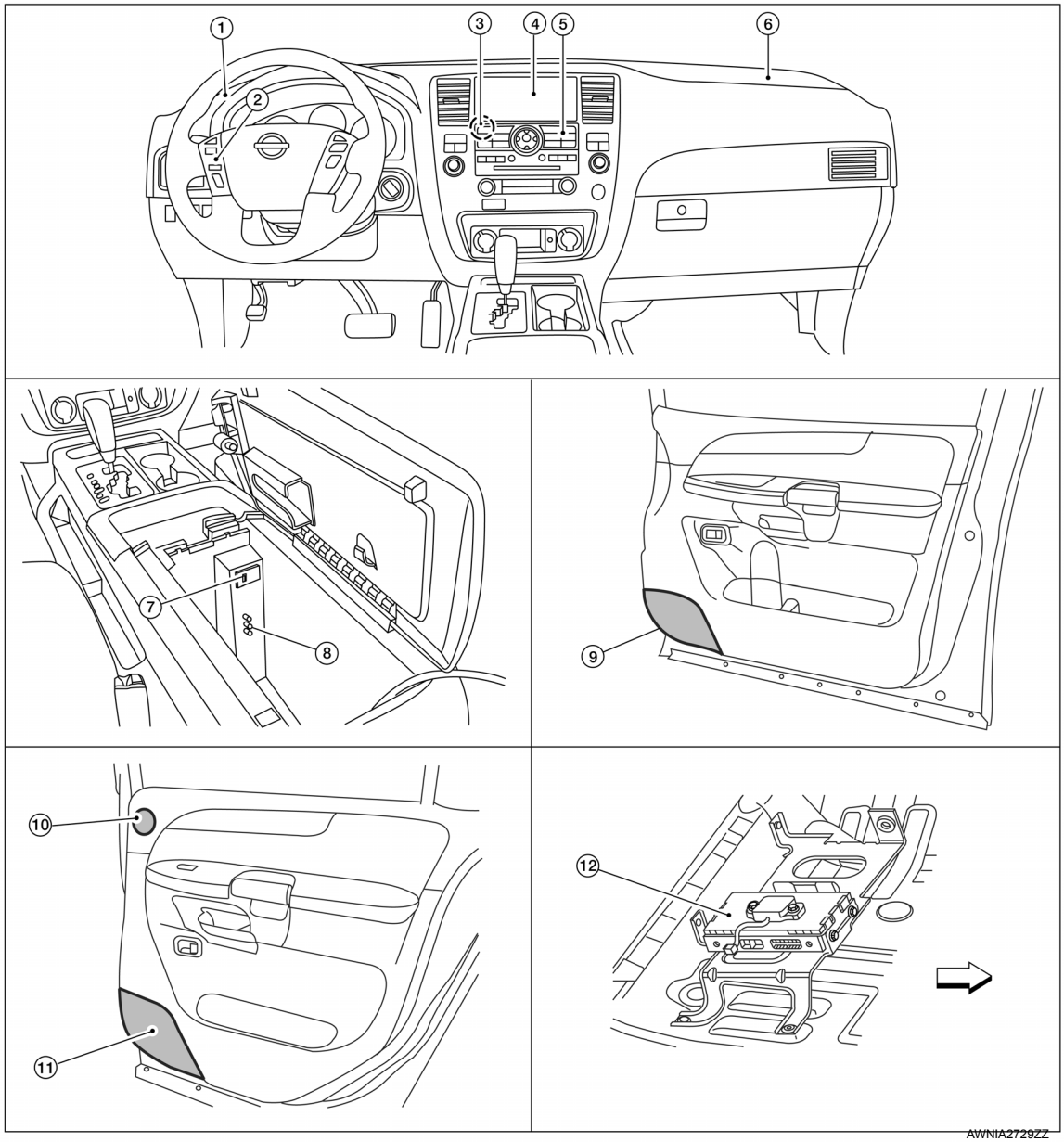

1. Front tweeter LH M109
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    RH D309
11. Rear door speaker
    LH D209
    RH D309
12. Bluetooth® control unit B141, B142, B143 (view with front passenger seat removed)

Component Description

INFOID:0000000009820771

Part name	Description
AV control unit	• Receives telephone voice signal from Bluetooth® control unit • Sends telephone voice and voice guidance signals to the speakers
Front door speaker	Receives telephone voice and voice guidance signals from the audio unit
Front tweeter	
Steering wheel audio control switches	• Start a voice recognition session • Answer and end telephone calls • Adjust the volume level
Microphone	Sends voice signals to Bluetooth® control unit
Bluetooth® control unit	Controls hands-free phone functions
Bluetooth® antenna	Sends telephone voice signal to Bluetooth® control unit

DIAGNOSIS SYSTEM (AV CONTROL UNIT)
AV CONTROL UNIT
AV CONTROL UNIT : Diagnosis Description

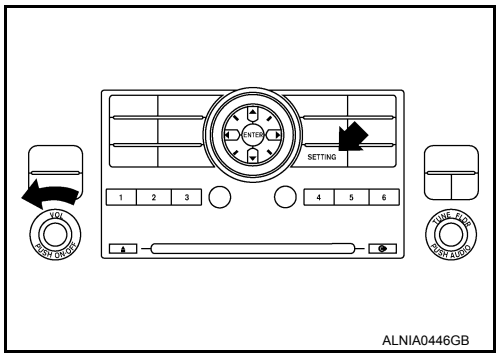
INFOID:0000000009820772

DESCRIPTION
- Diagnosis function consists of the “Self-Diagnosis” mode performed automatically and the “Confirmation/Adjustment” mode operated manually.
- “Self-Diagnosis” mode checks for connections between the units constituting this system, analyzes each individual unit at the same time, and displays the results on the LCD screen.
- “Confirmation/Adjustment” mode is used to perform trouble diagnosis that requires operation and judgment by an operator (trouble that cannot be automatically judged by the system), to check/change the set value, and to display the error history of the AV control unit.

DIAGNOSIS ITEM

Mode			Description
Self-diagnosis			• AV control unit diagnosis • Analyzes connection between the AV control unit, front display and switches.
CONFIRMATION/ ADJUSTMENT	Display diagnosis	Color spectrum bar	Color tone of the screen can be checked by the display of a color bar.
		Gradation bar	Shading of the screen can be checked by the display of a gray scale.
	Vehicle signals		The following vehicle signals are analyzed: Vehicle speed signal, parking brake signal, light signal, ignition switch signal, and reverse signal.
	Speaker test		Connection can be checked by sending a test tone to each speaker.
	Error history		Diagnosis results previously stored in the memory are displayed in this mode.
	Vehicle CAN diagnosis		The transmitting/receiving of CAN communication can be monitored.
	AV COMM diagnosis		The transmitting/receiving of AV communication can be monitored.
	Delete unit connection log		Erase the error history and connection history of the unit.
	Initialize settings		All audio settings are reset to default levels.

OPERATION PROCEDURE
1. Start the engine.
2. Turn the audio system off.
3. While pressing the “SETTING” button, turn the volume control dial counterclockwise 30 clicks or more.



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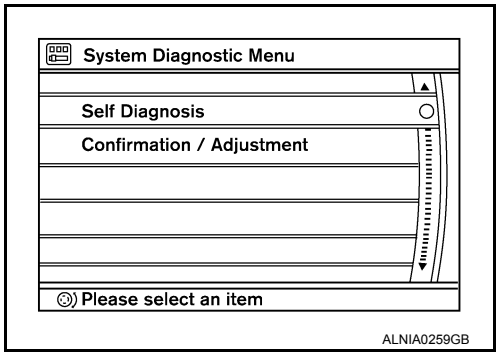
4. The initial trouble diagnosis screen will be displayed, and items “Self-Diagnosis” and “Confirmation/Adjustment” can be selected.



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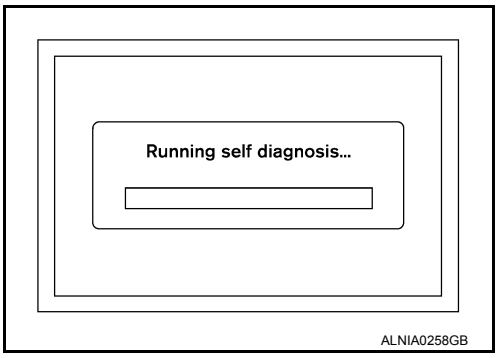
SELF-DIAGNOSIS

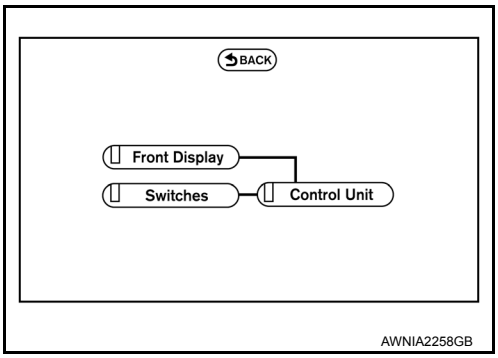
1. Perform self-diagnosis by selecting “Self-Diagnosis”.
   - Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
   - A bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.

   NOTE:
   Self-diagnosis requires approximately 10 seconds to complete.



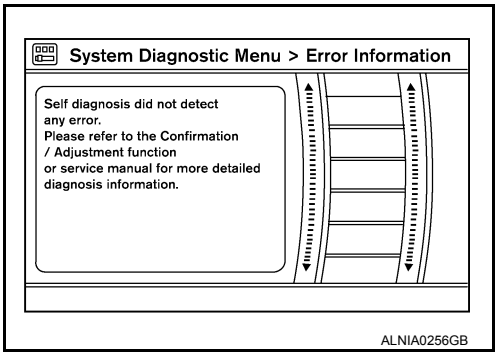
2. Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction Note	Red	Green

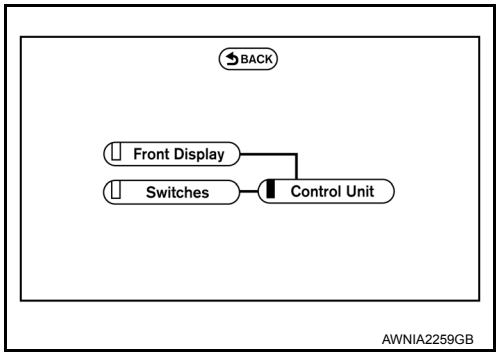
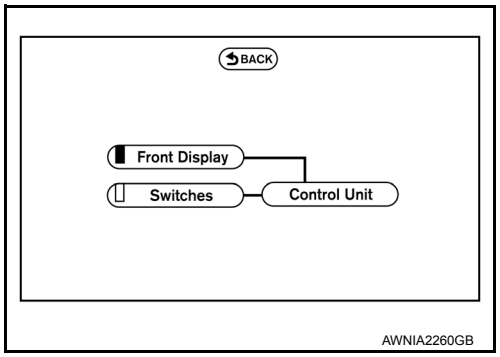
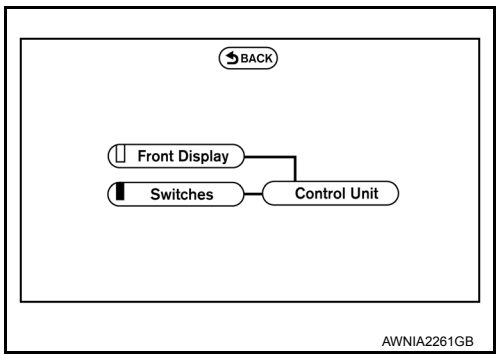


Note:
- Only the AV control unit is displayed in red.
- If multiple malfunctions occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > yellow > gray.

3. Select a component on the “Self Diagnosis” screen and comments for the diagnosis results will be shown.

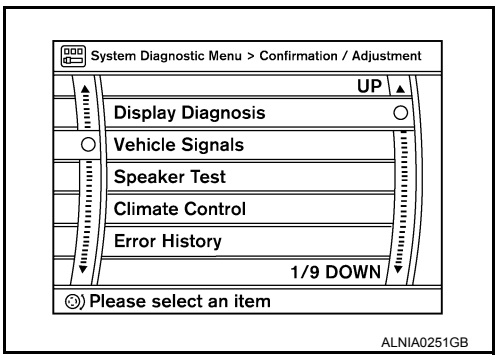


Self-Diagnosis Results

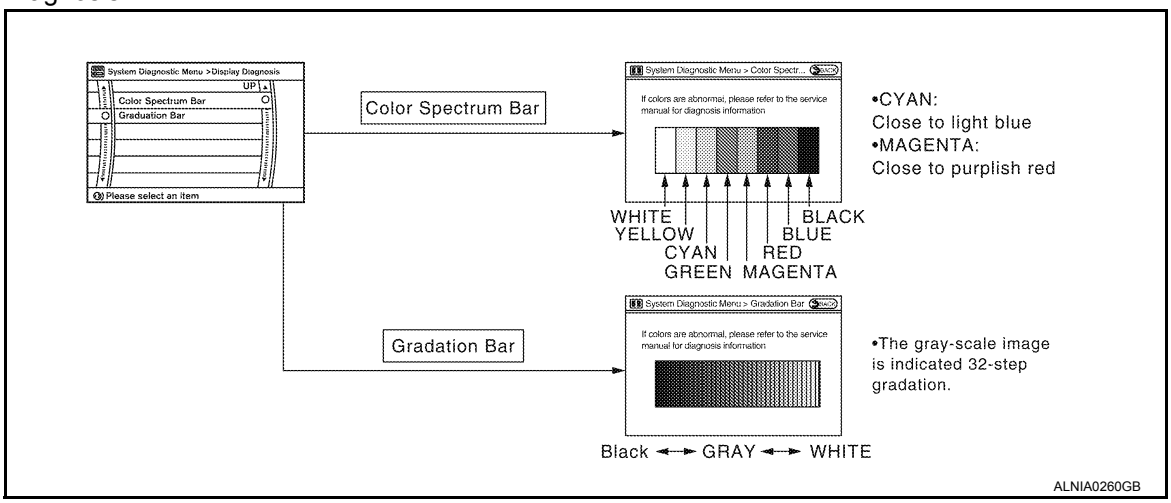
Area with yellow connection lines	Description	Possible malfunction location / Action to take
	AV control unit malfunction is detected	Replace the AV control unit. Refer to AV-105, "Removal and Installation".
	Poor connection is detected for the display unit	• Harness or connector • AV control unit • Display unit
	Switch malfunction is detected	Perform A/C and AV switch assembly diagnostics. Refer to AV-23, "A/C AND AV SWITCH ASSEMBLY : Component Function Check".

CONFIRMATION/ADJUSTMENT MODE

1. Start the diagnosis function and select “Confirmation/Adjustment”. The confirmation/adjustment mode indicates where each item can be checked or adjusted.
2. Select each item on the “Confirmation/Adjustment” mode screen to display the relevant trouble diagnosis screen. Press the “BACK” button or touch “BACK” on the touch screen to return to the initial Confirmation/Adjustment Mode screen.

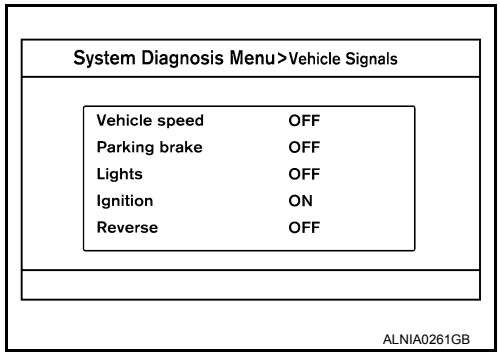


Display Diagnosis



Vehicle Signals

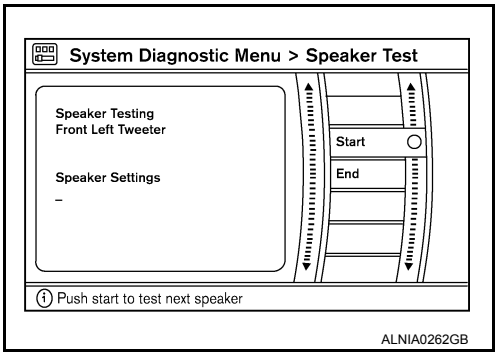
A comparison check can be made of each actual vehicle signal and the signals recognized by the system.



Diagnosis item	Dis-play	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h	Changes in indication may be delayed by approximately 1.5 seconds. This is normal.
	OFF	Vehicle speed = 0 km/h	
	–	Ignition switch in ACC position	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights	ON	Light switch ON	Block the light beam from the auto light optical sensor.
	OFF	Light switch OFF	
Ignition	ON	Ignition switch ON	—
	OFF	Ignition switch in ACC position	
Reverse	ON	Selector lever in R position	Changes in indication may be delayed by approximately 1.5 seconds. This is normal.
	OFF	Selector lever in any position other than R	
	–	Ignition switch in ACC position	

Speaker Test

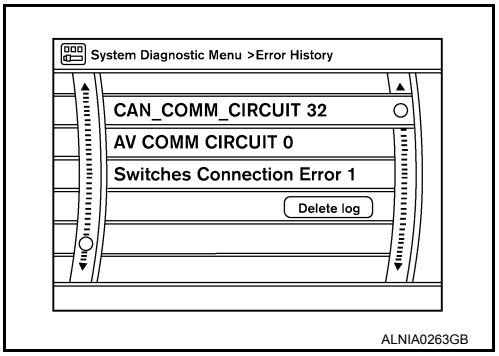
Select “Speaker Test” to display the speaker diagnosis screen. Press “Start” to generate a test tone in speakers. Touch “End” to stop the test tones.



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 ignition SW is turned ON and then no error has occurred until the self-diagnosis start. Check the “Error History” to detect any error that may have occurred before the self-diagnosis start because of this situation.



Count up method A

- The counter resets to 0 if an error occurs when IGN switch is turned ON. The counter increases by 1 if the condition is normal at a next IGN ON cycle.
- The counter upper limit is 39. Any counts exceeding 39 are ignored. The counter can be reset (no error record display) with the “Delete log” switch or CONSULT.

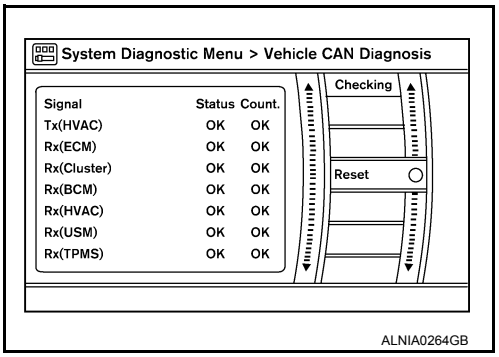
Count up method B

- The counter increases by 1 if an error occurs when IGN switch is ON. The counter will not decrease even if the condition is normal at the next IGN ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. The counter can be reset (no error record display) with the “Delete log” switch or CONSULT.

Display method of occurrence frequency	Error history display item
Count up method A	CAN communication line, control unit (CAN), AV communication line, control unit (AV communication)
Count up method B	Other than above

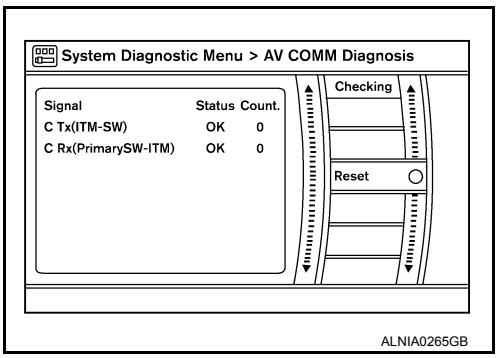
Vehicle CAN Diagnosis

- CAN communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if reset.



AV COMM Diagnosis

- AV communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if reset.



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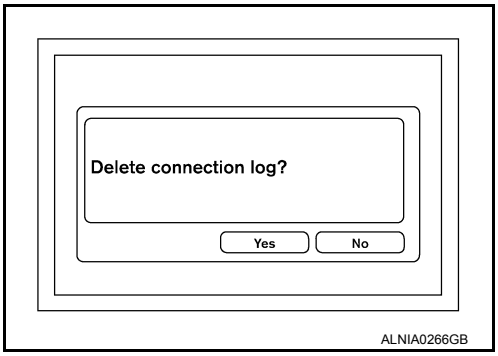
Delete Unit Connection Log

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



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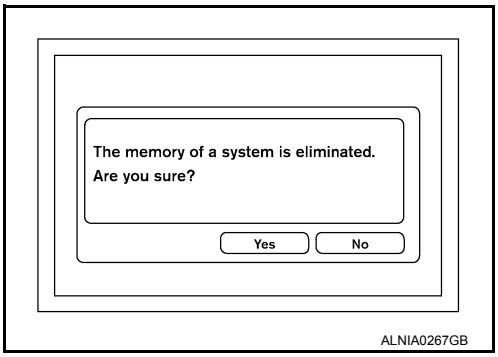
Initialize Settings

Initializes the AV control unit memory.



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AV CONTROL UNIT : CONSULT Function

INFOID:0000000009820773

CONSULT can display each diagnostic item using the diagnostic test modes shown following.

MULTI AV diagnosis mode	Description
SELF-DIAG RESULTS	Displays AV control unit self-diagnosis results.
DATA MONITOR	Displays AV control unit input/output data in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
AV COMM MONITOR	Allows the technician to monitor the status of the Multi AV system communication signals.
ECU PART NUMBER	The part number of AV control unit can be checked.

Self-diagnosis results display item

Error item	Refer to
CAN COMM CIRCUIT [U1000]	AV-25, "Description"
CONTROL UNIT (CAN) [U1010]	AV-26, "Description"
Control Unit FLASH-ROM [U1200]	AV-27, "Description"
CAN CONT [U1216]	AV-28, "Description"

Error item	Refer to
SWITCH CONN [U1240]	AV-29, "Description"
FRONT DISP CONN [U1243]	AV-30, "Description"
HAND FREE CONN [U1256]	AV-32, "Description"
AV COMM CIRCUIT [U1300]	AV-33, "Description"
CONTROL UNIT (AV) [U1310]	AV-34, "Description"

DATA MONITOR

Display Item List

Display item [unit]	ALL SIGNALS	SELECTION FROM MENU	Description
VHCL SPD SIG [ON/OFF]	X	X	Displays “ON” when vehicle speed > 0 km/h. Displays “OFF” when vehicle speed = 0 km/h.
PKB SIG [ON/OFF]	X	X	Displays [ON/OFF] condition of parking brake switch.
ILLUM SIG [ON/OFF]	X	X	Displays [ON/OFF] condition of lighting switch.
IGN SIG [ON/OFF]	X	X	Displays [ON/OFF] condition of ignition switch.
REV SIG [ON/OFF]	X	X	Displays [ON/OFF] condition of back-up lamp switch.

A/C AND AV SWITCH ASSEMBLY

A/C AND AV SWITCH ASSEMBLY : Component Function Check

INFOID:0000000009820774

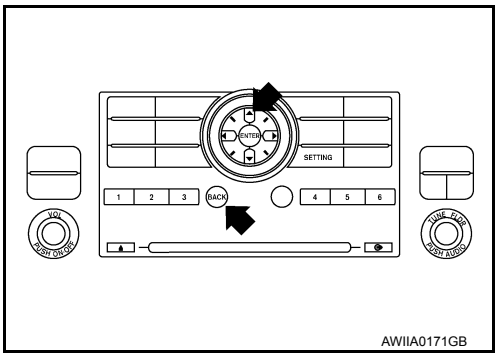
A/C and AV switch assembly self-diagnosis function

Description

The ON/OFF operation (continuity) of each switch in the A/C and AV switch assembly can be checked.

Self-diagnosis mode

- Press the “BACK” button and the “UP” button within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. When the self-diagnosis mode starts, a beep will sound and all LED indicators of the switch will illuminate.
- The continuity of each switch and control dial of the A/C and AV switch assembly can be checked. If the switch is operating normally, the system will beep and the LED’s will illuminate when each switch is operated.



Finishing self-diagnosis mode

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

DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

Diagnosis Description

INFOID:0000000009820775

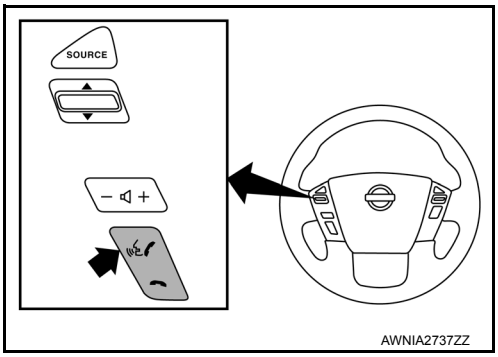
The Bluetooth® control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

BLUETOOTH® CONTROL UNIT INITIALIZATION CHECKS

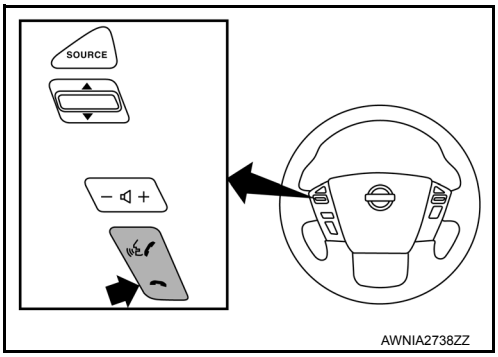
- Internal control unit failure
- Bluetooth® antenna connection open or shorted
- Steering wheel audio control switches (SEND/END) stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth® inquiry check

OPERATION PROCEDURE

1. Turn ignition switch to ACC or ON.
2. Wait for the Bluetooth® system to complete initialization. This may take up to 10 seconds.
3. Press and hold the steering wheel audio control switch 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 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 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-24, "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-24, "Work Flow".
8. Self-diagnosis mode is complete when the voice prompt says “All diagnostic functions completed”.



Work Flow

INFOID:0000000009820776

Failure Message	Action
“Internal failure”	Replace Bluetooth® control unit. Refer to AV-287, "Removal and Installation".
“Bluetooth® antenna open”	1. Inspect harness connection. 2. Replace Bluetooth® antenna.
“Bluetooth® antenna shorted”	
“Phone/Send for Hands Free System is stuck”	Check steering wheel audio control switches. Refer to AV-56, "Description".
“Phone/End for the Hands Free System is stuck”	
“Microphone test” (failed interactive test)	1. Inspect harness between Bluetoot®h control unit and microphone. 2. Replace microphone. Refer to AV-112, "Removal and Installation".

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000009820777

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-46, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000009820778

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	Diagnostic item is detected when ...	Probable malfunction location
U1000	CAN COMM CIRCUIT	When AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

Diagnosis Procedure

INFOID:0000000009820779

1.PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check “Self Diagnostic Result” of “AV Control Unit”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to “LAN system”. Refer to LAN-14, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI section. Refer to GI-42, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

Description

INFOID:0000000009820780

Initial diagnosis of AV control unit.

DTC Logic

INFOID:0000000009820781

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	Diagnostic item is detected when ...	Probable malfunction location
U1010	CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	AV control unit.

Diagnosis Procedure

INFOID:0000000009820782

1.REPLACE AV CONTROL UNIT

When DTC U1010 is detected, replace AV control unit. Refer to AV-105, "Removal and Installation".

>> Inspection End.

U1200 AV CONTROL UNIT

Description

INFOID:0000000009820783

Replace the AV control unit if this DTC is displayed. Refer to AV-105, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• It is the master unit of the MULTI AV system and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • AV control unit includes audio function and vehicle information function. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009820784

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U1200	Control Unit FLASH- ROM [U1200]	An internal malfunction is detected in AV control unit (FLASH-ROM).	Replace AV control unit. Refer to AV-105, "Removal and Installation".

U1216 AV CONTROL UNIT

Description

INFOID:0000000009820785

Replace the AV control unit if this DTC is displayed. Refer to AV-105, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• It is the master unit of the MULTI AV system and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • AV control unit includes audio function and vehicle information function. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009820786

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U1216	CAN CONT [U1216]	Internal malfunction of AV control unit (CAN controller) is detected.	Replace AV control unit. Refer to AV-105, "Removal and Installation".

U1240 SWITCH CONN

Description

INFOID:0000000009820787

U1240 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

Self-diagnosis results display item

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1240	• SWITCH CONN [U1240]	• A/C and AV switch assembly power supply and ground circuit malfunction is detected. • A malfunction is detected in communication circuit between AV control unit and A/C and AV switch assembly. • A malfunction is detected in communication signal between AV control unit and A/C and AV switch assembly.	• A/C and AV switch assembly power supply and ground circuits. • Communication circuit between AV control unit and A/C and AV switch assembly.

U1243 DISPLAY UNIT

Description

INFOID:0000000009820788

Part name	Description
DISPLAY UNIT	• Display image is controlled by the serial communication from AV control unit. • Inputs the RGB image signal (RGB, RGB area and RGB synchronizing) from AV control unit and the auxiliary image signal from the auxiliary input jacks. • Outputs the synchronizing signals (HP and VP) to the AV control unit.

DTC Logic

INFOID:0000000009820789

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1243	FRONT DISP CONN [U1243]	• Display unit power supply and ground circuit malfunction is detected. • Malfunction is detected on communication circuit between display unit and AV control unit. • Malfunction is detected on communication signal between display unit and AV control unit.	• Display unit power supply and ground circuit. • Communication circuit between display unit and AV control unit.

Diagnosis Procedure

INFOID:0000000009820790

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

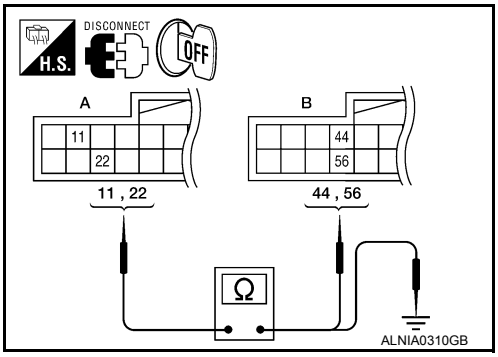
Check display unit power supply and ground circuit. Refer to AV-36, "DISPLAY UNIT : Diagnosis Procedure".

Is inspection result OK?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2.CHECK CONTINUITY OF COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector M93 (A) terminals 11, 22 and AV control unit harness connector M44 (B) terminals 56, 44.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	11	M44	56	Yes
	22		44	

4. Check continuity between display unit harness connector M93 (A) terminals 11, 22 and ground.

A		—	Continuity
Connector	Terminal		
M93	11	Ground	No
	22		

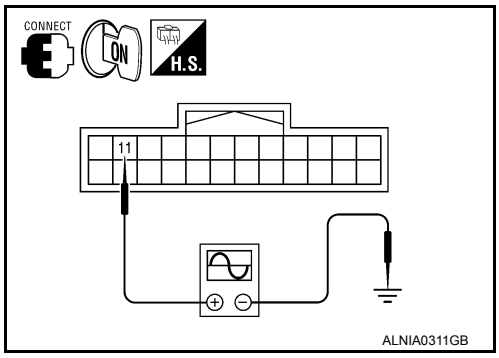
Are continuity results as specified?

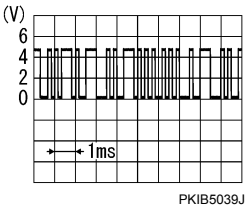
YES >> GO TO 3.

NO >> Repair harness or connector.

3. CHECK COMMUNICATION SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 11 and ground with an oscilloscope or CONSULT.



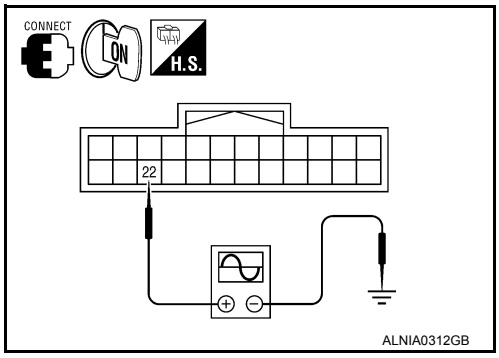
(+)		(-)	Reference signal
Connector	Terminal		
M93	11	Ground	

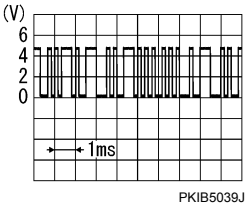
Are voltage readings as specified?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-105, "Removal and Installation".

4. CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector M93 terminal 22 and ground with an oscilloscope or CONSULT.



(+)		(-)	Reference signal
Connector	Terminal		
M93	22	Ground	

Are voltage readings as specified?

YES >> Inspection End.
NO >> Replace display unit. Refer to AV-108, "Removal and Installation".

U1256 HAND FREE CONN

Description

INFOID:0000000009820791

U1256 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

Self-diagnosis results display item

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1256	• HAND FREE CONN [U1256]	• Bluetooth control unit power supply and ground circuit malfunction is detected. • A malfunction is detected in communication circuit between AV control unit and Bluetooth control unit. • A malfunction is detected in communication signal between AV control unit and Bluetooth control unit.	• Bluetooth control unit power supply and ground circuits. • Communication circuit between AV control unit and Bluetooth control unit.

U1300 AV COMM CIRCUIT

Description

INFOID:0000000009820792

U1300 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

Self-diagnosis results display item

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1300	• AV COMM CIRCUIT [U1300]	When AV control unit is not transmitting or receiving AV communication signal for 2 seconds or more.	AV communication system.

U1310 AV CONTROL UNIT

Description

INFOID:0000000009820793

Replace the AV control unit if this DTC is displayed. Refer to AV-105, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• It is the master unit of the MULTI AV system and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • AV control unit includes audio function and vehicle information function. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009820794

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U1310	CONTROL UNIT (AV) [U1310]	An initial diagnosis error is detected in AV communication circuit.	Replace AV control unit. Refer to AV-105, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT
AV CONTROL UNIT
AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009820795

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK FUSES

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

Unit	Terminals	Signal name	Fuse No.
AV control unit	19	Battery power	31
	7	Ignition switch ACC or ON	4
	104	Ignition switch ON or START	12

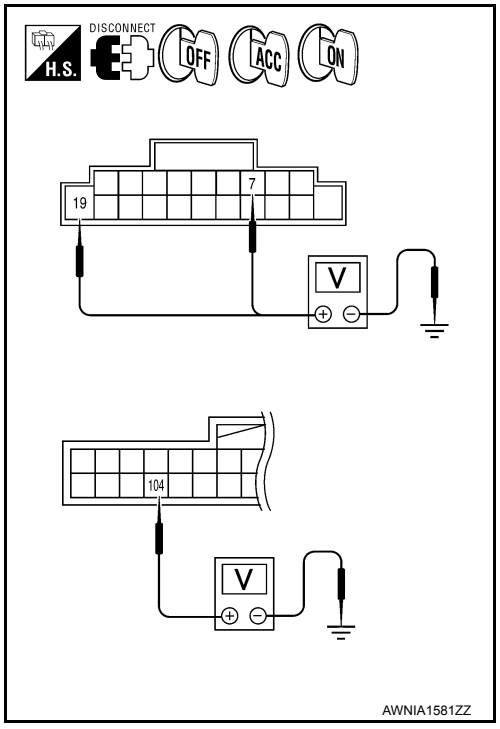
Are the fuses OK?

YES >> GO TO 2.
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect AV control unit connectors M42 and M46.
2. Check voltage between the AV control unit connectors M42 and M46 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M42	7	Ground	0V	Battery voltage	Battery voltage
	19	Ground	Battery voltage	Battery voltage	Battery voltage
M46	104	Ground	0V	0V	Battery voltage



Are the voltage results as specified?

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

3.GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Check continuity between AV control unit harness connector M42 and ground.

(+)		(-)	Continuity
Connector	Terminal		
M42	20	Ground	Yes

Are the continuity results as specified?

YES >> Inspection End.
NO >> Repair AV control unit ground.

DISPLAY UNIT

DISPLAY UNIT : Diagnosis Procedure

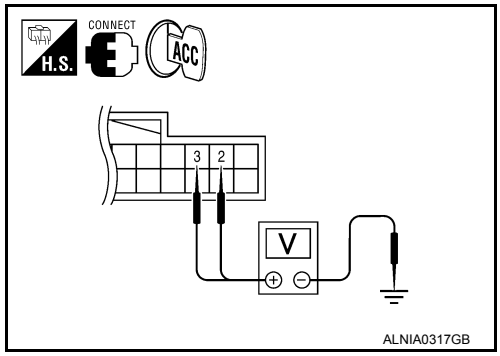
INFOID:0000000009820796

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch to ACC.
2. Check voltage between display unit harness connector M93 and ground.

(+)		(-)	Value (Approx.)
Connector	Terminal		
M93	2	Ground	9V
	3		



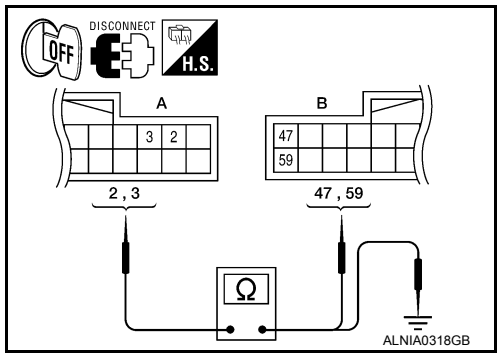
Does specified voltage exist?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the display unit connector M93 and the AV control unit connector M44.
3. Check continuity between the display unit harness connector M93 (A) and the AV control unit connector M44 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	2	M44	59	Yes
	3		47	



4. Check continuity between the display unit harness connector M93 (A) and ground.

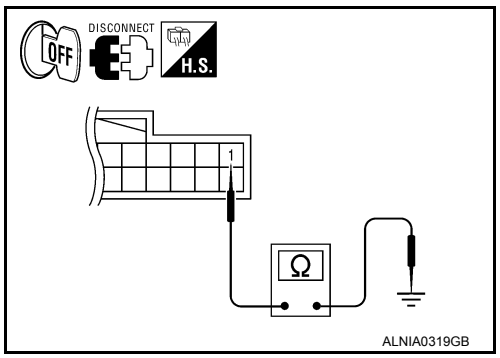
A		—	Continuity
Connector	Terminal		
M93	2	Ground	No
	3		

Are continuity results as specified?

YES >> Check AV control unit power and ground supply. Refer to AV-35, "AV CONTROL UNIT : Diagnosis Procedure".
NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

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



Connector	Terminal	—	Continuity
M93	1	Ground	Yes

Does continuity exist?

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

A/C AND AV SWITCH ASSEMBLY

A/C AND AV SWITCH ASSEMBLY : Diagnosis Procedure

INFOID:0000000009820797

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK FUSE

Check that the fuse of the AC and AV switch assembly is not blown.

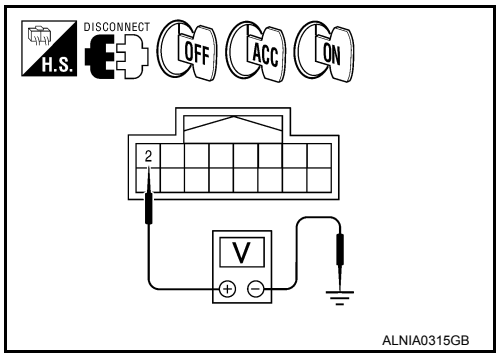
Unit	Terminal	Signal name	Fuse No.
A/C and AV switch assembly	2	Ignition switch ACC or ON	4

Is the fuse OK?

YES >> GO TO 2.
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect A/C and AV switch assembly connector M98.
2. Check voltage between the A/C and AV switch assembly connector M98 and ground.



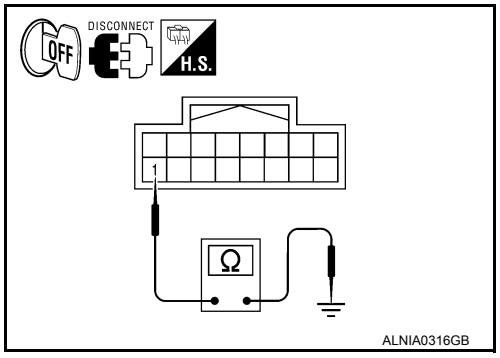
(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M98	2	Ground	0V	Battery voltage	Battery voltage

Are the voltage results as specified?

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

3.GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Check continuity between A/C and AV switch assembly harness connector M98 and ground.



Connector	Terminal	—	Continuity
M98	1	Ground	Yes

Are the continuity results as specified?

YES >> Inspection End.
NO >> Repair harness or ground.

BLUETOOTH® CONTROL UNIT

BLUETOOTH® CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009820798

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK FUSE

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

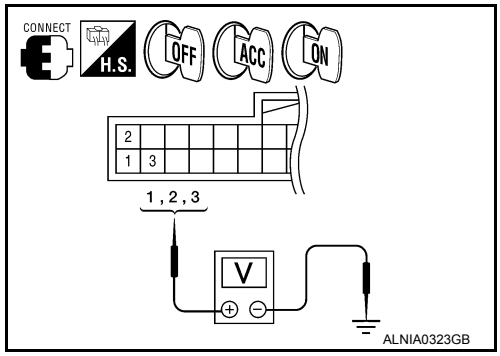
Power source	Fuse No.
Battery	31
Ignition switch ACC or ON	4
Ignition switch ON or START	12

Is inspection result OK?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between Bluetooth® control unit harness connector B142 and ground.



(+)		(-)	Ignition switch position	Value (Approx.)
Connector	Terminal			
B142	1	Ground	OFF	Battery voltage
	2		ACC	
	3		ON	

Is battery voltage present as specified?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector.
3. Check continuity between Bluetooth® control unit harness connector B142 and ground.

Connector.	Terminal	—	Continuity
B142	4	Ground	Yes
	20		
	22		

Are continuity results as specified?

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

MICROPHONE

MICROPHONE : Diagnosis Procedure

INFOID:0000000009820799

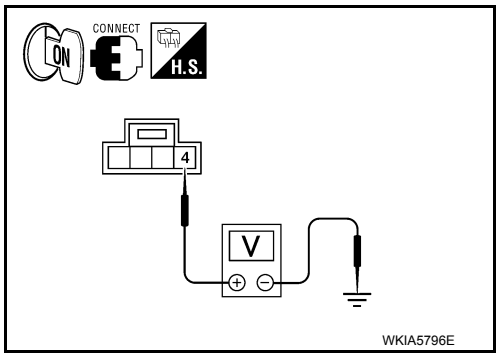
Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

1. Turn ignition switch ON.

Check voltage between microphone harness connector R109 terminal 4 and ground.

(+)		(-)	Value (Approx.)
Connector	Terminal		
R109	4	Ground	5V



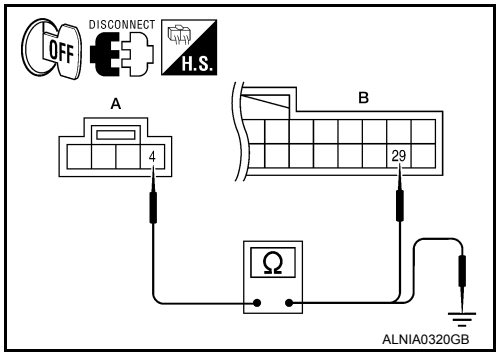
Is approximately 5V present?

YES >> GO TO 4.
NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect microphone and Bluetooth control unit harness connectors.
3. Check continuity between microphone harness connector R109 (A) terminal 4 and Bluetooth control unit harness connector B142 (B) terminal 29.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
R109	4	B142	29	Yes



4. Check continuity between microphone harness connector R109 (A) terminal 4 and ground.

A		—	Continuity
Connector	Terminal		
R109	4	Ground	No

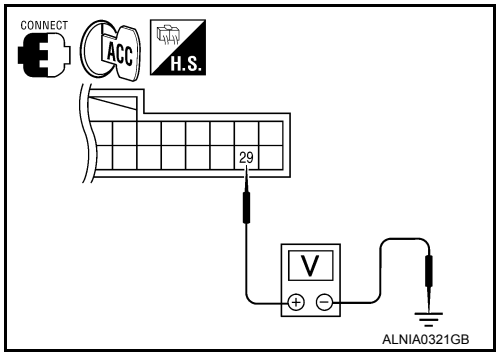
Are the continuity test results as specified?

YES >> GO TO 3.
NO >> Repair harness or connector.

3. CHECK POWER SUPPLY CIRCUIT (BLUETOOTH CONTROL UNIT SIDE)

1. Connect Bluetooth control unit harness connector.
2. Turn ignition switch to ACC.
3. Check voltage between Bluetooth control unit harness connector B142 terminal 29 and ground.

(+)		(-)	Value (Approx.)
Connector	Terminal		
B142	29	Ground	5V

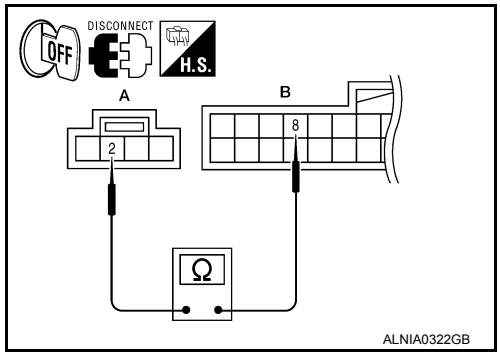


Is approximately 5V present?

YES >> Inspection End.
NO >> Replace Bluetooth control unit. Refer to AV-287, "Removal and Installation".

4. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect microphone harness connector R109 and Bluetooth control unit harness connector B142.
3. Check continuity between microphone harness connector R109 (A) terminal 2 and Bluetooth control unit harness connector B142 (B) terminal 8.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
R109	2	B142	8	Yes

Does continuity exist?

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

RGB (R: RED) SIGNAL CIRCUIT

Description

INFOID:0000000009820800

Transmit the image displayed with AV control unit with RGB signal to the display unit.

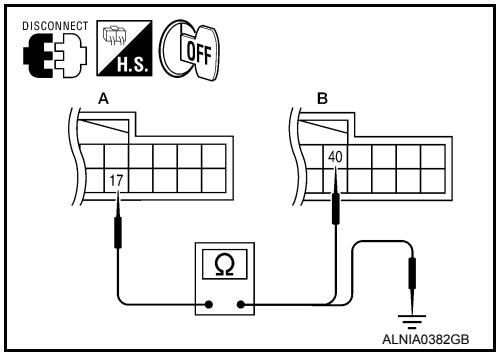
Diagnosis Procedure

INFOID:0000000009820801

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK CONTINUITY RGB (R: RED) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and AV control unit connector M44.
3. Check continuity between display unit harness connector M93 (A) terminal 17 and AV control unit harness connector M44 (B) terminal 40.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	17	M44	40	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 17 and ground.

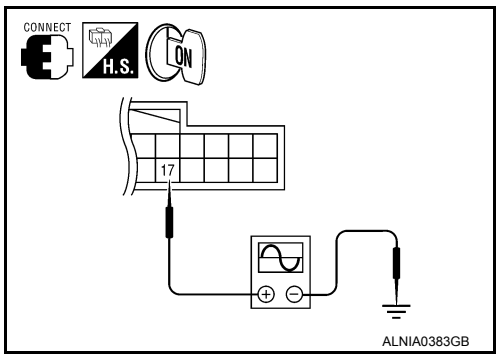
A		—	Continuity
Connector	Terminal		
M93	17	Ground	No

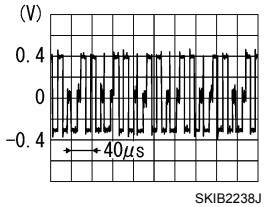
Are the continuity results as specified?

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

2.CHECK RGB (R: RED) SIGNAL

1. Connect display unit connector M93 and AV control unit connector M44.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 17 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	17	Ground	Receive audio signal	

SKIB2238J

Are the voltage readings as specified?

YES >> Replace display unit. Refer to AV-108, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-105, "Removal and Installation".

RGB (G: GREEN) SIGNAL CIRCUIT

Description

INFOID:0000000009820802

Transmit the image displayed with AV control unit with RGB signal to the display unit.

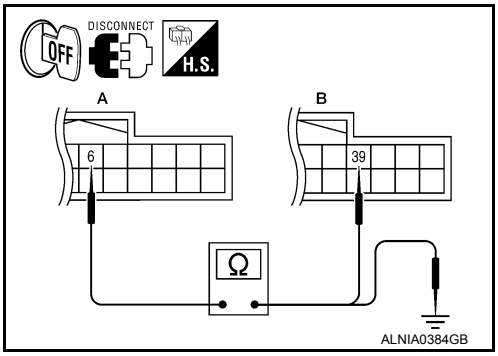
Diagnosis Procedure

INFOID:0000000009820803

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK CONTINUITY RGB (G: GREEN) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and AV control unit connector M44.
3. Check continuity between display unit harness connector M93 (A) terminal 6 and AV control unit harness connector M44 (B) terminal 39.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	6	M44	39	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 6 and ground.

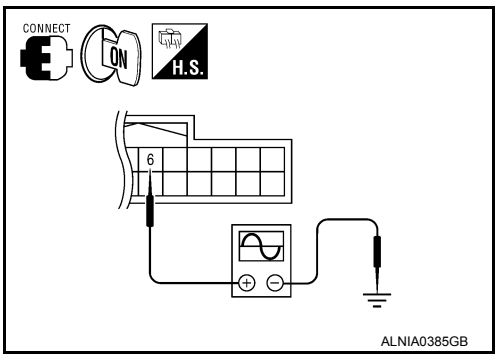
A		—	Continuity
Connector	Terminal		
M93	6	Ground	No

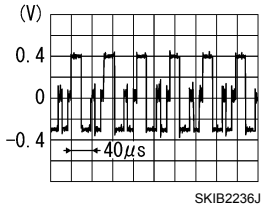
Are the continuity results as specified?

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

2.CHECK RGB (G: GREEN) SIGNAL

1. Connect display unit connector M93 and AV control unit connector M44.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 6 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	6	Ground	Receive audio signal	

SKIB2236J

Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-108, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-105, "Removal and Installation".

RGB (B: BLUE) SIGNAL CIRCUIT

Description

INFOID:0000000009820804

Transmit the image displayed with AV control unit with RGB signal to the display unit.

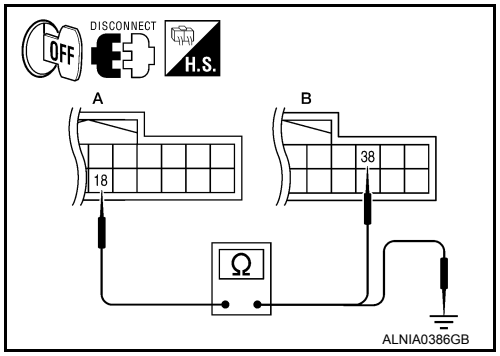
Diagnosis Procedure

INFOID:0000000009820805

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK CONTINUITY RGB (B: BLUE) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and AV control unit connector M44.
3. Check continuity between display unit harness connector M93 (A) terminal 18 and AV control unit harness connector M44 (B) terminal 38.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	18	M44	38	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 18 and ground.

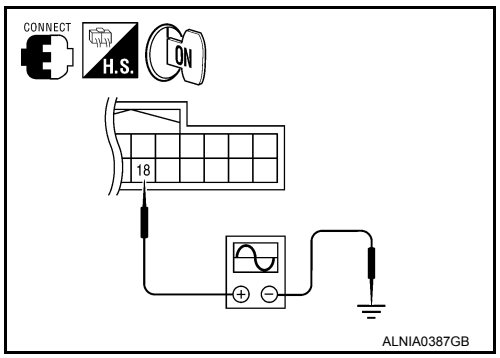
A		—	Continuity
Connector	Terminal		
M93	18	Ground	No

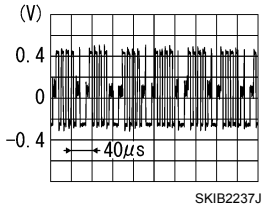
Are continuity results as specified?

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

2.CHECK RGB (B: BLUE) SIGNAL

1. Connect display unit connector M93 and AV control unit connector M44.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 18 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	18	Ground	Receive audio signal	

SKIB2237J

Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-108, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-105, "Removal and Installation".

RGB SYNCHRONIZING SIGNAL CIRCUIT

Description

INFOID:0000000009820806

Transmit the RGB synchronizing signal to the display unit so as to synchronize the RGB image displayed with AV control unit.

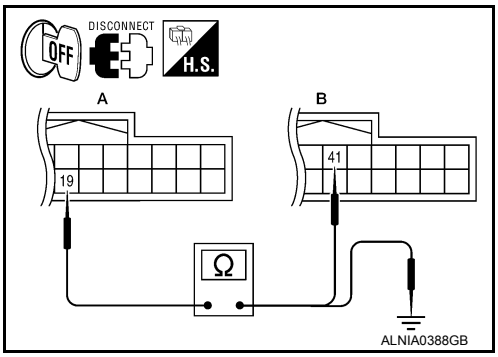
Diagnosis Procedure

INFOID:0000000009820807

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and AV control unit connector M44.
3. Check continuity between display unit harness connector M93 (A) terminal 19 and AV control unit harness connector M44 (B) terminal 41.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	19	M44	41	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 19 and ground.

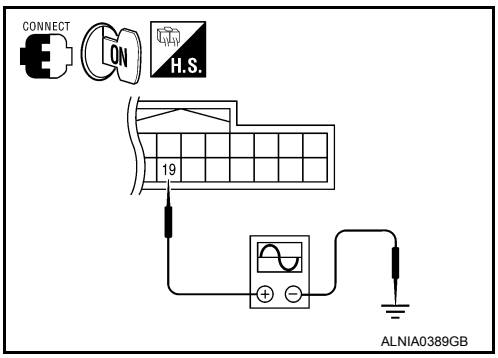
A		—	Continuity
Connector	Terminal		
M93	19	Ground	No

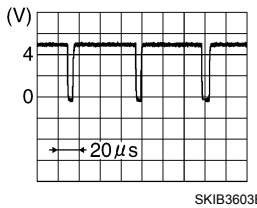
Are continuity results as specified?

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

2.CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector M93 and AV control unit connector M44.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 19 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	19	Ground	Receive audio signal	

SKIB3603E

Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-108, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-105, "Removal and Installation".

RGB AREA (YS) SIGNAL CIRCUIT

Description

INFOID:0000000009820808

Transmits the display area of RGB image displayed by AV control unit with RGB area (YS) signal to display unit.

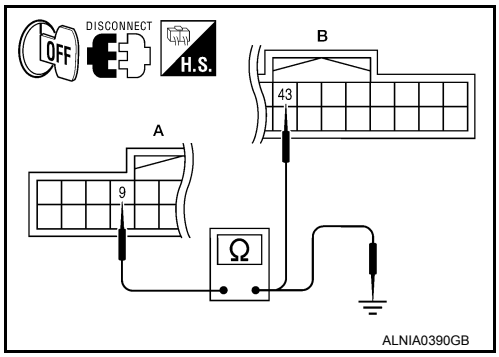
Diagnosis Procedure

INFOID:0000000009820809

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and AV control unit connector M44.
3. Check continuity between display unit harness connector M93 (A) terminal 9 and AV control unit harness connector M44 (B) terminal 43.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	9	M44	43	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 9 and ground.

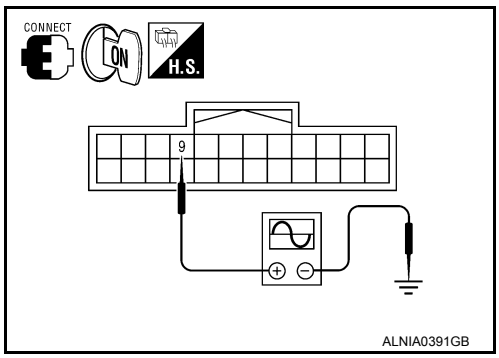
A		—	Continuity
Connector	Terminal		
M93	9	Ground	No

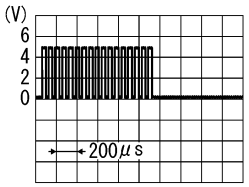
Are continuity results as specified?

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

2.CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector M93 and AV control unit connector M44.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 9 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	9	Ground	Receive audio signal	

PKIB4948J

Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-108, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-105, "Removal and Installation".

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description

INFOID:0000000009820810

In composite image, transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to AV control unit so as to synchronize the RGB images displayed with AV control unit such as the image quality adjusting menu, etc.

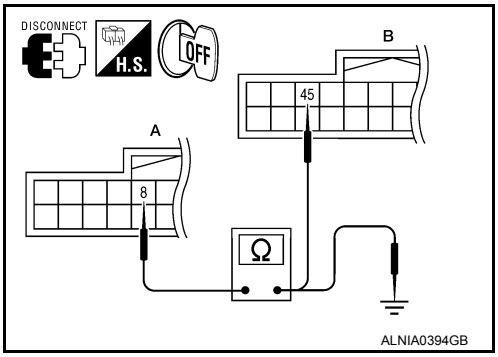
Diagnosis Procedure

INFOID:0000000009820811

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and AV control unit connector M44.
3. Check continuity between display unit harness connector M93 (A) terminal 8 and AV control unit harness connector M44 (B) terminal 45.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	8	M44	45	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 8 and ground.

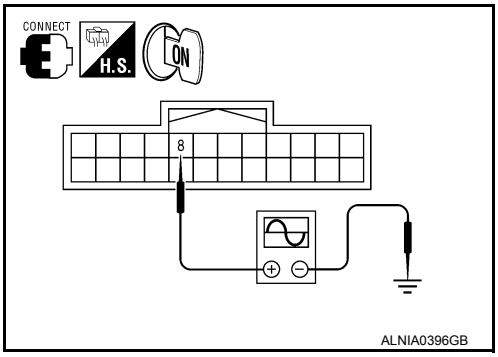
A		—	Continuity
Connector	Terminal		
M93	8	Ground	No

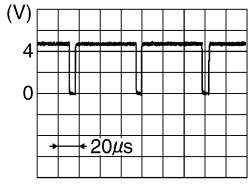
Are continuity results as specified?

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

2.CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

1. Connect display unit connector M93 and AV control unit connector M44.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 8 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	8	Ground	Receive audio signal	

SKIB3601E

Are voltage readings as specified?

YES >> Replace AV control unit. Refer to AV-105, "Removal and Installation".
NO >> Replace display unit. Refer to AV-108, "Removal and Installation".

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description

INFOID:0000000009820812

In composite image, transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to AV control unit so as to synchronize the RGB images displayed with AV control unit such as the image quality adjusting menu, etc.

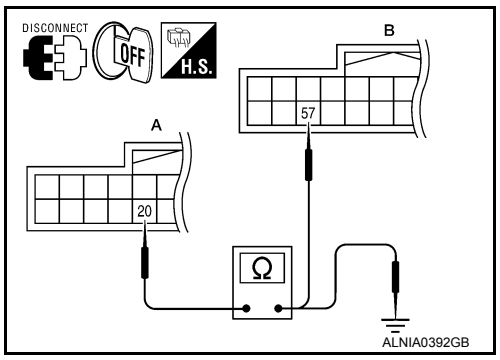
Diagnosis Procedure

INFOID:0000000009820813

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1. CHECK CONTINUITY VERTICAL SINCHRONIZING (VP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and AV control unit connector M44.
3. Check continuity between display unit harness connector M93 (A) terminal 20 and AV control unit harness connector M44 (B) terminal 57.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	20	M44	57	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 20 and ground.

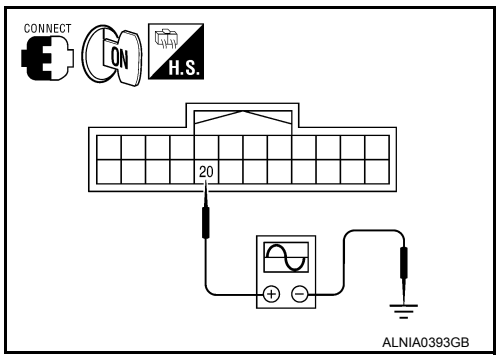
A		—	Continuity
Connector	Terminal		
M93	20	Ground	No

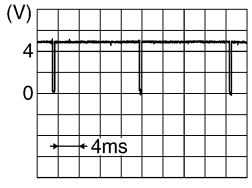
Are continuity results as specified?

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

2. CHECK VERTICAL SINCHRONIZING (VP) SIGNAL

1. Connect display unit connector M93 and AV control unit connector M44.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 20 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	20	Ground	Receive audio signal	

SKIB3598E

Are voltage readings as specified?

YES >> Replace AV control unit. Refer to AV-105, "Removal and Installation".
NO >> Replace display unit. Refer to AV-108, "Removal and Installation".

FRONT DOOR SPEAKER

Description

INFOID:0000000009820814

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

Diagnosis Procedure

INFOID:0000000009820815

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CONNECTOR CHECK

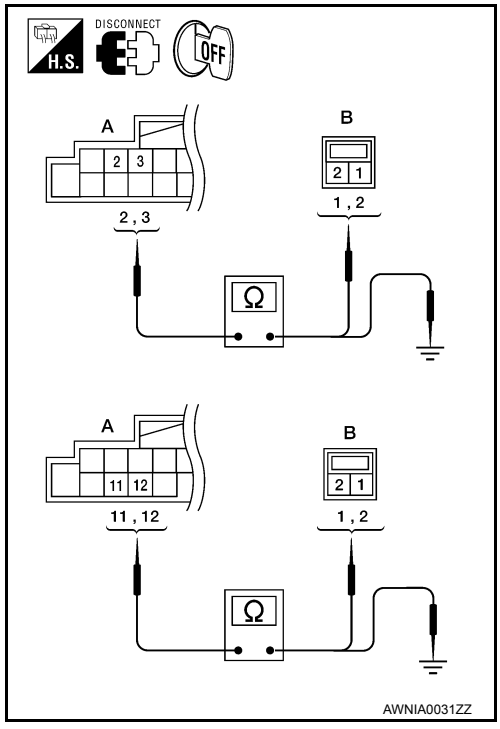
Check the AV control unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

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

2.HARNESS CHECK

1. Disconnect AV control unit connector M42 and suspect speaker connector.
2. Check continuity between AV control unit harness connector M42 (A) terminal and suspect speaker harness connector (B) terminal.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M42	2	D12	1	Yes
	3		2	
	11	D112	1	
	12		2	

3. Check continuity between AV control unit harness connector M42 (A) terminal and ground.

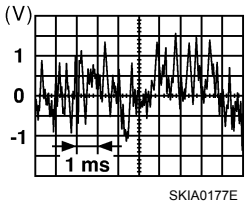
A		—	Continuity
Connector	Terminal		
M42	2	Ground	No
	3		
	11		
	12		

Are continuity results as specified?

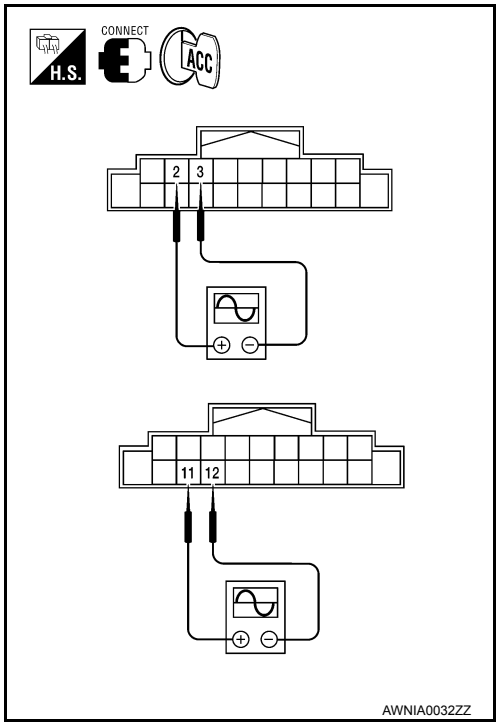
YES >> GO TO 3.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

3.FRONT SPEAKER SIGNAL CHECK

1. Connect AV control unit connector M42 and front speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M42 terminals with CONSULT or oscilloscope.

(+)		(-)	Condition	Reference signal
Connector	Terminal	Terminal		
M42	2	3	Receive audio signal	
	11	12		

SKIA0177E



AWNIA0032ZZ

Is the audio signal voltage as specified?

YES >> Replace speaker. Refer to AV-110, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-105, "Removal and Installation".

FRONT TWEETER

Description

INFOID:0000000009820816

The AV control unit sends audio signals to the front tweeters using the front tweeter circuits.

Diagnosis Procedure

INFOID:0000000009820817

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

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

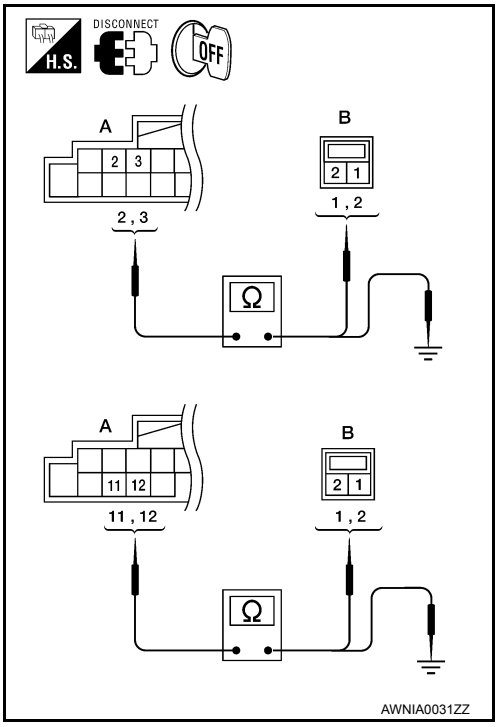
2.HARNESS CHECK

1. Disconnect AV control unit connector M42 and suspect front tweeter connector.
2. Check continuity between AV control unit harness connector M42 (A) and suspect front tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M42	2	M109	1	Yes
	3		2	
	11	M111	1	
	12		2	

3. Check continuity between AV control unit harness connector M42 (A) and ground.

A		—	Continuity
Connector	Terminal		
M42	2	Ground	No
	3		
	11		
	12		

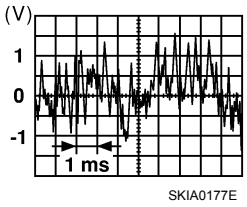


Are the continuity results as specified?

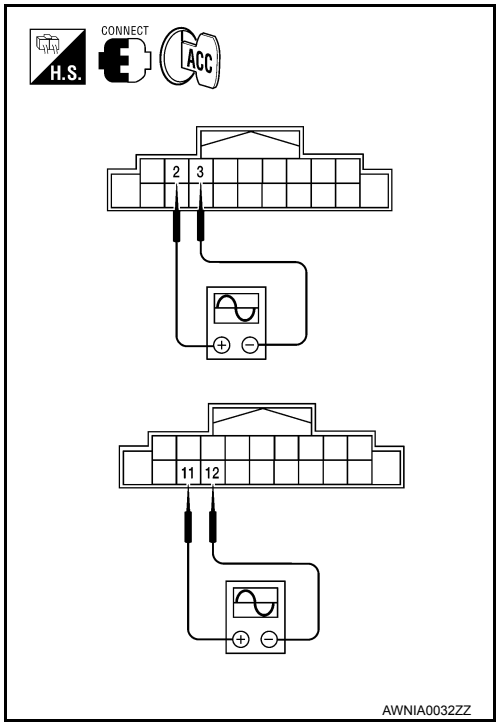
YES >> GO TO 3.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

3.FRONT TWEETER SIGNAL CHECK

1. Connect AV control unit connector M42 and front tweeter connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M42 terminals with CONSULT or oscilloscope.

(+)		(-)	Condition	Reference signal
Connector	Terminal	Terminal		
M42	2	3	Receive audio signal	
	11	12		

SKIA0177E



AWNIA0032ZZ

Is the audio signal voltage as specified?

YES >> Replace the suspect front tweeter. Refer to AV-110, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-105, "Removal and Installation".

REAR DOOR SPEAKER

Description

INFOID:0000000009820818

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

Diagnosis Procedure

INFOID:0000000009820819

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

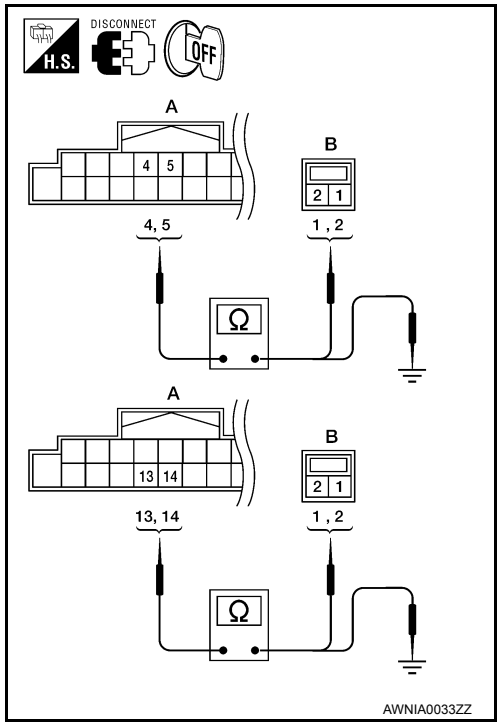
Is the inspection result normal?

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

2.HARNESS CHECK

1. Disconnect AV control unit connector M42 and suspect rear speaker connector.
2. Check continuity between AV control unit harness connector M42 (A) and suspect rear speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M42	4	D209	1	Yes
	5		2	
	13	D309	1	
	14		2	



3. Check continuity between AV control unit harness connector M42 (A) and ground.

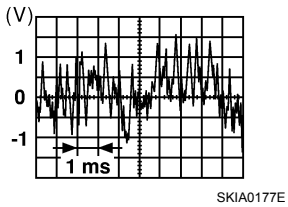
A		—	Continuity
Connector	Terminal		
M42	4	Ground	No
	5		
	13		
	14		

Are the continuity results as specified?

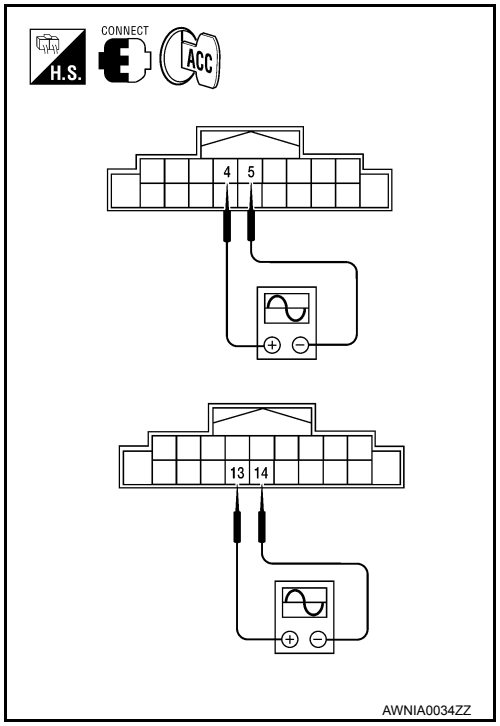
YES >> GO TO 3.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

3.REAR SPEAKER SIGNAL CHECK

1. Connect AV control unit connector and rear speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M42 terminals with CONSULT or oscilloscope.

(+)		(-)	Condition	Reference signal
Connector	Terminal	Terminal		
M42	4	5	Receive audio signal	
	13	14		

SKIA0177E



AWNIA0034ZZ

Is the audio signal voltage as specified?

YES >> Replace the suspect rear door speaker. Refer to AV-111, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-105, "Removal and Installation".

REAR TWEETER

Description

INFOID:0000000009820820

The AV control unit sends audio signals to the rear tweeters using the rear tweeter circuits.

Diagnosis Procedure

INFOID:0000000009820821

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

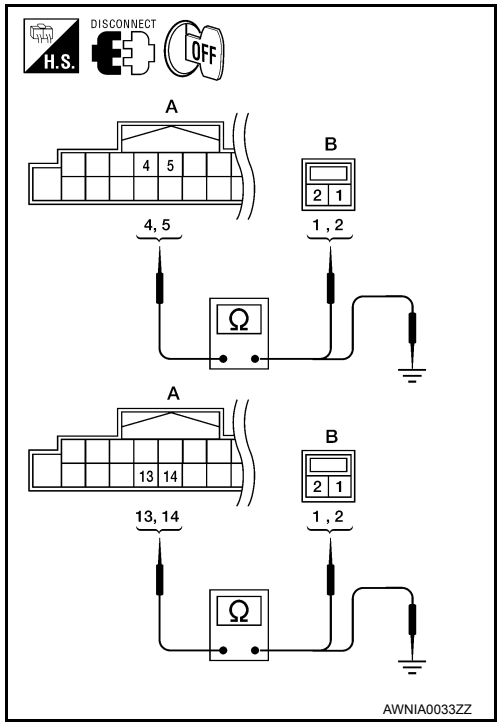
Is the inspection result normal?

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

2.HARNESS CHECK

1. Disconnect AV control unit connector M42 and suspect rear tweeter connector.
2. Check continuity between AV control unit harness connector M42 (A) and suspect rear tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M42	4	D208	1	Yes
	5		2	
	13	D308	1	
	14		2	



3. Check continuity between AV control unit harness connector M42 (A) and ground.

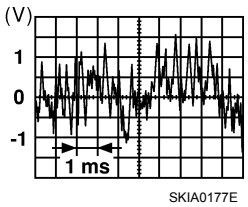
A		—	Continuity
Connector	Terminal		
M42	4	Ground	No
	5		
	13		
	14		

Are the continuity results as specified?

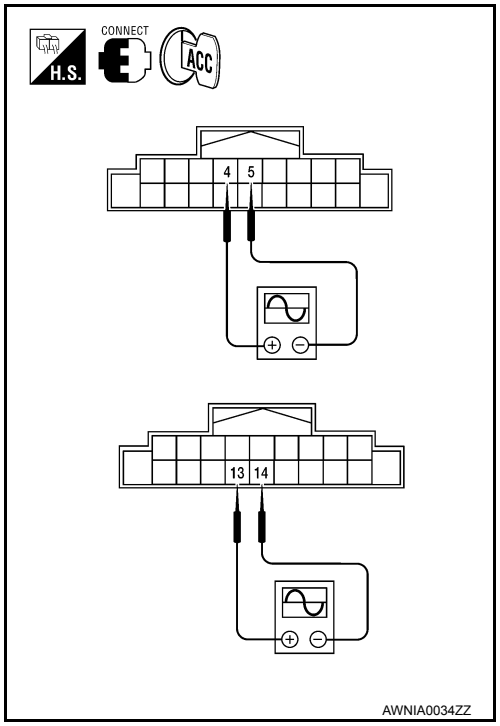
YES >> GO TO 3.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

3.REAR TWEETER SIGNAL CHECK

1. Connect AV control unit connector and rear tweeter connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M42 terminals with CONSULT or oscilloscope.

(+)		(-)	Condition	Reference signal
Connector	Terminal	Terminal		
M42	4	5	Receive audio signal	
	13	14		

SKIA0177E



AWNIA0034ZZ

Is the audio signal voltage as specified?

YES >> Replace suspect rear tweeter. Refer to AV-110, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-105, "Removal and Installation".

STEERING SWITCH

Description

INFOID:0000000009820822

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

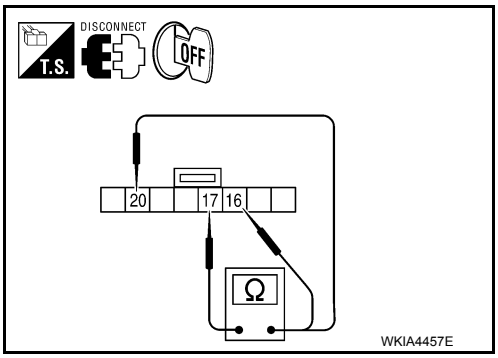
Diagnosis Procedure

INFOID:0000000009820823

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Disconnect combination switch connector M102.
2. Check resistance between combination switch connector terminals.



Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
16	17	Volume (down)	Depress − switch.	1
		Volume (up)	Depress + switch.	121
		Phone end	Depress switch.	321
20	17	Source	Depress SOURCE switch.	1
		Seek (up)	Depress △ switch.	121
		Seek (down)	Depress ▽ switch.	321
		Phone/Send	Depress switch.	723

Do the steering wheel audio control switches check OK?

YES >> GO TO 2.
NO >> Replace steering wheel audio control switch. Refer to AV-112, "Removal and Installation".

2.CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M42 and combination switch connector M30.
3. Check continuity between AV control unit harness connector M42 and combination switch harness connector M30.

AV control unit		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M42	6	M30	24	Yes
	15		31	
	16		25	

4. Check continuity between AV control unit connector M42 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M42	6	Ground	No
	15		
	16		

Are the continuity results as specified?

YES >> GO TO 3.
NO >> Repair harness.

3. SPIRAL CABLE CHECK

Check continuity between combination switch harness connectors M30 and M102.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M102	20	Yes
	31		17	
	25		16	

Does the spiral cable check OK?

YES >> Inspection End.
NO >> Replace spiral cable. Refer to SR-7, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000009820824

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

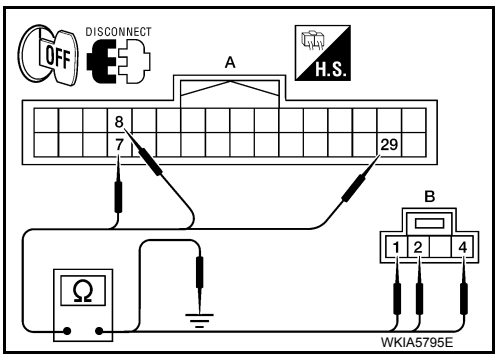
Diagnosis Procedure

INFOID:0000000009820825

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector and microphone connector.
3. Check continuity between Bluetooth® control unit harness connector B142 (A) and microphone harness connector R109 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
B142	7	R109	1	Yes
	8		2	
	29		4	

4. Check continuity between Bluetooth® control unit harness connector B142 (A) and ground.

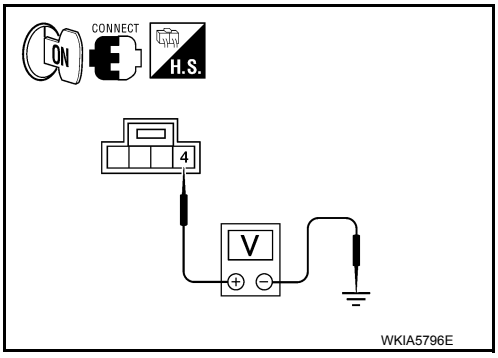
A		—	Continuity
Connector	Terminal		
B142	7	Ground	No
	8		
	29		

Are the continuity test results as specified?

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

2.CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth® control unit connector and microphone connector.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector R109 terminal 4 and ground.



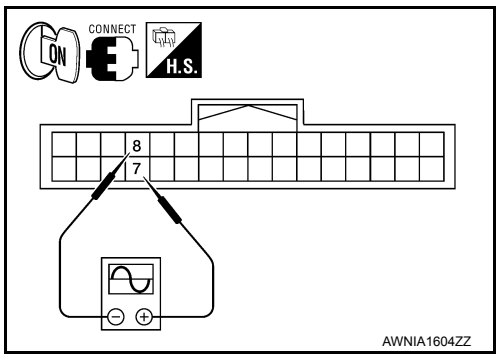
(+)		(-)	Voltage (approx.)
Connector	Terminal		
R109	4	Ground	5V

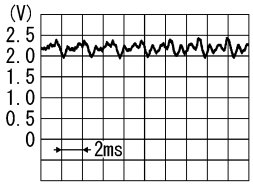
Is voltage reading approx. 5 volts?

YES >> GO TO 3.
NO >> Replace Bluetooth® control unit. Refer to AV-287, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

Check signal between Bluetooth® control unit harness connector B142 terminals 7 and 8 with CONSULT or and oscilloscope.



Connector	(+) Terminal	(-) Terminal	Reference signal
B142	7	8	While speaking into MIC 

Are voltage readings as specified?

YES >> Replace Bluetooth® control unit. Refer to AV-287, "Removal and Installation".
NO >> Replace microphone. Refer to AV-286, "Removal and Installation".

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000009820826

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M48 and USB interface connector M214.
3. Check continuity between AV control unit connector M48 and USB interface connector M214.

AV control unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M48	121	M214	4	Yes
	122		1	
	123		2	
	124		3	
	125		5	

4. Check continuity between AV control unit connector M48 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M48	121	Ground	No
	123		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-116, "Removal and Installation".
NO >> Repair or replace harness or connectors.

FRONT AUXILIARY INPUT JACK AUDIO SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000009820827

Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

1.CHECK AUX SOUND SIGNAL CIRCUIT CONTINUITY 1

1. Turn ignition switch OFF.
2. Disconnect front auxiliary input jacks connector M206 and headrest display unit (passenger seat) connector B305.
3. Check continuity between front auxiliary input jacks connector M206 terminals 1, 3 and headrest display unit (passenger seat) connector B305 terminals 4, 5.

Front auxiliary input jacks		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	
M206	1	B305	4	Yes
	3		5	

4. Check continuity between front auxiliary input jacks connector M206 terminals 1, 3 and ground.

Front auxiliary input jacks		Ground	Continuity
Connector	Terminal		
M205	1	—	No
	3		

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK AUX SOUND SIGNAL CIRCUIT CONTINUITY 2

1. Disconnect AV control unit connector M46.
2. Check continuity between AV control unit connector M46 terminals 95, 96 and headrest display unit (passenger seat) connector B305 terminals 14, 15.

AV control unit		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	
M46	95	B305	14	Yes
	96		15	

3. Check continuity between AV control unit connector M46 terminals 95, 96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M46	95	—	No
	96		

Is inspection result normal?

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

3.CHECK AUX SOUND SIGNAL GROUND CIRCUIT CONTINUITY 1

Check continuity between front auxiliary input jacks connector M206 terminal 2 and headrest display unit (passenger seat) connector B305 terminal 3.

Front auxiliary input jacks		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	
M206	2	B305	3	Yes

Is inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4. CHECK AUX SOUND SIGNAL GROUND CIRCUIT CONTINUITY 2

Check continuity between AV control unit connector M46 terminal 97 and headrest display unit (passenger seat) connector B305 terminal 13.

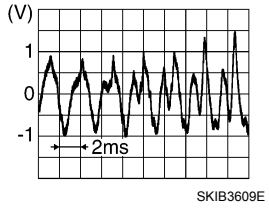
AV control unit		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	
M46	97	B305	13	Yes

Is inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness or connectors.

5. CHECK AUX SOUND SIGNAL

1. Connect AV control unit connector M46 and headrest display unit (passenger seat) connector B305.
2. Turn ignition switch to ACC.
3. Select AUX mode.
4. Check signals between AV control unit connector M46 and ground.

AV control unit connector M46		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
95	96	AUX mode selected	
96	97		

SKIB3609E

Is the inspection result normal?

YES >> Replace front auxiliary input jacks. Refer to AV-115, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-105, "Removal and Installation".

ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

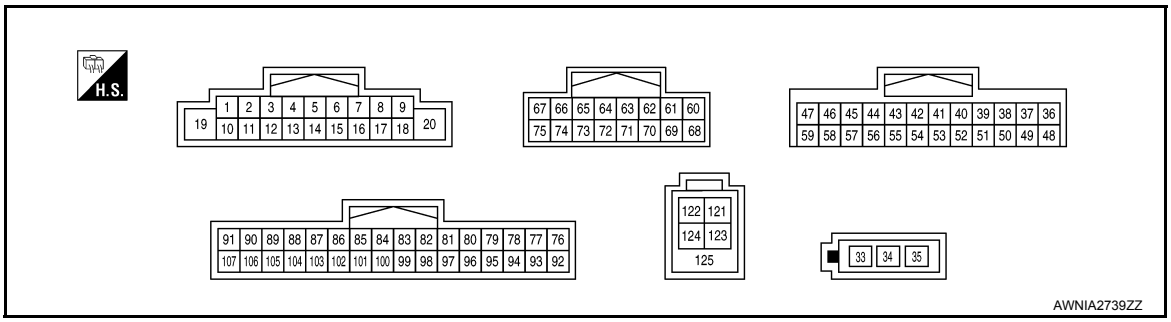
INFOID:0000000009820828

VALUES ON THE DIAGNOSIS TOOL

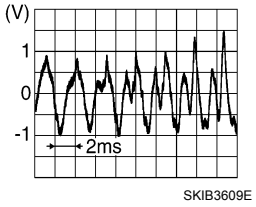
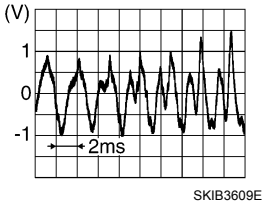
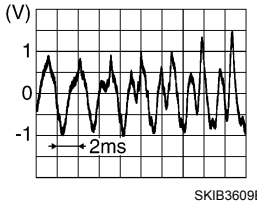
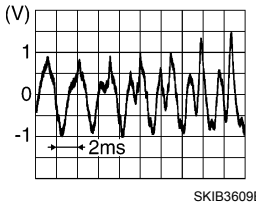
CONSULT data monitor item

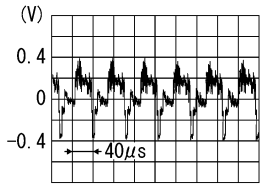
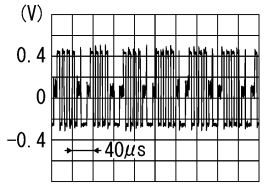
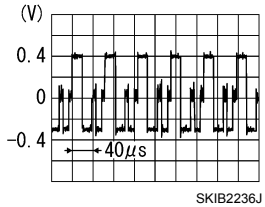
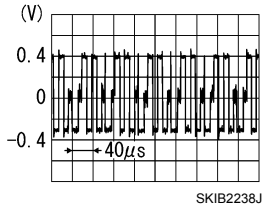
Display Item	Display	Vehicle status	Remarks
VHCL SPD SIG	ON	Vehicle speed >0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed =0 km/h (0 MPH)	
PKB SIG	ON	Parking brake is applied.	Changes in indication may be delayed. This is normal.
	OFF	Parking brake is released.	
ILLUM SIG	ON	Block the light beam from the auto light optical sensor when the light SW is ON .	—
	OFF	Expose the auto light optical sensor to light when the light SW is OFF or ON.	
IGN SIG	ON	Ignition switch ON	—
	OFF	Ignition switch in ACC position	
REV SIG	ON	Selector lever in R position	Changes in indication may be delayed. This is normal.
	OFF	Selector lever in any position other than R	

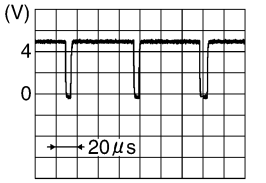
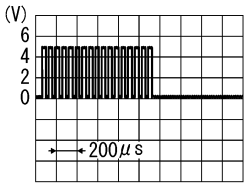
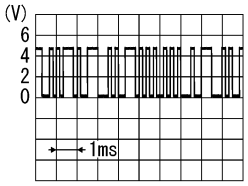
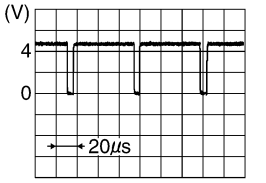
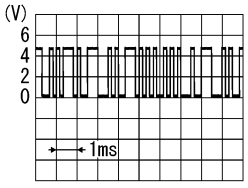
TERMINAL LAYOUT

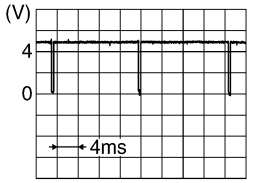
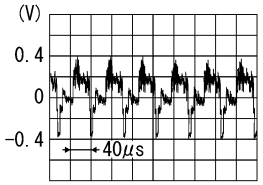
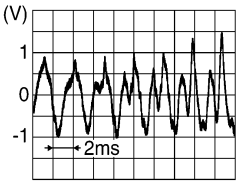


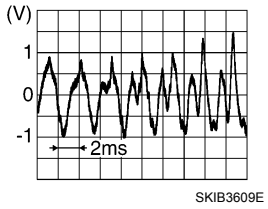
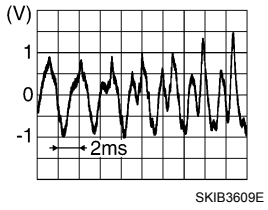
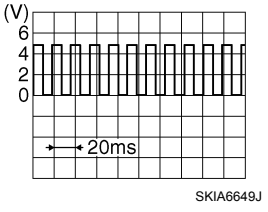
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
2 (L/W)	3 (L/R)	Sound signal front door speaker and front tweeter LH	Output	Ignition switch ON	Audio output	 SKIB3609E
4 (SB)	5 (B/Y)	Sound signal rear door speaker and rear tweeter LH	Output	Ignition switch ON	Audio output	 SKIB3609E
6 (Y)	Ground	Steering switch signal A	Input	Ignition switch ON	Press and hold SOURCE switch.	0V
					Press and hold △ switch.	1.0V
					Press and hold ▽ switch.	2.0V
					Press and hold switch.	3.0V
					Except for above.	5.0V
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
9 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	0V
					Lighting switch is ON.	12V
11 (W/B)	12 (L/B)	Sound signal front door speaker and front tweeter RH	Output	Ignition switch ON	Voice output	 SKIB3609E
13 (O/L)	14 (R/L)	Sound signal rear door speaker and rear tweeter RH	Output	Ignition switch ON	Voice output	 SKIB3609E
15	Ground	Steering switch signal GND	—	Ignition switch ON	—	0V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
16 (BR)	Ground	Steering switch signal B	Input	Ignition switch ON	Press and hold – switch	0V
					Press and hold + switch	1.0V
					Press and hold switch	2.0V
					Except for above	5.0V
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
20 (B)	Ground	Ground	—	Ignition switch ON	—	0V
34 (B)	Ground	Antenna amp. ON signal	Output	Ignition switch ACC	—	12V
35 (B)	—	Amplified window antenna signal	Input	—	—	—
36 (Y)	Ground	AUX image signal	Output	Ignition switch ON	When AUX mode is selected	 SKIB2251J
37 (BR)	Ground	AUX image ground	—	Ignition switch ON	—	0V
38 (R)	Ground	RGB signal (B: blue)	Output	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2237J
39 (B)	Ground	RGB signal (G: green)	Output	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2236J
40 (W)	Ground	RGB signal (R: red)	Output	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2238J

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
41 (W)	Ground	RGB synchronizing signal	Output	Ignition switch ON	—	 SKIB3603E
42	—	RGB synchronizing ground	—	Ignition switch ON	—	0V
43 (O)	Ground	RGB area (YS) signal	Output	Ignition switch ON	RGB image	5V
					AUX image	 PKIB4948J
44 (LG)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness	 PKIB5039J
45 (W/L)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	—	 SKIB3601E
46 (G/O)	Ground	Signal ground	—	Ignition switch	—	0V
47 (B/O)	Ground	Signal VCC	Output	Ignition switch ACC	—	9V
49	—	Shield	—	—	—	—
50	Ground	RGB ground	—	Ignition switch ON	—	0V
55	—	Shield	—	—	—	—
56 (V)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness	 PKIB5039J

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
57 (O/L)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch On	—	 SKIB3598E
58 (B)	Ground	Inverter ground	—	Ignition switch ON	—	0V
59 (BR/Y)	Ground	Inverter VCC	Output	Ignition switch ACC	—	9V
66 (W)	Ground	AUX image signal	Input	Ignition switch ON	AUX image displayed	 SKIB2251J
73	—	Shield	—	—	—	—
74 (B)	Ground	AUX image signal ground	—	Ignition switch ON		0 V
80 (G)	79 (R)	Bluetooth® voice signal	Input	Ignition switch ON	During voice guide output with switch pressed.	 SKIB3609E
81	—	Shield	—	—	—	—
85 (B)	Ground	Ground	—	Ignition switch ON	—	0V
86 (L)	—	CAN–H	Input/ Output	—	—	—
87 (P)	—	CAN–L	Input/ Output	—	—	—
88 (W/L)	—	AV communication signal 1 (H)	Input/ Output	—	—	—
89 (P/B)	—	AV communication signal 1 (L)	Input/ Output	—	—	—
90 (L/W)	—	AV communication signal 2 (H)	Input/ Output	—	—	—
91 (B/P)	—	AV communication signal 2 (L)	Input/ Output	—	—	—
94	—	Shield	—	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
95 (R)	97 (B)	AUX audio signal RH	Input	Ignition switch ON	When AUX mode is selected	 SKIB3609E
96 (W)	97 (B)	AUX audio signal LH	Input	Ignition switch ON	When AUX mode is selected	 SKIB3609E
100	—	Shield	—	—	—	—
103 (SB)	Ground	CD eject signal	Input	—	Pressing the eject switch	0V
					Except for above	3.3V
104 (G/R)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
105 (G/W)	Ground	Reverse signal	Input	Ignition switch ON	R position	Battery voltage
					Other than R position	0V
106 (G)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake ON	0V
					Parking brake OFF	Battery voltage
107 (W/R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25MPH)	 SKIA6649J
121 (W)	—	V BUS signal	—	—	—	—
122 (G)	—	USB ground	—	—	—	—
123 (L)	—	USB D+ signal	—	—	—	—
124 (R)	—	USB D− signal	—	—	—	—
125	—	Shield	—	—	—	—

DTC Index

INFOID:0000000009820829

Self-diagnosis results display item

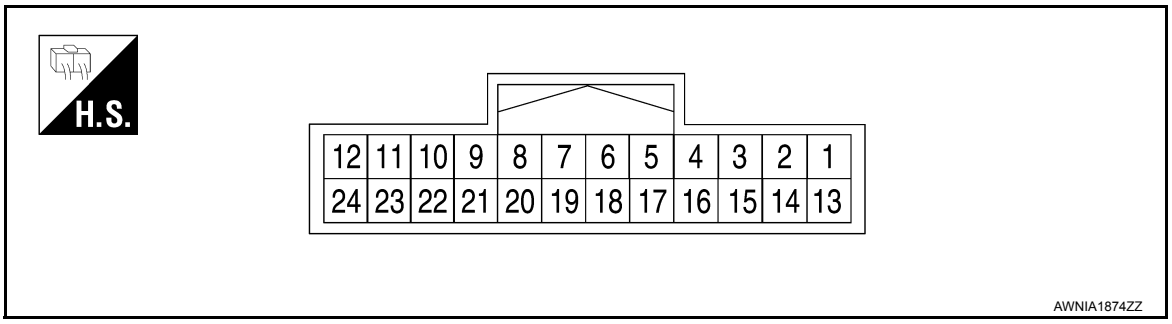
Error item	Refer to
CAN COMM CIRCUIT [U1000]	AV-25, "Description"
CONTROL UNIT (CAN) [U1010]	AV-26, "Description"
Control Unit FLASH-ROM [U1200]	AV-27, "Description"
CAN CONT [U1216]	AV-28, "Description"
SWITCH CONN [U1240]	AV-29, "Description"
FRONT DISP CONN [U1243]	AV-30, "Description"
HAND FREE CONN [U1256]	AV-32, "Description"
AV COMM CIRCUIT [U1300]	AV-33, "Description"
CONTROL UNIT (AV) [U1310]	AV-34, "Description"

DISPLAY UNIT

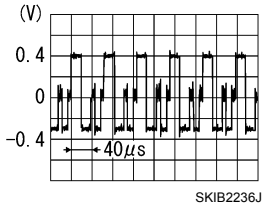
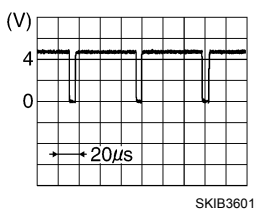
Reference Value

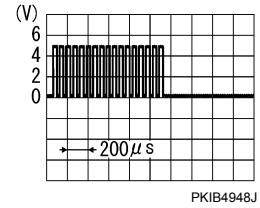
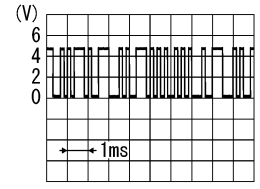
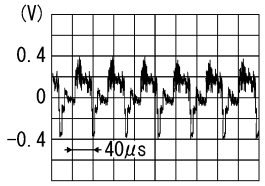
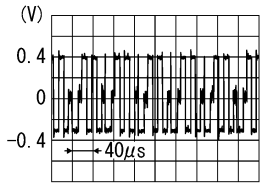
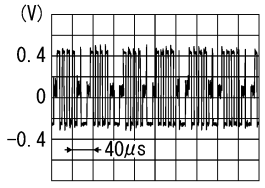
INFOID:0000000009820830

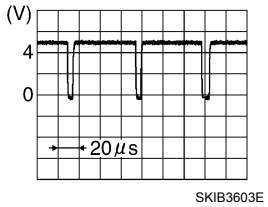
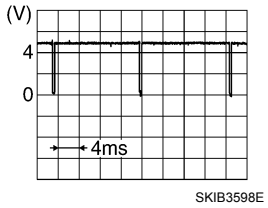
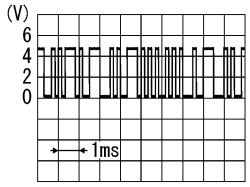
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (B)	Ground	Ground	—	Ignition switch ON	—	0V
2 (BR/Y)	Ground	Inverter VCC	Input	Ignition switch ACC	—	9V
3 (B/O)	Ground	Signal VCC	Input	Ignition switch ACC	—	9V
4 (BR)	Ground	AUX image ground	—	Ignition switch ON	—	0V
5	—	Shield	—	—	—	—
6 (B)	Ground	RGB signal (G: green)	Input	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting“Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2236J
7	—	Shield	—	—	—	—
8 (W/L)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	—	 SKIB3601E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
9 (O)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At RGB image displayed	5V
					At rear view camera image displayed	 PKIB4948J
11 (V)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness	 PKIB5039J
13 (B)	Ground	Inverter ground	—	Ignition switch ON	—	0V
14 (G/O)	Ground	Signal ground	—	Ignition switch ON	—	0V
15 (Y)	Ground	AUX image signal	Input	Ignition switch ON	When AUX mode is selected	 SKIB2251J
16 (G)	—	AUX image synchronizing signal	Input	—	—	—
17 (W)	Ground	RGB signal (R: red)	Input	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2238J
18 (R)	Ground	RGB signal (B: blue)	Input	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting“Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2237J

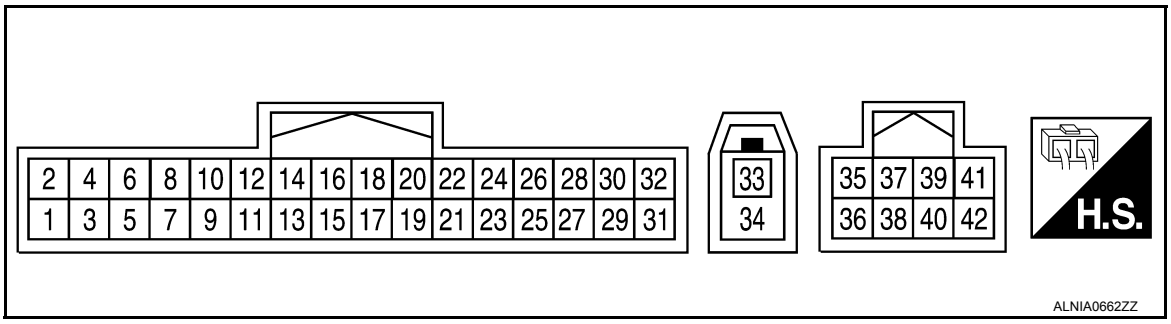
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
19 (W)	Ground	RGB synchronizing signal	Input	Ignition switch ON	—	 SKIB3603E
20 (O/L)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch On	—	 SKIB3598E
21	—	Shield	—	—	—	—
22 (LG)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness	 PKIB5039J
23	—	Shield	—	—	—	—

BLUETOOTH® CONTROL UNIT

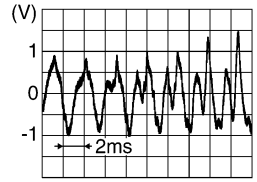
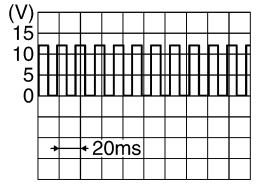
Reference Value

INFOID:0000000009820831

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ output			
1 (Y)	Ground	Battery power	Input	–	–	Battery voltage
2 (V)	Ground	ACC power	Input	Ignition switch ACC/ON	–	Battery voltage
3 (G/R)	Ground	IGN power	Input	Ignition switch ON/ START	–	Battery voltage
4 (B/W)	Ground	Ground	–	Ignition switch ON	–	0V
6	–	Shield	–	–	–	–
7 (B)	8 (R/L)	MIC in signal	Input	–	–	–
9 (G)	10 (R)	Audio out	Output	Ignition switch ACC/ON	Bluetooth control unit sends audio signal	 SKIB3609E
20 (B)	Ground	Ground	–	–	–	0V
23 (B)	Ground	Ground	–	–	–	0V
28 (W/R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	 PKIA1935E

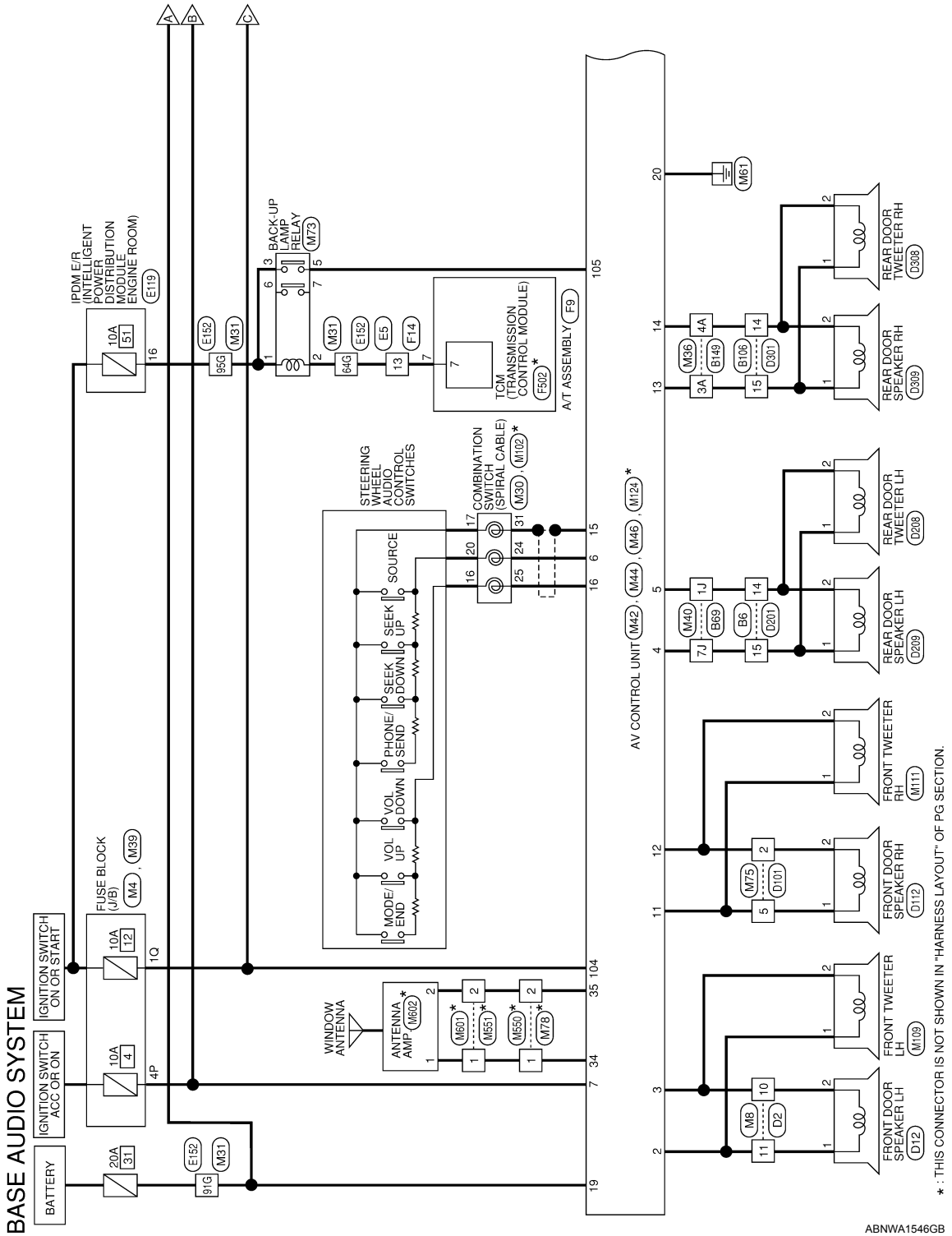
Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ output			
29 (R/W)	Ground	Microphone power	Output	Ignition switch ON	–	5V
33 (B)	–	Bluetooth antenna	–	–	–	—
34 (B)	–	Bluetooth antenna	–	–	–	—
35 (W/L)	–	M-CAN1-H	–	–	–	—
36 (Y/L)	–	M-CAN1-L	–	–	–	—

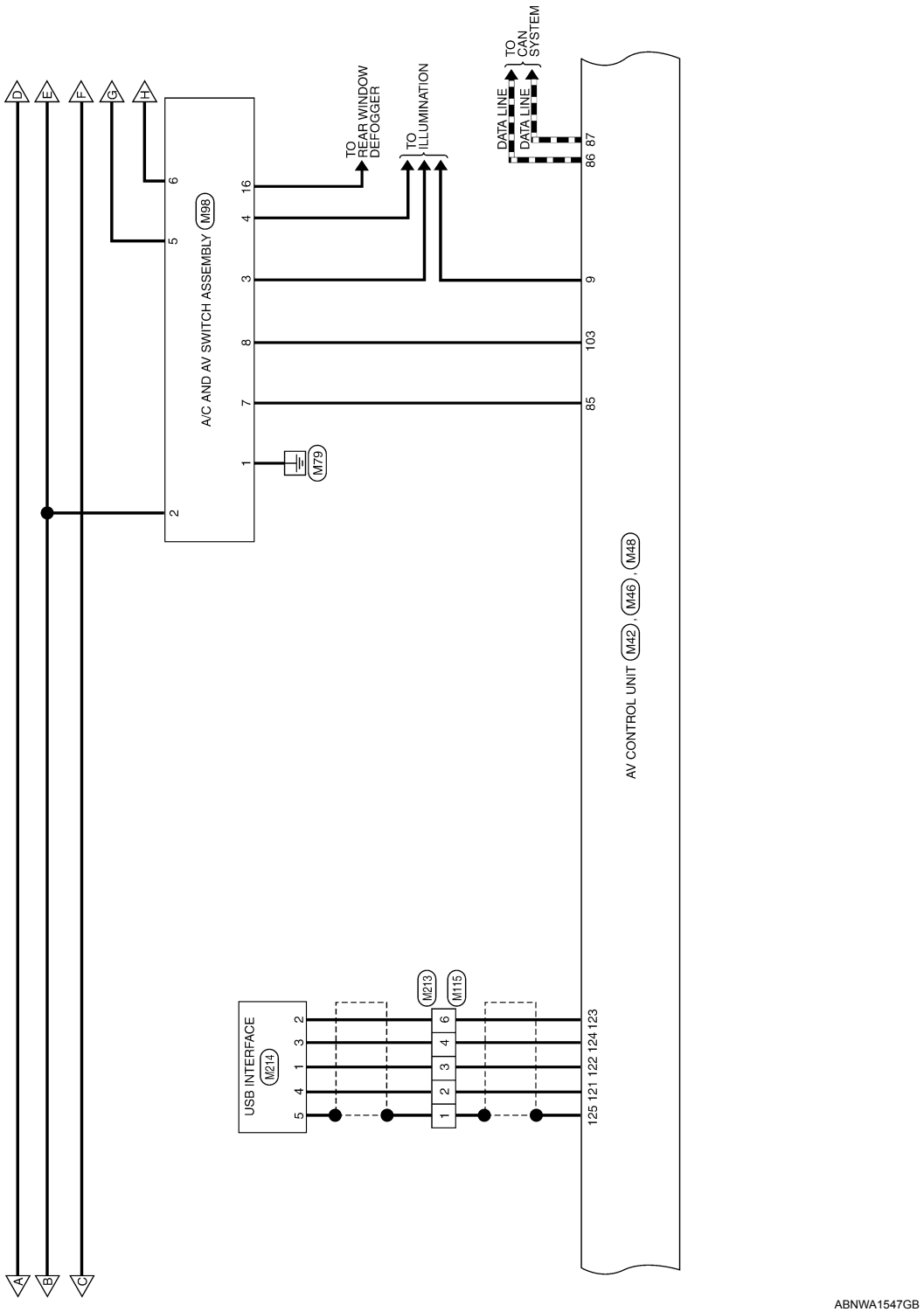
WIRING DIAGRAM

BASE AUDIO SYSTEM

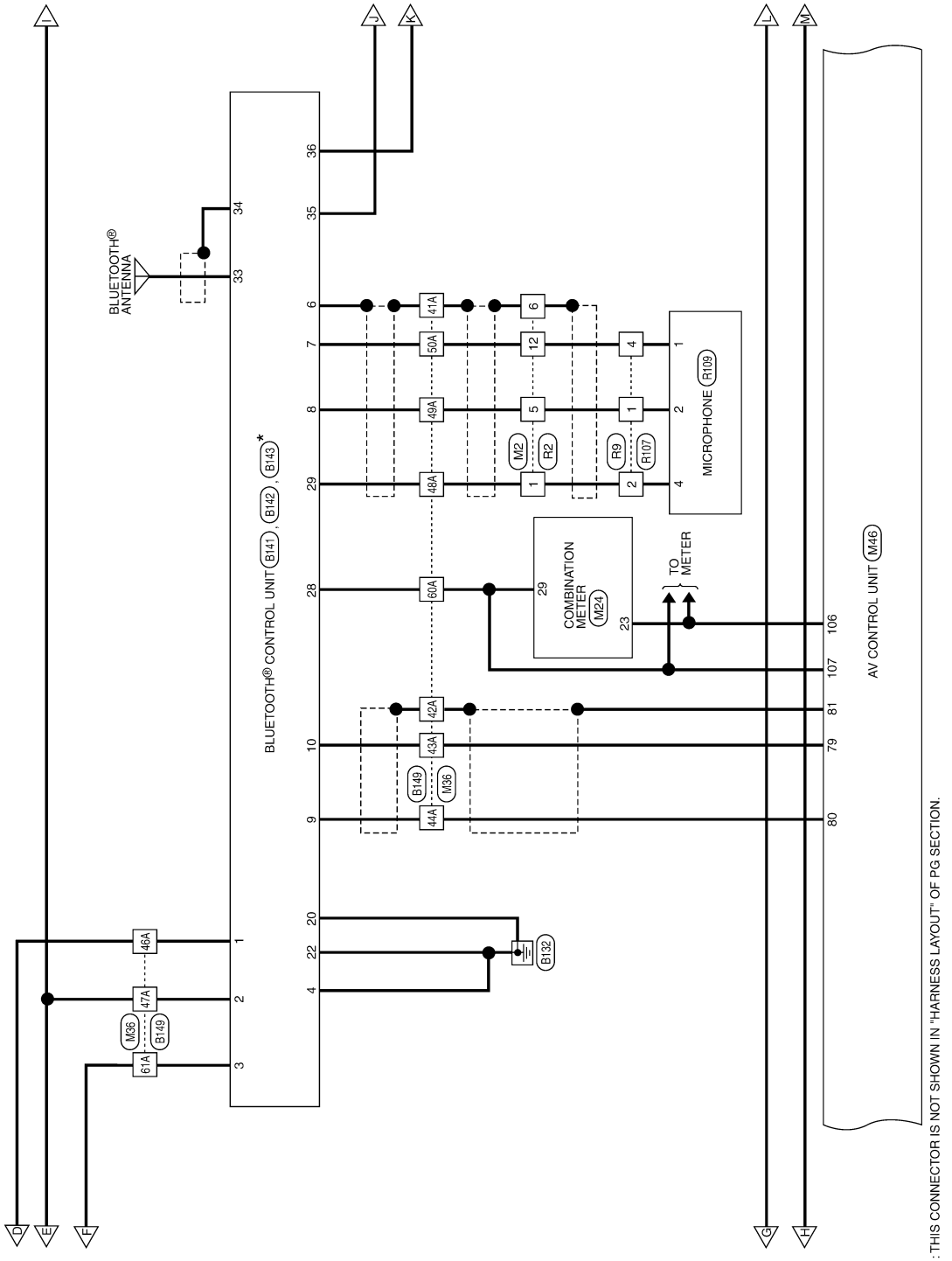
Wiring Diagram

INFOID:0000000009820832





ABNWA1547GB



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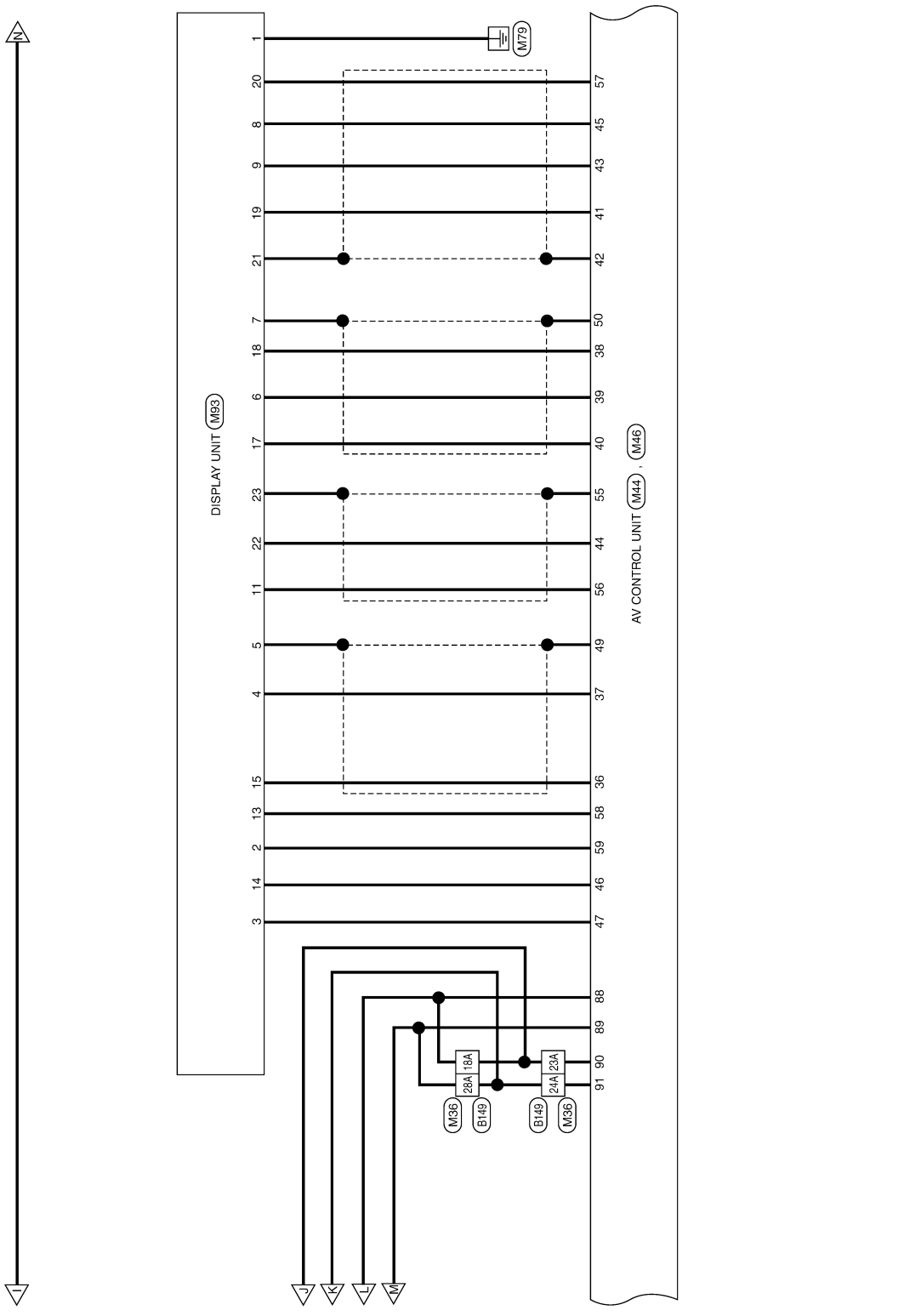

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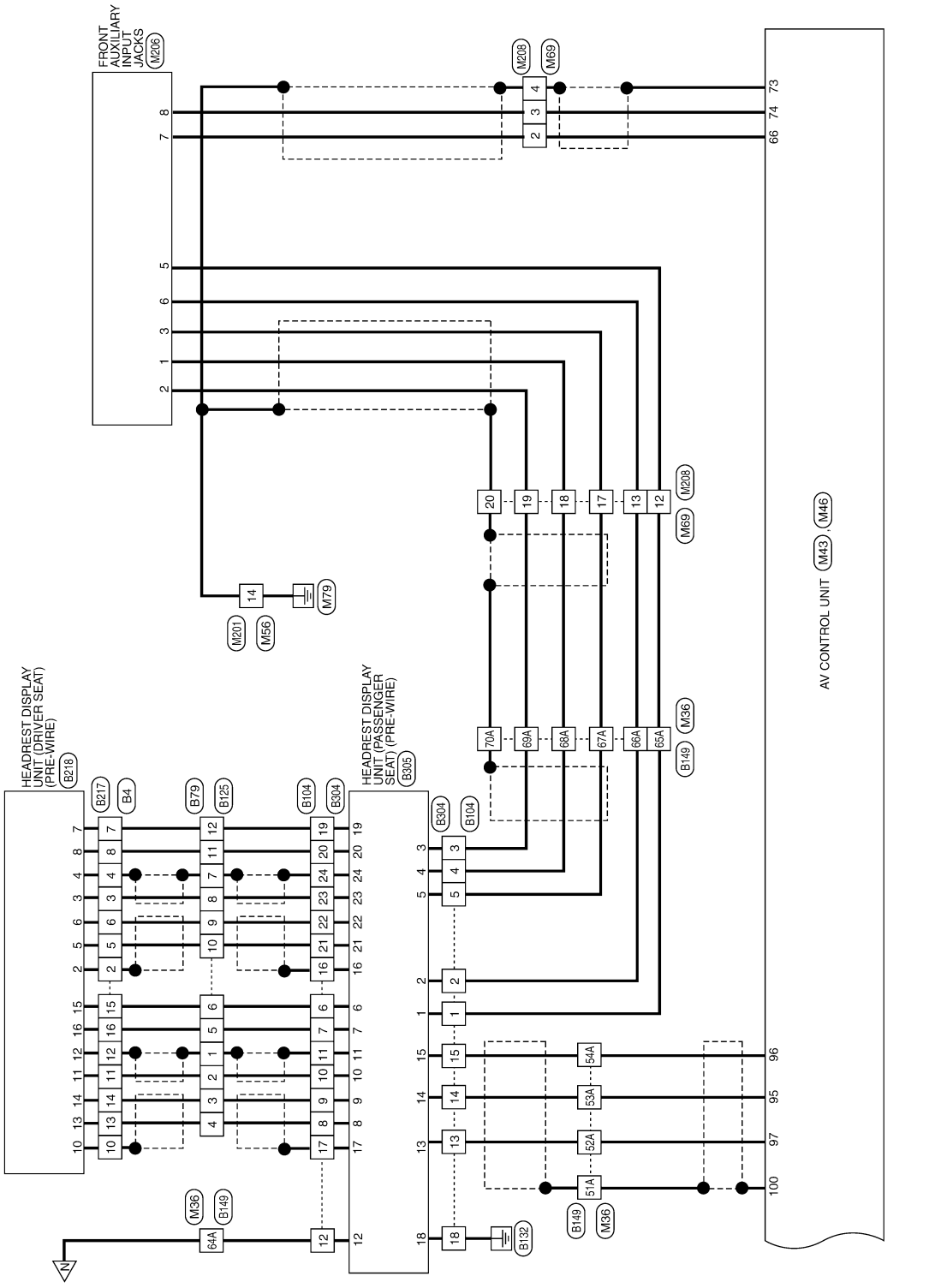

ABNWA1550GB

BASE AUDIO SYSTEM CONNECTORS

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	R/W	– (WITHOUT NAVI)
5	R/L	–
6	SHIELD	–
12	B	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
4P	V	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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
23	G	PARK BRAKE
29	W/R	SPEED OUT

Connector No.	M30
Connector Name	COMBINATION SWITCH
Connector Color	GRAY

H.S.

24	25	26	27
31	32	33	34

Terminal No.	Color of Wire	Signal Name
24	Y	–
25	BR	–
31	SHIELD	–

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

		1G	2G	3G	4G	5G	
		6G	7G	8G	9G	10G	
11G	12G	13G	14G	15G	16G	17G	18G	19G	20G	21G
	22G	23G	24G	25G	26G	27G	28G	29G	30G	
31G	32G	33G	34G	35G	36G	37G	38G	39G	40G	41G
	42G	43G	44G	45G	46G	47G	48G	49G	50G	
51G	52G	53G	54G	55G	56G	57G	58G	59G	60G	61G
	62G	63G	64G	65G	66G	67G	68G	69G	70G	
71G	72G	73G	74G	75G	76G	77G	78G	79G	80G	81G
	82G	83G	84G	85G	86G	87G	88G	89G	90G	
					91G	92G	93G	94G	95G	
						96G	97G	98G	99G	100G

Terminal No.	Color of Wire	Signal Name
64G	R	–
91G	Y	–
95G	G	–

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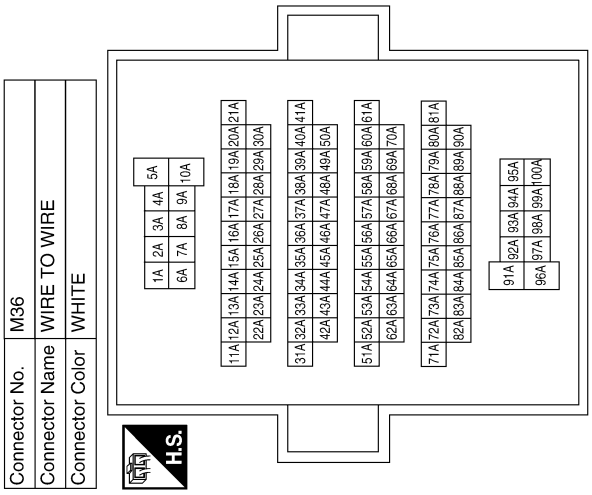
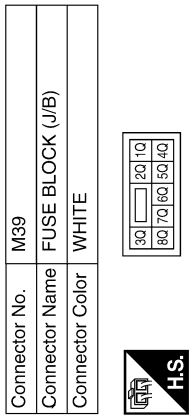
Terminal No.	Color of Wire	Signal Name
53A	R	–
54A	W	–
60A	W/R	–
61A	G/R	–
64A	V	–
65A	G	–
66A	P	–
67A	W	–
68A	R	–
69A	B	–
70A	SHIELD	–

Terminal No.	Color of Wire	Signal Name
3A	O/L	–
4A	R/L	–
18A	W/L	–
23A	L/W	–
24A	B/P	–
28A	P/B	–
41A	SHIELD	–
42A	SHIELD	–
43A	R	–
44A	G	–
46A	Y	–
47A	V	–
48A	R/W	–
49A	R/L	–
50A	B	–
51A	SHIELD	–
52A	B	–





Terminal No.	Color of Wire	Signal Name
1Q	G/R	–

ABNIA3850GB

Terminal No.	Color of Wire	Signal Name
1J	B/Y	–
7J	SB	–

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1J	2J	3J	4J	5J
6J	7J	8J	9J	10J

11J	12J	13J	14J	15J	16J	17J	18J	19J	20J	21J
	22J	23J	24J	25J	26J	27J	28J	29J	30J	

31J	32J	33J	34J	35J	36J	37J	38J	39J	40J	41J
	42J	43J	44J	45J	46J	47J	48J	49J	50J	

51J	52J	53J	54J	55J	56J	57J	58J	59J	60J	61J
	62J	63J	64J	65J	66J	67J	68J	69J	70J	

71J	72J	73J	74J	75J	76J	77J	78J	79J	80J	81J
	82J	83J	84J	85J	86J	87J	88J	89J	90J	

91J	92J	93J	94J	95J
	96J	97J	98J	99J	100J

Terminal No.	Color of Wire	Signal Name
3	L/R	FR DR LH SP-
4	SB	RR DR LH SP+
5	B/Y	RR DR LH SP-
6	Y	STRG SW A
7	V	ACC
8	–	–
9	R/L	ILL
10	–	–
11	W/B	FR RH SP+

Connector No.	M42
Connector Name	AV CONTROL UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	–	–
2	L/W	FR DR LH SP+

Terminal No.	Color of Wire	Signal Name
12	L/B	FR RH SP-
13	O/L	RR RH SP+
14	R/L	RR RH SP-
15	SHIELD	STRG SW GND
16	BR	STRG SW B
17	–	–
18	–	–
19	Y	+B
20	B	GND

ABNIA3851GB

Connector No.	M43
Connector Name	AV CONTROL UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

67	66	65	64	63	62	61	60
75	74	73	72	71	70	69	68

Terminal No.	Color of Wire	Signal Name
60	–	–
61	–	–
62	–	–
63	–	–
64	–	–
65	–	–
66	W	COM1 IN+
67	–	–
68	–	–
69	–	–
70	–	–
71	–	–
72	–	–
73	SHIELD	COMP1 IN SHIELD
74	B	COM1 IN-
75	–	–

Connector No.	M44
Connector Name	AV CONTROL UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

47	46	45	44	43	42	41	40	39	38	37	36
59	58	57	56	55	54	53	52	51	50	49	48

Terminal No.	Color of Wire	Signal Name
36	Y	COMP OUT+
37	BR	COMP OUT-
38	R	B
39	B	G
40	W	R
41	W	RGB SYNC
42	SHIELD	RGB SYNC GND
43	O	YS
44	LG	DISP IT
45	W/L	HP
46	G/O	SIG GND
47	B/O	SIG VCC
48	–	–
49	SHIELD	COMP OUT SHIELD
50	SHIELD	RGB GND
51	–	–
52	–	–
53	–	–
54	–	–
55	SHIELD	SHIELD
56	V	IT DISP
57	O/L	VP
58	B	INV GND
59	BR/Y	INV VCC

ABNIA3852GB

Terminal No.	Color of Wire	Signal Name
98	–	–
99	–	–
100	SHIELD	AUDIO BUS SHIELD
101	–	–
102	–	–
103	SB	CD EJECT
104	G/R	IGN
105	G/W	REVERSE SIG
106	G	PKB SIG
107	W/R	SPEED 8P

Terminal No.	Color of Wire	Signal Name
83	–	–
84	–	–
85	B	SW GND
86	L	CAN-H
87	P	CAN-L
88	W/L	M-CAN1-H
89	P/B	M-CAN1-L
90	L/W	M-CAN2-H
91	B/P	M-CAN2-L
92	–	–
93	–	–
94	–	
95	R	AUX AUDIO RH+
96	W	AUX AUDIO LH+
97	B	AUX GND

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	BROWN

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
2	W	–
3	B	–
4	SHIELD	–
12	G	–
13	P	–
17	W	–
18	R	–
10	B	–
20	SHIELD	–

Connector No.	M46
Connector Name	AV CONTROL UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE

91	90	89	88	87	86	85	84	83	82	81	80	79	78	77	76
107	106	105	104	103	102	101	100	99	98	97	96	95	94	93	92

Terminal No.	Color of Wire	Signal Name
76	–	–
77	–	–
78	–	–
79	R	TEL VOICE (TO IT)+
80	G	TEL VOICE (TO IT)-
81	SHIELD	VOICE SHIELD
82	–	–

Connector No.	M56
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
14	B	–

Connector No.	M48
Connector Name	AV CONTROL UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	BLUE

122	121
124	123
125	

Terminal No.	Color of Wire	Signal Name
121	W	VBUS
122	G	USB GND
123	L	USB D+
124	R	USB D-
125	SHIELD	CONNECTOR SHIELD GND

ABNIA3853GB

Connector No.	M73
Connector Name	BACK-UP LAMP RELAY
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	–
3	G	–
5	G/W	–
6	W/B	–
7	Y/R	–

Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	L/B	–
5	W/B	–

Connector No.	M78
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	M93
Connector Name	DISPLAY UNIT (WITHOUT NAVI)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	GND
2	BR/Y	INV VCC
3	B/O	SIG VCC
4	BR	COMP IN-
5	SHIELD	COMP IN SHIELD
6	B	G
7	SHIELD	RGB GND
8	W/L	HP
9	O	YS
10	–	–
11	V	IT DISP
12	–	–
13	B	INV GND
14	G/O	SIG GND
15	Y	COMP IN+
16	–	–
17	W	R
18	R	B
19	W	RGB SYNC
20	O/L	VP
21	SHIELD	RGB SYNC GND
22	LG	DISP-IT
23	SHIELD	SHIELD
24	–	–

ABNIA3854GB

Connector No.	M98
Connector Name	A/C AND AV SWITCH ASSEMBLY
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	V	–
3	R/L	–
4	BR	–
5	W/L	–

Connector No.	M102
Connector Name	COMBINATION SWITCH
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
16	R	–
17	BR	–
20	W	–

Terminal No.	Color of Wire	Signal Name
6	P/B	–
7	B	–
8	SB	–
9	–	–
10	–	–
11	–	–
12	–	–
13	–	–
14	–	–
15	–	–
16	GR/R	–

Connector No.	M109
Connector Name	FRONT TWEETER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	L/W	–
2	L/R	–

Connector No.	M111
Connector Name	FRONT TWEETER RH
Connector Color	BROWN

H.S.

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

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	SHIELD	–
2	W	–
3	G	–
4	R	–
6	L	–

ABNIA3855GB

Connector No.	M124
Connector Name	AV CONTROL UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
33	–	–
34	B	–
35	B	–

Connector No.	M201
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
14	B	–

Connector No.	M206
Connector Name	FRONT AUXILIARY INPUT JACKS
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	B	–
3	W	–
4	–	–
5	G	–
6	P	–
7	W	–
8	B	–

Connector No.	M208
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
2	W	–
3	B	–
4	SHIELD	–
12	G	–
13	P	–
17	W	–
18	R	–
19	B	–
20	SHIELD	–

Connector No.	M213
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	SHIELD	–
2	W	–
3	G	–
4	R	–
6	L	–

Connector No.	M214
Connector Name	USB INTERFACE
Connector Color	GRAY

H.S.

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

ABNIA3856GB

Connector No.	M550
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

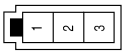
Connector No.	M551
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	M601
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

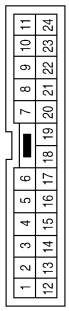
Connector No.	M602
Connector Name	ANTENNA AMP.
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	E5
Connector Name	WIRE TO WIRE
Connector Color	WHITE

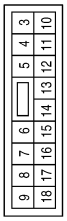
H.S.



Terminal No.	Color of Wire	Signal Name
13	R	–

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
16	G	REVERSE LAMP

ABNIA3857GB

Connector No.	F9
Connector Name	A/T ASSEMBLY
Connector Color	GREEN

H.S.

5	4	3	2	1
10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
7	R	–

Terminal No.	Color of Wire	Signal Name
64G	R	–
91G	Y	–
95G	G	–

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

5G	4G	3G	2G	1G
10G	9G	8G	7G	6G

21G	20G	19G	18G	17G	16G	15G	14G	13G	12G	11G
30G	29G	28G	27G	26G	25G	24G	23G	22G		

41G	40G	39G	38G	37G	36G	35G	34G	33G	32G	31G
50G	49G	48G	47G	46G	45G	44G	43G	42G		

61G	60G	59G	58G	57G	56G	55G	54G	53G	52G	51G
70G	69G	68G	67G	66G	65G	64G	63G	62G		

81G	80G	79G	78G	77G	76G	75G	74G	73G	72G	71G
90G	89G	88G	87G	86G	85G	84G	83G	82G		

95G	94G	93G	92G	91G
100G	99G	98G	97G	96G

Connector No.	F502
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	GRAY

H.S.

10	9	8	7	6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
7	O	REV LAMP RLY

Connector No.	F14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

11	10	9	8	7		6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13	12

Terminal No.	Color of Wire	Signal Name
13	R	–

ABNIA3858GB

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
3	W	–
4	SHIELD	–
5	G	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	B/Y	–
15	SB	–

Terminal No.	Color of Wire	Signal Name
6	R	–
7	G	–
8	R	–
10	SHIELD	–
11	W	–
12	SHIELD	–
13	G	–
14	R	–
15	B	–
16	L	–

Connector No.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

			5J	4J	3J	2J	1J			
			10J	9J	8J	7J	6J			
21J	20J	19J	18J	17J	16J	15J	14J	13J	12J	11J
	30J	29J	28J	27J	26J	25J	24J	23J	22J	
41J	40J	39J	38J	37J	36J	35J	34J	33J	32J	31J
	50J	49J	48J	47J	46J	45J	44J	43J	42J	
61J	60J	59J	58J	57J	56J	55J	54J	53J	52J	51J
		70J	69J	68J	67J	66J	65J	64J	63J	62J
81J	80J	79J	78J	77J	76J	75J	74J	73J	72J	71J
	90J	89J	88J	87J	86J	85J	84J	83J	82J	
				95J	94J	93J	92J	91J		
					100J	99J	98J	97J	96J	

Terminal No.	Color of Wire	Signal Name
1J	B/Y	–
7J	SB	–

Connector No.	B79
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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	W	–
3	R	–
4	G	–
5	L	–
6	B	–
7	SHIELD	–
8	W	–
9	R	–
10	G	–
11	R	–
12	G	–

ABNIA3859GB

Connector No.	B106
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	–

Connector No.	B141
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE

H.S.

35	37	39	41
36	38	40	42

Terminal No.	Color of Wire	Signal Name
35	W/L	M-CAN1-H
36	Y/L	M-CAN1-L
37	–	–
38	–	–
39	–	–
40	–	–
41	–	–
42	–	–

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

H.S.

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	G	–
2	P	–
3	B	–
4	R	–
5	W	–
6	B	–
7	L	–
8	G	–
9	R	–

Connector No.	B125
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

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

Terminal No.	Color of Wire	Signal Name
10	W	–
11	SHIELD	–
12	V	–
13	B	–
14	R	–
15	W	–
16	SHIELD	–
17	SHIELD	–
18	B	–
19	G	–
20	R	–
21	G	–
22	R	–
23	W	–
24	SHIELD	–

Terminal No.	Color of Wire	Signal Name
9	R	–
10	G	–
11	R	–
12	G	–

ABNIA3860GB

Connector No.	B142
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE

H.S.

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	Y	BATT
2	V	ACC
3	G/R	IGN
4	B/W	GND
5	–	–
6	SHIELD	MIC SHIELD
7	B	MIC IN+
8	R/L	MIC IN-
9	G	AUDIO OUT+
10	R	AUDIO OUT-
11	–	–
12	–	–
13	–	–
14	–	–
15	–	–
16	–	–
17	–	–
18	–	–
19	–	–
20	B	CONT 1
21	–	–
22	B	CONT 3
23	–	–
24	–	
25	–	–
26	–	–
27	–	–
28	W/R	SPEED SIGNAL
29	R/W	MIC POWER
30	–	–
31	–	–
32	–	–

Connector No.	B143
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	BLACK

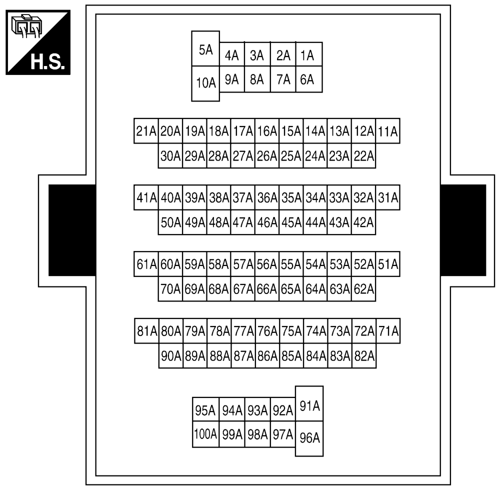
H.S.

33	34

Terminal No.	Color of Wire	Signal Name
33	B	–
34	B	–

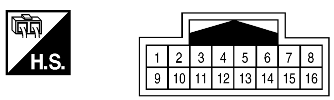
AANIA2376GB

Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3A	O/L	–
4A	R/L	–
18A	W/L	–
23A	W/L	–
24A	P/B	–
28A	P/B	–
41A	SHIELD	–
42A	SHIELD	–
43A	R	–
44A	G	–
46A	Y	–
47A	V	–
48A	R/W	–
49A	R/L	–
50A	B	–
51A	SHIELD	–
52A	B	–
53A	R	–
54A	W	–
60A	W/R	–
61A	G/R	–
64A	V	–
65A	G	–
66A	P	–
67A	W	–
68A	R	–
69A	B	–
70A	SHIELD	–

Connector No.	B217
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2		
3		
4		
5		
6		
7		
8		
10		
11		
12		
13		
14		
15		
16		

Connector No.	B218
Connector Name	HEADREST DISPLAY UNIT (DRIVER SEAT) (PRE-WIRE)
Connector Color	

ABNIA3906GB

Connector No.	B305
Connector Name	HEADREST DISPLAY UNIT (PASSENGER SEAT) (PRE-WIRE)
Connector Color	

Terminal No.	Color of Wire	Signal Name
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		

Connector No.	B304
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
1		
2		
3		
4		
5		
6		
7		
8		
9		

Connector No.	R107
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	R/L	–
2	R/W	–
4	B	–

Connector No.	R9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

3	2	1
8	7	6	5	4

Terminal No.	Color of Wire	Signal Name
1	R/L	– (WITHOUT NAVI)
2	R/W	– (WITHOUT NAVI)
4	B	–

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	R/W	– (WITHOUT NAVI)
5	R/L	–
6	SHIELD	–
12	B	–

ABNIA3907GB

Connector No.	R109
Connector Name	MICROPHONE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	– (WITHOUT NAVI)
2	R/L	– (WITHOUT NAVI)
3	–	–
4	R/W	–

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

Connector No.	D12
Connector Name	FRONT DOOR SPEAKER LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L/W	–
2	L/R	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	L/B	–
5	W/B	–

Connector No.	D112
Connector Name	FRONT DOOR SPEAKER RH
Connector Color	WHITE

H.S.

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

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

H.S.

Terminal No.	Color of Wire	Signal Name
14	B/Y	–
15	SB	–

ABNIA3908GB

Connector No.	D208
Connector Name	REAR DOOR TWEETER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	B/Y	–

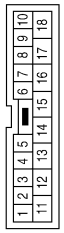
Connector No.	D209
Connector Name	REAR DOOR SPEAKER LH (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	B/Y	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	–

Connector No.	D308
Connector Name	REAR DOOR TWEETER RH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	O/L	–
2	R/L	–

Connector No.	D309
Connector Name	REAR DOOR SPEAKER RH (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	O/L	–
2	R/L	–

ABNIA3909GB

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:0000000009820833

RELATED TO MULTI AV

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	AV control unit	Malfunction in AV control unit. Refer to AV-17, "AV CONTROL UNIT : Diagnosis Description".
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-75, "Wiring Diagram". • AV control unit power supply and ground circuits malfunction. Refer to AV-35, "AV CONTROL UNIT : Diagnosis Procedure".
	Only a certain speaker (door speaker LH, door speaker RH, front tweeter LH, front tweeter RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and speaker. Refer to: - AV-48, "Diagnosis Procedure" (front door speaker). - AV-50, "Diagnosis Procedure" (front tweeter). - AV-52, "Diagnosis Procedure" (rear door tweeter). - AV-54, "Diagnosis Procedure" (rear door speaker). • Malfunction in speaker. Refer to: - AV-110, "Removal and Installation" (front door speaker). - AV-109, "Removal and Installation" (front tweeter). - AV-111, "Removal and Installation" (rear door speaker). - AV-111, "Removal and Installation" (rear door speaker). • Malfunction in AV control unit. Refer to AV-17, "AV CONTROL UNIT : Diagnosis Description".

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in AV control unit. Refer to AV-17, "AV CONTROL UNIT : Diagnosis Description".
	Noise comes out only from a certain speaker (door speaker LH, door speaker RH, front tweeter LH, front tweeter RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and speaker. Refer to: - AV-48, "Diagnosis Procedure" (front door speaker). - AV-50, "Diagnosis Procedure" (front tweeter). - AV-52, "Diagnosis Procedure" (rear door tweeter). - AV-54, "Diagnosis Procedure" (rear door speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-110, "Removal and Installation" (front door speaker). - AV-109, "Removal and Installation" (front tweeter). - AV-111, "Removal and Installation" (rear door speaker). - AV-111, "Removal and Installation" (rear door speaker). • Malfunction in AV control unit. Refer to AV-17, "AV CONTROL UNIT : Diagnosis Description".
	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. Refer to AV-113, "Location of Antennas".
No radio reception or poor reception.	• Other audio sounds are normal. • 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).	• Antenna amp. ON signal circuit malfunction. Refer to AV-63, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-113, "Location of Antennas".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

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

4. Go to “www.nissanusa.com/bluetooth/”.

a. Using the website’s search engine, find out if the customer’s phone is on the approved list.

b. If the customer’s phone is NOT on the approved list:
Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.

c. If the feature related to the customer’s concern shows as “N” (not compatible):
Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as “Y” (compatible) in the “Basic Features”.

d. If the feature related to the customer’s concern shows as “Y” (compatible):
Perform diagnosis as per the following table.

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 Bluetooth® control unit. Replace Bluetooth® control unit. Refer to AV-119, "Removal and Installation".
Hands-free phone cannot be established.	• Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.	
The other party’s voice cannot be heard by hands-free phone.	Check the “microphone speaker” in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-58, "Diagnosis Procedure".
The system cannot be operated.	Steering switch’s , , and switch works, but does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-112, "Removal and Installation".
	Steering switch’s , , , and switches do not work.	Steering switch signal circuit malfunction. Refer to AV-56, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-56, "Diagnosis Procedure".

NORMAL OPERATING CONDITION

Description

INFOID:0000000009820834

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, ignition switch turned to each position, and operation of each piece of electrical equipment, and determine the cause.

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

Type of Noise and Possible Cause

Occurrence condition		Possible cause
Occurs only when engine is ON.	A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed.	• Ignition components
The occurrence of the noise is linked with the operation of the fuel pump.		• Fuel pump condenser
Noise only occurs when various electrical components are operating.	A cracking or snapping sound occurs with the operation of various switches.	• Relay malfunction, audio unit malfunction
	The noise occurs when various motors are operating.	• Motor case ground • Motor
The noise occurs constantly, not just under certain conditions.		• Rear defogger coil malfunction • Open circuit in printed heater • Poor ground of antenna feeder line
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		• Ground wire of body parts • Ground due to improper part installation • Wiring connections or a short circuit

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” in AV-97, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • The vehicle is outside of the telephone service area. • 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. • The cellular phone is locked to prevent it from being dialed. **NOTE:** 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.

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

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010159180

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

WARNING:

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

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

WARNING:

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

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000009820836

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the ″LOCK″ position.
- Always use CONSULT to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.
For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.
If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both battery cables.
   NOTE:
   Supply power using jumper cables if battery is discharged.
2. Use the Intelligent Key or mechanical key to turn the ignition switch to the ″ACC″ position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.

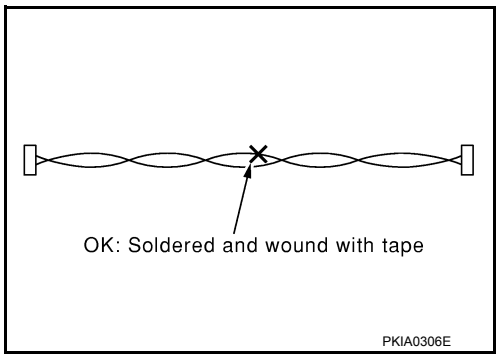
5. When the repair work is completed, return the ignition switch to the ″LOCK″ position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT.

Precaution for Harness Repair

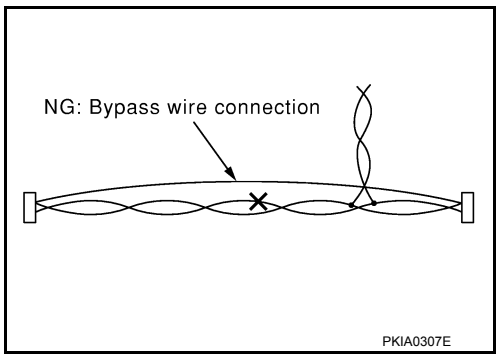
INFOID:0000000010159274

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 Work

INFOID:0000000009820837

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

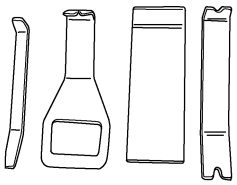
PREPARATION

PREPARATION

Special Service Tools

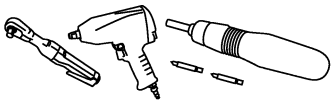
INFOID:0000000010159183

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

Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

Commercial Service Tools

INFOID:0000000009820839

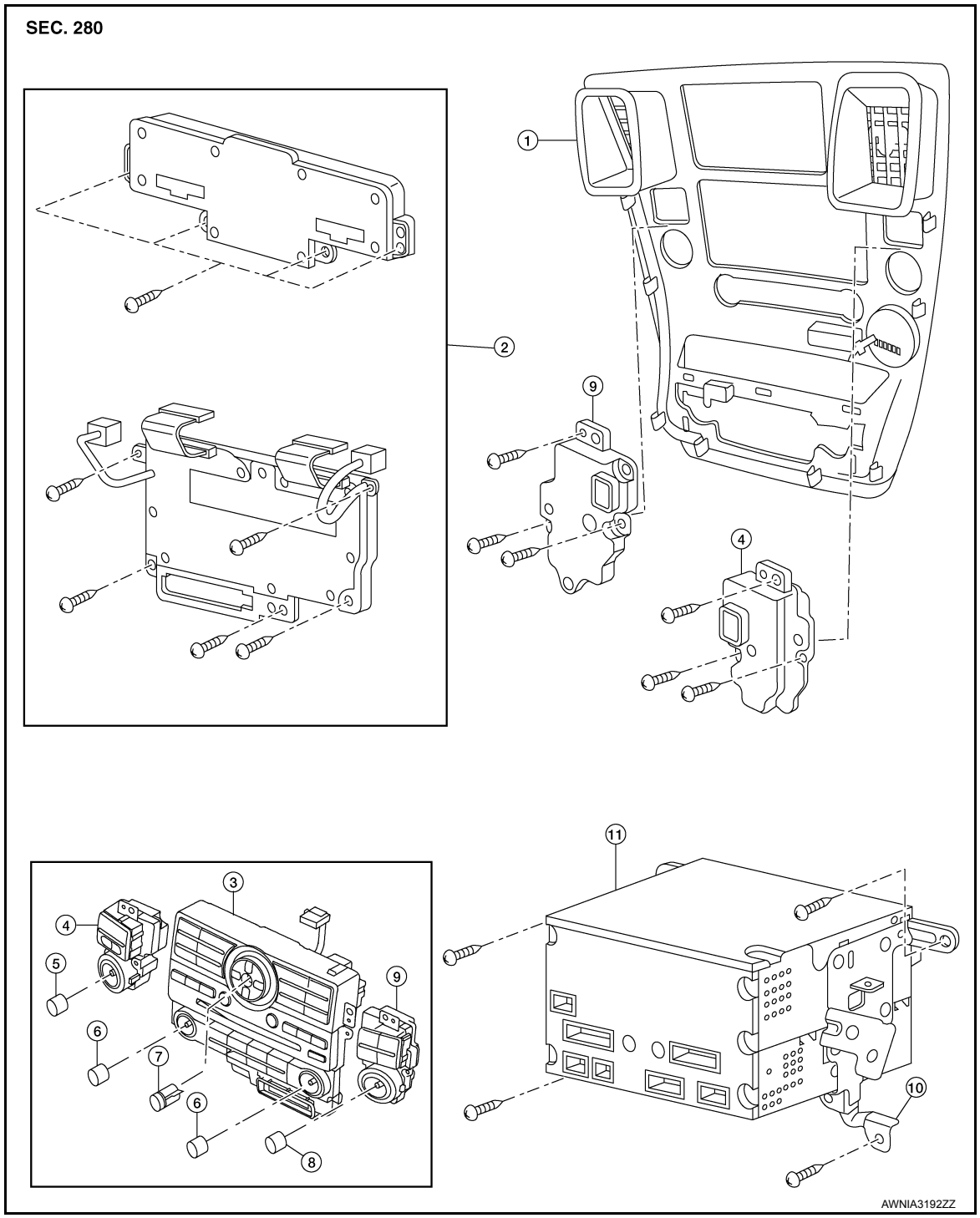
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Removal and Installation

INFOID:0000000009820840



1. Cluster lid C
2. A/C and AV switch assembly (rear view)
3. A/C and AV switch assembly (front view)
4. Volume knob switch
5. Volume knob
6. Temp knobs (LH/RH)
7. Enter button
8. Tuner knob
9. Tuner knob switch
10. AV control unit bracket
11. AV control unit

REMOVAL

1. Remove cluster lid C. Refer to IP-15, "Removal and Installation".
2. Remove the AV control unit screws.
3. Remove the AV control unit.
4. Remove the A/C and AV switch assembly from cluster lid C (if necessary).
   CAUTION:
   Only remove and replace the A/C or AV switch assembly knobs if damaged or missing. The knobs must not be removed from switches when removing and installing the A/C or AV switch assembly to prevent damage to the switch assembly.

INSTALLATION

Installation is in the reverse order of removal.

AV AND A/C SWITCH ASSEMBLY

Removal and Installation

INFOID:0000000009820841

CAUTION:
Only remove and replace the A/C or AV switch assembly knobs if damaged or missing. The knobs must not be removed from switches when removing and installing the A/C or AV switch assembly to prevent damage to the switch assembly.

REMOVAL

1. Remove the cluster lid C. Refer to IP-15, "Removal and Installation".
2. Remove the A/C and AV switch assembly from cluster lid C.

INSTALLATION

Installation is in the reverse order of removal.

DISPLAY UNIT

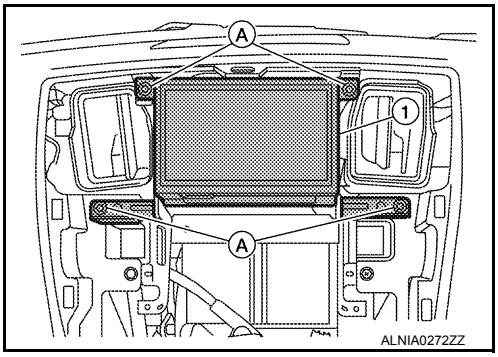
Removal and Installation

INFOID:0000000009820842

REMOVAL

1. Remove cluster lid C. Refer to IP-15, "Removal and Installation".
2. Remove the display unit.

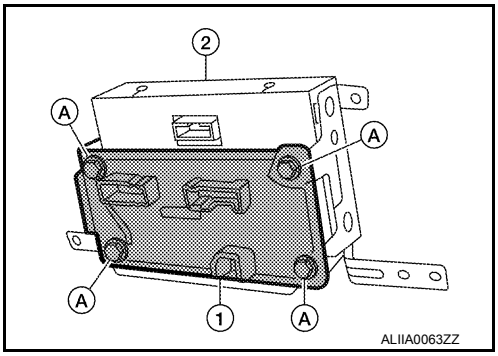
a. Remove the display unit screws (A).
b. Pull the display unit (1) from the instrument panel.
c. Disconnect the harness connectors from the display unit.



3. Remove the A/C auto amp screws (A).

a. Separate the A/C auto amp (1) from the display unit (2).

4. Remove the display unit bracket screws and the display unit brackets.



INSTALLATION

Installation is in the reverse order of removal.

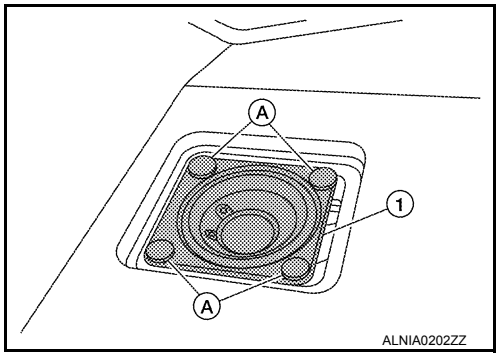
FRONT TWEETER

Removal and Installation

INFOID:0000000009820843

REMOVAL

1. Remove front tweeter speaker grille, using a suitable tool.
2. Remove the front tweeter clips (A).
3. Disconnect the harness connector from the front tweeter (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

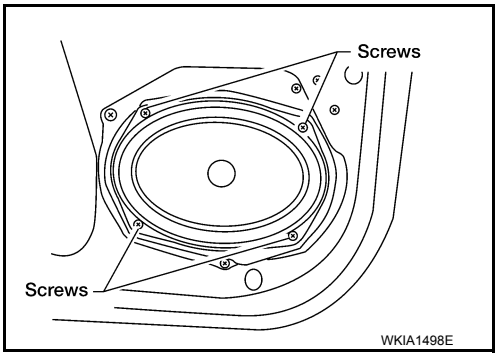
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000009820844

REMOVAL

1. Remove the front door finisher. Refer to INT-15, "Removal and Installation".
2. Remove the front door speaker screws.
3. Disconnect the harness connector from the front door speaker.
4. Remove the front door speaker.



INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

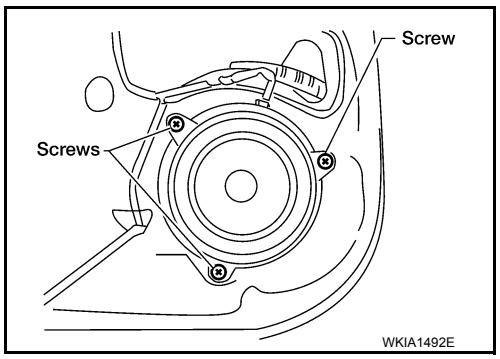
Removal and Installation

INFOID:0000000009820845

REAR DOOR SPEAKER

Removal

1. Remove the rear door finisher. Refer to INT-15, "Removal and Installation".
2. Remove the rear door speaker screws.
3. Disconnect the harness connector from the rear door speaker.
4. Remove the rear door speaker.



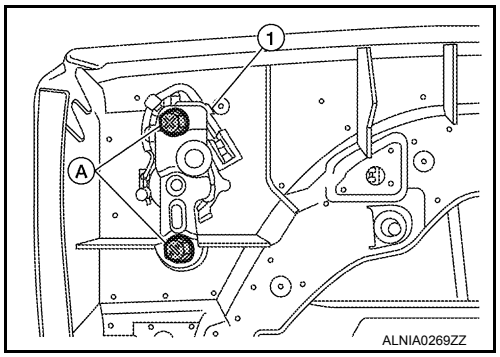
Installation

Installation is in the reverse order of removal.

REAR DOOR TWEETER

Removal

1. Remove the rear door finisher. Refer to INT-15, "Removal and Installation".
2. Remove the rear door tweeter screws (A).
3. Remove the rear door tweeter (1).



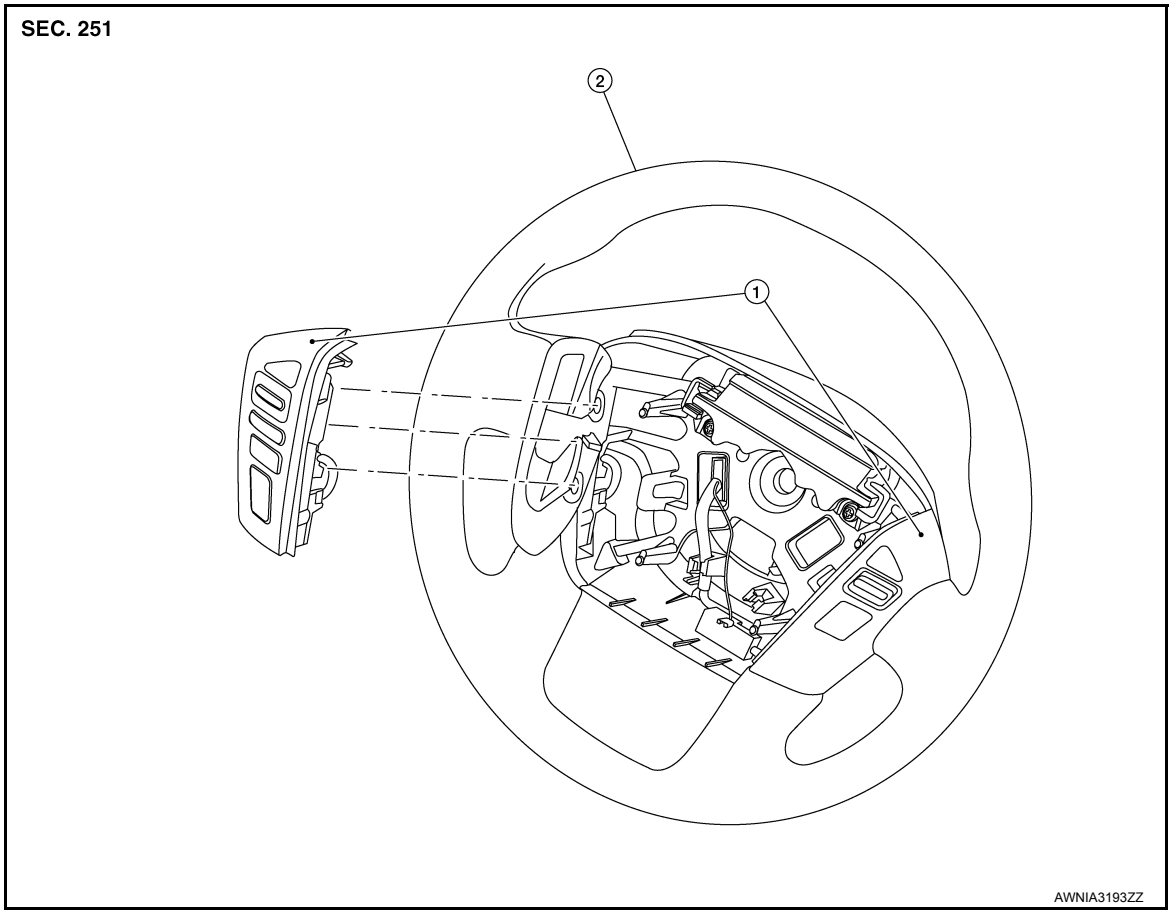
Installation

Installation is in the reverse order of removal.

STEERING SWITCH

Removal and Installation

INFOID:0000000009820846



1. Steering wheel audio control switches 2. Steering wheel

REMOVAL

1. Remove the steering wheel. Refer to ST-28, "Removal and Installation".
2. Remove the steering wheel rear cover.
3. Pull the steering wheel audio control switches out of the steering wheel and disconnect the harness connector from the steering while audio control switches.
4. Remove the steering wheel audio control switch finisher screws and the steering wheel audio control switches finisher.

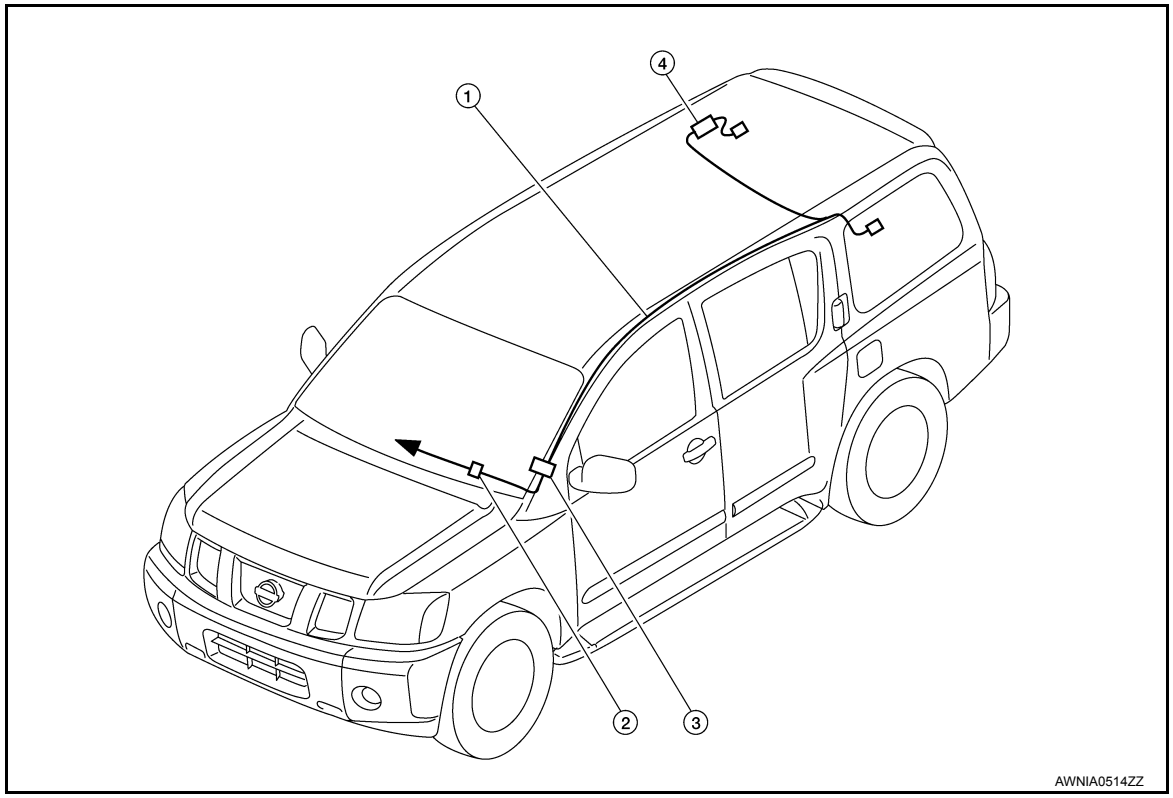
INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antennas

INFOID:0000000009820847



1. Antenna Feeder
2. M78, M550
3. M551, M601
4. Antenna amp M602

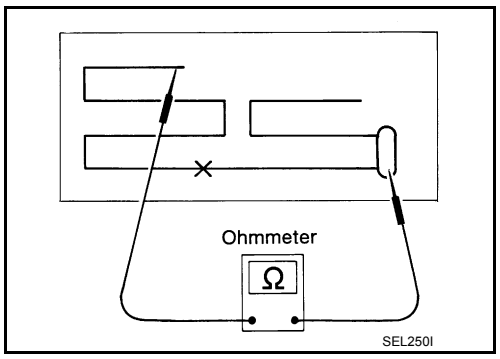
⬅ To AV control unit

Window Antenna Repair

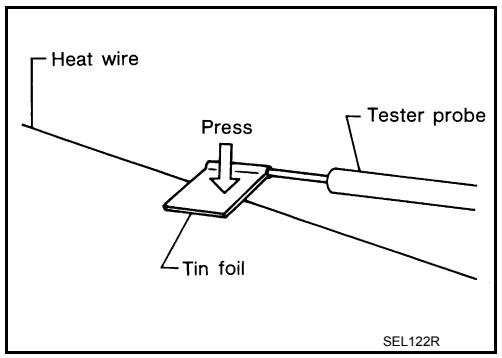
INFOID:0000000009820848

ELEMENT CHECK

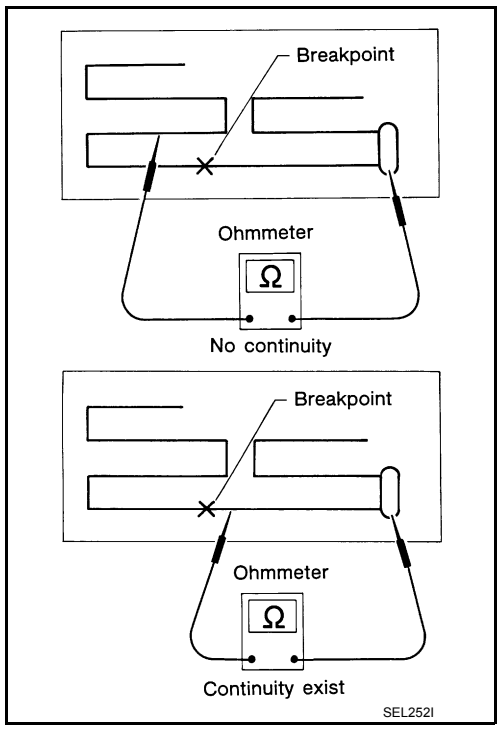
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



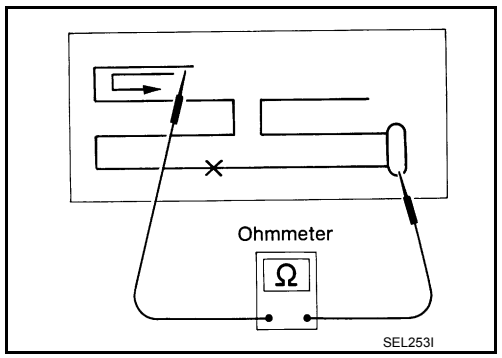
- **When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.**



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



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



ELEMENT REPAIR

Refer to DEF-52, "Inspection and Repair".

FRONT AUXILIARY INPUT JACKS

Removal and Installation

INFOID:0000000009820849

Removal

1. Remove the front center console bin. Refer to IP-20, "Exploded View".
2. Remove the front auxiliary input jack.

Installation

Installation is in the reverse order of removal.

USB CONNECTOR

Removal and Installation

INFOID:0000000009820850

REMOVAL

1. Remove the console bin. Refer to IP-20, "Exploded View".
2. Release the USB connector from the console bin.
3. Disconnect the harness connector from the USB connector and remove.

INSTALLATION

Installation is in the reverse order of removal.

ANTENNA AMP.

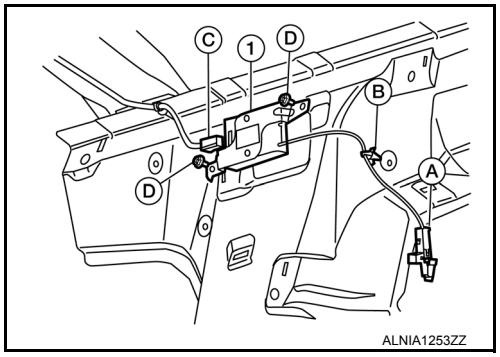
Removal and Installation

INFOID:0000000009820851

REMOVAL

1. Remove the headlining. Refer to INT-21, "Removal and Installation".
2. Remove the antenna amp. (1).

a. Disconnect the harness connector (A) from the antenna amp.
b. Release the antenna amp. harness clip (B).
c. Disconnect the harness connector (C) from the antenna feeder.
d. Remove the antenna amp. screws (D).



INSTALLATION

Installation is in the reverse order of removal.

MICROPHONE

Removal and Installation

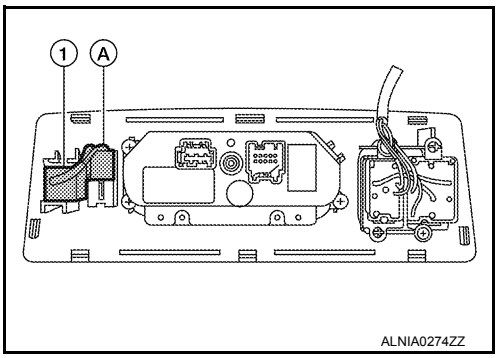
INFOID:0000000009820852

REMOVAL

1. Remove the front roof console finisher. Refer to INT-21, "Removal and Installation".
2. Remove the Bluetooth microphone (1).

a. Disconnect the harness connector (A) from the Bluetooth microphone.

b. Release the Bluetooth microphone (1) from the front roof console finisher and remove.



INSTALLATION

Installation is in the reverse order of removal.

BLUETOOTH CONTROL UNIT

Removal and Installation

INFOID:0000000009820853

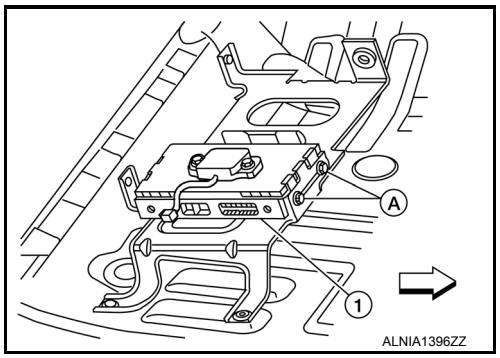
REMOVAL

1. Disconnect the negative battery terminal. Refer to PG-77, "Removal and Installation".
2. Slide the front seat (RH) forward.
3. Remove the Bluetooth control unit kick shield screws and the Bluetooth control unit kick shield.
4. Remove the Bluetooth control unit (1).

a. Remove the Bluetooth control unit screws (A)

b. Disconnect the harness connectors from the Bluetooth control unit.

⇦: Front



INSTALLATION

Installation is in the reverse order of removal.

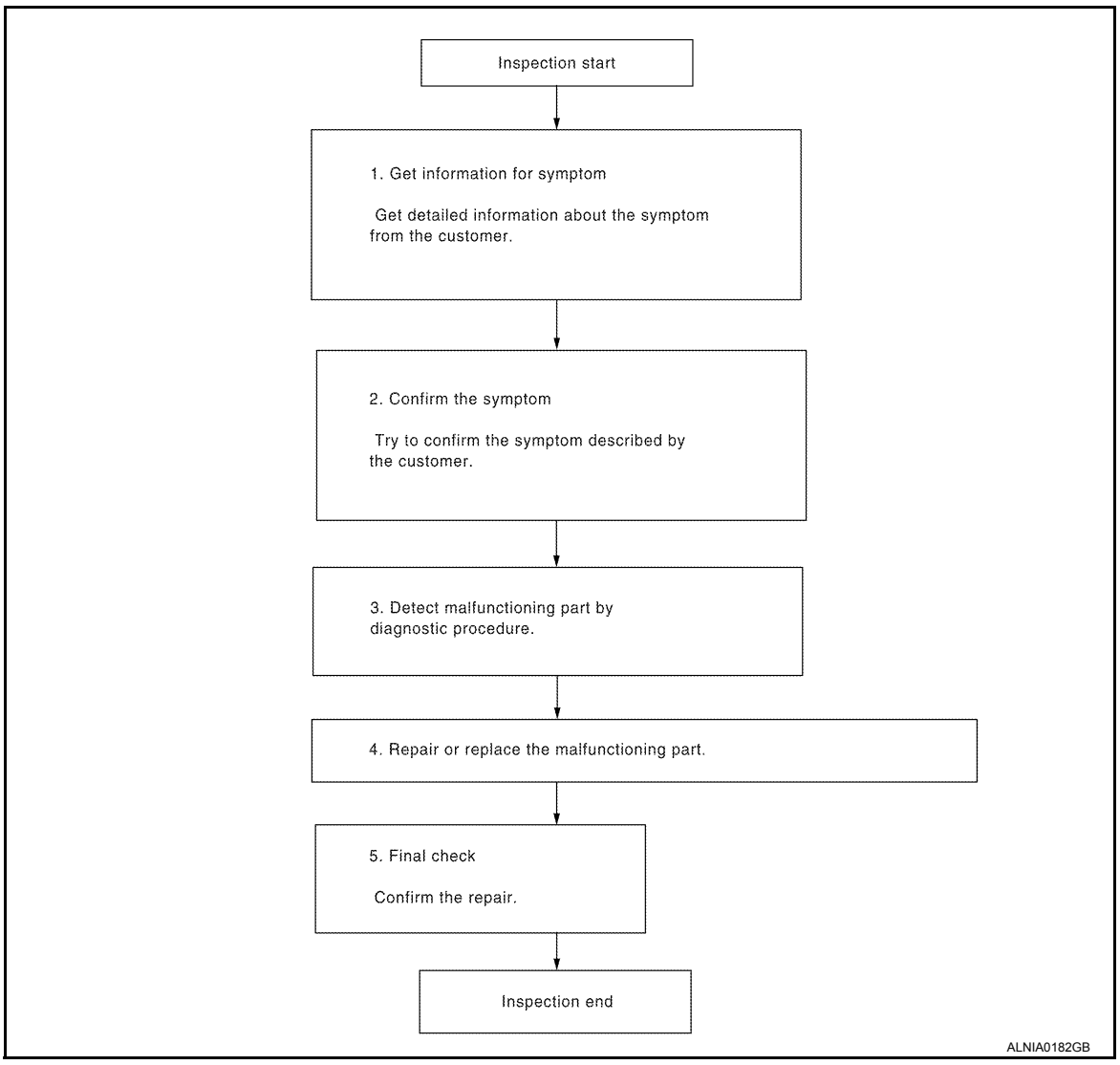
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000009820854

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.

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.

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:0000000009820855

BEFORE REPLACEMENT

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

NOTE:

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing AV control unit.

AFTER REPLACEMENT

CAUTION:

When replacing AV control unit, you must perform “After Replace ECU” with CONSULT.

- **Complete the procedure of “After Replace ECU” in order.**
- **If you set incorrect “After Replace ECU”, 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:0000000009820856

1. SAVING VEHICLE SPECIFICATION

-CONSULT

Enter “Re/Programming, Configuration” and perform “Before Replace ECU” to save or print current vehicle specification.

NOTE:

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing AV control unit.

>> GO TO 2.

2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to AV-267, "Removal and Installation".

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

CONSULT

1. Enter "Re/Programming, Configuration".
2. If “Before Replace ECU” operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press “Confirm” to write vehicle specification. Refer to AV-123, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".
3. If “Before Replace ECU” operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to AV-123, "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) are normal.

>> Work End.

CONFIGURATION (AV CONTROL UNIT)

CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:0000000009820857

Vehicle specification needs to be written with CONSULT because it is not written after replacing AV control unit.
Configuration has three functions as follows:

Function	Description
"Before Replace ECU"	• Reads the vehicle configuration of current AV control unit. • Saves the read vehicle configuration.
"After Replace ECU"	Writes the vehicle configuration with manual selection.
"Select Saved Data List"	Writes the vehicle configuration with saved data.

CAUTION:
- **When replacing AV control unit, you must perform “Select Saved Data List” or "After Replace ECU" with CONSULT.**
- **Complete the procedure of “Select Saved Data List” or "After Replace ECU" in order.**
- **If you set incorrect “Select Saved Data List” or "After Replace ECU", incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **Never perform “Select Saved Data List” or "After Replace ECU" except for new AV control unit.**

CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:0000000009820858

1.WRITING MODE SELECTION

CONSULT
Select “Reprogramming, Configuration” of AV control unit.

When writing saved data>>GO TO 2.
When writing manually>>GO TO 3.

2.PERFORM “SAVED DATA LIST”

CONSULT
Automatically “Operation Log Selection” window will display if “Before Replace ECU” was performed. Select applicable file from the “Save Data List” and press “Confirm”.

>> Work End.

3.PERFORM “AFTER REPLACE ECU” OR “MANUAL CONFIGURATION”

CONSULT
1. Select “After Replace ECU” or “Manual Configuration”.
2. Identify the correct model and configuration list. Refer to AV-124, "CONFIGURATION (AV CONTROL UNIT) : Configuration List".
3. Confirm and/or change setting value for each item.
   CAUTION:
   Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.
4. Select “Next”.
   CAUTION:
   Make sure to select “Next”, confirm each setting value and press “OK” even if the indicated configuration of brand new AV control unit is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model can not be memorized.
5. When "Completed", select "End".

>> GO TO 4.

4.OPERATION CHECK

Confirm that each function controlled by AV control unit operates normally.

>> Work End.

CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:0000000009820859

CAUTION:
Thoroughly read and understand the vehicle specification. Incorrect settings may result in abnormal control of ECU.

MANUAL SETTING ITEM	
Items	Setting value
SOUND SYSTEM	BASE ⇔ BOSE
GRADE	MODE 1 ⇔ MODE 2⇔ MODE 3
CAMERA SYSTEM	NONE/AVM ⇔ REAR CAMERA

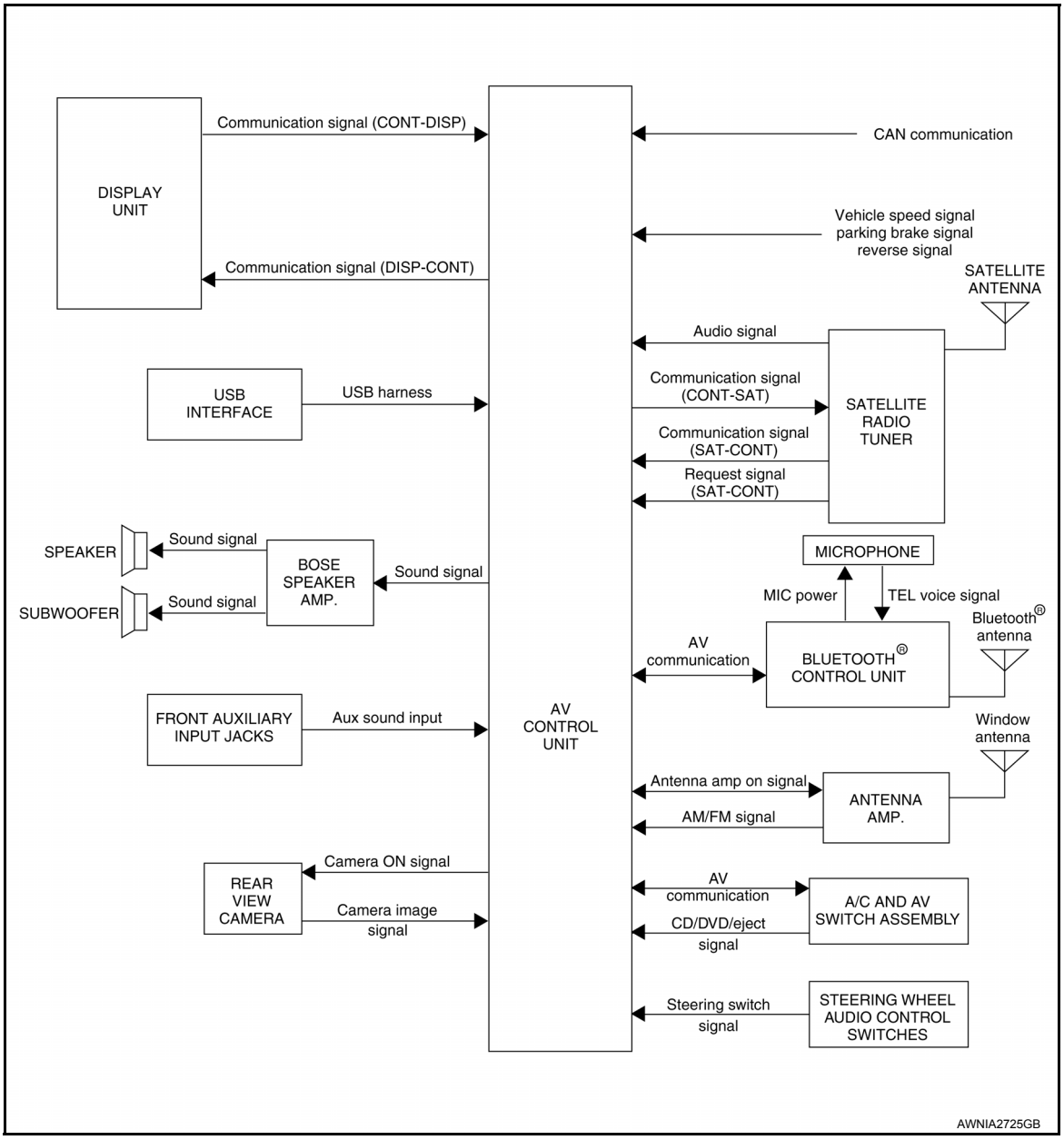
⇔: Items which confirm vehicle specifications

SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram

INFOID:0000000009820860



System Description

INFOID:0000000009820861

AUDIO SYSTEM

The audio system consists of the following components

- AV control unit
- Display unit
- BOSE speaker amp.
- Window antenna
- Steering wheel audio control switches
- A/C and AV switch assembly
- USB interface
- Front door speakers
- Front tweeters

- Center speaker
- Rear door speakers
- Rear door tweeters
- Back door speakers
- Subwoofer

When the audio system is on, radio signals are received by the window antenna. The AV control unit then sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the front door speakers, front tweeters, center speaker, rear door speakers, rear door tweeters, back door speakers and the subwoofer.
Refer to Owner's Manual for audio system operating instructions.

SATELLITE RADIO SYSTEM

The satellite radio system consists of the following components

- Satellite antenna
- Satellite radio tuner

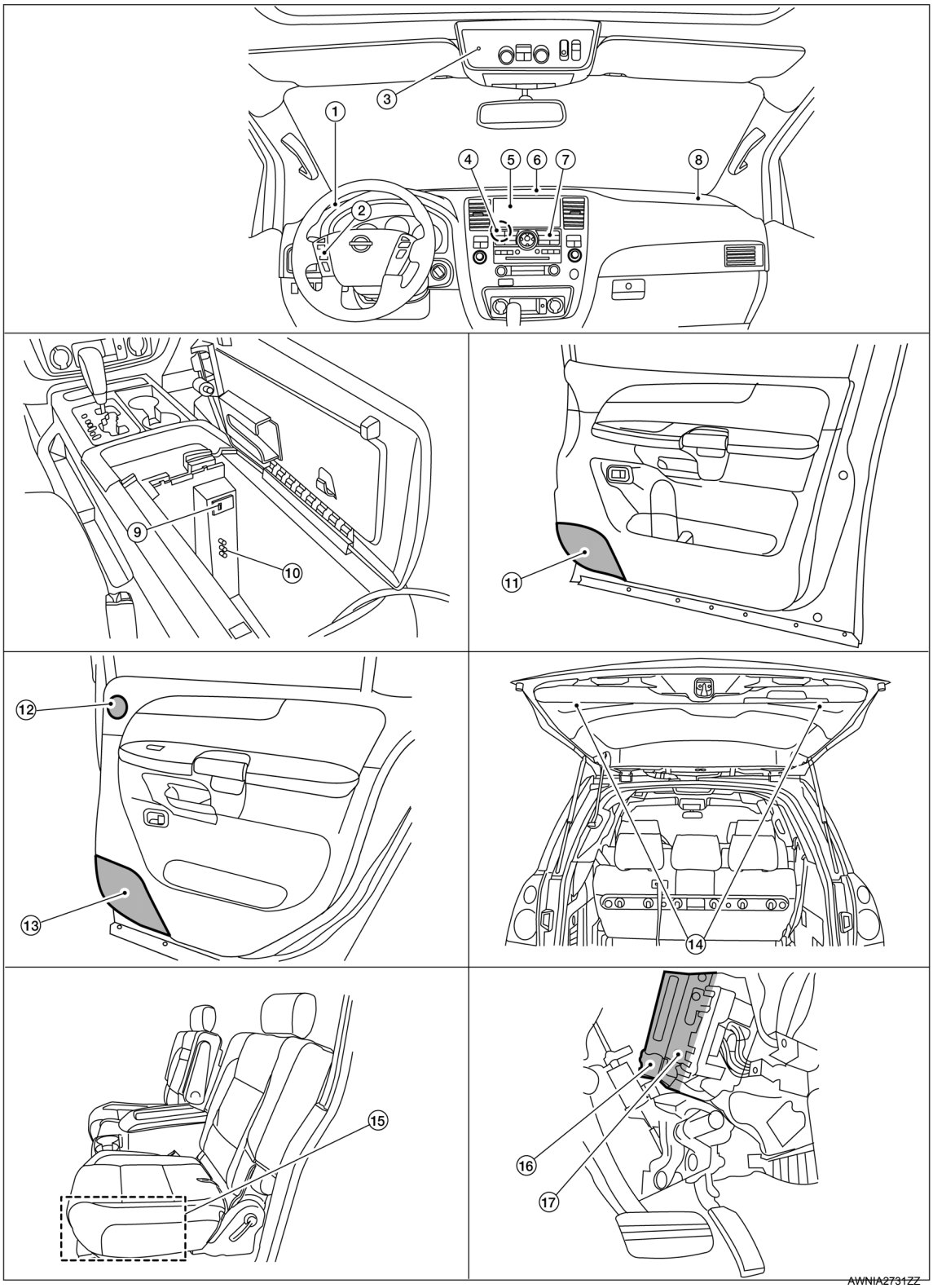
When the satellite radio system is on, radio signals are supplied to the satellite radio tuner from the satellite antenna. The satellite radio tuner then sends audio signals to the AV control unit.
Refer to Owner's Manual for satellite radio system operating instructions.

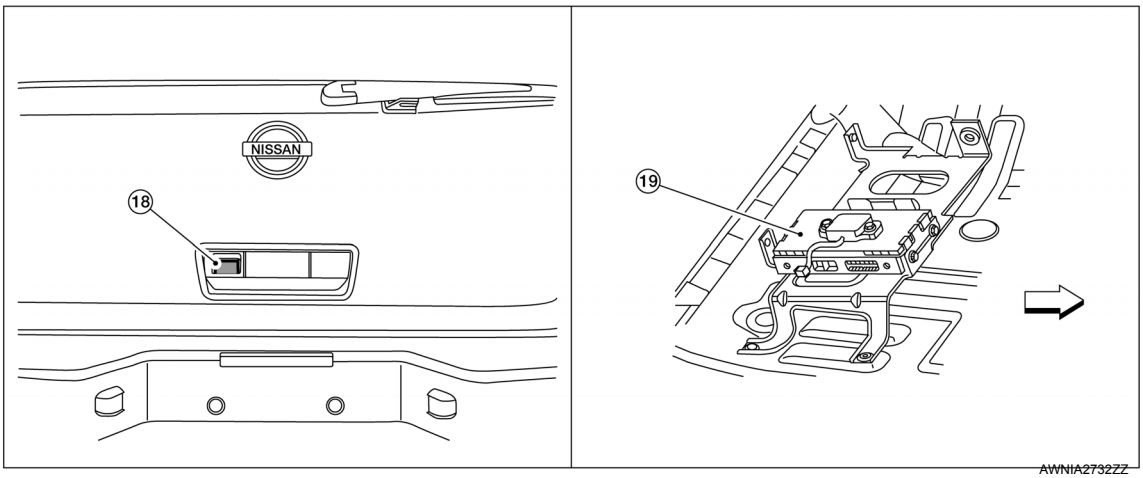
SPEED SENSITIVE VOLUME SYSTEM

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

Component Parts Location

INFOID:0000000009820862





⇦:FRONT

1. Front tweeter LH M109
2. Steering wheel audio control switches
3. Microphone R109
4. AV control unit M72, M160, M164, M166, M169, M170, M171, M174
5. Display unit M93
6. Center speaker M110
7. A/C and AV switch assembly M98
8. Front tweeter RH M111
9. USB interface M214
10. Front auxiliary input jacks M206
11. Front door speaker
    LH D12
    RH D112
12. Rear door tweeter
    LH D208
    RH D308
13. Rear door speaker
    LH D207
    RH D307
14. Back door speaker
    LH D518
    RH D716
15. Subwoofer B72 (under driver's seat)
16. BOSE speaker amp M112, M113 (view behind instrument panel above accelerator pedal)
17. Satellite radio tuner M45, M129
18. Rear view camera D504
19. Bluetooth® control unit B141, B142, B143 (view with passenger front seat removed)

Component Description

INFOID:0000000009820863

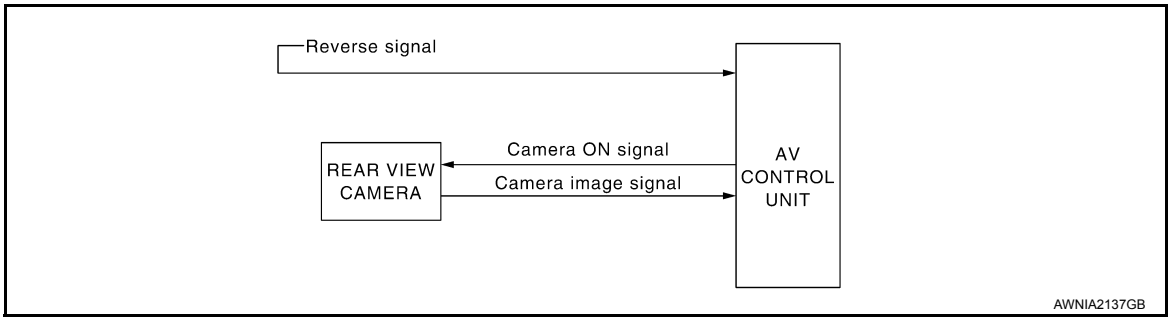
Part name	Description
AV control unit	Controls audio system and satellite radio system functions
Display unit	Displays all audio and climate control related information
BOSE speaker amp.	Receives power (amp ON) and audio signals from audio unit and outputs audio signals to each speaker.
Steering wheel audio control switches	• Audio operation can be operated • Steering switch signal is output to audio unit
USB interface	Portable storgae devices can be operated
Front door speakers	• Outputs audio signal from BOSE speaker amp. • Outputs high, mid and low range sounds
Front tweeters	• Outputs audio signal from BOSE speaker amp. • Outputs high range sounds
Center speaker	• Outputs audio signal from BOSE speaker amp. • Outputs high range sounds
Rear door speakers	• Outputs audio signal from BOSE speaker amp. • Outputs high, mid and low range sounds
Rear door tweeters	• Outputs audio signal from BOSE speaker amp. • Outputs high range sounds

Part name	Description
Back door speakers	• Outputs audio signal from BOSE speaker amp. • Outputs high, mid and low range sounds
Subwoofer	• Outputs audio signal from BOSE speaker amp. • Outputs low range sounds
Satellite radio tuner	• Receives radio signals from satellite antenna • Sends audio signals to AV control unit
Satellite antenna	Audio signal (satellite radio) is received and output to AV control unit.

REAR VIEW MONITOR SYSTEM

System Diagram

INFOID:0000000009820864



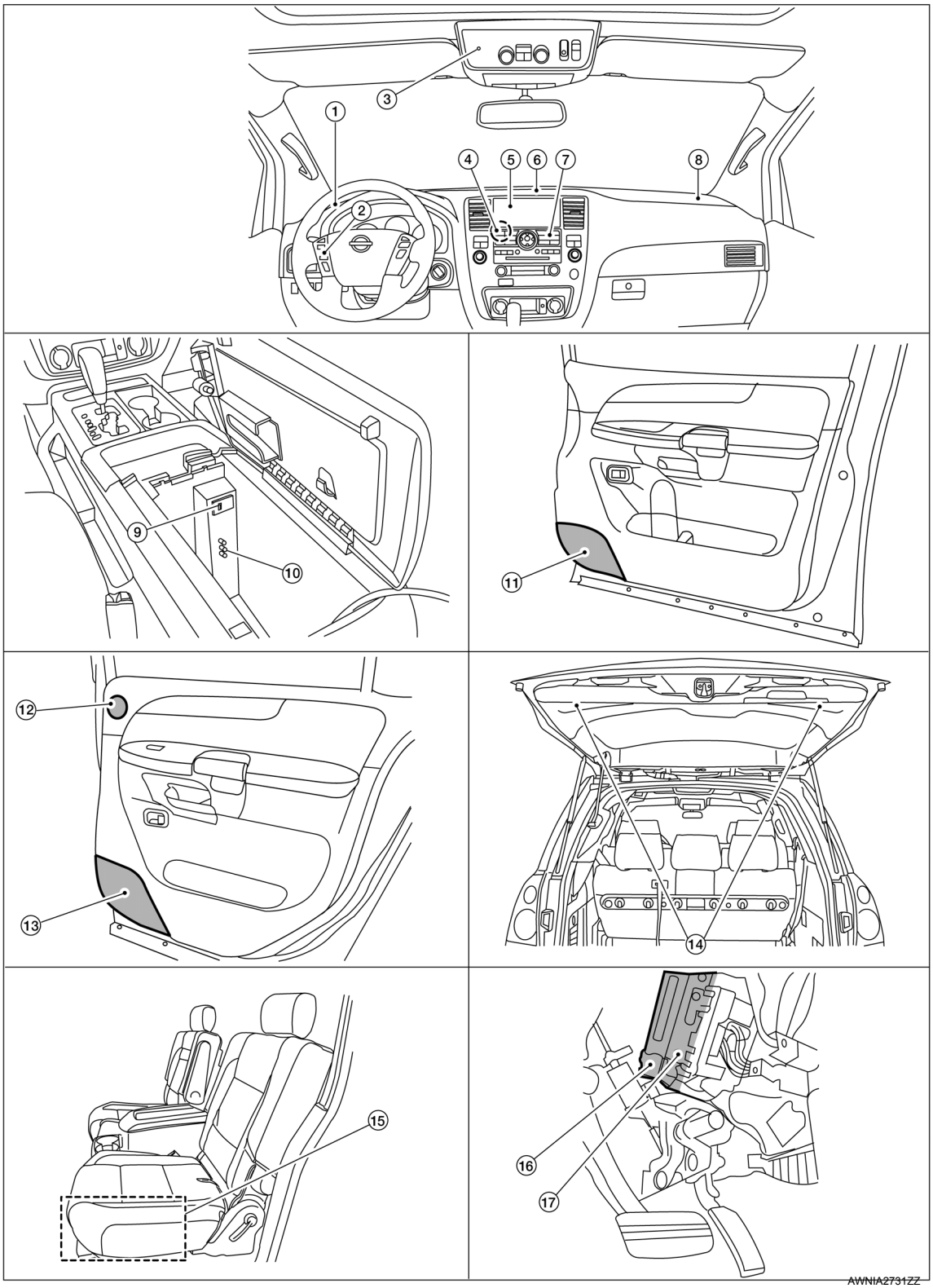
System Description

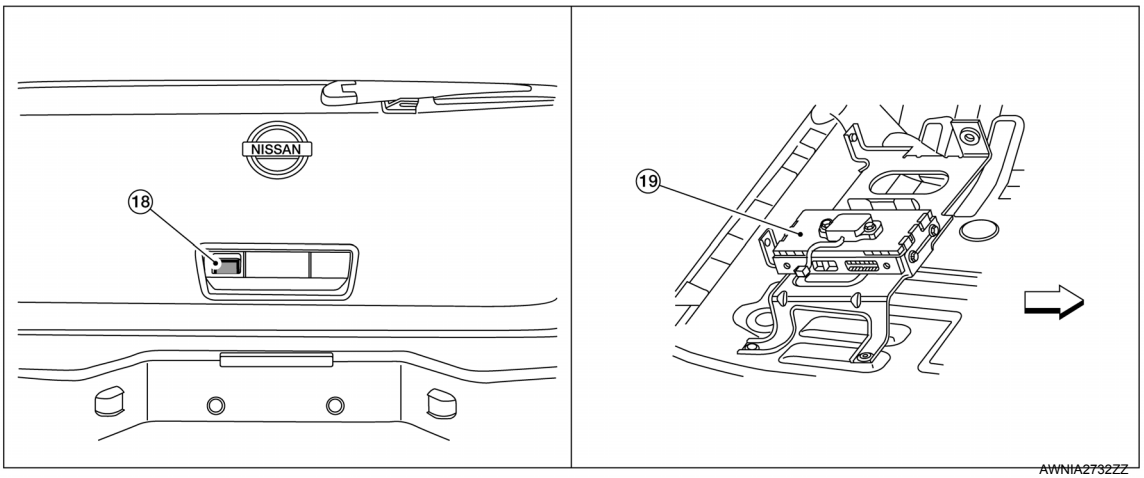
INFOID:0000000009820865

When the selector is in the R position, the AV control unit receives camera image signals from the rear view camera and shows a view to the rear of the vehicle. Lines which indicate the vehicle clearance and distances are also displayed.

Component Parts Location

INFOID:0000000009820866





⇦:FRONT

1. Front tweeter LH M109
2. Steering wheel audio control switches
3. Microphone R109
4. AV control unit M72, M160, M164, M166, M169, M170, M171, M174
5. Display unit M93
6. Center speaker M110
7. A/C and AV switch assembly M98
8. Front tweeter RH M111
9. USB interface M214
10. Front auxiliary input jacks M206
11. Front door speaker
    LH D12
    RH D112
12. Rear door tweeter
    LH D208
    RH D308
13. Rear door speaker
    LH D207
    RH D307
14. Back door speaker
    LH D518
    RH D716
15. Subwoofer B72 (under driver's seat)
16. BOSE speaker amp M112, M113 (view behind instrument panel above accelerator pedal)
17. Satellite radio tuner M45, M129
18. Rear view camera D504
19. Bluetooth® control unit B141, B142, B143 (view with passenger front seat removed)

Component Description

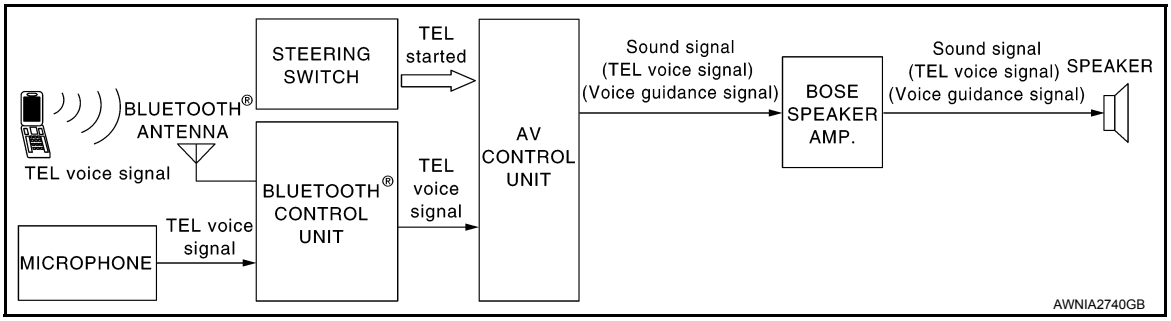
INFOID:0000000009820867

Part name	Description
AV control unit	• Sends camera ON signal to rear view camera • Receives image signal from rear view camera
Rear view camera	• Receives camera ON signal from AV control unit • Sends image signal to the AV control unit

HANDS-FREE PHONE SYSTEM

System Diagram

INFOID:0000000009820868



System Description

INFOID:0000000009820869

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

NOTE:

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

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

BLUETOOTH® CONTROL UNIT

When the ignition switch is turned to ACC or ON, the Bluetooth® control unit will power up. During power up, the Bluetooth® control unit is initialized and performs various self checks. Initialization may take up to 10 seconds. If a phone is present in the vehicle and paired with the Bluetooth® control unit, Nissan Voice Recognition will then become active. Bluetooth® telephone functions can be turned off using the Nissan Voice Recognition system.

STEERING WHEEL AUDIO CONTROL SWITCHES

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

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

- Initiate Self Diagnosis of the Bluetooth® telephone system
- Start a voice recognition session
- Answer and end telephone calls
- Adjust the volume of calls
- Record memos

MICROPHONE

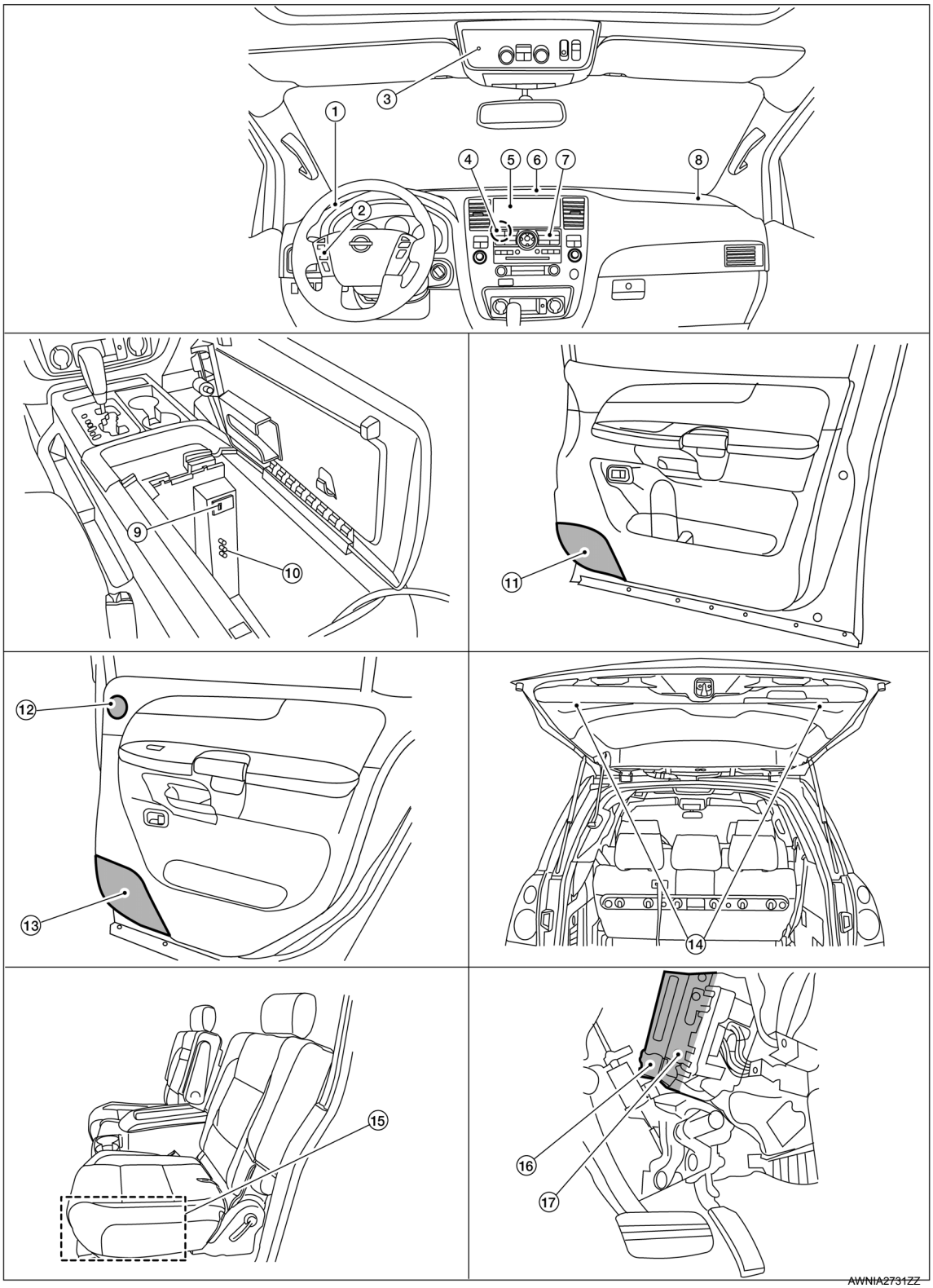
The microphone is located in the roof console assembly. The microphone sends a signal to the Bluetooth® control unit. The microphone can be actively tested during self-diagnosis.

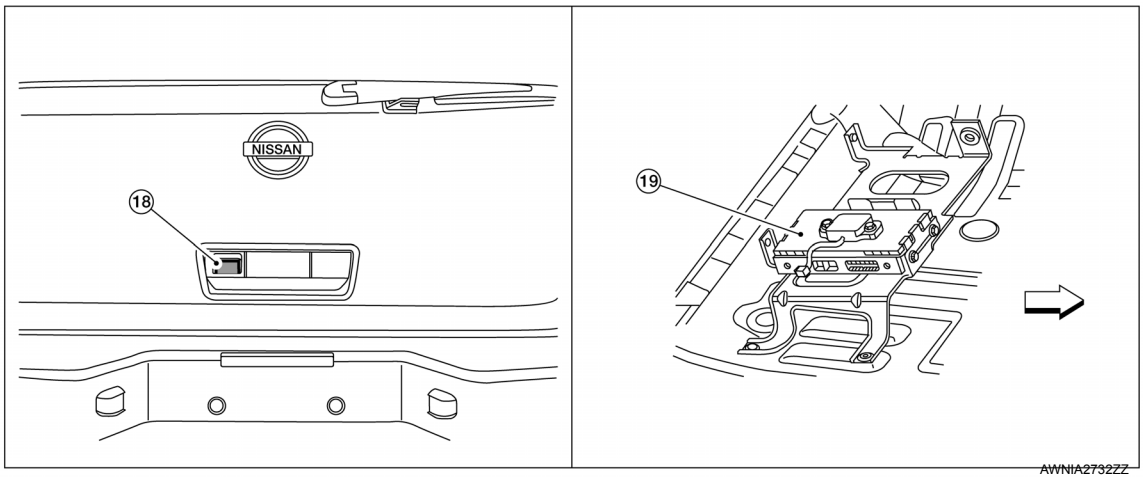
AV CONTROL UNIT

The AV control unit receives signals from the Bluetooth® control unit and sends audio signals to the BOSE speaker amp. then on to the speakers.

Component Parts Location

INFOID:0000000009820870





⇦:FRONT

1. Front tweeter LH M109
2. Steering wheel audio control switches
3. Microphone R109
4. AV control unit M72, M160, M164, M166, M169, M170, M171, M174
5. Display unit M93
6. Center speaker M110
7. A/C and AV switch assembly M98
8. Front tweeter RH M111
9. USB interface M214
10. Front auxiliary input jacks M206
11. Front door speaker LH D12 RH D112
12. Rear door tweeter LH D208 RH D308
13. Rear door speaker LH D207 RH D307
14. Back door speaker LH D518 RH D716
15. Subwoofer B72 (under driver's seat)
16. BOSE speaker amp M112, M113 (view behind instrument panel above accelerator pedal)
17. Satellite radio tuner M45, M129
18. Rear view camera D504
19. Bluetooth® control unit B141, B142, B143 (view with passenger front seat removed)

Component Description

INFOID:0000000009820871

Part name	Description
AV control unit	• Receives telephone voice signal from Bluetooth control unit • Sends telephone voice and voice guidance signals to the speakers
BOSE speaker amp.	• Receives audio signals from the AV control unit • Outputs amplified audio signals to the speakers.
Front door speaker	Receives telephone voice and voice guidance signals from the audio unit
Front tweeter	
Center speaker	
Steering wheel audio control switches	• Start a voice recognition session • Answer and end telephone calls • Adjust the volume level
Microphone	Sends voice signals to Bluetooth control unit
Bluetooth control unit	Controls hands-free phone functions
Bluetooth antenna	Sends telephone voice signal to Bluetooth control unit

DIAGNOSIS SYSTEM (AV CONTROL UNIT)
AV CONTROL UNIT
AV CONTROL UNIT : Diagnosis Description

INFOID:0000000009820872

DESCRIPTION

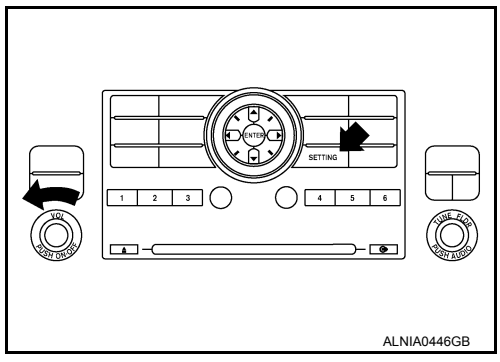
- Diagnosis function consists of the “Self-Diagnosis” mode performed automatically and the “Confirmation/ Adjustment” mode operated manually.
- “Self-Diagnosis” mode checks for connections between the units constituting this system, analyzes each individual unit at the same time, and displays the results on the LCD screen.
- “Confirmation/Adjustment” mode is used to perform trouble diagnosis that requires operation and judgment by an operator (trouble that cannot be automatically judged by the system), to check/change the set value, and to display the error history of the AV control unit.

DIAGNOSIS ITEM

Mode			Description
Self-diagnosis			• AV control unit diagnosis • Analyzes connection between the AV control unit, front display, Bluetooth, Satellite tuner and switches.
CONFIRMATION/ ADJUSTMENT	Display diagnosis	Color spectrum bar	Color tone of the screen can be checked by the display of a color bar.
		Gradation bar	Shading of the screen can be checked by the display of a gray scale.
		White display	White display can be checked.
	Vehicle signals		The following vehicle signals are analyzed: Vehicle speed signal, parking brake signal, illumination signal, ignition signal, and reverse signal.
	Speaker test		Connection can be checked by sending a test tone to each speaker.
	Error history		Diagnosis results previously stored in the memory are displayed in this mode.
	Camera cont.		Camera guidlines can be adjusted and the factory configuration can be displayed.
	Vehicle CAN diagnosis		The transmitting/receiving of CAN communication can be monitored.
	AV COMM diagnosis		The transmitting/receiving of AV communication can be monitored.
	Delete unit connection log		Erase the error history and connection history of the unit.
	Initialize settings		All audio settings are reset to default levels.

OPERATION PROCEDURE

1. Start the engine.
2. Turn the audio system off.
3. While pressing the “SETTING” button, turn the volume control dial counterclockwise 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)



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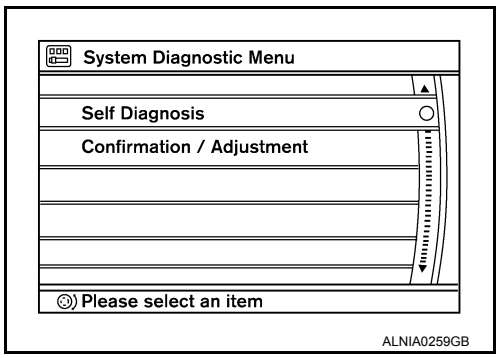
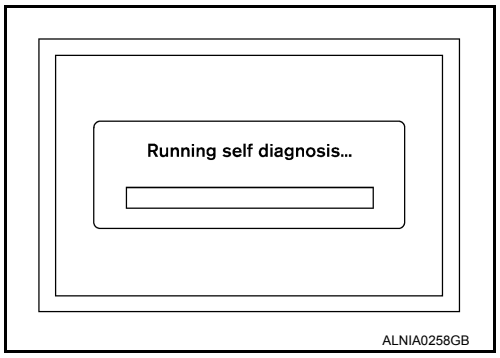
4. The initial trouble diagnosis screen will be displayed, and items “Self-Diagnosis” and “Confirmation/Adjustment” can be selected.



SELF-DIAGNOSIS

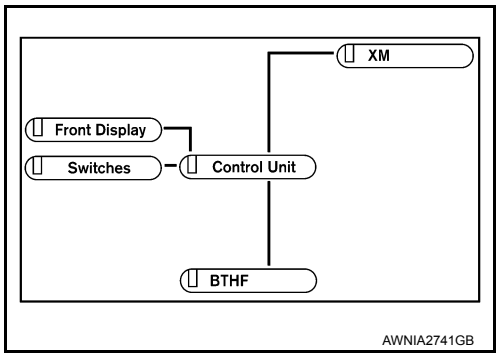
1. Perform self-diagnosis by selecting “Self-Diagnosis”.
   - Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
   - A bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.

   NOTE:
   Self-diagnosis requires approximately 10 seconds to complete.



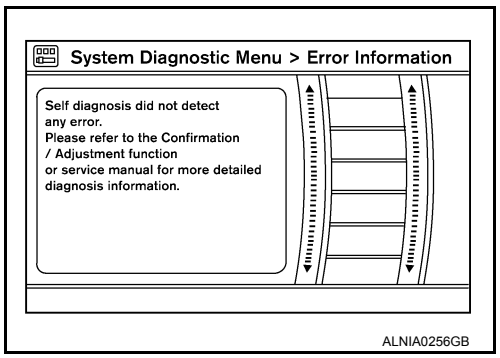
2. Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction Note	Red	Green

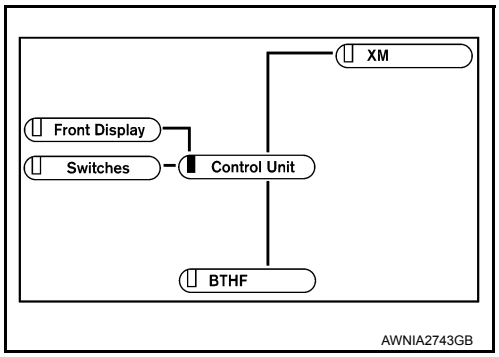
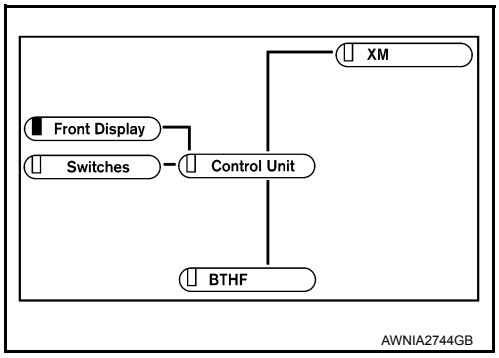
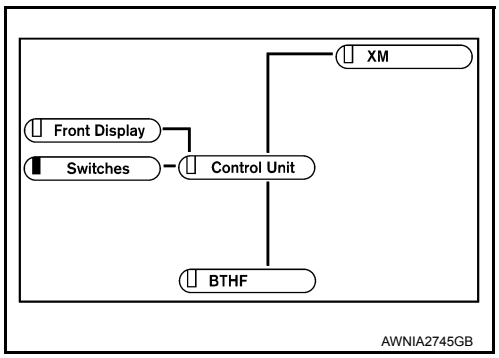


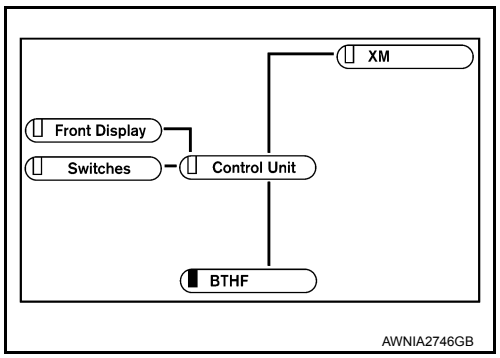
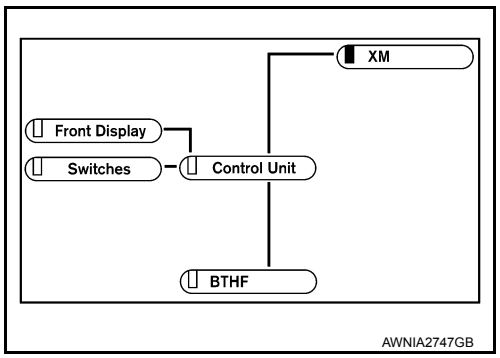
Note:
- Only the AV control unit is displayed in red.
- If multiple malfunctions occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > yellow > gray.

3. Select a component on the “Self-Diagnosis” screen and comments for the diagnosis results will be shown.



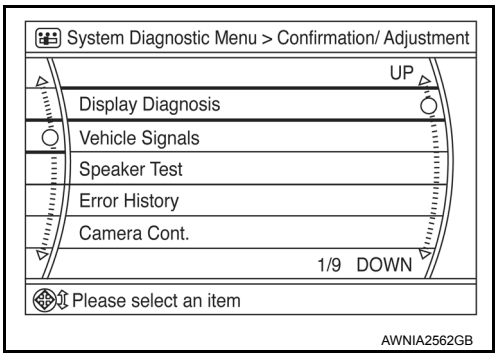
Self-Diagnosis Results

Area with yellow connection lines	Description	Possible malfunction location / Action to take
	AV control unit malfunction is detected	Replace the AV control unit. Refer to AV-267, "Removal and Installation".
	Poor connection is detected for the display unit	• Harness or connector • AV control unit • Display unit
	Switch malfunction is detected	Perform A/C and AV switch assembly diagnostics. Refer to AV-144, "A/C AND AV SWITCH ASSEMBLY : Component Function Check"

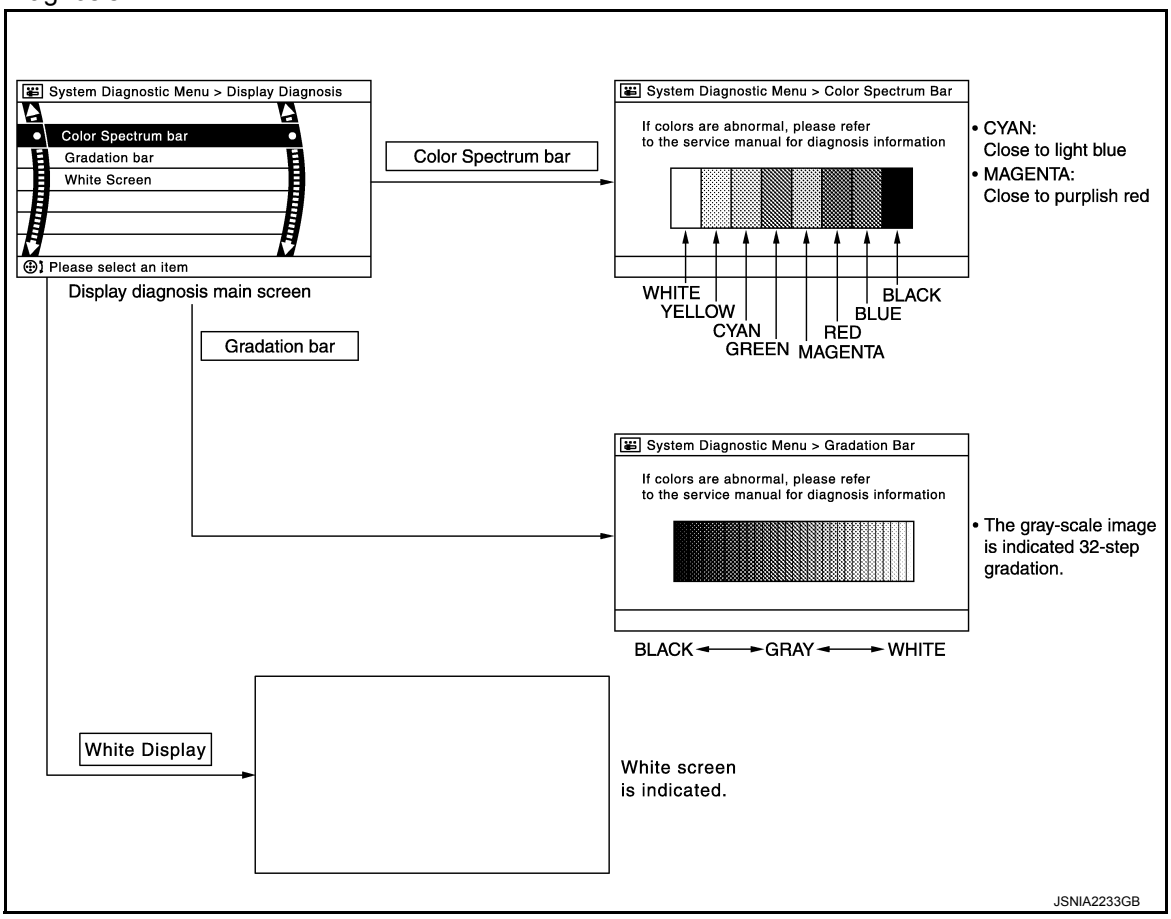
Area with yellow connection lines	Description	Possible malfunction location / Action to take
	Poor connection is detected for the Bluetooth control unit	• Harness or connector • AV control unit • Bluetooth control unit
	Poor connection is detected for the satellite radio tuner.	• Harness or connector • AV control unit • Satellite radio tuner

CONFIRMATION/ADJUSTMENT MODE

1. Start the diagnosis function and select “Confirmation/Adjustment”. The confirmation/adjustment mode indicates where each item can be checked or adjusted.
2. Select each item on the “Confirmation/Adjustment” mode screen to display the relevant trouble diagnosis screen. Touch “BACK” on the display unit or press the “BACK” switch to return to the initial Confirmation/Adjustment Mode screen.

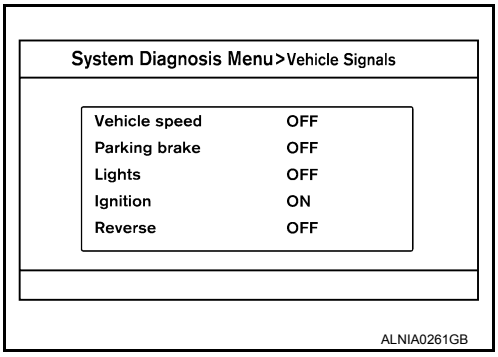


Display Diagnosis



Vehicle Signals

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

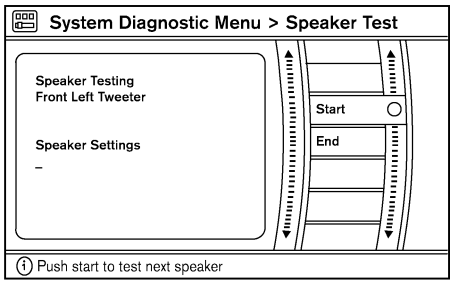


Diagnosis item	Dis-play	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h	Changes in indication may be delayed by approximately 1.5 seconds. This is normal.
	OFF	Vehicle speed = 0 km/h	
	–	Ignition switch in ACC position	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights	ON	Light switch ON	Block the light beam from the auto light optical sensor.
	OFF	Light switch OFF	
Ignition	ON	Ignition switch ON	—
	OFF	Ignition switch in ACC position	

Diagnosis item	Display	Vehicle status	Remarks
Reverse	ON	Selector lever in R position	Changes in indication may be delayed by approximately 1.5 seconds. This is normal.
	OFF	Selector lever in any position other than R	
	–	Ignition switch in ACC position	

Speaker Test

Select “Speaker Test” to display the speaker diagnosis screen. Press “Start” to generate a test tone in speakers. Press “End” to stop the test tones.



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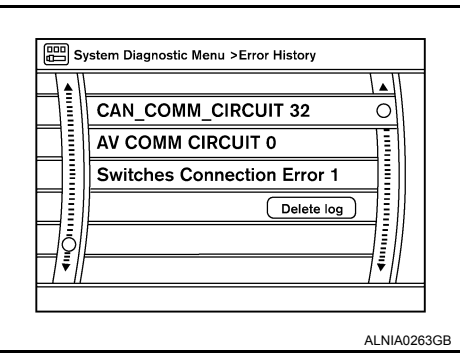
Error History

The self-diagnosis results are judged depending on whether any error occurs from when “Self-diagnosis” is selected until the self-diagnosis results are displayed.

However, the diagnosis results are judged normal if an error has occurred before the ignition SW is turned ON and then no error has occurred until the self-diagnosis start. Check the “Error History” to detect any error that may have occurred before the self-diagnosis start because of this situation.



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Count up method A

- The counter resets to 0 if an error occurs when IGN switch is turned ON. The counter increases by 1 if the condition is normal at a next IGN ON cycle.
- The counter upper limit is 39. Any counts exceeding 39 are ignored. The counter can be reset (no error record display) with the “Delete log” switch or CONSULT.

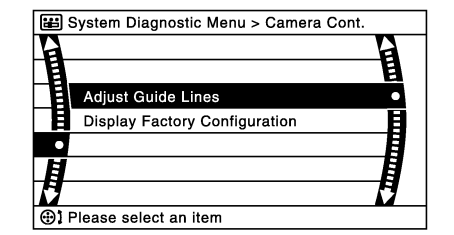
Count up method B

- The counter increases by 1 if an error occurs when IGN switch is ON. The counter will not decrease even if the condition is normal at the next IGN ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. The counter can be reset (no error record display) with the “Delete log” switch or CONSULT.

Display method of occurrence frequency	Error history display item
Count up method A	CAN communication line, control unit (CAN), AV communication line, control unit (AV communication)
Count up method B	Other than above

Camera Cont.

The two functions of “Correct Draw Line of Rear view Cam”, “Confirm Configuration” are available.



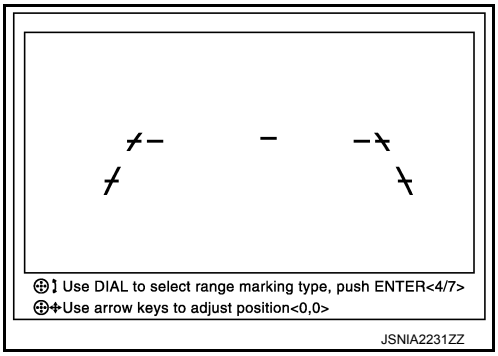
JSNIA2230ZZ

Adjust Offset of Rear view Camera

- Use this mode to adjust the guide line display position of the rear view monitor if necessary after removing the rear view monitor camera.

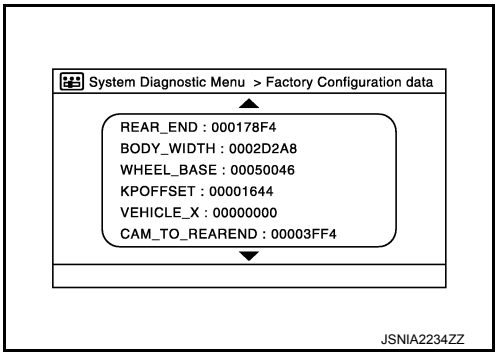
CAUTION:

After the adjustment, never perform other operations for one minute.



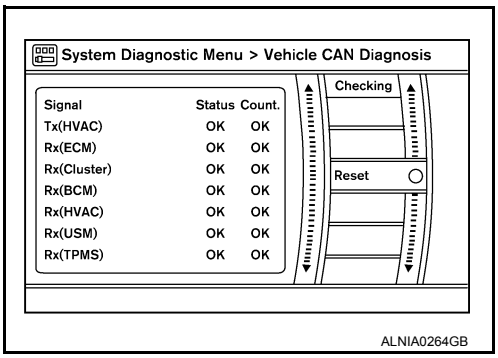
Factory Configuration Confirmation

- Configuration stored in the AV control unit can be checked.



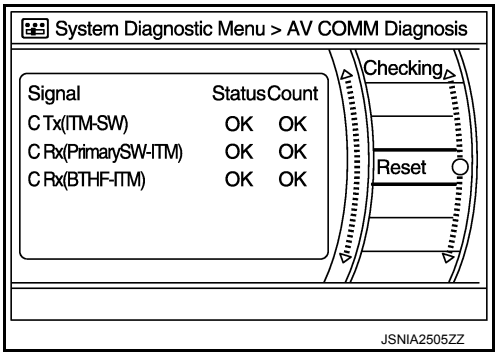
Vehicle CAN Diagnosis

- CAN communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if reset.



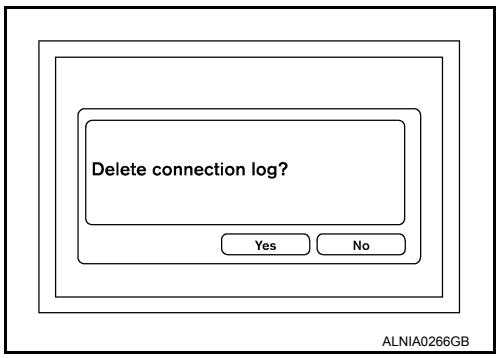
AV COMM Diagnosis

- AV communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if reset.

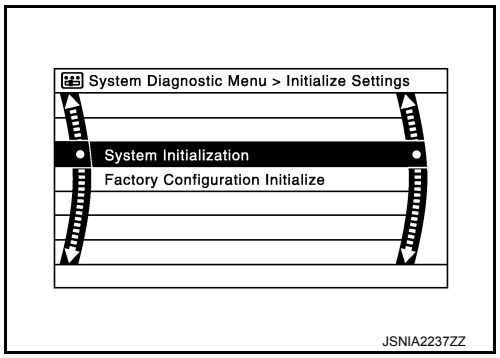


Delete Unit Connection Log

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



Initialize Settings
Initializes the AV control unit memory.



AV CONTROL UNIT : CONSULT Function

INFOID:0000000009820873

CONSULT can display each diagnostic item using the diagnostic test modes shown following.

MULTI AV diagnosis mode	Description
SELF-DIAG RESULTS	Displays AV control unit self-diagnosis results.
DATA MONITOR	Displays AV control unit input/output data in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
AV COMM MONITOR	Allows the technician to monitor the status of the Multi AV system communication signals.
ECU PART NUMBER	The part number of AV control unit can be checked.

Self-diagnosis results display item

Error item	Refer to
CAN COMM CIRCUIT [U1000]	AV-146, "Description"
CONTROL UNIT (CAN) [U1010]	AV-147, "Description"
Control Unit FLASH-ROM [U1200]	AV-148, "Description"
CAN CONT [U1216]	AV-149, "Description"
SWITCH CONN [U1240]	AV-150, "Description"
FRONT DISP CONN [U1243]	AV-151, "Description"
SAT CONN [U1255]	AV-153, "Description"
HAND FREE CONN [U1256]	AV-154, "Description"
AV COMM CIRCUIT [U1300]	AV-155, "Description"
CONTROL UNIT (AV) [U1310]	AV-156, "Description"

DATA MONITOR

Display Item List

Display item [unit]	ALL SIGNALS	SELECTION FROM MENU	Description
VHCL SPD SIG [ON/OFF]	X	X	Displays “ON” when vehicle speed > 0 km/h. Displays “OFF” when vehicle speed = 0 km/h.
PKB SIG [ON/OFF]	X	X	Displays [ON/OFF] condition of parking brake switch.
ILLUM SIG [ON/OFF]	X	X	Displays [ON/OFF] condition of lighting switch.
IGN SIG [ON/OFF]	X	X	Displays [ON/OFF] condition of ignition switch.
REV SIG [ON/OFF]	X	X	Displays [ON/OFF] condition of back-up lamp switch.

A/C AND AV SWITCH ASSEMBLY

A/C AND AV SWITCH ASSEMBLY : Component Function Check

INFOID:0000000009820874

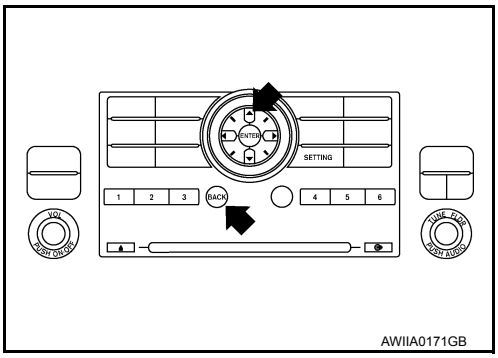
A/C and AV switch assembly self-diagnosis function

Description

The ON/OFF operation (continuity) of each switch in the A/C and AV switch assembly can be checked.

Self-diagnosis mode

- Press the “BACK” button and the “UP” button within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. When the self-diagnosis mode starts, a beep will sound and all LED indicators of the switch will illuminate.
- The continuity of each switch and control dial of the A/C and AV switch assembly can be checked. If the switch is operating normally, the system will beep and the LED’s will illuminate when each switch is operated.



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Finishing self-diagnosis mode

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

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description

INFOID:0000000009820875

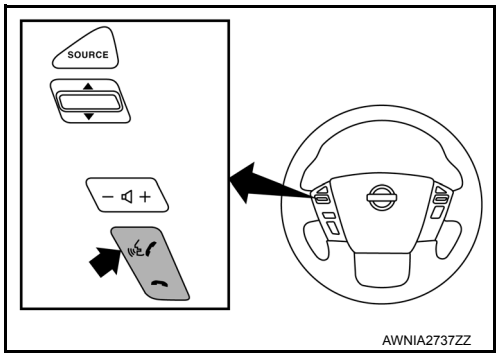
The Bluetooth® control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

BLUETOOTH® CONTROL UNIT INITIALIZATION CHECKS

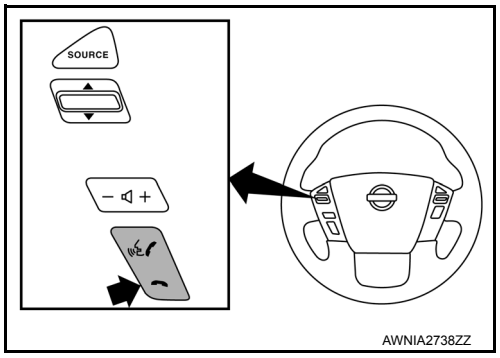
- Internal control unit failure
- Bluetooth® antenna connection open or shorted
- Steering wheel audio control switches (SEND/END) stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth® inquiry check

OPERATION PROCEDURE

1. Turn ignition switch to ACC or ON.
2. Wait for the Bluetooth® system to complete initialization. This may take up to 10 seconds.
3. Press and hold the steering wheel audio control switch 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 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 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-145, "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-145, "Work Flow".
8. Self-diagnosis mode is complete when the voice prompt says “All diagnostic functions completed”.



Work Flow

INFOID:0000000009820876

Failure Message	Action
“Internal failure”	Replace Bluetooth® control unit. Refer to AV-287, "Removal and Installation".
“Bluetooth® antenna open”	1. Inspect harness connection. 2. Replace Bluetooth® antenna. Refer to AV-287, "Removal and Installation".
“Bluetooth® antenna shorted”	
“Phone/Send for Hands Free System is stuck”	Check steering wheel audio control switches. Refer to AV-195, "Description".
“Phone/End for the Hands Free System is stuck”	
“Microphone test” (failed interactive test)	1. Inspect harness between Bluetooth® control unit and microphone. 2. Replace microphone. Refer to AV-286, "Removal and Installation".

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000009820877

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-46, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000009820878

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	Diagnostic item is detected when ...	Probable malfunction location
U1000	CAN COMM CIRCUIT	When AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

Diagnosis Procedure

INFOID:0000000009820879

1.PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check “Self Diagnostic Result” of “AV Control Unit”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to “LAN system”. Refer to LAN-14, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI section. Refer to GI-42, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

Description

INFOID:0000000009820880

Initial diagnosis of AV control unit.

DTC Logic

INFOID:0000000009820881

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	Diagnostic item is detected when ...	Probable malfunction location
U1010	CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	AV control unit.

Diagnosis Procedure

INFOID:0000000009820882

1.REPLACE AV CONTROL UNIT

When DTC U1010 is detected, replace AV control unit. Refer to AV-267, "Removal and Installation".

>> Inspection End.

U1200 AV CONTROL UNIT

Description

INFOID:0000000009820883

Replace the AV control unit if this DTC is displayed. Refer to AV-267, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• It is the master unit of the MULTI AV system and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • AV control unit includes audio function and vehicle information function. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009820884

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U1200	Control Unit FLASH- ROM [U1200]	An internal malfunction is detected in AV control unit (FLASH-ROM).	Replace AV control unit. Refer to AV-267, "Removal and Installation".

U1216 AV CONTROL UNIT

Description

INFOID:0000000009820885

Replace the AV control unit if this DTC is displayed. Refer to AV-267, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• It is the master unit of the MULTI AV system and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • AV control unit includes audio function and vehicle information function. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009820886

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U1216	CAN CONT [U1216]	Internal malfunction of AV control unit (CAN controller) is detected.	Replace AV control unit. Refer to AV-267, "Removal and Installation".

U1240 SWITCH CONN

Description

INFOID:0000000009820887

U1240 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

Self-diagnosis results display item

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1240	• SWITCH CONN [U1240]	• A/C and AV switch assembly power supply and ground circuit malfunction is detected. • A malfunction is detected in communication circuit between AV control unit and A/C and AV switch assembly. • A malfunction is detected in communication signal between AV control unit and A/C and AV switch assembly.	• A/C and AV switch assembly power supply and ground circuits. • Communication circuit between AV control unit and A/C and AV switch assembly.

U1243 DISPLAY UNIT

Description

INFOID:0000000009820888

Part name	Description
DISPLAY UNIT	• Display image is controlled by the serial communication from AV control unit. • Inputs the RGB image signal (RGB, RGB area and RGB synchronizing) from AV control unit and the auxiliary image signal from the auxiliary input jacks. • Outputs the synchronizing signals (HP and VP) to the AV control unit.

DTC Logic

INFOID:0000000009820889

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1243	FRONT DISP CONN [U1243]	• Display unit power supply and ground circuit malfunction is detected. • Malfunction is detected on communication circuit between display unit and AV control unit. • Malfunction is detected on communication signal between display unit and AV control unit.	• Display unit power supply and ground circuit. • Communication circuit between display unit and AV control unit.

Diagnosis Procedure

INFOID:0000000009820890

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

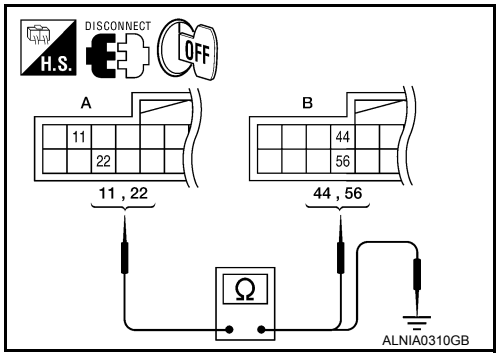
Check display unit power supply and ground circuit. Refer to AV-158, "DISPLAY UNIT : Diagnosis Procedure".

Is inspection result OK?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2.CHECK CONTINUITY OF COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector M93 (A) terminals 11, 22 and AV control unit harness connector M171 (B) terminals 56, 44.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	11	M171	56	Yes
	22		44	

4. Check continuity between display unit harness connector M93 (A) terminals 11, 22 and ground.

A		—	Continuity
Connector	Terminal		
M93	11	Ground	No
	22		

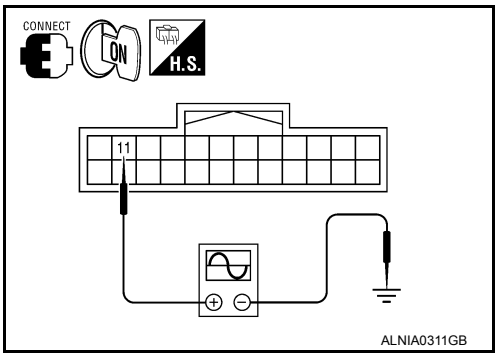
Are continuity results as specified?

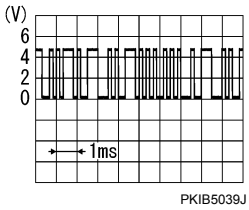
YES >> GO TO 3.

NO >> Repair harness or connector.

3. CHECK COMMUNICATION SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 11 and ground with an oscilloscope or CONSULT.



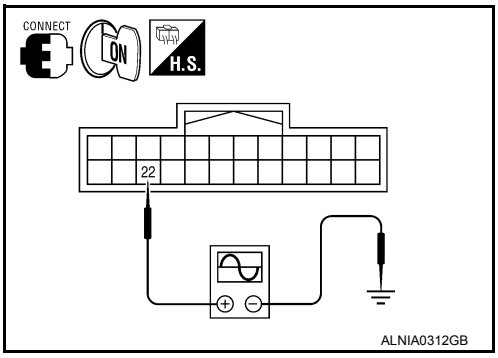
(+)		(-)	Reference signal
Connector	Terminal		
M93	11	Ground	

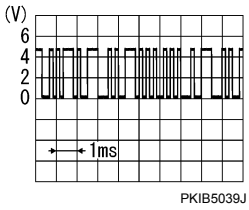
Are voltage readings as specified?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

4. CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector M93 terminal 22 and ground with an oscilloscope or CONSULT.



(+)		(-)	Reference signal
Connector	Terminal		
M93	22	Ground	

Are voltage readings as specified?

YES >> Inspection End.
NO >> Replace display unit. Refer to AV-270, "Removal and Installation".

U1255 SATELLITE RADIO TUNER

Description

INFOID:0000000009820891

Part name	Description
SATELLITE RADIO TUNER	• Inputs the satellite radio signal from satellite radio antenna and outputs it to the AV control unit. • It is controlled with the communication (communication signal, request signal) from AV control unit.

DTC Logic

INFOID:0000000009820892

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1255	SAT CONN [U1255]	The satellite radio tuner power supply and ground circuit malfunction is detected.	Satellite radio tuner power supply and ground circuit.

Diagnosis Procedure

INFOID:0000000009820893

1.CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT

Check satellite radio tuner power supply and ground circuit. Refer to AV-161, "SATELLITE RADIO TUNER : Diagnosis Procedure".

Is inspection result OK?

YES >> Inspection End.
NO >> Repair malfunctioning parts.

U1256 HAND FREE CONN

Description

INFOID:0000000009820894

U1256 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

Self-diagnosis results display item

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1256	• HAND FREE CONN [U1256]	• Bluetooth control unit power supply and ground circuit malfunction is detected. • A malfunction is detected in communication circuit between AV control unit and Bluetooth control unit. • A malfunction is detected in communication signal between AV control unit and Bluetooth control unit.	• Bluetooth control unit power supply and ground circuits. • Communication circuit between AV control unit and Bluetooth control unit.

U1300 AV COMM CIRCUIT

Description

INFOID:0000000009820895

U1300 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

DTC Logic

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1300	• AV COMM CIRCUIT [U1300]	When AV control unit is not transmitting or receiving AV communication signal for 2 seconds or more.	AV communication system.

U1310 AV CONTROL UNIT

Description

INFOID:0000000009820896

Replace the AV control unit if this DTC is displayed. Refer to AV-267, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• It is the master unit of the MULTI AV system and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • AV control unit includes audio function and vehicle information function. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009820897

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U1310	CONTROL UNIT (AV) [U1310]	An initial diagnosis error is detected in AV communication circuit.	Replace AV control unit. Refer to AV-267, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT
AV CONTROL UNIT
AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009820898

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK FUSES

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

Unit	Terminals	Signal name	Fuse No.
AV control unit	19	Battery power	31
	7	Ignition switch ACC or ON	4
	104	Ignition switch ON or START	12

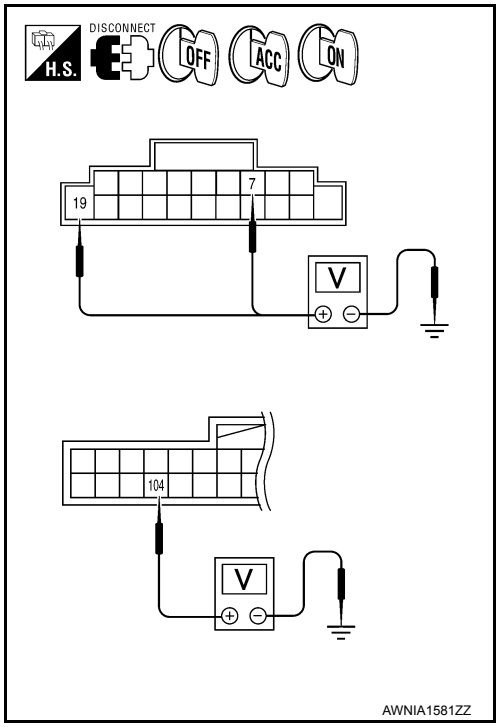
Are the fuses OK?

YES >> GO TO 2.
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect AV control unit connectors M160 and M166.
2. Check voltage between the AV control unit connectors M160 and M166 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M160	7	Ground	0V	Battery voltage	Battery voltage
	19	Ground	Battery voltage	Battery voltage	Battery voltage
M166	104	Ground	0V	0V	Battery voltage



Are the voltage results as specified?

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

3.GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Check continuity between AV control unit harness connectors M160 and M164 and ground.

(+)		(-)	Continuity
Connector	Terminal		
M160	20	Ground	Yes
M164	68		

Are the continuity results as specified?

YES >> Inspection End.
NO >> Repair AV control unit ground.

DISPLAY UNIT

DISPLAY UNIT : Diagnosis Procedure

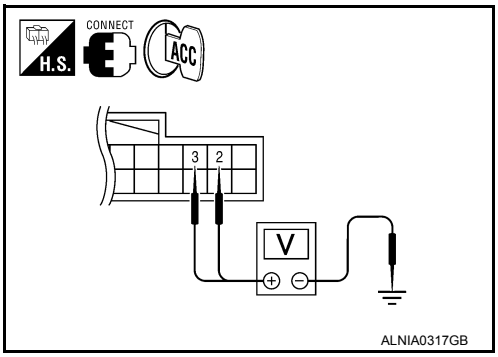
INFOID:0000000009820899

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch to ACC.
2. Check voltage between display unit harness connector M93 and ground.

(+)		(-)	Value (Approx.)
Connector	Terminal		
M93	2	Ground	9V
	3		



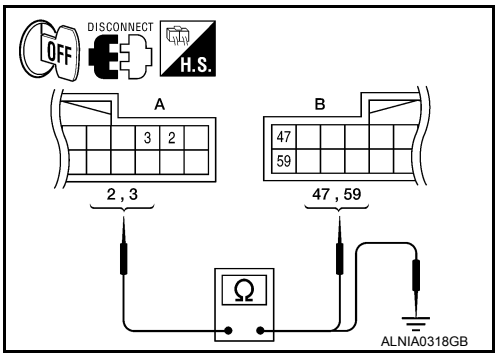
Does specified voltage exist?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the display unit connector M93 and the AV control unit connector M171.
3. Check continuity between the display unit harness connector M93 (A) and the AV control unit connector M171 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	2	M171	59	Yes
	3		47	



4. Check continuity between the display unit harness connector M93 (A) and ground.

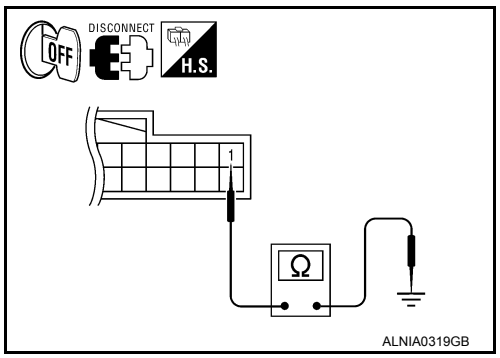
A		—	Continuity
Connector	Terminal		
M93	2	Ground	No
	3		

Are continuity results as specified?

YES >> Check AV control unit power and ground supply. Refer to AV-157, "AV CONTROL UNIT : Diagnosis Procedure".
NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

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



Connector	Terminal	—	Continuity
M93	1	Ground	Yes

Does continuity exist?

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

A/C AND AV SWITCH ASSEMBLY

A/C AND AV SWITCH ASSEMBLY : Diagnosis Procedure

INFOID:0000000009820900

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK FUSE

Check that the fuse of the AC and AV switch assembly is not blown.

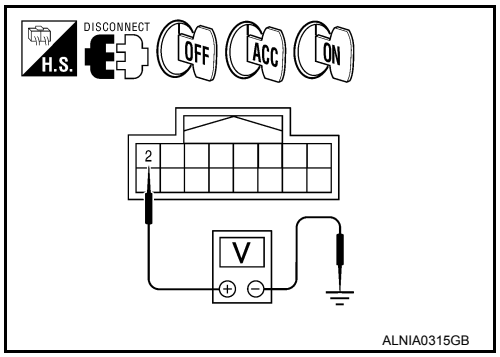
Unit	Terminal	Signal name	Fuse No.
A/C and AV switch assembly	2	Ignition switch ACC or ON	4

Is the fuse OK?

YES >> GO TO 2.
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect A/C and AV switch assembly connector M98.
2. Check voltage between the A/C and AV switch assembly connector M98 and ground.



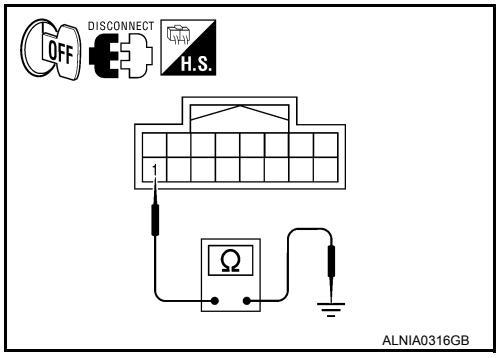
(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M98	2	Ground	0V	Battery voltage	Battery voltage

Are the voltage results as specified?

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

3.GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Check continuity between A/C and AV switch assembly harness connector M98 and ground.



Connector	Terminal	—	Continuity
M98	1	Ground	Yes

Are the continuity results as specified?

YES >> Inspection End.
NO >> Repair harness or ground.

BOSE SPEAKER AMP

BOSE SPEAKER AMP : Diagnosis Procedure

INFOID:0000000009820901

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK FUSE

Check that the BOSE speaker amp. fuse is not blown.

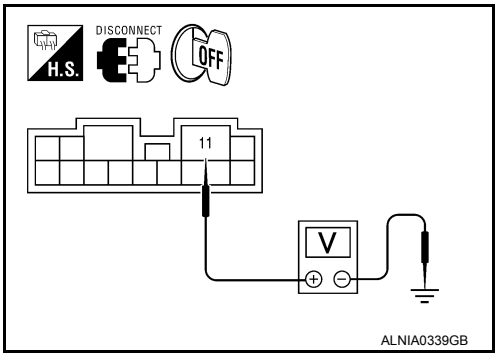
Unit	Terminal	Signal name	Fuse No.
BOSE speaker amp.	11	Battery power	31

Are the fuses OK?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. connector.
3. Check voltage between BOSE speaker amp. harness connector M112 terminal 11 and ground.



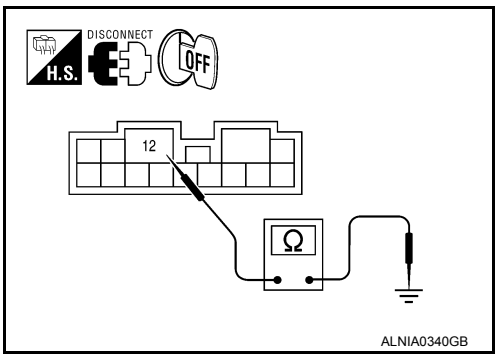
(+)		(-)	Voltage (approx.)
Connector	Terminal		
M112	11	Ground	Battery voltage

Is battery voltage present?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. connector.
3. Check continuity between BOSE speaker amp. harness connector M112 terminal 12 and ground.



(+)		(-)	Continuity
Connector	Terminal		
M112	12	Ground	Yes

Does continuity exist?

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

SUBWOOFER

SUBWOOFER : Diagnosis Procedure

INFOID:0000000009820902

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK FUSE

Check that the subwoofer fuse is not blown.

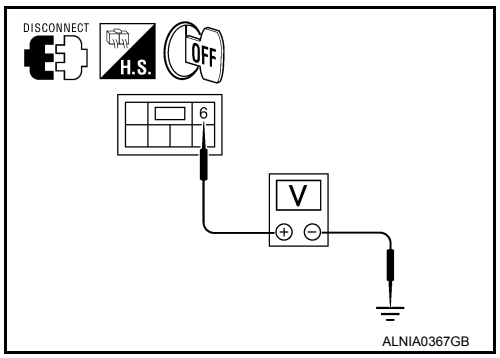
Unit	Terminal	Signal name	Fuse No.
Subwoofer	6	Battery power	17

Is the fuse OK?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect subwoofer connector.
3. Check voltage between subwoofer harness connector B72 terminal 6 and ground.



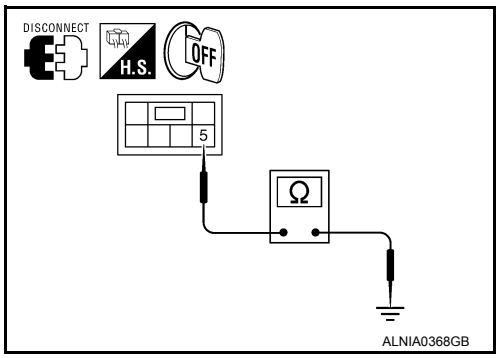
(+)		(-)	Voltage (approx.)
Connector	Terminal		
B72	6	Ground	Battery voltage

Is battery voltage present?

YES >> GO TO 3.
NO >> Check harness between subwoofer and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between subwoofer harness connector B72 terminal 5 and ground.



(+)		(-)	Continuity
Connector	Terminal		
B72	5	Ground	Yes

Does continuity exist?

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

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000009820903

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK FUSES

Check that the following fuses of the satellite radio tuner (factory installed) are not blown.

Unit	Terminals	Signal name	Fuse No.
Satellite radio tuner (factory installed)	32	Battery power	31
	36	Ignition switch ACC or ON	4

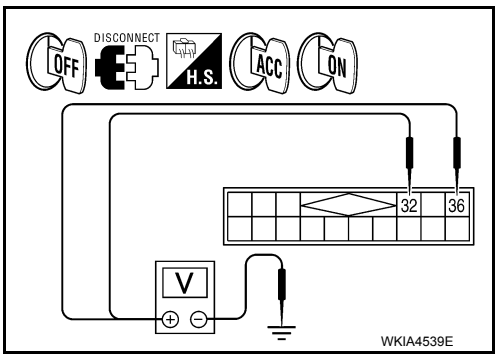
Are the fuses OK?

YES >> GO TO 2.
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M45.
3. Check voltage between the satellite radio tuner (factory installed) and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M45	32	Ground	Battery voltage	Battery voltage	Battery voltage
	36		0V	Battery voltage	Battery voltage



Are the voltage readings as specified?

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

3.GROUND CIRCUIT CHECK

Inspect satellite radio tuner (factory installed) case ground.

Does case ground pass inspection?

YES >> Inspection End.
NO >> Repair satellite radio tuner (factory installed) case ground.

REAR VIEW CAMERA

REAR VIEW CAMERA : Diagnosis Procedure

INFOID:0000000009820904

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK FUSE

Check that the fuse of the rear view camera is not blown.

Unit	Terminal	Signal name	Fuse No.
Rear view camera	2	Ignition switch ACC or ON	4

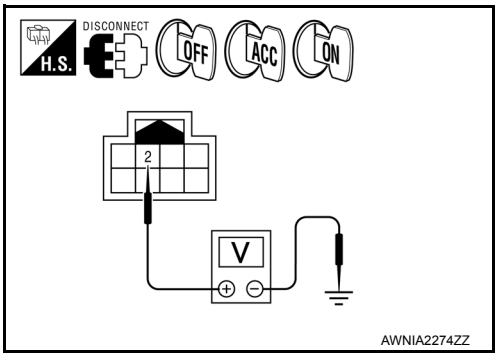
Is the fuse OK?

YES >> GO TO 2.
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect rear view camera connector D504.
2. Check voltage between the rear view camera connector D504 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
D504	2	Ground	0V	Battery voltage	Battery voltage



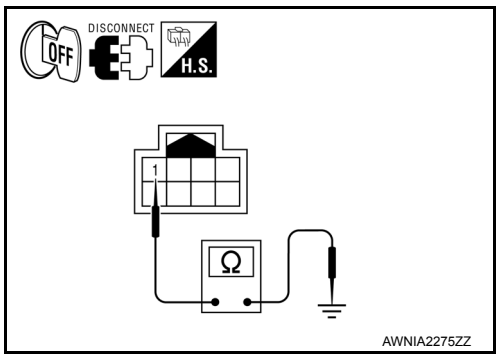
Is the voltage result as specified?

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

3.GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Check continuity between rear view camera harness connector D504 and ground.

Connector	Terminal	—	Continuity
D504	1	Ground	Yes



Is the continuity result as specified?

YES >> Inspection End.
NO >> Repair harness or ground.

BLUETOOTH CONTROL UNIT

BLUETOOTH CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009820905

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK FUSE

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

Power source	Fuse No.
Battery	31
Ignition switch ACC or ON	4
Ignition switch ON or START	12

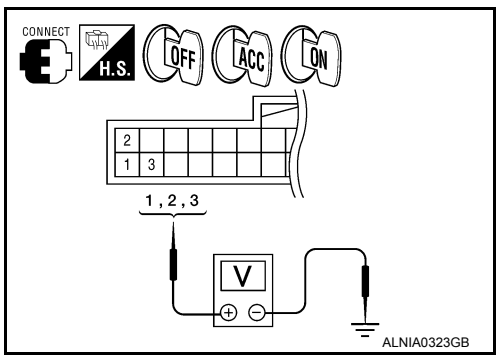
Is inspection result OK?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between Bluetooth control unit harness connector B142 and ground.

(+)		(-)	Ignition switch position	Value (Approx.)
Connector	Terminal			
B142	1	Ground	OFF	Battery voltage
	2		ACC	
	3		ON	



Is battery voltage present as specified?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth control unit connector.
3. Check continuity between Bluetooth control unit harness connector B142 and ground.

Connector.	Terminal	—	Continuity
B142	4	Ground	Yes
	20		
	23		

Are continuity results as specified?

YES >> Inspection End.

NO >> Repair harness or connector.

MICROPHONE

MICROPHONE : Diagnosis Procedure

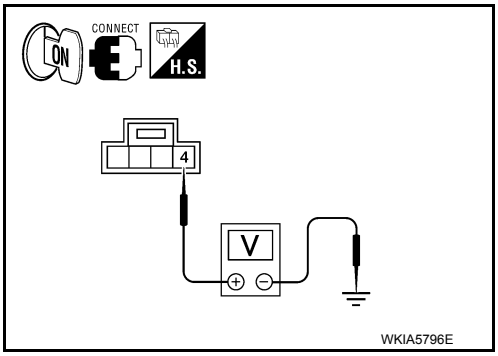
INFOID:0000000009820906

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

1. Turn ignition switch ON.

Check voltage between microphone harness connector R109 terminal 4 and ground.



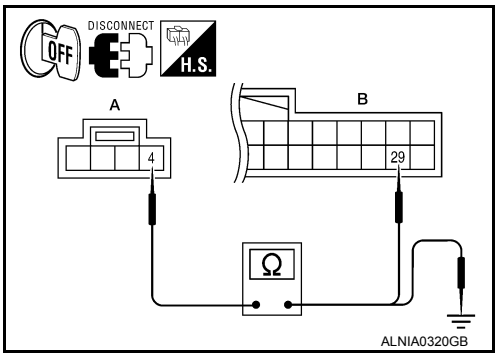
(+)		(-)	Value (Approx.)
Connector	Terminal		
R109	4	Ground	5V

Is approximately 5V present?

YES >> GO TO 4.
NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect microphone and Bluetooth control unit harness connectors.
3. Check continuity between microphone harness connector R109 (A) terminal 4 and Bluetooth control unit harness connector B142 (B) terminal 29.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
R109	4	B142	29	Yes

4. Check continuity between microphone harness connector R109 (A) terminal 4 and ground.

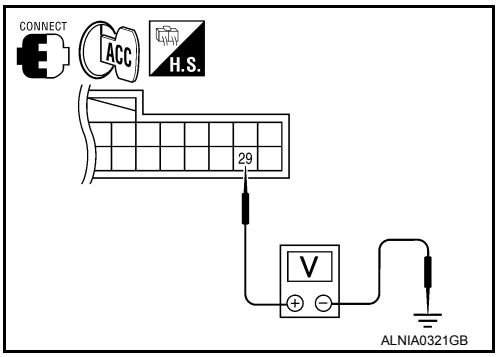
A		—	Continuity
Connector	Terminal		
R109	4	Ground	No

Are the continuity test results as specified?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK POWER SUPPLY CIRCUIT (BLUETOOTH CONTROL UNIT SIDE)

1. Connect Bluetooth control unit harness connector.
2. Turn ignition switch to ACC.
3. Check voltage between Bluetooth control unit harness connector B142 terminal 29 and ground.



(+)		(-)	Value (Approx.)
Connector	Terminal		
B142	29	Ground	5V

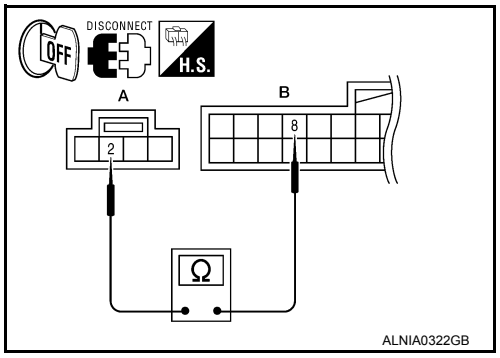
Is approximately 5V present?

YES >> Inspection End.

NO >> Replace Bluetooth control unit. Refer to AV-287, "Removal and Installation".

4. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect microphone harness connector R109 and Bluetooth control unit harness connector B142.
3. Check continuity between microphone harness connector R109 (A) terminal 2 and Bluetooth control unit harness connector B142 (B) terminal 8.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
R109	2	B142	8	Yes

Does continuity exist?

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

RGB (R: RED) SIGNAL CIRCUIT

Description

INFOID:0000000009820907

Transmit the image displayed with AV control unit with RGB signal to the display unit.

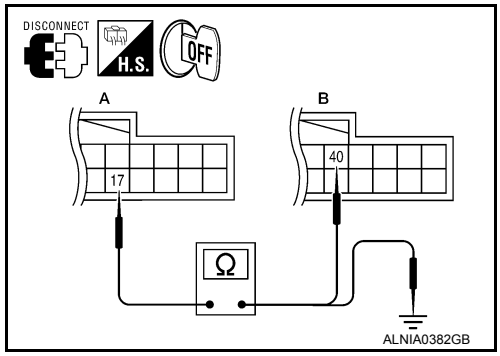
Diagnosis Procedure

INFOID:0000000009820908

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK CONTINUITY RGB (R: RED) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and AV control unit connector M171.
3. Check continuity between display unit harness connector M93 (A) terminal 17 and AV control unit harness connector M171 (B) terminal 40.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	17	M171	40	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 17 and ground.

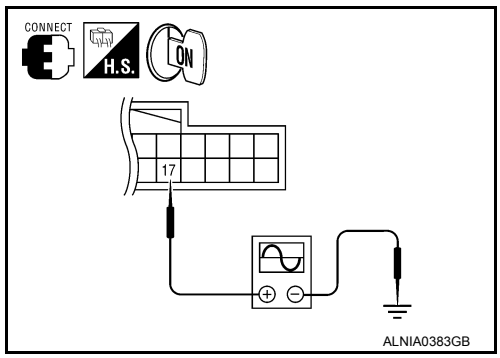
A		—	Continuity
Connector	Terminal		
M93	17	Ground	No

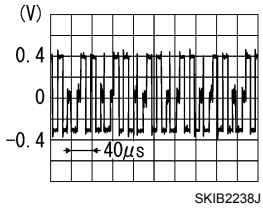
Are the continuity results as specified?

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

2.CHECK RGB (R: RED) SIGNAL

1. Connect display unit connector M93 and AV control unit connector M171.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 17 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	17	Ground	Receive audio signal	

Are the voltage readings as specified?

YES >> Replace display unit. Refer to AV-270, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

RGB (G: GREEN) SIGNAL CIRCUIT

Description

INFOID:0000000009820909

Transmit the image displayed with AV control unit with RGB signal to the display unit.

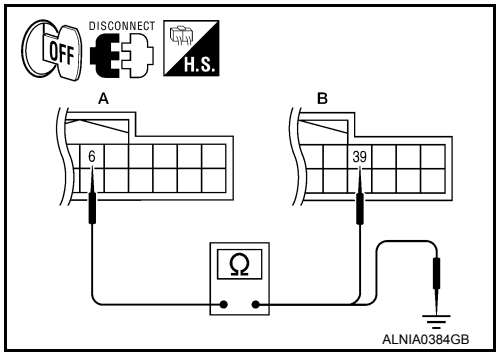
Diagnosis Procedure

INFOID:0000000009820910

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK CONTINUITY RGB (G: GREEN) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and AV control unit connector M171.
3. Check continuity between display unit harness connector M93 (A) terminal 6 and AV control unit harness connector M171 (B) terminal 39.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	6	M171	39	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 6 and ground.

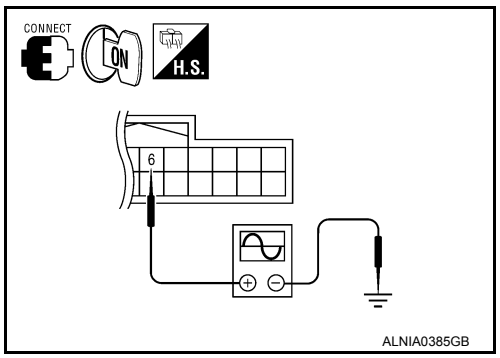
A		—	Continuity
Connector	Terminal		
M93	6	Ground	No

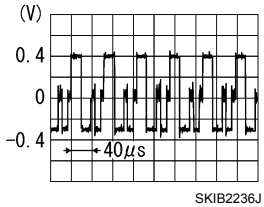
Are the continuity results as specified?

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

2.CHECK RGB (G: GREEN) SIGNAL

1. Connect display unit connector M93 and AV control unit connector M171.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 6 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	6	Ground	Receive audio signal	

Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-270, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

RGB (B: BLUE) SIGNAL CIRCUIT

Description

INFOID:0000000009820911

Transmit the image displayed with AV control unit with RGB signal to the display unit.

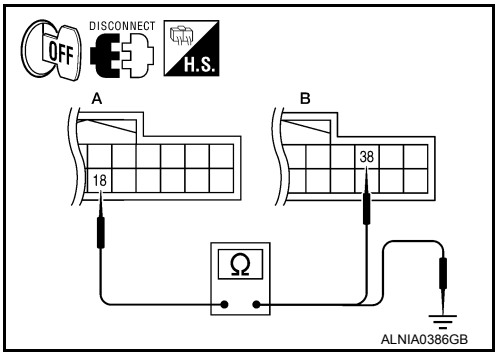
Diagnosis Procedure

INFOID:0000000009820912

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK CONTINUITY RGB (B: BLUE) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and AV control unit connector M171.
3. Check continuity between display unit harness connector M93 (A) terminal 18 and AV control unit harness connector M171 (B) terminal 38.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	18	M171	38	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 18 and ground.

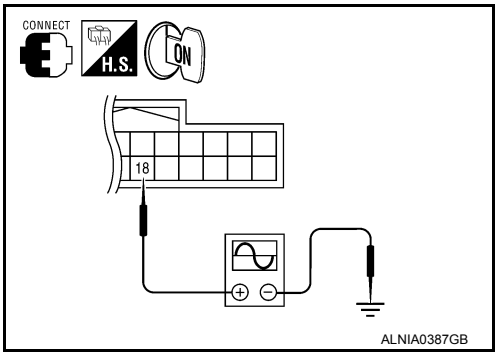
A		—	Continuity
Connector	Terminal		
M93	18	Ground	No

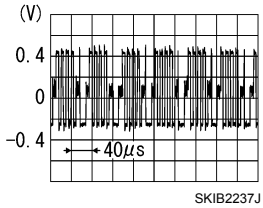
Are continuity results as specified?

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

2.CHECK RGB (B: BLUE) SIGNAL

1. Connect display unit connector M93 and AV control unit connector M171.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 18 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	18	Ground	Receive audio signal	

SKIB2237J

Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-270, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

RGB SYNCHRONIZING SIGNAL CIRCUIT

Description

INFOID:0000000009820913

Transmit the RGB synchronizing signal to the display unit so as to synchronize the RGB image displayed with AV control unit.

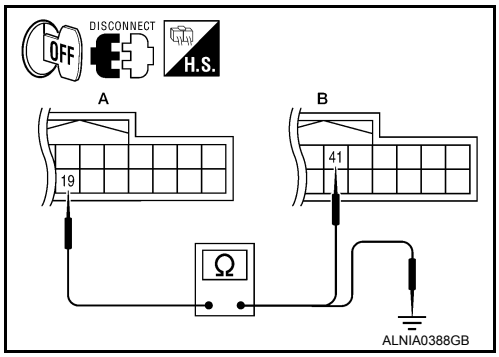
Diagnosis Procedure

INFOID:0000000009820914

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1. CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and AV control unit connector M171.
3. Check continuity between display unit harness connector M93 (A) terminal 19 and AV control unit harness connector M171 (B) terminal 41.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	19	M171	41	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 19 and ground.

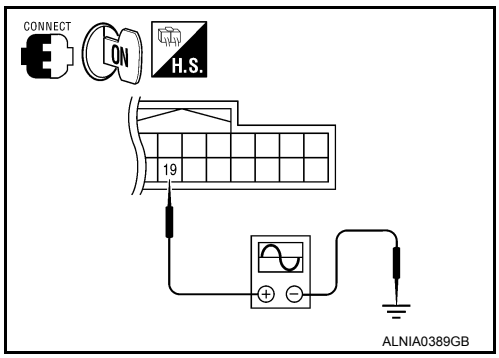
A		—	Continuity
Connector	Terminal		
M93	19	Ground	No

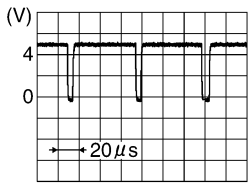
Are continuity results as specified?

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

2. CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector M93 and AV control unit connector M171.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 19 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	19	Ground	Receive audio signal	

SKIB3603E

Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-270, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

RGB AREA (YS) SIGNAL CIRCUIT

Description

INFOID:0000000009820915

Transmits the display area of RGB image displayed by AV control unit with RGB area (YS) signal to display unit.

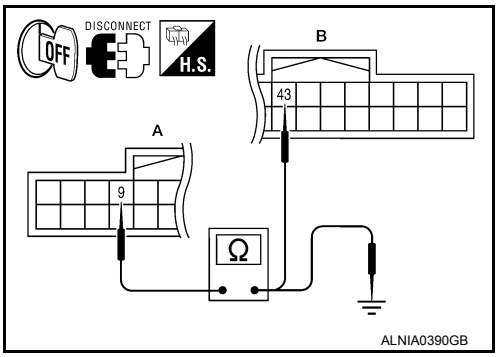
Diagnosis Procedure

INFOID:0000000009820916

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and AV control unit connector M171.
3. Check continuity between display unit harness connector M93 (A) terminal 9 and AV control unit harness connector M171 (B) terminal 43.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	9	M171	43	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 9 and ground.

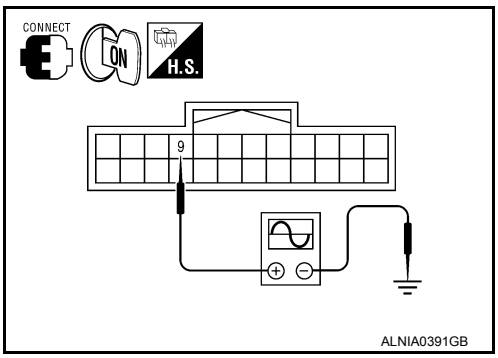
A		—	Continuity
Connector	Terminal		
M93	9	Ground	No

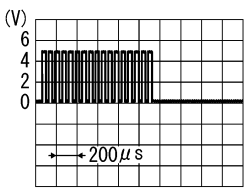
Are continuity results as specified?

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

2.CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector M93 and AV control unit connector M171.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 9 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	9	Ground	Receive audio signal	

Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-270, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description

INFOID:0000000009820917

In composite image (AUX image, camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to AV control unit so as to synchronize the RGB images displayed with AV control unit such as the image quality adjusting menu, etc.

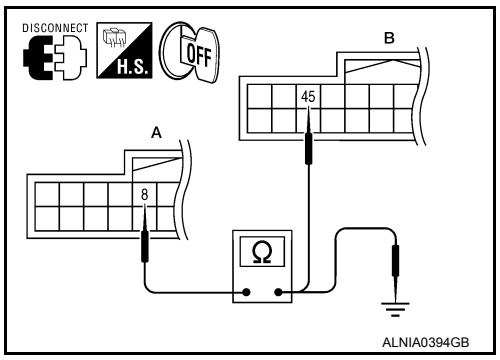
Diagnosis Procedure

INFOID:0000000009820918

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1. CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and AV control unit connector M171.
3. Check continuity between display unit harness connector M93 (A) terminal 8 and AV control unit harness connector M171 (B) terminal 45.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	8	M171	45	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 8 and ground.

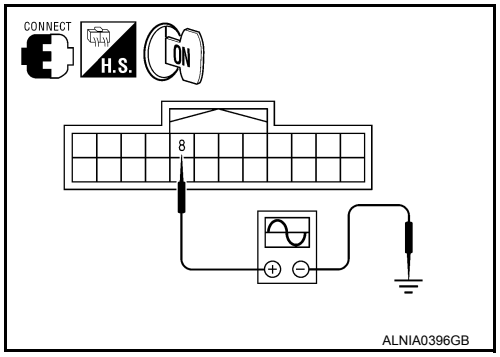
A		—	Continuity
Connector	Terminal		
M93	8	Ground	No

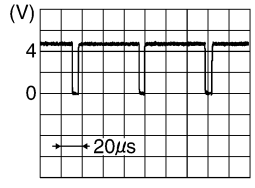
Are continuity results as specified?

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

2. CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

1. Connect display unit connector M93 and AV control unit connector M171.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 8 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	8	Ground	Receive audio signal	

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Are voltage readings as specified?

YES >> Replace AV control unit. Refer to AV-267, "Removal and Installation".
NO >> Replace display unit. Refer to AV-270, "Removal and Installation".

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description

INFOID:0000000009820919

In composite image (AUX image, camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to AV control unit so as to synchronize the RGB images displayed with AV control unit such as the image quality adjusting menu, etc.

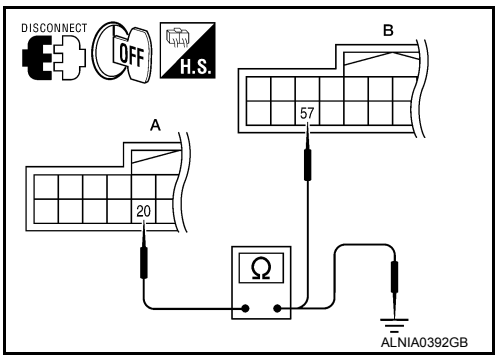
Diagnosis Procedure

INFOID:0000000009820920

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK CONTINUITY VERTICAL SINCHRONIZING (VP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and AV control unit connector M171.
3. Check continuity between display unit harness connector M93 (A) terminal 20 and AV control unit harness connector M171 (B) terminal 57.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	20	M171	57	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 20 and ground.

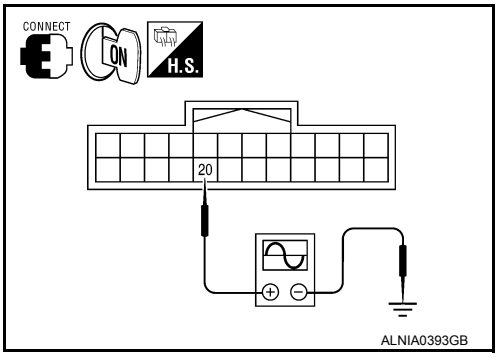
A		—	Continuity
Connector	Terminal		
M93	20	Ground	No

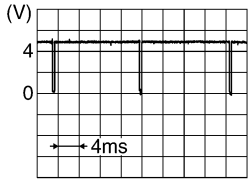
Are continuity results as specified?

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

2.CHECK VERTICAL SINCHRONIZING (VP) SIGNAL

1. Connect display unit connector M93 and AV control unit connector M171.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 20 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	20	Ground	Receive audio signal	

SKIB3598E

Are voltage readings as specified?

YES >> Replace AV control unit. Refer to AV-267, "Removal and Installation".
NO >> Replace display unit. Refer to AV-270, "Removal and Installation".

FRONT DOOR SPEAKER

Description

INFOID:0000000009820921

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

Diagnosis Procedure

INFOID:0000000009820922

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

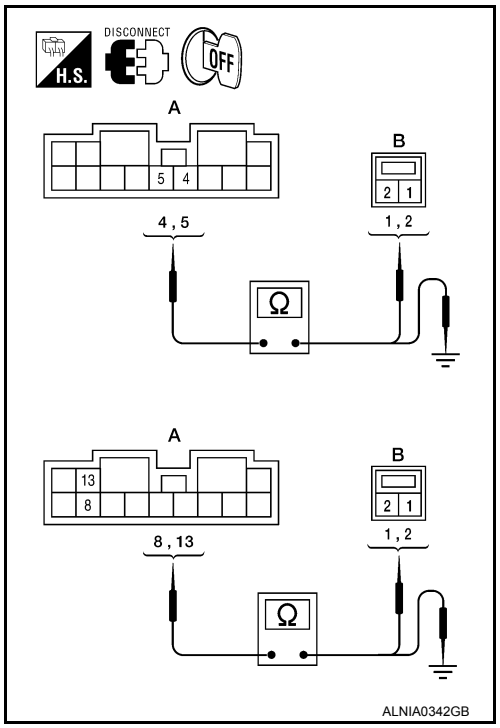
Is the inspection result normal?

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

2.HARNESS CHECK

1. Disconnect BOSE speaker amp. connector M112 and suspect speaker connector.
2. Check continuity between BOSE speaker amp. harness connector M112 (A) and suspect speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M112	4	D12	1	Yes
	5		2	
	8	D112	1	
	13		2	



3. Check continuity between BOSE speaker amp. harness connector M112 (A) and ground.

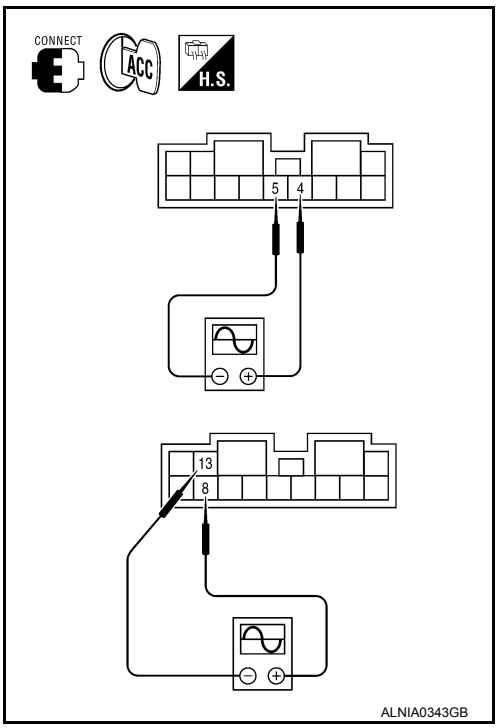
A		—	Continuity
Connector	Terminal		
M112	4	Ground	No
	5		
	8		
	13		

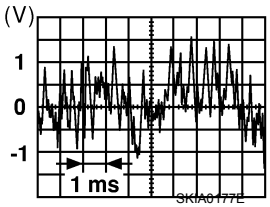
Are continuity test results as specified?

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

3.FRONT SPEAKER SIGNAL CHECK

1. Connect BOSE speaker amp. connector M112 and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between BOSE speaker amp. harness connector M112 terminals with CONSULT or oscilloscope.



Connector	Terminal (+)	Terminal (-)	Condition	Reference signal
M112	4	5	Receive audio signal	
	8	13		

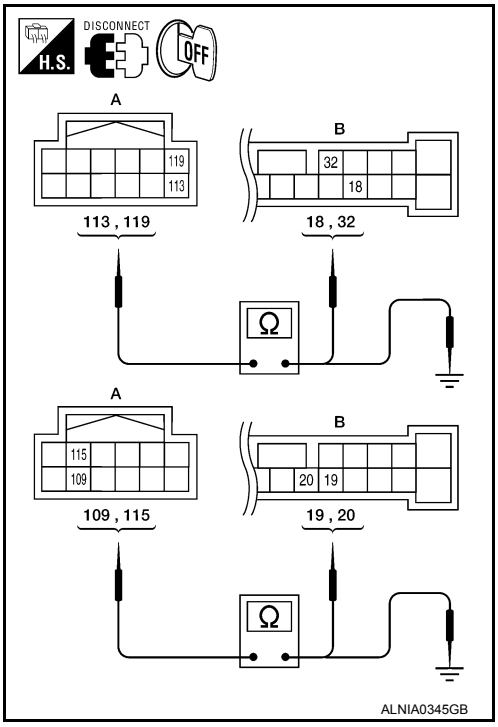
Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to AV-273, "Removal and Installation".

NO >> GO TO 4.

4. HARNESS CHECK

1. Disconnect AV control unit connector M72 and BOSE speaker amp. connector M113.
2. Check continuity between AV control unit harness connector M72 (A) and BOSE speaker amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M72	113	M113	18	Yes
	119		32	
	109		19	
	115		20	

3. Check continuity between AV control unit harness connector M72 (A) and ground.

A		—	Continuity
Connector	Terminal		
M72	113	Ground	No
	119		
	109		
	115		

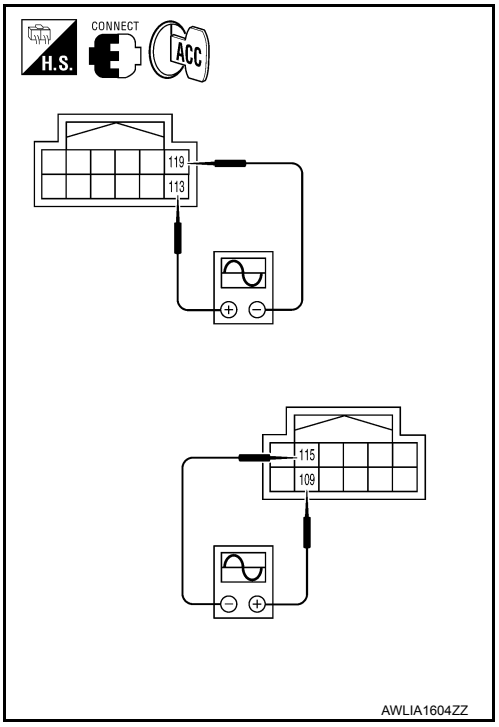
Are continuity test results as specified?

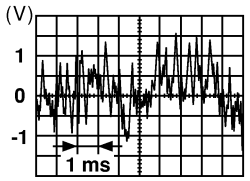
YES >> GO TO 5.

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

5. FRONT SPEAKER SIGNAL CHECK

1. Connect AV control unit connector and BOSE speaker amp. connector.
2. Turn ignition switch ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M72 terminals with CONSULT or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M72	113	119	Receive audio signal	
	109	115		

Are the audio signal voltage readings as specified?

YES >> Replace BOSE speaker amp. Refer to AV-278, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

FRONT TWEETER

Description

INFOID:0000000009820923

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

Diagnosis Procedure

INFOID:0000000009820924

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

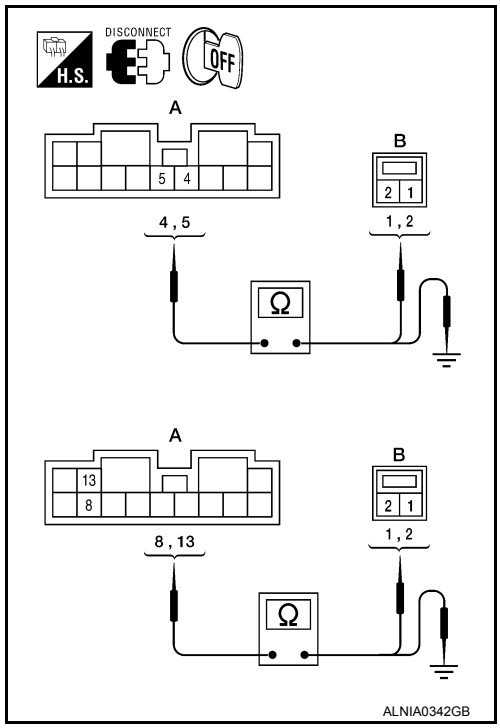
Is the inspection result normal?

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

2.HARNESS CHECK

1. Disconnect BOSE speaker amp. connector M112 and suspect tweeter connector.
2. Check continuity between BOSE speaker amp. harness connector M112 (A) and suspect tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M112	4	M109	1	Yes
	5		2	
	8	M111	1	
	13		2	



3. Check continuity between BOSE speaker amp. harness connector M112 (A) and ground.

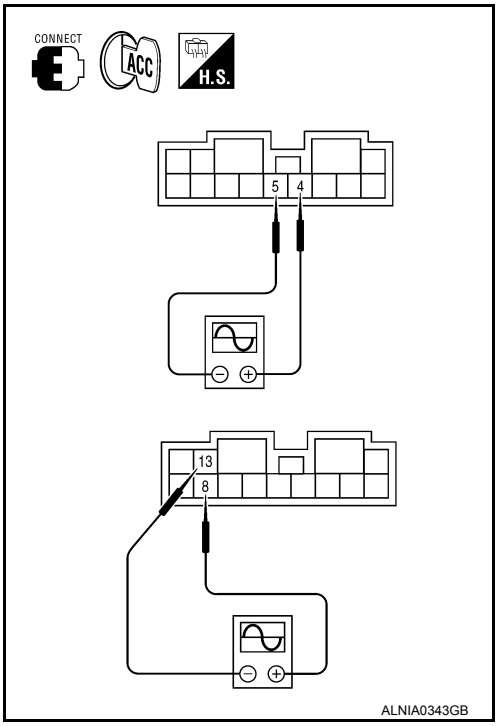
A		—	Continuity
Connector	Terminal		
M112	4	Ground	No
	5		
	8		
	13		

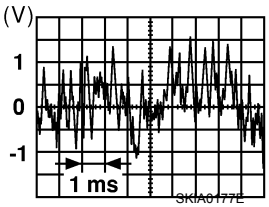
Are continuity test results as specified?

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

3.FRONT TWEETER SIGNAL CHECK

1. Connect BOSE speaker amp. connector M112 and suspect tweeter connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between BOSE speaker amp. harness connector M112 terminals with CONSULT or oscilloscope.



Connector	Terminal (+)	Terminal (-)	Condition	Reference signal
M112	4	5	Receive audio signal	
	8	13		

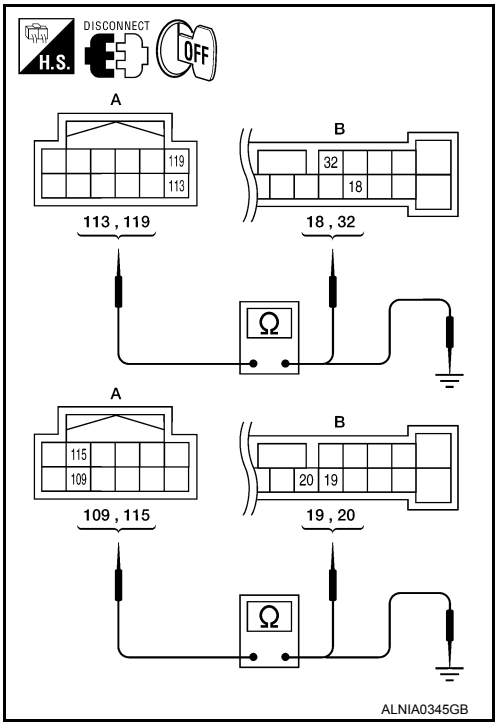
Is audio signal voltage as specified?

YES >> Replace suspect tweeter. Refer to AV-271, "Removal and Installation".

NO >> GO TO 4.

4. HARNESS CHECK

1. Disconnect AV control unit connector M72 and BOSE speaker amp. connector M113.
2. Check continuity between AV control unit harness connector M72 (A) and BOSE speaker amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M72	113	M113	18	Yes
	119		32	
	109		19	
	115		20	

3. Check continuity between AV control unit harness connector M72 (A) and ground.

A		—	Continuity
Connector	Terminal		
M72	113	Ground	No
	119		
	109		
	115		

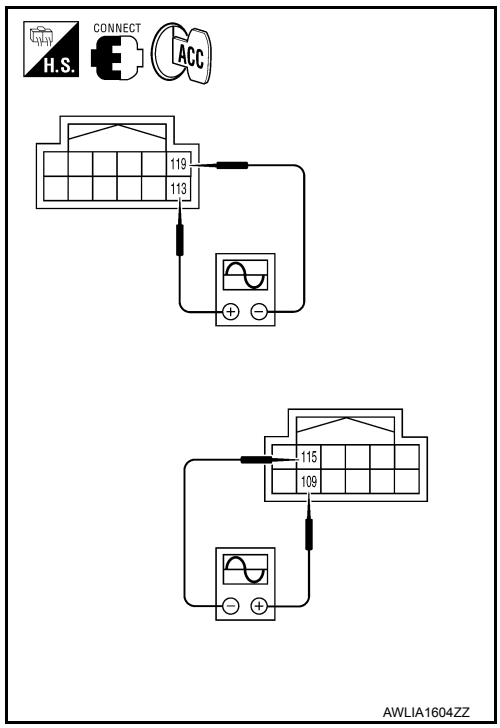
Are continuity test results as specified?

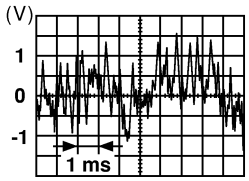
YES >> GO TO 5.

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

5. FRONT TWEETER SIGNAL CHECK

1. Connect AV control unit connector and BOSE speaker amp. connector.
2. Turn ignition switch ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M72 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M72	113	119	Receive audio signal	
	109	115		

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Are the audio signal voltage readings as specified?

YES >> Replace BOSE speaker amp. Refer to AV-278, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

CENTER SPEAKER

Description

INFOID:0000000009820925

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

Diagnosis Procedure

INFOID:0000000009820926

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CONNECTOR CHECK

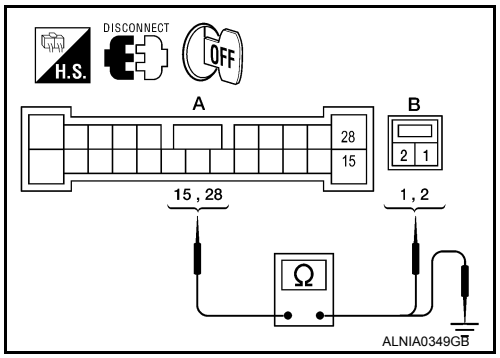
Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

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

2.HARNESS CHECK

1. Disconnect BOSE speaker amp. connector M113 and center speaker connector M110.
2. Check continuity between BOSE speaker amp. harness connector M113 (A) and center speaker harness connector M110 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	15	M110	1	Yes
	28		2	

3. Check continuity between BOSE speaker amp. harness connector M113 (A) and ground.

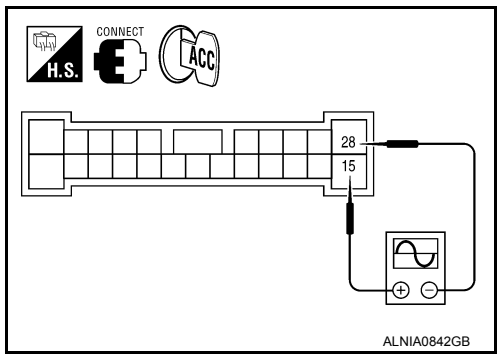
A		—	Continuity
Connector	Terminal		
M113	15	Ground	No
	28		

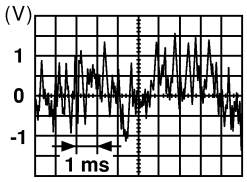
Are continuity test results as specified?

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

3.CENTER SPEAKER SIGNAL CHECK

1. Connect BOSE speaker amp. connector M113 and center speaker connector M110.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between BOSE speaker amp. harness connector M113 terminals with CONSULT or oscilloscope.



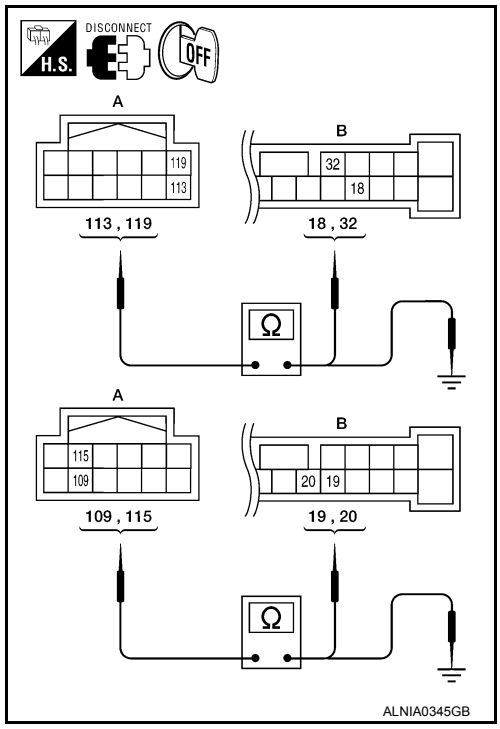
Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	15	28	Receive audio signal	

Is the audio signal voltage reading as specified?

YES >> Replace center speaker. Refer to AV-272, "Removal and Installation".
NO >> GO TO 4.

4. HARNESS CHECK

1. Disconnect AV control unit connector M72 and BOSE speaker amp. connector M113.
2. Check continuity between AV control unit harness connector M72 (A) and BOSE speaker amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M72	113	M113	18	Yes
	119		32	
	109		19	
	115		20	

3. Check continuity between AV control unit harness connector M72 (A) and ground.

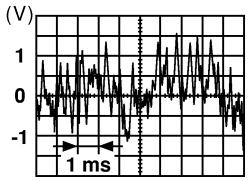
A		—	Continuity
Connector	Terminal		
M72	113	Ground	No
	119		
	109		
	115		

Are continuity test results as specified?

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

5. CENTER SPEAKER SIGNAL CHECK

1. Connect AV control unit connector and BOSE speaker amp. connector.
2. Turn ignition switch ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M72 terminals with CONSULT or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M72	113	119	Receive audio signal	
	109	115		

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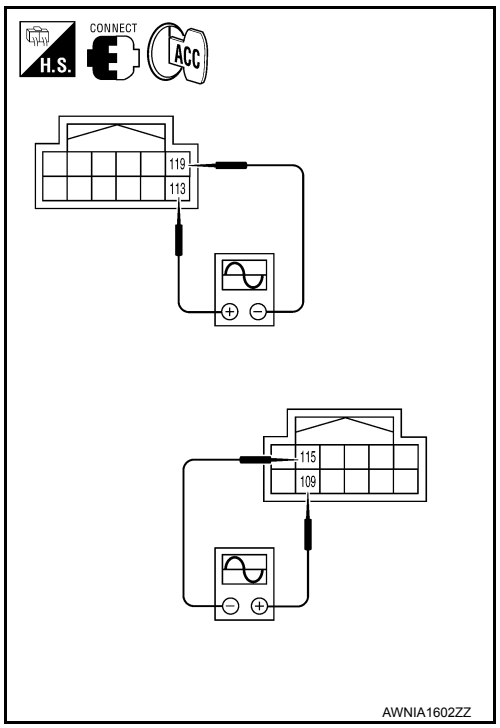

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Are the audio signal voltage readings as specified?

YES >> Replace BOSE speaker amp. Refer to AV-278, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

REAR DOOR SPEAKER

Description

INFOID:0000000009820927

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

Diagnosis Procedure

INFOID:0000000009820928

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

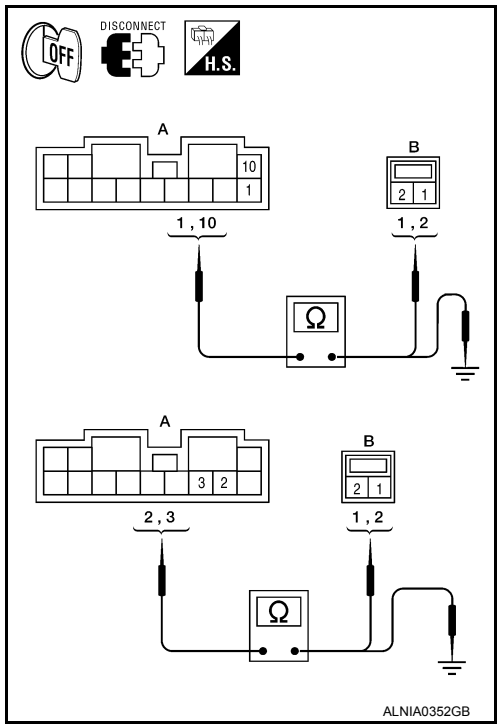
Is the inspection result normal?

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

2.HARNESS CHECK

1. Disconnect BOSE speaker amp. connectors M112 and suspect speaker connector.
2. Check continuity between BOSE speaker amp. harness connectors M112 (A) and suspect speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M112	1	D207	1	Yes
	10		2	
	2	D307	1	
	3		2	



3. Check continuity between BOSE speaker amp. harness connectors M112 (A) and ground.

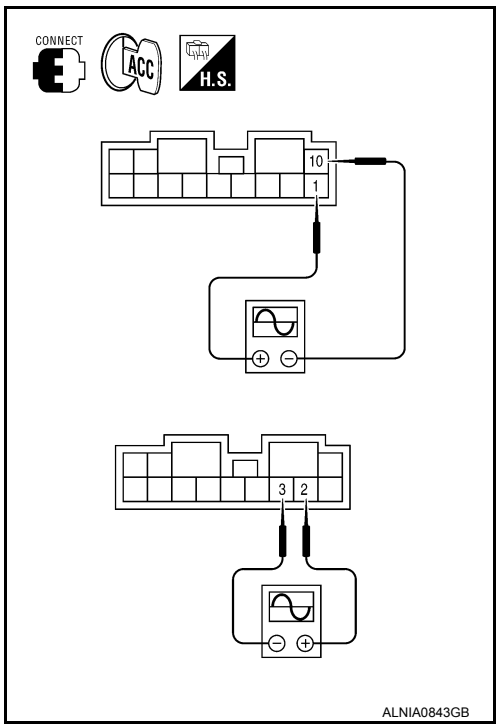
Connector	Terminal	-	Continuity
M112	1	Ground	No
	10		
	2		
	3		

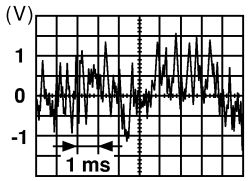
Are the continuity test results as specified?

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

3.REAR DOOR SPEAKER SIGNAL CHECK

1. Connect BOSE speaker amp. connectors and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between BOSE speaker amp. harness connectors M112 terminals with CONSULT or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M112	1	10	Receive audio signal	
	2	3		

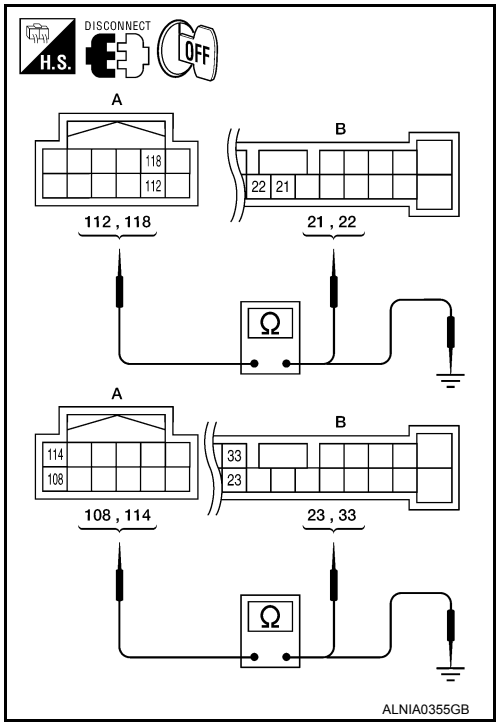
SKIA0177E

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to AV-274, "Removal and Installation".
NO >> GO TO 4.

4. HARNESS CHECK

1. Disconnect AV control unit connector M72 and BOSE speaker amp. connector M113.
2. Check continuity between AV control unit harness connector M72 (A) and BOSE speaker amp. harness connector M113 (B).



A Connector	A Terminal	B Connector	B Terminal	Continuity
M72	112	M113	21	Yes
	118		22	
	108		23	
	114		33	

3. Check continuity between AV control unit harness connector M72 (A) and ground.

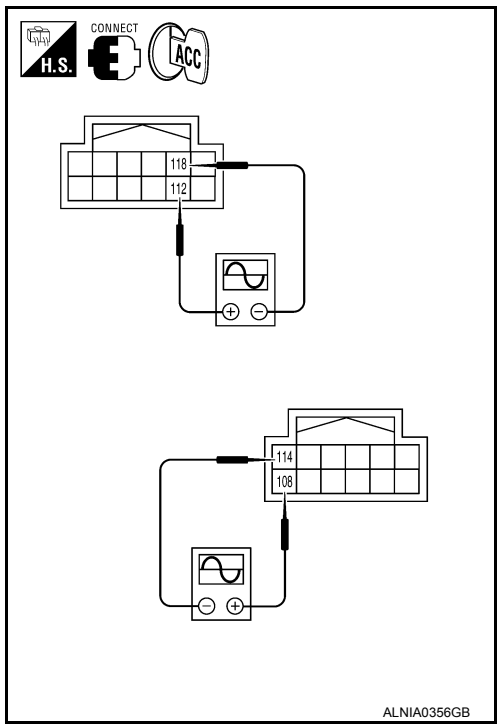
A Connector	A Terminal	—	Continuity
M72	112	Ground	No
	118		
	108		
	114		

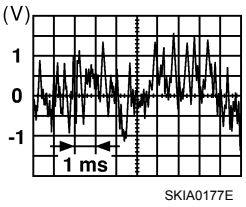
Are the continuity test results as specified?

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

5. REAR DOOR SPEAKER SIGNAL CHECK

1. Connect AV control unit connector M72 and BOSE speaker amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M72 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M72	112	118	Receive audio signal	
	108	114		

SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to AV-278, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

REAR TWEETER

Description

INFOID:0000000009820929

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

Diagnosis Procedure

INFOID:0000000009820930

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

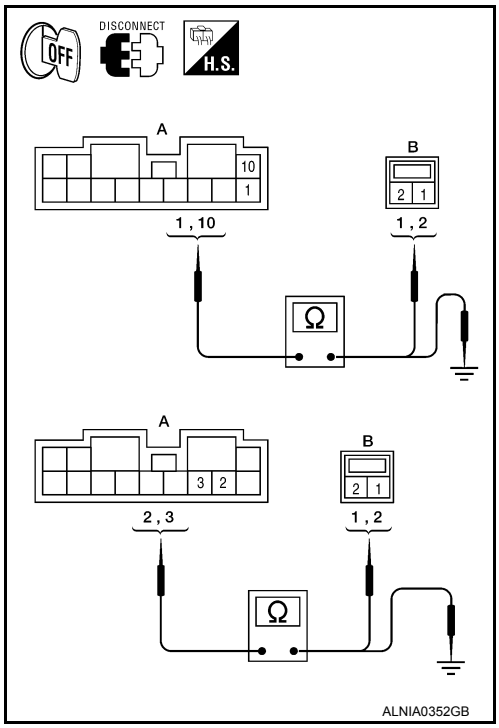
Is the inspection result normal?

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

2.HARNESS CHECK

1. Disconnect BOSE speaker amp. connectors M112 and suspect tweeter connector.
2. Check continuity between BOSE speaker amp. harness connectors M112 (A) and suspect tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M112	1	D208	1	Yes
	10		2	
	2	D308	1	
	3		2	



3. Check continuity between BOSE speaker amp. harness connectors M112 (A) and ground.

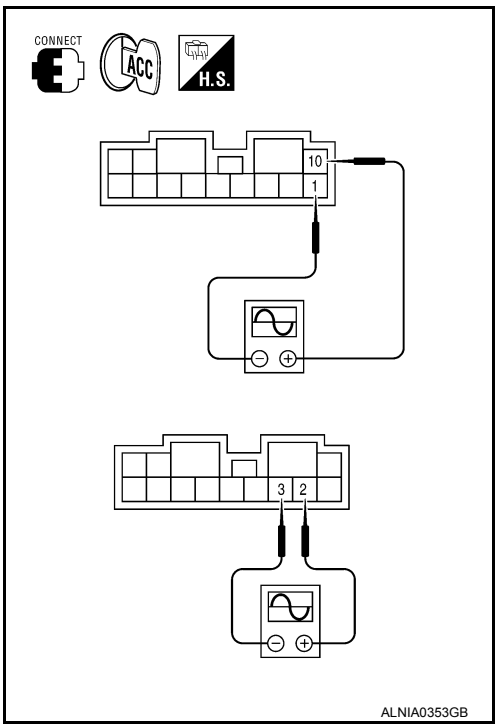
Connector	Terminal	-	Continuity
M112	1	Ground	No
	10		
	2		
	3		

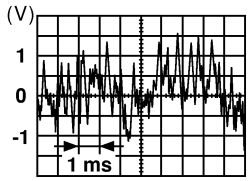
Are the continuity test results as specified?

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

3.REAR TWEETER SIGNAL CHECK

1. Connect BOSE speaker amp. connectors and suspect tweeter connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between BOSE speaker amp. harness connectors M112 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M112	1	10	Receive audio signal	
	2	3		

SKIA0177E

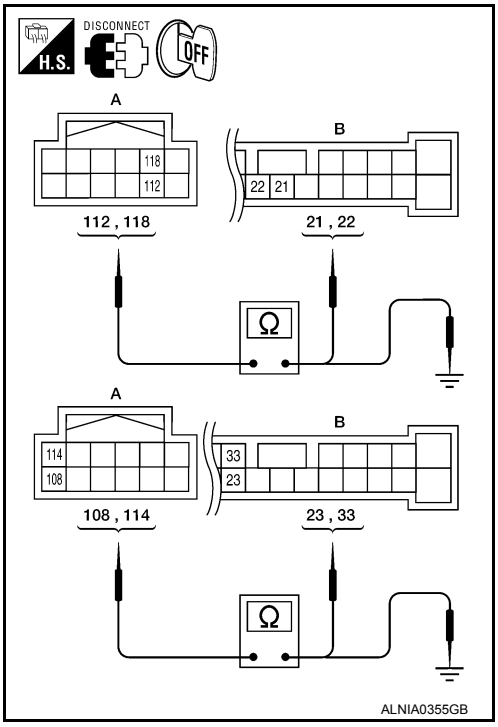
Are audio signal voltage readings as specified?

YES >> Replace suspect tweeter. Refer to AV-274, "Removal and Installation".

NO >> GO TO 4.

4. HARNESS CHECK

1. Disconnect AV control unit connector M72 and BOSE speaker amp. connector M113.
2. Check continuity between AV control unit harness connector M72 (A) and BOSE speaker amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M72	112	M113	21	Yes
	118		22	
	108		23	
	114		33	

3. Check continuity between AV control unit harness connector M72 (A) and ground.

A		—	Continuity
Connector	Terminal		
M72	112	Ground	No
	118		
	108		
	114		

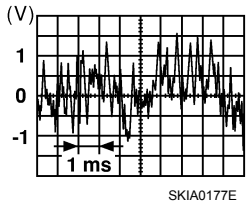
Are the continuity test results as specified?

YES >> GO TO 5.

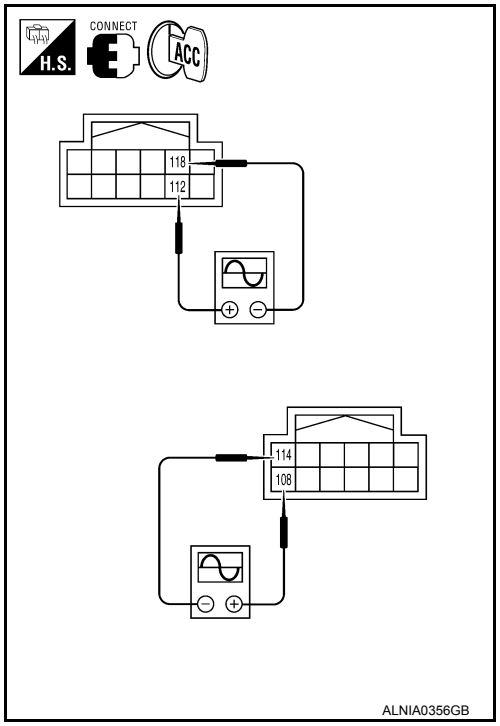
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

5. REAR TWEETER SIGNAL CHECK

1. Connect AV control unit connector M72 and BOSE speaker amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M72 terminals with CONSULT or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M72	112	118	Receive audio signal	
	108	114		

SKIA0177E



ALNIA0356GB

Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to AV-278, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

BACK DOOR SPEAKER

Description

INFOID:0000000009820931

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

Diagnosis Procedure

INFOID:0000000009820932

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

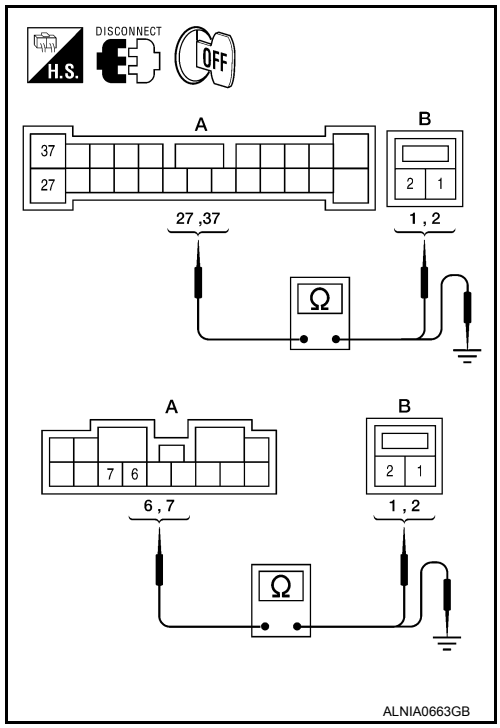
Is the inspection result normal?

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

2.HARNESS CHECK

1. Disconnect BOSE speaker amp. connectors and suspect speaker connector.
2. Check continuity between BOSE speaker amp. harness connectors M112 and M113 (A) and suspect speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M112	6	D518	1	Yes
	7		2	
M113	37	D716	1	
	27		2	



3. Check continuity between BOSE speaker amp. harness connectors M112 and M113 (A) and ground.

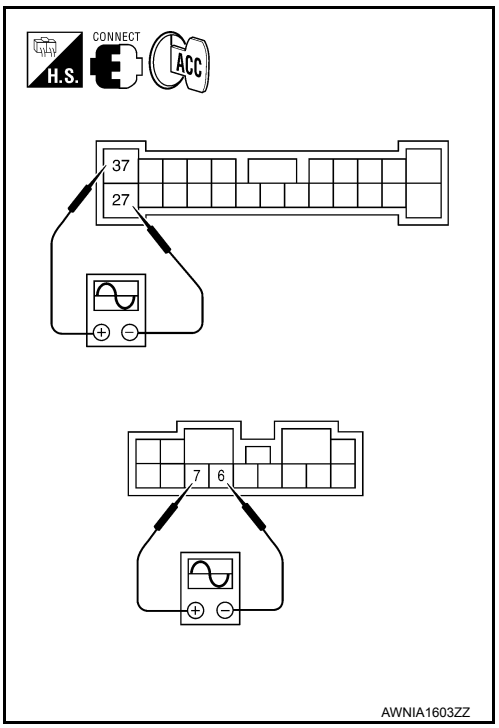
Connector	Terminal	-	Continuity
M112	6	Ground	No
	7		
M113	37		
	27		

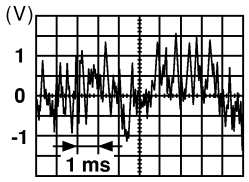
Are the continuity test results as specified?

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

3.BACK DOOR SPEAKER SIGNAL CHECK

1. Connect BOSE speaker amp. connectors and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between BOSE speaker amp. harness connectors M113 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M112	7	6	Receive audio signal	
M113	37	27		

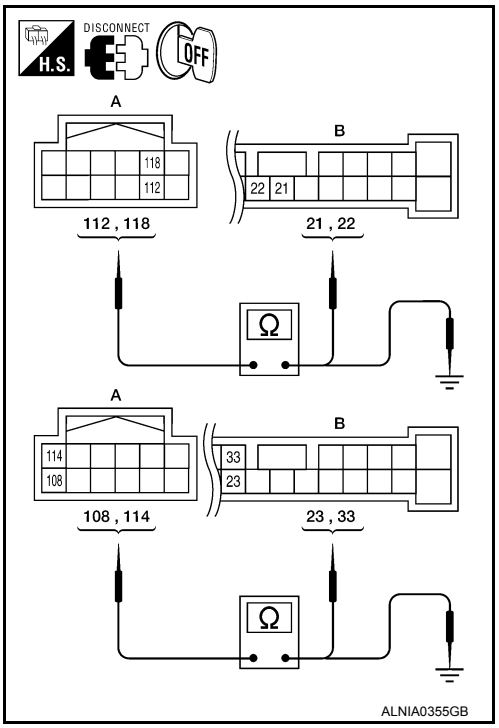
SKIA0177E

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to AV-275, "Removal and Installation".
NO >> GO TO 4.

4. HARNESS CHECK

1. Turn ignition switch OFF
2. Disconnect AV control unit connector M72 and BOSE speaker amp. connector M113.
3. Check continuity between AV control unit harness connector M72 (A) and BOSE speaker amp. harness connector M113 (B).



ALNIA0355GB

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M72	112	M113	21	Yes
	118		22	
	108		23	
	114		33	

4. Check continuity between AV control unit harness connector M72 (A) and ground.

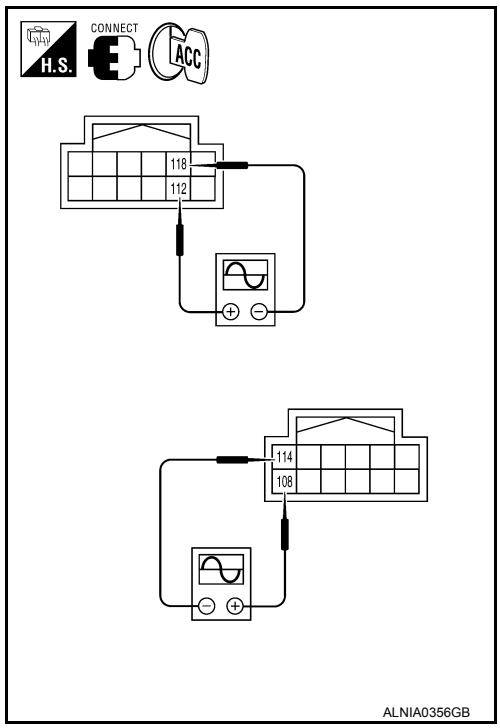
A		—	Continuity
Connector	Terminal		
M72	112	Ground	No
	118		
	108		
	114		

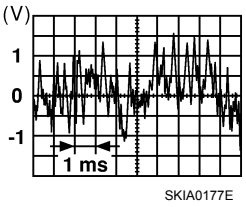
Are the continuity test results as specified?

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

5. BACK DOOR SPEAKER SIGNAL CHECK

1. Connect AV control unit connector M72 and BOSE speaker amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M72 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M72	112	118	Receive audio signal	
	108	114		

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Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to AV-278, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

SUBWOOFER

Description

INFOID:0000000009820933

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

Diagnosis Procedure

INFOID:0000000009820934

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

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.VERIFY SUBWOOFER POWER AND GROUND SUPPLY

Check power and ground supply to the subwoofer. Refer to AV-160, "SUBWOOFER : Diagnosis Procedure".

Did the power and ground supply check OK?

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

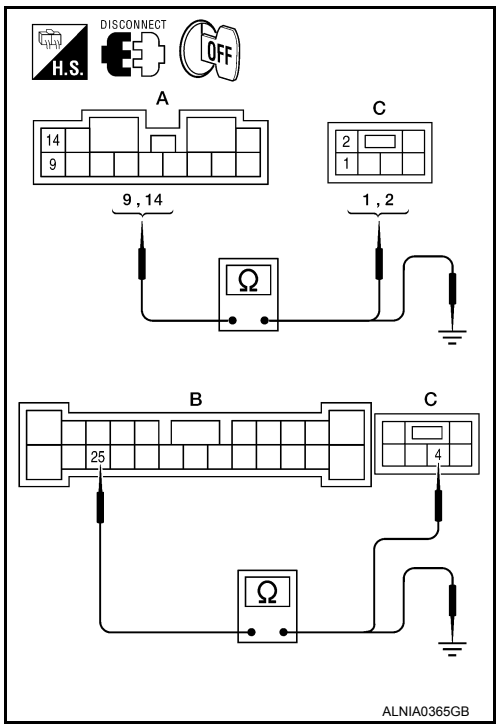
3.HARNESS CHECK

1. Disconnect BOSE speaker amp. connector M112, M113 and subwoofer connector B72.
2. Check continuity between BOSE speaker amp. harness connector M112 (A) and M113 (B) and subwoofer harness connector B72 (C).

Connector	Terminal	Connector	Terminal	Continuity
A: M112	9	C: B72	2	Yes
	14		1	
B: M113	25		4	

3. Check continuity between BOSE speaker amp. harness connector M112 (A) and M113 (B) and ground.

Connector	Terminal	—	Continuity
A: M112	9	Ground	No
	14		
B: M113	25		

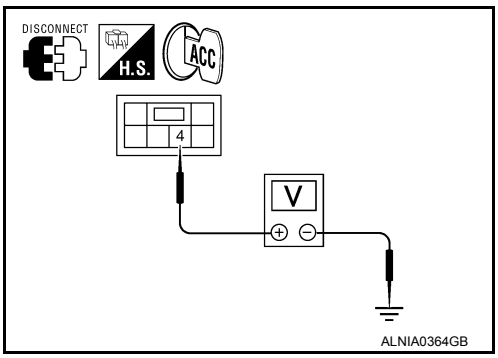


Are the continuity test results as specified?

YES >> GO TO 4.
NO >>
- Check connector housings for disconnected or loose terminals.
- Repair harness or connector.

4.SUBWOOFER AMP ON SIGNAL CHECK

1. Connect BOSE speaker amp. connector M112 and M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check voltage between subwoofer connector B72 terminal 4 and ground.



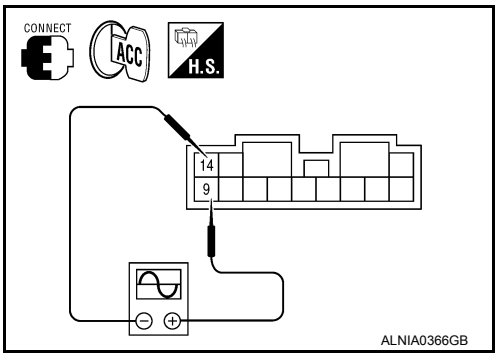
(+)		(-)	Voltage
Connector	Terminal		
B72	4	Ground	Battery voltage

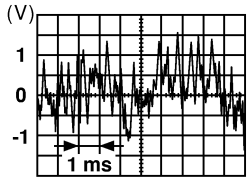
Are the voltage readings as specified?

YES >> GO TO 5.
NO >> Replace BOSE speaker amp. Refer to AV-278, "Removal and Installation".

5.SUBWOOFER AUDIO SIGNAL CHECK

1. Connect BOSE speaker amp. connector M112 and subwoofer connector B72.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between BOSE speaker amp. harness connector M112 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M112	9	14	Receive audio signal	

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Is the audio signal voltage as specified?

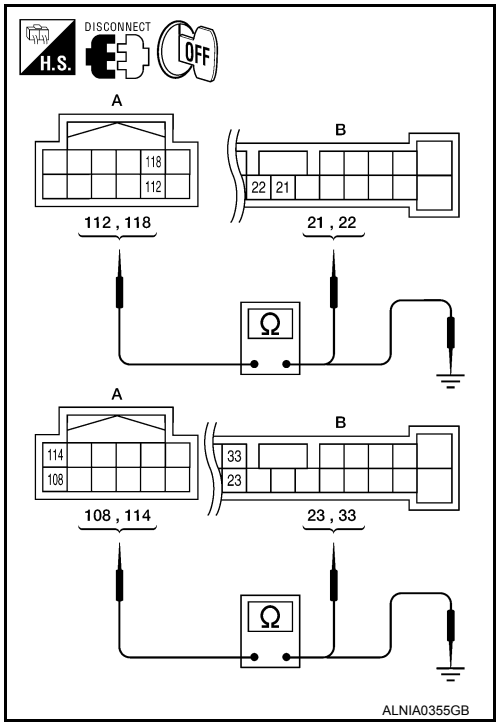
YES >> Replace subwoofer. Refer to AV-276, "Removal and Installation".
NO >> GO TO 6.

6.HARNESS CHECK

1. Turn ignition switch OFF.

2. Disconnect AV control unit connector M72 and BOSE speaker amp. connector M113.
3. Check continuity between AV control unit harness connector M72 (A) and BOSE speaker amp. harness connector M113 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M72	112	M113	21	Yes
	118		22	
	108		23	
	114		33	



4. Check continuity between AV control unit harness connector M72 (A) and ground.

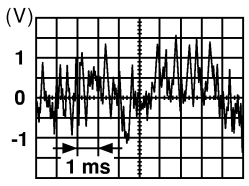
A		—	Continuity
Connector	Terminal		
M72	112	Ground	No
	118		
	108		
	114		

Are the continuity test results as specified?

YES >> GO TO 7.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

7. SUBWOOFER SPEAKER SIGNAL CHECK

1. Connect AV control unit connector M72 and BOSE speaker amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M72 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M72	112	118	Receive audio signal	
	108	114		

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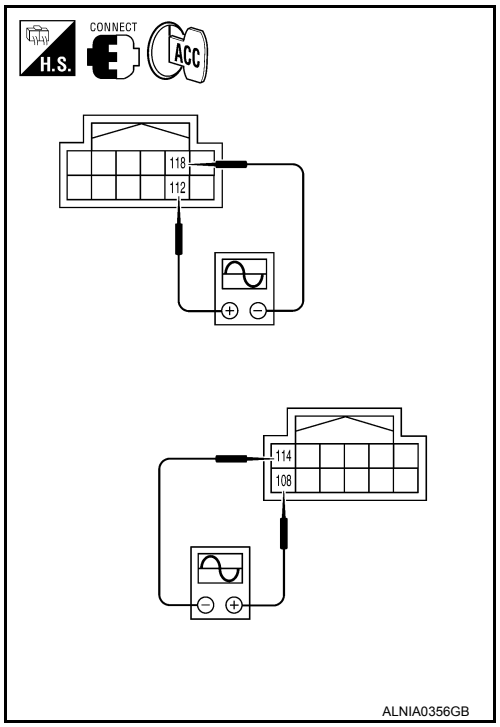


Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to AV-278, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

AMP ON SIGNAL CIRCUIT

Description

INFOID:0000000009820935

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

Diagnosis Procedure

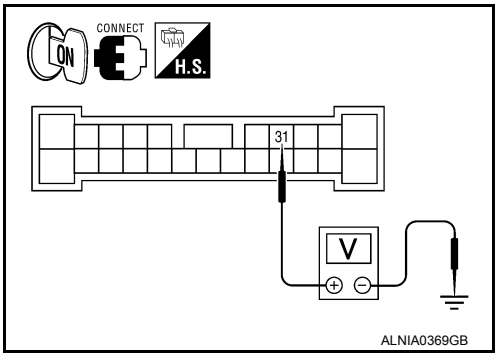
INFOID:0000000009820936

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK AMP ON SIGNAL (BOSE SPEAKER AMP)

1. Turn audio system ON.
2. Check voltage between BOSE speaker amp. harness connector M113 terminal 31 and ground.

(+)		(-)	ACC
Connector	Terminal		
M113	31	Ground	Battery voltage



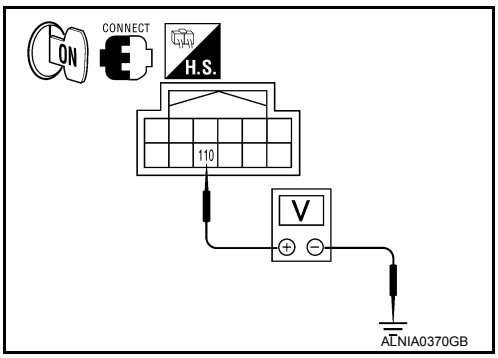
Is battery voltage present?

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

2.CHECK AMP ON SIGNAL (AV CONTROL UNIT)

Check voltage between AV control unit harness connector M72 terminal 110 and ground.

(+)		(-)	ACC
Connector	Terminal		
M72	110	Ground	Battery voltage



Is battery voltage present?

YES >> Repair harness or connector.
NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

STEERING SWITCH

Description

INFOID:0000000009820937

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

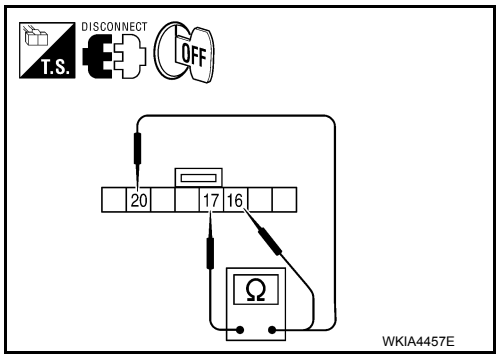
Diagnosis Procedure

INFOID:0000000009820938

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Disconnect combination switch connector M102.
2. Check resistance between combination switch connector terminals.



Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
16	17	Volume (down)	Depress − switch.	1
		Volume (up)	Depress + switch.	121
		Phone end	Depress switch.	321
20	17	Source	Depress SOURCE switch.	1
		Seek (up)	Depress △ switch.	121
		Seek (down)	Depress ▽ switch.	321
		Phone/Send	Depress switch.	723

Do the steering wheel audio control switches check OK?

YES >> GO TO 2.
NO >> Replace steering wheel audio control switch. Refer to AV-277, "Removal and Installation".

2. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M42 and combination switch connector M30.
3. Check continuity between AV control unit harness connector M42 and combination switch harness connector M30.

AV control unit		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M42	6	M30	24	Yes
	15		31	
	16		25	

4. Check continuity between AV control unit connector M42 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M42	6	Ground	No
	15		
	16		

Are the continuity results as specified?

YES >> GO TO 3.
NO >> Repair harness.

3. SPIRAL CABLE CHECK

Check continuity between combination switch harness connectors M30 and M102.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M102	20	Yes
	31		17	
	25		16	

Does the spiral cable check OK?

YES >> Inspection End.
NO >> Replace spiral cable. Refer to SR-7, "Removal and Installation".

COMMUNICATION SIGNAL CIRCUIT
SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:0000000009820939

Communication signals are exchanged between the AV control unit and satellite radio tuner using the communication circuits.

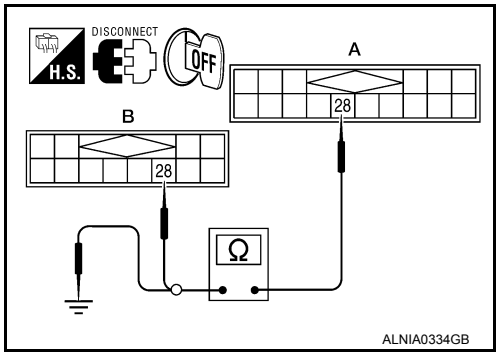
SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000009820940

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1. CHECK HARNESS - 1

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M45 and AV control unit connector M170.
3. Check continuity between satellite radio tuner (factory installed) harness connector M45 (A) terminal 28 and AV control unit harness connector M170 (B) terminal 28.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M45	28	M170	28	Yes

4. Check continuity between satellite radio tuner (factory installed) harness connector M45 (A) terminal 28 and ground.

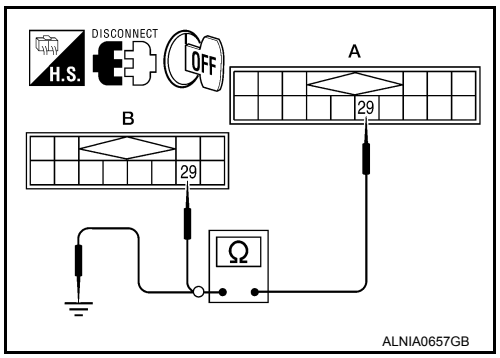
A		—	Continuity
Connector	Terminal		
M45	28	Ground	No

Are continuity results as specified?

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

2. CHECK HARNESS - 2

1. Check continuity between satellite radio tuner (factory installed) harness connector M45 (A) terminal 29 and AV control unit harness connector M170 (B) terminal 29.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M45	29	M170	29	Yes

2. Check continuity between satellite radio tuner (factory installed) harness connector M45 (A) terminal 29 and ground.

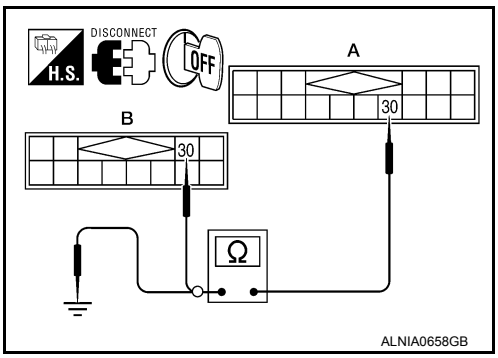
A		—	Continuity
Connector	Terminal		
M45	29	Ground	No

Are continuity results as specified?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK HARNESS - 3

1. Check continuity between satellite radio tuner (factory installed) harness connector M45 (A) terminal 30 and AV control unit harness connector M170 (B) terminal 30.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M45	30	M170	30	Yes

2. Check continuity between satellite radio tuner (factory installed) harness connector M45 (A) terminal 30 and ground.

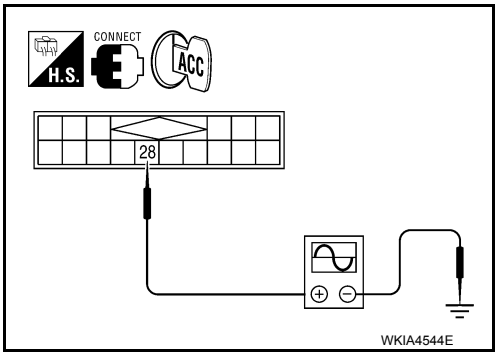
A		—	Continuity
Connector	Terminal		
M45	30	Ground	No

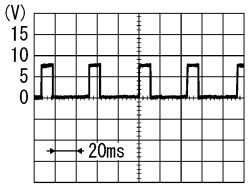
Are continuity results as specified?

YES >> GO TO 4.
NO >> Repair harness or connector.

4.CHECK REQ1 SIGNAL

1. Connect satellite radio tuner (factory installed) connector and AV control unit connector.
2. Turn ignition switch to ACC
3. Check signal between satellite radio tuner (factory installed) harness connector M45 terminal 28 and ground with CONSULT or oscilloscope.



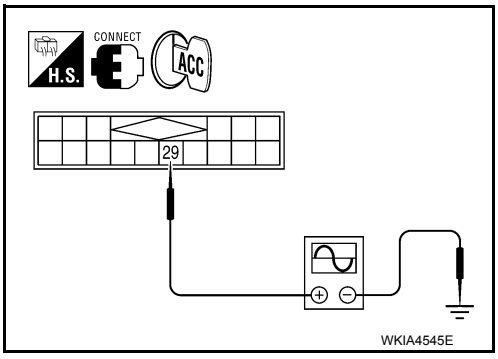
(+)		(-)	Reference signal
Connector	Terminal		
M45	28	Ground	

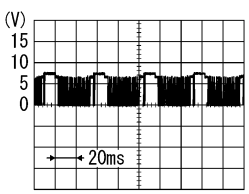
Are voltage readings as specified?

YES >> GO TO 5.
NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

5.CHECK TXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector M45 terminal 29 and ground with CONSULT or oscilloscope.



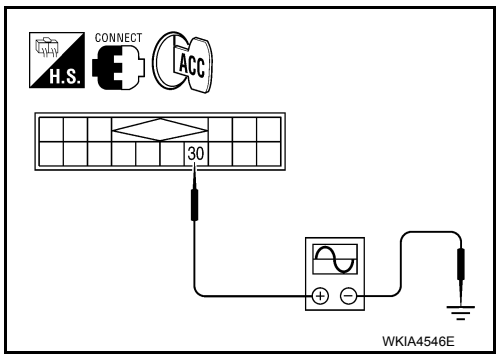
(+)		(-)	Reference signal
Connector	Terminal		
M45	29	Ground	

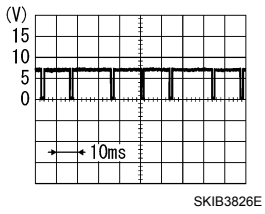
Are the voltage readings as specified?

YES >> GO TO 6.
NO >> Replace satellite radio tuner.

6. CHECK RXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector M45 terminal 30 and ground with CONSULT or oscilloscope.



(+)		(-)	Reference signal
Connector	Terminal		
M45	30	Ground	

Are the voltage readings as specified?

YES >> Replace satellite radio tuner. Refer to AV-285, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

SOUND SIGNAL CIRCUIT
SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:0000000009820941

Left and right channel audio signals are supplied from the satellite radio tuner to the AV control unit through the sound signal circuits.

SATELLITE RADIO TUNER : Diagnosis Procedure

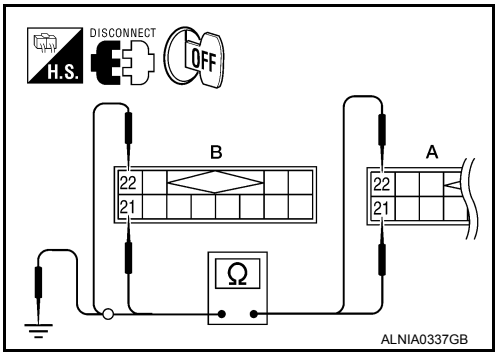
INFOID:0000000009820942

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

LEFT CHANNEL

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M45 and AV control unit connector M170.
3. Check continuity between satellite radio tuner (factory installed) connector M45 (A) and AV control unit connector M170 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M45	21	M170	21	Yes
	22		22	

4. Check continuity between satellite radio tuner (factory installed) connector M45 (A) and ground.

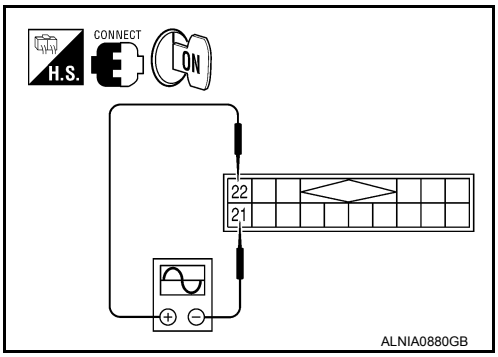
A		—	Continuity
Connector	Terminal		
M45	21	Ground	No
	22		

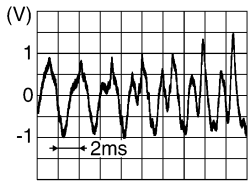
Are continuity results as specified?

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

2. CHECK LEFT CHANNEL AUDIO SIGNAL

1. Connect satellite radio tuner (factory installed) and AV control unit.
2. Turn ignition switch ON.
3. Check signal between satellite radio tuner (factory installed) connector M45 terminals 21 and 22 with CONSULT or oscilloscope.



(+)		(-)	Reference signal
Connector	Terminal		
M45	22	21	

Are voltage readings as specified?

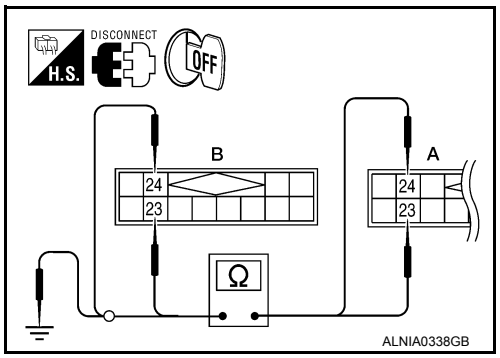
YES >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

NO >> Replace satellite radio tuner. Refer to AV-285, "Removal and Installation".

RIGHT CHANNEL

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M45 and AV control unit connector M170.
3. Check continuity between satellite radio tuner (factory installed) M45 (A) and AV control unit M170 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M45	23	M170	23	Yes
	24		24	

4. Check continuity between satellite radio tuner (factory installed) connector M45 (A) and ground.

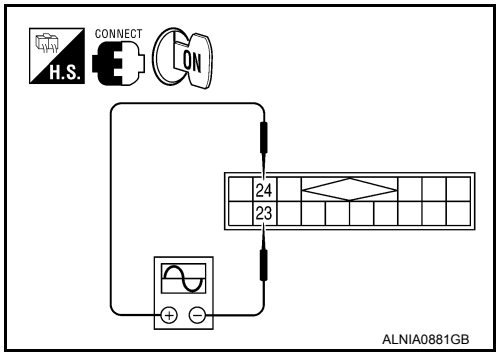
A		—	Continuity
Connector	Terminal		
M45	23	Ground	No
	24		

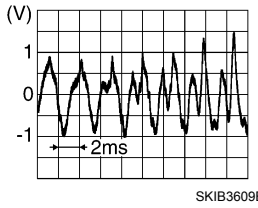
Are continuity results as specified?

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

2. CHECK RIGHT CHANNEL AUDIO SIGNAL

1. Connect satellite radio tuner (factory installed) and AV control unit.
2. Turn ignition switch ON.
3. Check signal between satellite radio tuner (factory installed) connector M45 terminals 23 and 24 with CONSULT or oscilloscope.



(+)		(-)	Reference signal
Connector	Terminal		
M45	24	23	

Are voltage readings as specified?

YES >> Replace AV control unit. Refer to AV-267, "Removal and Installation".
NO >> Replace satellite radio tuner. Refer to AV-285, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000009820943

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

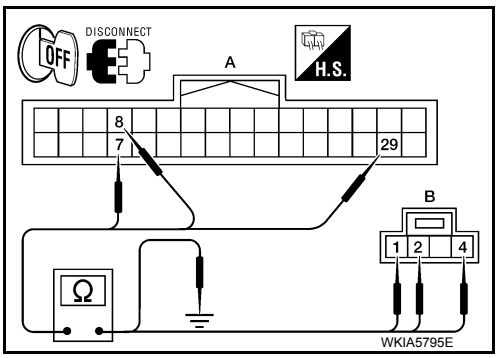
Diagnosis Procedure

INFOID:0000000009820944

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector and microphone connector.
3. Check continuity between Bluetooth® control unit harness connector B142 (A) and microphone harness connector R109 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
B142	7	R109	1	Yes
	8		2	
	29		4	

4. Check continuity between Bluetooth® control unit harness connector B142 (A) and ground.

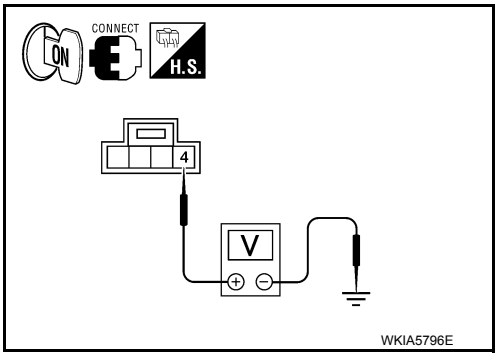
A		—	Continuity
Connector	Terminal		
B142	7	Ground	No
	8		
	29		

Are the continuity test results as specified?

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

2.CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth® control unit connector and microphone connector.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector R109 terminal 4 and ground.



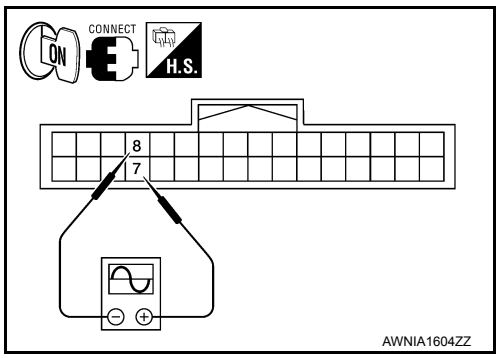
(+)		(-)	Voltage (approx.)
Connector	Terminal		
R109	4	Ground	5V

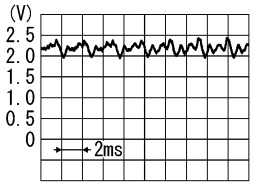
Is voltage reading approx. 5 volts?

YES >> GO TO 3.
NO >> Replace Bluetooth® control unit. Refer to AV-287, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

Check signal between Bluetooth® control unit harness connector B142 terminals 7 and 8 with CONSULT or and oscilloscope.



Connector	(+) Terminal	(-) Terminal	Reference signal
B142	7	8	While speaking into MIC  PKIB5037J

Are voltage readings as specified?

YES >> Replace Bluetooth® control unit. Refer to AV-287, "Removal and Installation".
NO >> Replace microphone. Refer to AV-286, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000009820945

Rear view camera signals are transmitted from the rear view camera to the AV control unit using the camera signal circuits.

Diagnosis Procedure

INFOID:0000000009820946

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK REVERSE POSITION INPUT SIGNAL

NOTE:
Apply parking brakes before proceeding.
1. Turn ignition switch ON.
2. Shift transmission into reverse.
3. Check voltage between AV control unit harness connector M166 terminal 105 and ground.

(+)		(-)	Transmission position	Value (Approx.)
Connector	Terminal			
M166	105	Ground	Reverse	12V

Is voltage reading approximately 12 volts?

YES >> GO TO 2
NO >> Check harness for open or short between AV control unit and back-up lamp relay.

2.CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M164 and rear view camera connector D504.
3. Check continuity between AV control unit harness connector M164 terminals 64, 65, 72 and rear view camera harness connector D504 terminals 3, 5 and 6.

64 - 5 : Continuity should exist.
65 - 6 : Continuity should exist.
72 - 3 : Continuity should exist.

4. Check continuity between AV control unit harness connector M164 terminals 64, 65, 72 and ground.

64, 65, 72 - Ground : Continuity should not exist.

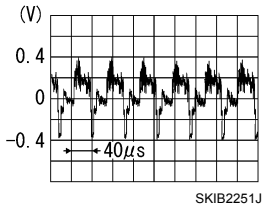
Is inspection result OK?

YES >> GO TO 3
NO >> Repair harness or connector.

3.CHECK CAMERA IMAGE SIGNAL

1. Connect AV control unit connector M164 and rear view camera connector D504.
2. Turn ignition switch ON.
3. Shift transmission into reverse.
4. Check signal between AV control unit harness connector M164 terminals 64 and 65.

64 - 65 :



Is inspection result OK?

YES >> Replace AV control unit. Refer to AV-267, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-288, "Removal and Installation".

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000009820947

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M169 and USB interface connector M214.
3. Check continuity between AV control unit connector M169 and USB interface connector M214.

AV control unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M169	121	M214	4	Yes
	122		1	
	123		2	
	124		3	
	125		5	

4. Check continuity between AV control unit connector M169 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M169	121	Ground	No
	123		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-282, "Removal and Installation".
NO >> Repair or replace harness or connectors.

FRONT AUXILIARY INPUT JACK AUDIO SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000009820948

Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1.CHECK AUX SOUND SIGNAL CIRCUIT CONTINUITY 1

1. Turn ignition switch OFF.
2. Disconnect front auxiliary input jacks connector M206 and headrest display unit (passenger seat) connector B305.
3. Check continuity between front auxiliary input jacks connector M206 terminals 1, 3 and headrest display unit (passenger seat) connector B305 terminals 4, 5.

Front auxiliary input jacks		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	
M206	1	B305	4	Yes
	3		5	

4. Check continuity between front auxiliary input jacks connector M206 terminals 1, 3 and ground.

Front auxiliary input jacks		Ground	Continuity
Connector	Terminal		
M206	1	—	No
	3		

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK AUX SOUND SIGNAL CIRCUIT CONTINUITY 2

1. Disconnect AV control unit connector M166.
2. Check continuity between AV control unit connector M166 terminals 95, 96 and headrest display unit (passenger seat) connector B305 terminals 14, 15.

AV control unit		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	
M166	95	B305	14	Yes
	96		15	

3. Check continuity between AV control unit connector M166 terminals 95, 96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M166	95	—	No
	96		

Is inspection result normal?

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

3.CHECK AUX SOUND SIGNAL GROUND CIRCUIT CONTINUITY 1

Check continuity between front auxiliary input jacks connector M206 terminal 2 and headrest display unit (passenger seat) connector B305 terminal 3.

Front auxiliary input jacks		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	
M206	2	B305	3	Yes

Is inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4. CHECK AUX SOUND SIGNAL GROUND CIRCUIT CONTINUITY 2

Check continuity between AV control unit connector M166 terminal 97 and headrest display unit (passenger seat) connector B305 terminal 13.

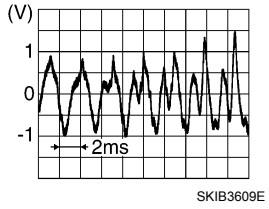
AV control unit		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	
M166	97	B305	13	Yes

Is inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness or connectors.

5. CHECK AUX SOUND SIGNAL

1. Connect AV control unit connector M166 and headrest display unit (passenger seat) connector B305.
2. Turn ignition switch to ACC.
3. Select AUX mode.
4. Check signals between AV control unit connector M166 and ground.

AV control unit connector M166		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
95	96	AUX mode selected	
96	97		

SKIB3609E

Is the inspection result normal?

YES >> Replace front auxiliary input jacks. Refer to AV-281, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-267, "Removal and Installation".

ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

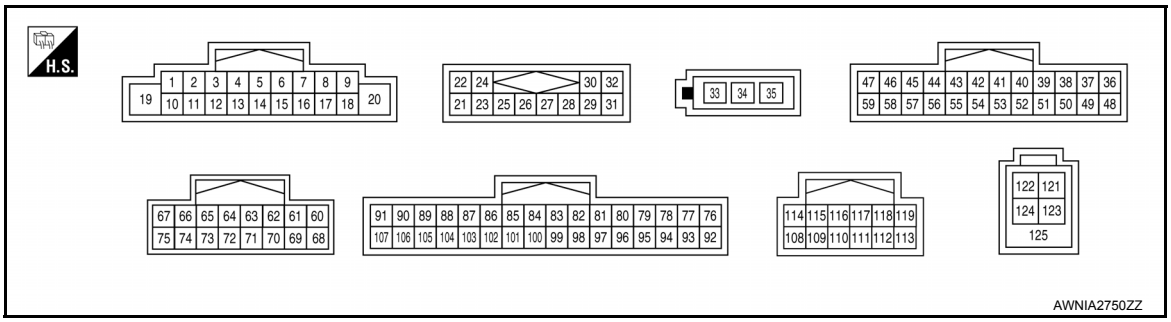
INFOID:0000000009820949

VALUES ON THE DIAGNOSIS TOOL

CONSULT data monitor item

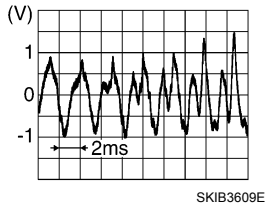
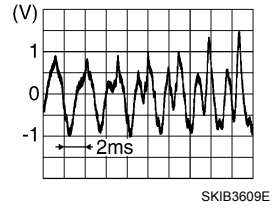
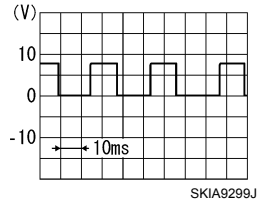
Display Item	Display	Vehicle status	Remarks
VHCL SPD SIG	ON	Vehicle speed >0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed =0 km/h (0 MPH)	
PKB SIG	ON	Parking brake is applied.	Changes in indication may be delayed. This is normal.
	OFF	Parking brake is released.	
ILLUM SIG	ON	Block the light beam from the auto light optical sensor when the light SW is ON .	—
	OFF	Expose the auto light optical sensor to light when the light SW is OFF or ON.	
IGN SIG	ON	Ignition switch ON	—
	OFF	Ignition switch in ACC position	
REV SIG	ON	Selector lever in R position	Changes in indication may be delayed. This is normal.
	OFF	Selector lever in any position other than R	

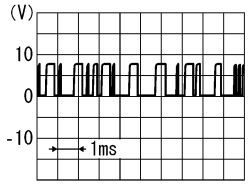
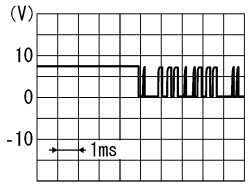
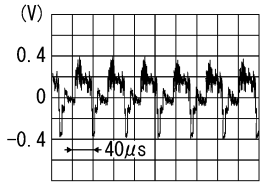
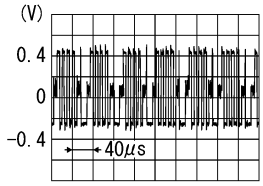
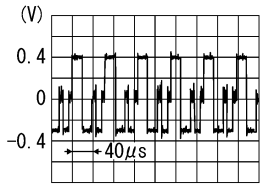
TERMINAL LAYOUT

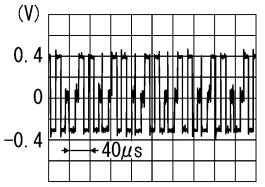
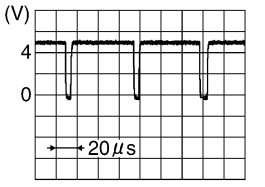
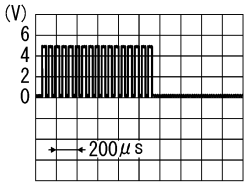
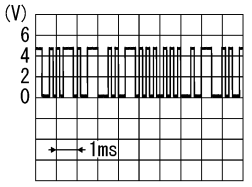
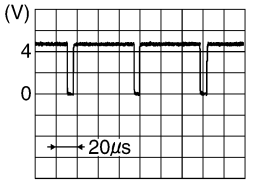


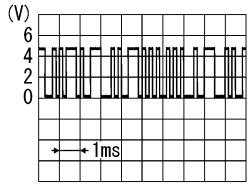
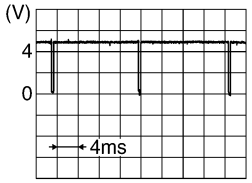
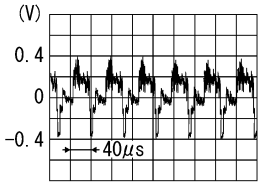
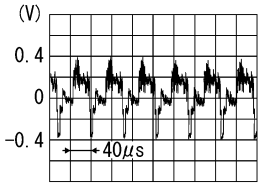
PHYSICAL VALUES

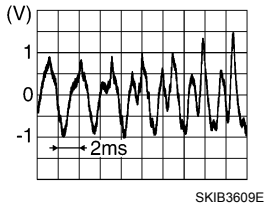
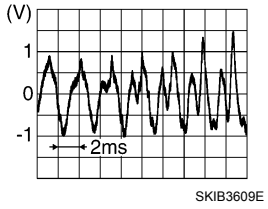
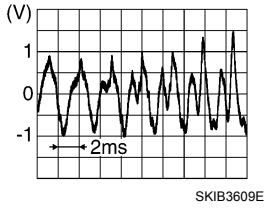
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
6 (Y)	Ground	Steering switch signal A	Input	Ignition switch ON	Press and hold SOURCE switch.	0V
					Press and hold △ switch.	1.0V
					Press and hold ▽ switch.	2.0V
					Press and hold switch.	3.0V
					Except for above.	5.0V
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage

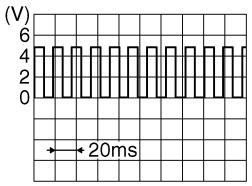
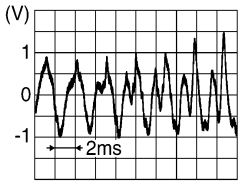
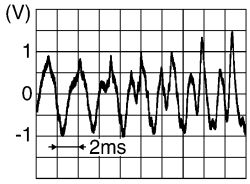
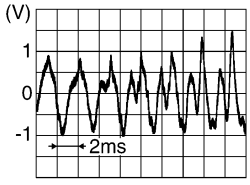
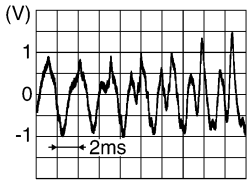
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
9 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	0V
					Lighting switch is ON.	12V
15	Ground	Steering switch signal GND	—	Ignition switch ON	—	0V
16 (BR)	Ground	Steering switch signal B	Input	Ignition switch ON	Press and hold – switch	0V
					Press and hold + switch	1.0V
					Press and hold switch	2.0V
					Except for above	5.0V
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
20 (B)	Ground	Ground	—	Ignition switch ON	—	0V
22 (W)	21 (B)	Satellite radio sound signal LH	Input	Ignition switch ON	When satellite radio mode is selected	 SKIB3609E
24 (Y)	23 (BR)	Satellite radio sound signal RH	Input	Ignition switch ON	When satellite radio mode is selected	 SKIB3609E
25	—	Shield	—	—	—	—
26	Ground	Data ground	—	Ignition switch ON	When satellite radio mode is selected	0V
28 (W)	Ground	Request signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected	 SKIA9299J

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
29 (R)	Ground	Communication signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected	 SKIA9300J
30 (B)	Ground	Communication signal (CONT→SAT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9301J
34 (B)	Ground	Antenna amp. ON signal	Output	Ignition switch ACC	—	12V
35 (B)	—	Amplified window antenna signal	Input	—	—	—
36 (Y)	Ground	AUX image signal	Output	Ignition switch ON	When AUX mode is selected	 SKIB2251J
37 (BR)	Ground	AUX image ground	—	Ignition switch ON	—	0V
38 (R)	Ground	RGB signal (B: blue)	Output	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2237J
39 (B)	Ground	RGB signal (G: green)	Output	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2236J

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
40 (W)	Ground	RGB signal (R: red)	Output	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2238J
41 (W)	Ground	RGB synchronizing signal	Output	Ignition switch ON	—	 SKIB3603E
42	—	RGB synchronizing ground	—	Ignition switch ON	—	0V
43 (O)	Ground	RGB area (YS) signal	Output	Ignition switch ON	RGB image	5V
					AUX image	 PKIB4948J
44 (LG)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness	 PKIB5039J
45 (W/L)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	—	 SKIB3601E
46 (G/O)	Ground	Signal ground	—	Ignition switch	—	0V
47 (B/O)	Ground	Signal VCC	Output	Ignition switch ACC	—	9V
49	—	Shield	—	—	—	—
50	—	Shield	—	—	—	—
55	—	Shield	—	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
56 (V)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness	 PKIB5039J
57 (O/L)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch On	—	 SKIB3598E
58 (B)	Ground	Inverter ground	—	Ignition switch ON	—	0V
59 (BR/Y)	Ground	Inverter VCC	Output	Ignition switch ACC	—	9V
64 (B)	Ground	Rear view camera video signal ground	—	Ignition switch ON	—	0V
65 (W)	Ground	Rear view camera video in (+)	Input	Ignition switch ON	With rear view camera ON	 SKIB2251J
66 (W)	Ground	DVD player video signal (+)	Input	Ignition switch ON	With DVD player operating	 SKIB2251J
68 (B)	Ground	Ground	—	Ignition switch ON	—	0V
72	—	Shield	—	—	—	—
73	—	Shield	—	—	—	—
74 (B)	Ground	DVD player video ground	—	Ignition switch ON	—	0V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
80 (G)	79 (R)	TEL voice audio signal	Input	Ignition switch ON	Start confirmation/adjustment mode, and then Voice Microphone Test by selecting “Voice Microphone Test” on Hands-free Microphone screen.	 SKIB3609E
81	—	Shield	—	—	—	—
85 (B)	Ground	Ground	—	Ignition switch ON	—	0V
86 (L)	—	CAN–H	Input/ Output	—	—	—
87 (P)	—	CAN–L	Input/ Output	—	—	—
88 (W/L)	—	M-CAN (+)	Input/ Output	—	—	—
89 (P/B)	—	M-CAN (-)	Input/ Output	—	—	—
90 (L/W)	—	M-CAN (+)	Input/ Output	—	—	—
91 (B/P)	—	M-CAN (-)	Input/ Output	—	—	—
94	—	Shield	—	—	—	—
95 (R)	97 (B)	AUX audio signal RH	Input	Ignition switch ON	When AUX mode is selected	 SKIB3609E
96 (W)	97 (B)	AUX audio signal LH	Input	Ignition switch ON	When AUX mode is selected	 SKIB3609E
100	—	Shield	—	—	—	—
103 (SB)	Ground	CD eject signal	Input	—	Pressing the eject switch	0V
					Except for above	3.3V
104 (G/R)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
105 (G/W)	Ground	Reverse signal	Input	Ignition switch ON	R position	Battery voltage
					Other than R position	0V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
106 (G)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake ON	0V
					Parking brake OFF	Battery voltage
107 (W/R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25MPH)	 SKIA6649J
108 (W)	114 (B)	Rear RH pre-amp. sound signal	Output	Ignition switch ON	Audio output	 SKIB3609E
109 (BR)	115 (B/R)	Front RH pre-amp. sound signal	Output	Ignition switch ON	Audio output	 SKIB3609E
110 (GR/L)	Ground	Amp. ON signal	Output	Ignition switch ON		Battery voltage
111	—	Shield	—	—	—	—
112 (L)	118 (B/W)	Rear LH pre-amp. sound signal	Output	Ignition switch ON	Audio output	 SKIB3609E
113 (LG)	119 (V)	Front LH pre-amp. sound signal	Output	Ignition switch ON	Audio output	 SKIB3609E
121 (W)	—	V BUS signal	—	—	—	—
122 (G)	—	USB ground	—	—	—	—
123 (L)	—	USB D+ signal	—	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
124 (R)	—	USB D– signal	—	—	—	—
125	—	Shield	—	—	—	—

DTC Index

INFOID:0000000009820950

Self-diagnosis results display item

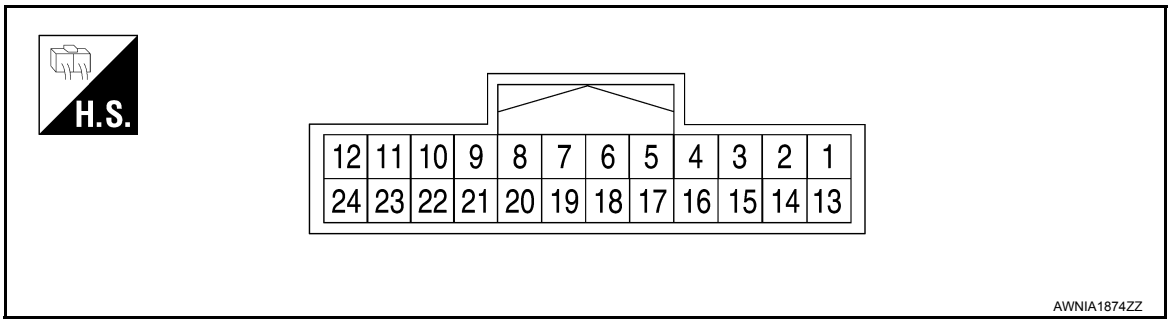
Error item	Refer to
CAN COMM CIRCUIT [U1000]	AV-146, "Description"
CONTROL UNIT (CAN) [U1010]	AV-147, "Description"
Control Unit FLASH-ROM [U1200]	AV-148, "Description"
CAN CONT [U1216]	AV-149, "Description"
SWITCH CONN [U1240]	AV-150, "Description"
FRONT DISP CONN [U1243]	AV-151, "Description"
SAT CONN [U1255]	AV-153, "Description"
HAND FREE CONN [U1256]	AV-154, "Description"
AV COMM CIRCUIT [U1300]	AV-155, "Description"
CONTROL UNIT (AV) [U1310]	AV-156, "Description"

DISPLAY UNIT

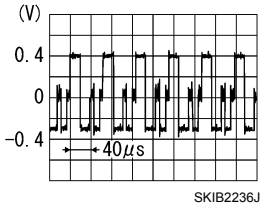
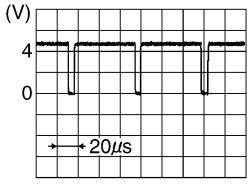
Reference Value

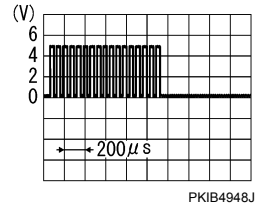
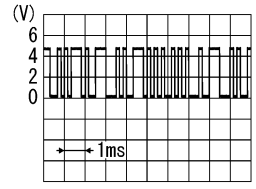
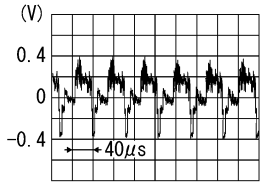
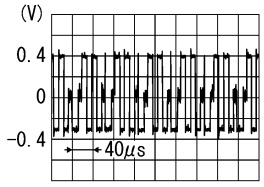
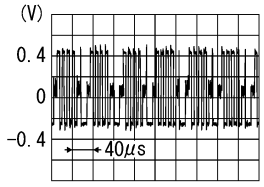
INFOID:0000000009820951

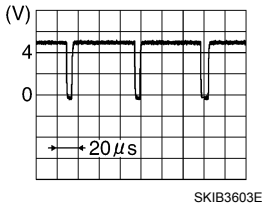
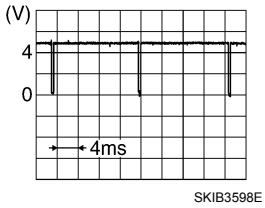
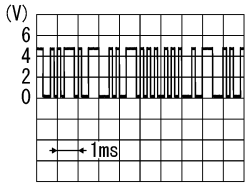
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (B)	Ground	Ground	—	Ignition switch ON	—	0V
2 (BR/Y)	Ground	Inverter VCC	Input	Ignition switch ACC	—	9V
3 (B/O)	Ground	Signal VCC	Input	Ignition switch ACC	—	9V
4	—	Shield	—	—	—	—
5 (L)	Ground	AUX image ground	—	Ignition switch ON	—	0V
6 (B)	Ground	RGB signal (G: green)	Input	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting“Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2236J
7	—	Shield	—	—	—	—
8 (W/L)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	—	 SKIB3601E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
9 (O)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At RGB image displayed	5V
					At rear view camera image displayed	 PKIB4948J
11 (V)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness	 PKIB5039J
13 (B)	Ground	Inverter ground	—	Ignition switch ON	—	0V
14 (G/O)	Ground	Signal ground	—	Ignition switch ON	—	0V
15 (Y)	Ground	AUX image signal	Input	Ignition switch ON	When AUX mode is selected	 SKIB2251J
17 (W)	Ground	RGB signal (R: red)	Input	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2238J
18 (R)	Ground	RGB signal (B: blue)	Input	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting“Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2237J

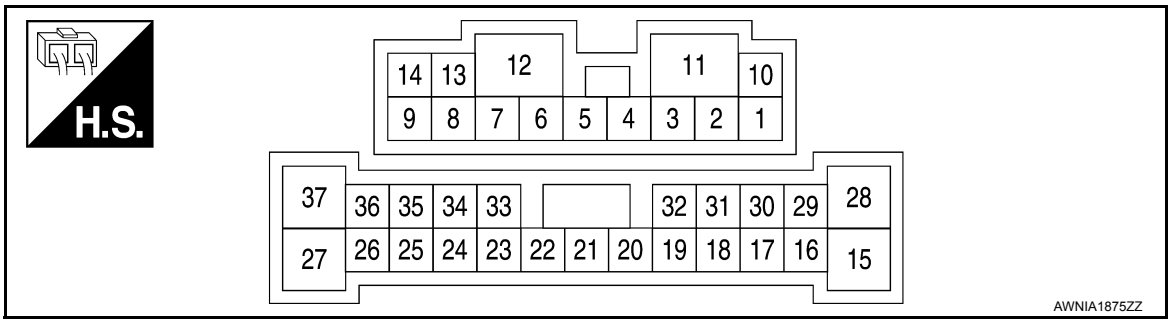
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
19 (W)	Ground	RGB synchronizing signal	Input	Ignition switch ON	—	 SKIB3603E
20 (O/L)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch On	—	 SKIB3598E
21	—	Shield	—	—	—	—
22 (LG)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness	 PKIB5039J
23	—	Shield	—	—	—	—

BOSE SPEAKER AMP

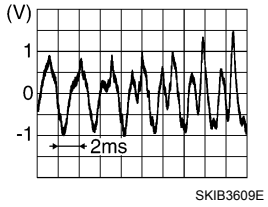
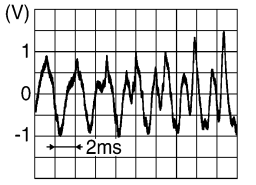
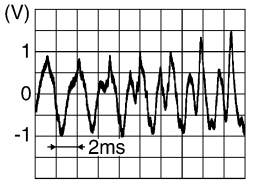
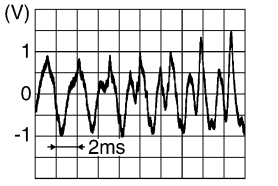
Reference Value

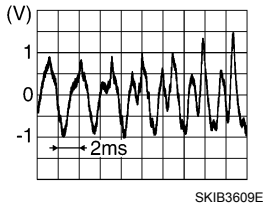
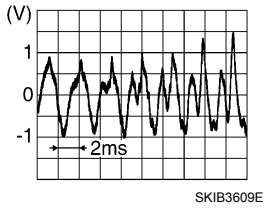
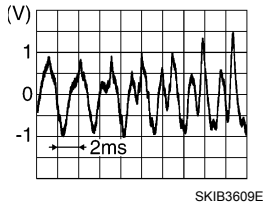
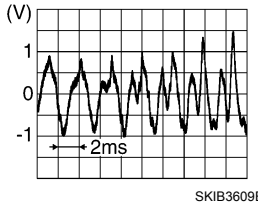
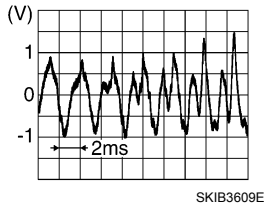
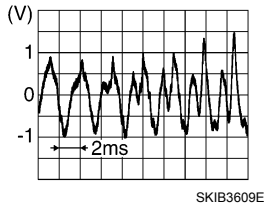
INFOID:0000000009820952

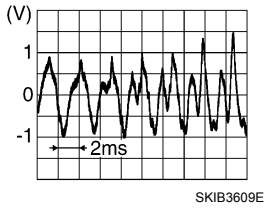
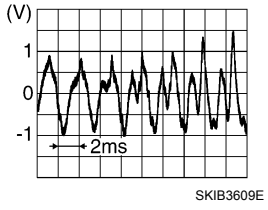
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (SB)	10 (B/Y)	Audio signal rear door speaker and tweeter LH	Output	Ignition switch ON	Audio output	 SKIB3609E
2 (O/L)	3 (R/L)	Audio signal rear door speaker and tweeter RH	Output	Ignition switch ON	Audio output	 SKIB3609E
4 (L/W)	5 (L/R)	Audio signal front door speaker and tweeter LH	Output	Ignition switch ON	Audio output	 SKIB3609E
6 (G)	7 (R)	Audio signal back door speaker LH	Output	Ignition switch ON	Audio output	 SKIB3609E

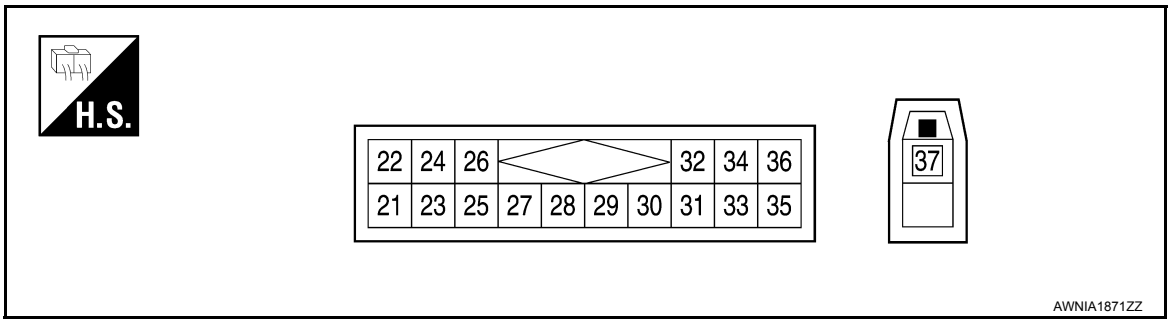
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
8 (W/B)	13 (L/B)	Audio signal front door speaker and tweeter RH	Output	Ignition switch ON	Audio output	 SKIB3609E
9 (W)	14 (B)	Audio signal subwoofer	Output	Ignition switch ON	Audio output	 SKIB3609E
11 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON	—	0V
15 (V)	28 (R)	Audio signal center speaker	Output	Ignition switch ON	Audio output	 SKIB3609E
18 (LG)	32 (V)	Audio signal front LH	Input	Ignition switch ON	Audio input	 SKIB3609E
19 (BR)	20 (B/R)	Audio signal front RH	Input	Ignition switch ON	Audio input	 SKIB3609E
21 (L)	22 (B/W)	Audio signal rear LH	Input	Ignition switch ON	Audio input	 SKIB3609E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
23 (W)	33 (B)	Audio signal rear RH	Input	Ignition switch ON	Audio input	 SKIB3609E
25 (W/G)	Ground	Subwoofer amp. ON signal	Output	Ignition switch ACC	—	12V
31 (GR/L)	Ground	Amp. ON signal	Input	Ignition switch ACC	—	12V
37 (W/R)	27 (R)	Audio signal back door speaker RH	Input	Ignition switch ON	Audio input	 SKIB3609E

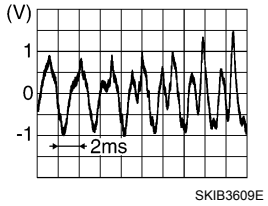
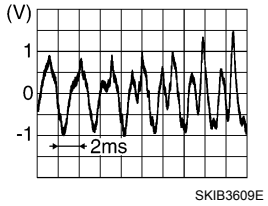
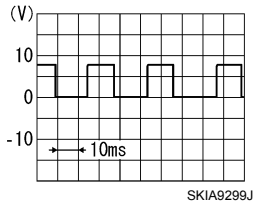
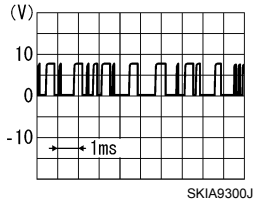
SATELLITE RADIO TUNER

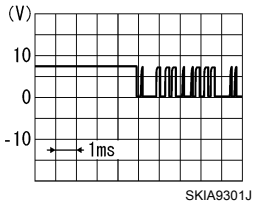
Reference Value

INFOID:0000000009820953



PHYSICAL VALUES

Terminal		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
22 (W)	21 (B)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected	 SKIB3609E
24 (Y)	23 (BR)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	 SKIB3609E
25	—	Shield	—	—	—	—
26	—	Shield	—	—	—	—
28 (W)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9299J
29 (R)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9300J

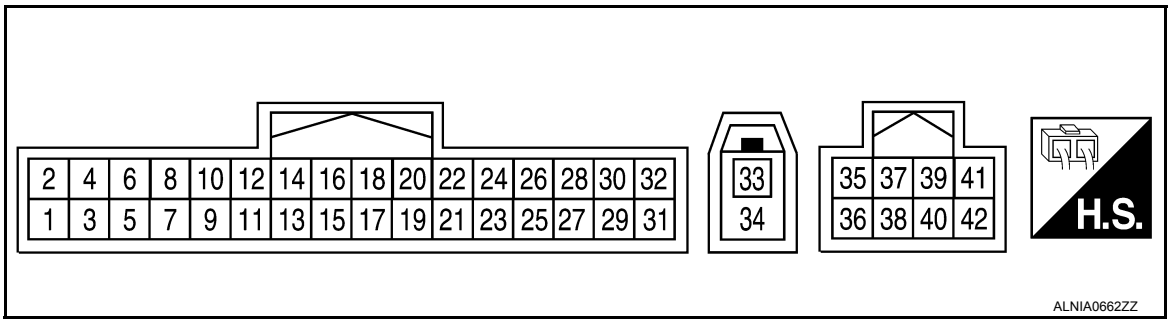
Terminal		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
30 (B)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	 SKIA9301J
32 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
36 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
37 (B)	—	Satellite antenna	Input	—	—	—

BLUETOOTH CONTROL UNIT

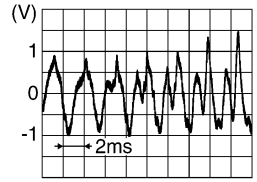
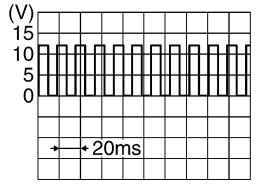
Reference Value

INFOID:0000000009820954

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ output			
1 (Y)	Ground	Battery power	Input	–	–	Battery voltage
2 (V)	Ground	ACC power	Input	Ignition switch ACC/ON	–	Battery voltage
3 (G/R)	Ground	IGN power	Input	Ignition switch ON/ START	–	Battery voltage
4 (B/W)	Ground	Ground	–	Ignition switch ON	–	0V
6	–	Shield	–	–	–	–
7 (B)	8 (R/L)	MIC in signal	Input	–	–	–
9 (G)	10 (R)	Audio out	Output	Ignition switch ACC/ON	Bluetooth control unit sends audio signal	 SKIB3609E
20 (B)	Ground	Ground	–	–	–	0V
23 (B)	Ground	Ground	–	–	–	0V
28 (W/R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	 PKIA1935E

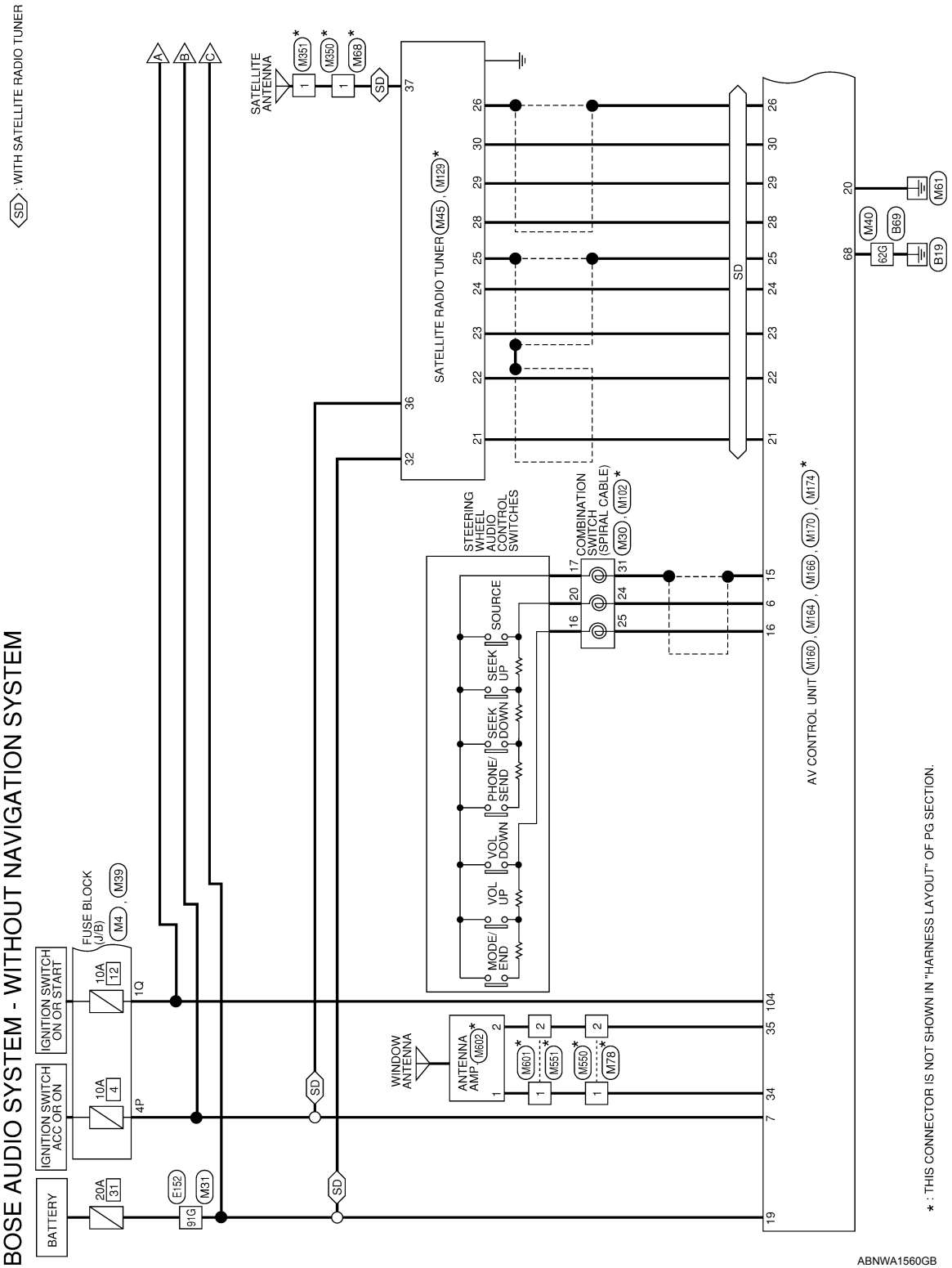
Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ output			
29 (R/W)	Ground	Microphone power	Output	Ignition switch ON	–	5V
33 (B)	–	Bluetooth antenna	–	–	–	—
34 (B)	–	Bluetooth antenna	–	–	–	—
35 (W/L)	–	M-CAN1-H	–	–	–	—
36 (Y/L)	–	M-CAN1-L	–	–	–	—

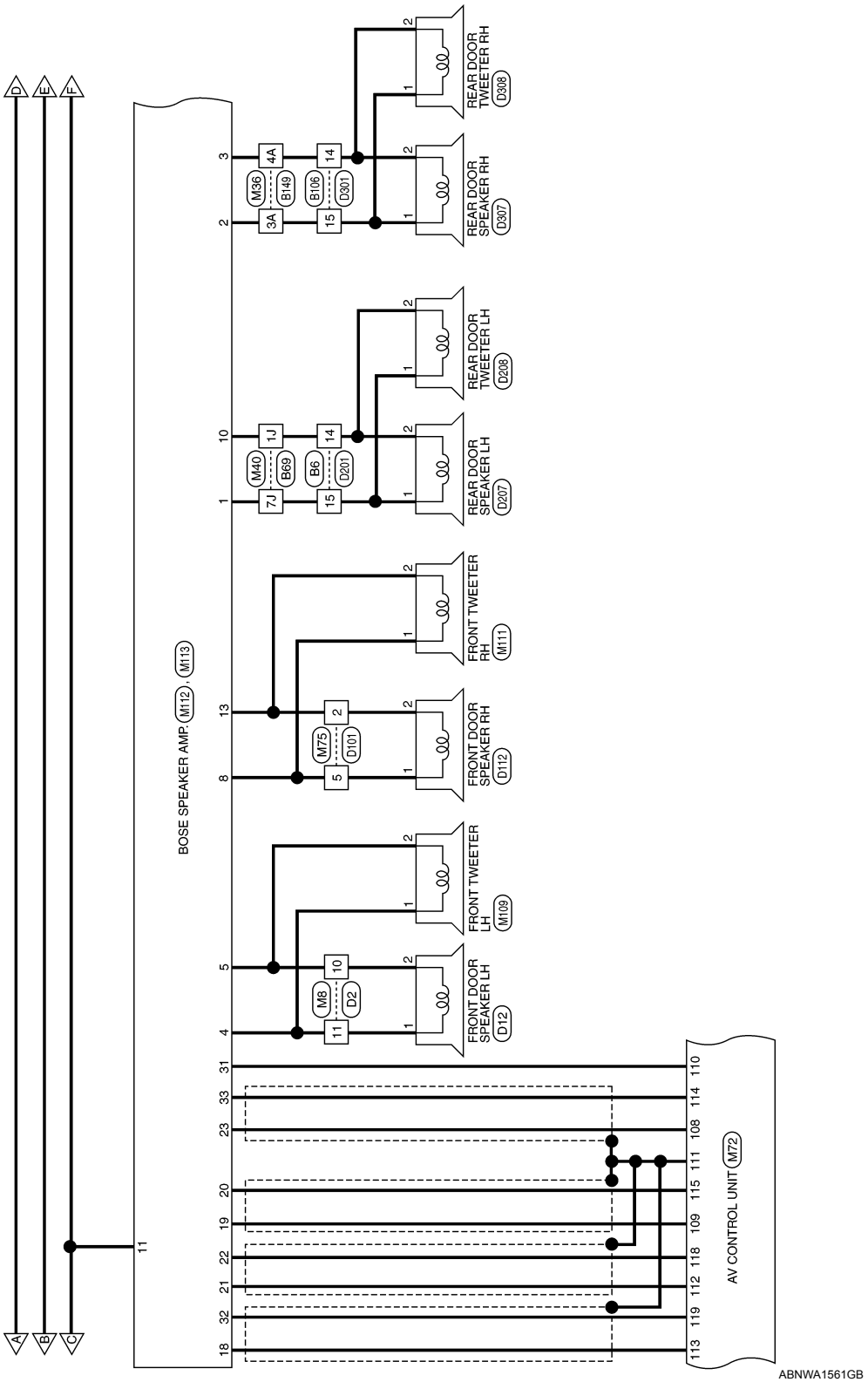
WIRING DIAGRAM

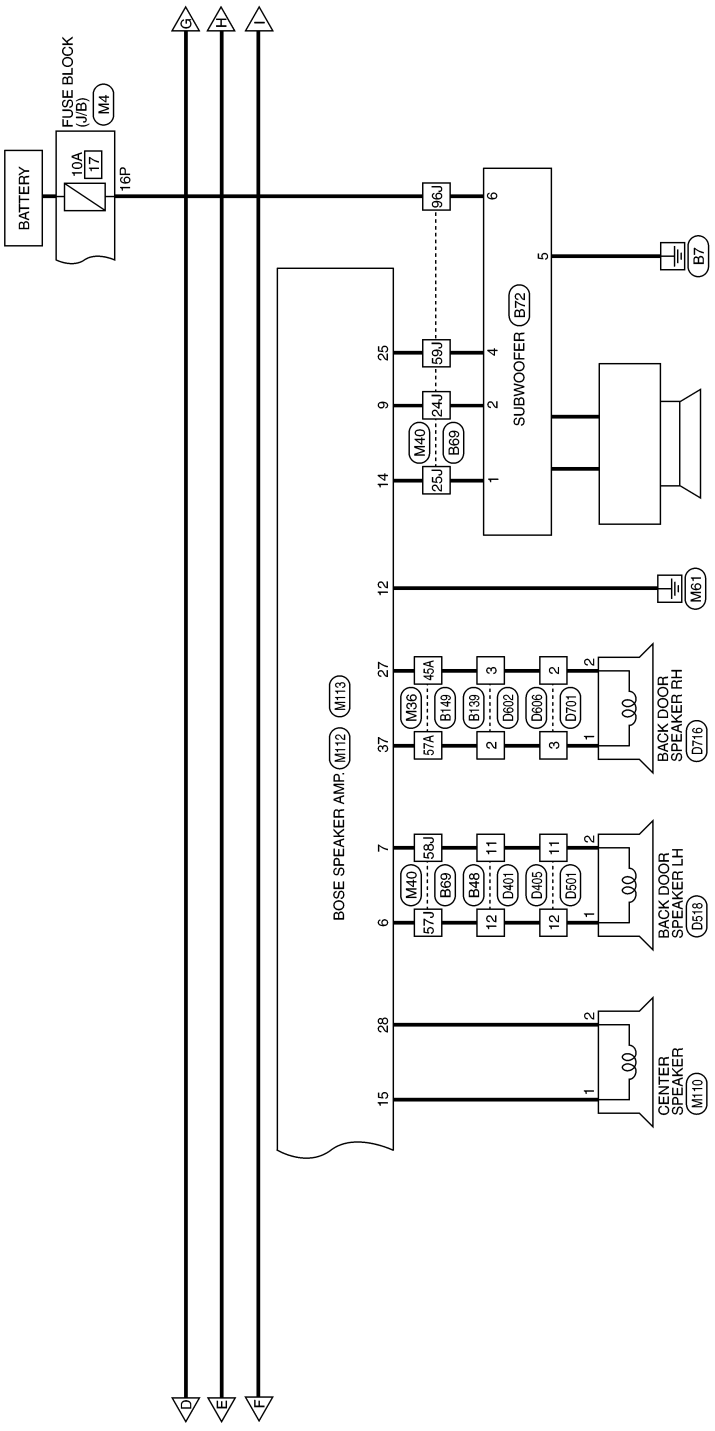
BOSE AUDIO SYSTEM - WITHOUT NAVIGATION SYSTEM

Wiring Diagram

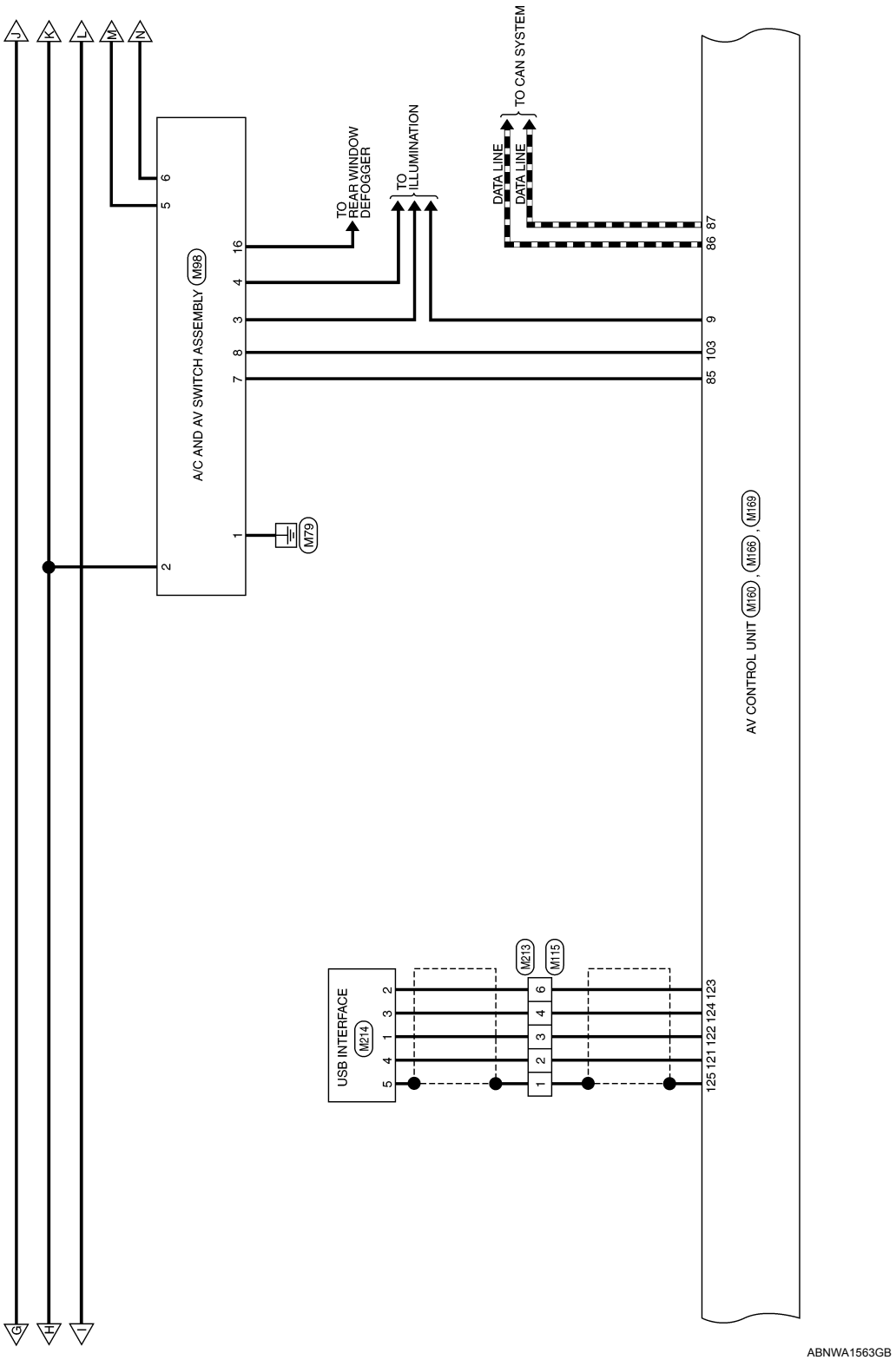
INFOID:0000000009820955

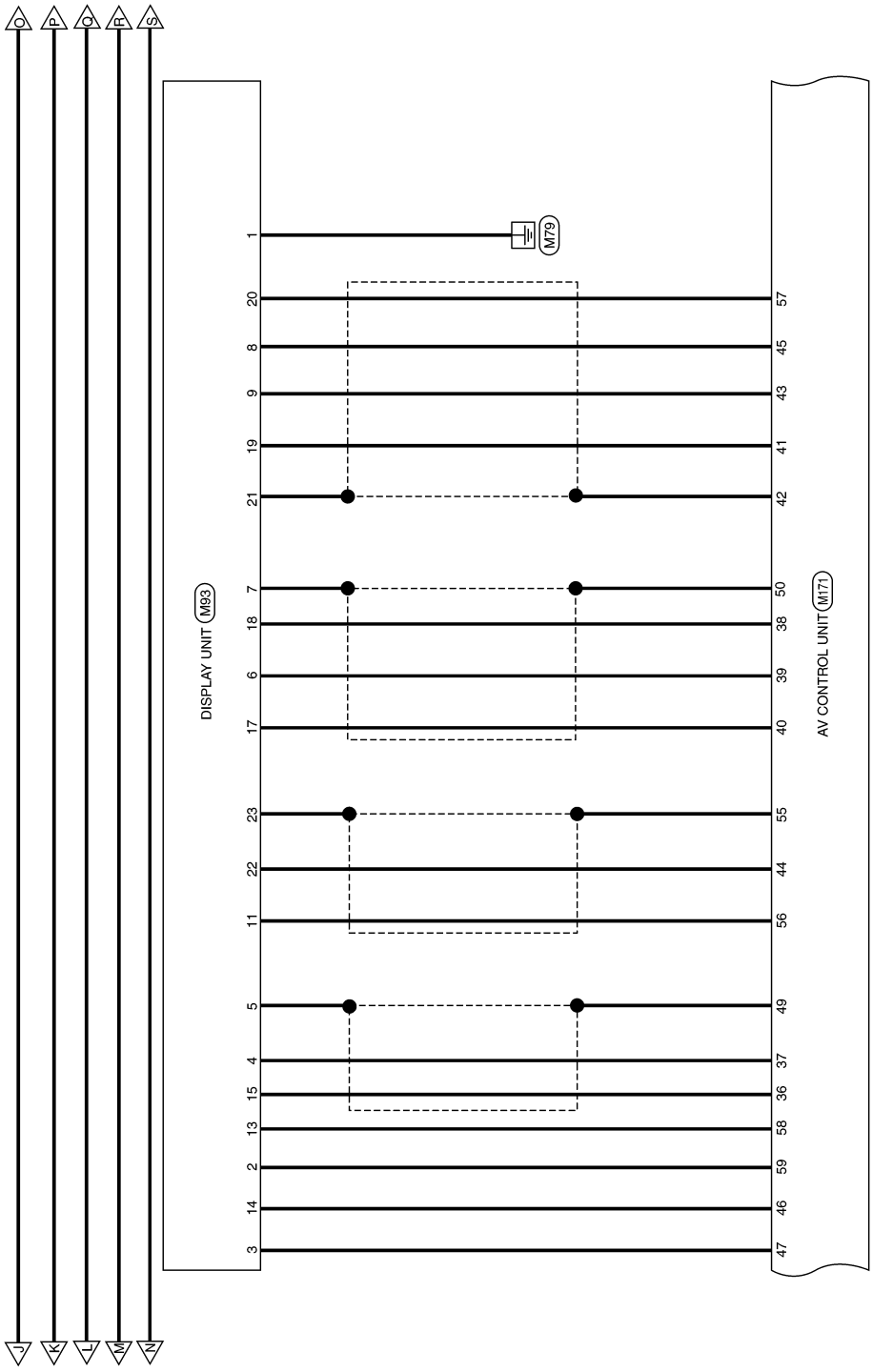



BOSE SPEAKER AMP. (M112), (M113)
REAR DOOR TWEETER RH (D308)
REAR DOOR SPEAKER RH (D307)
REAR DOOR TWEETER LH (D208)
REAR DOOR SPEAKER LH (D207)
FRONT TWEETER RH (M111)
FRONT DOOR SPEAKER RH (D112)
FRONT TWEETER LH (M109)
FRONT DOOR SPEAKER LH (D12)
AV CONTROL UNIT (M72)
ABNWA1561GB



ABNWA1562GB


TO CAN SYSTEM
DATA LINE
DATA LINE
TO ILLUMINATION
TO REAR WINDOW DEFOGGER
A/C AND AV SWITCH ASSEMBLY (M98)
M79
AV CONTROL UNIT (M160), (M166), (M169)
USB INTERFACE (M214)
M213
M115
ABNWA1563GB



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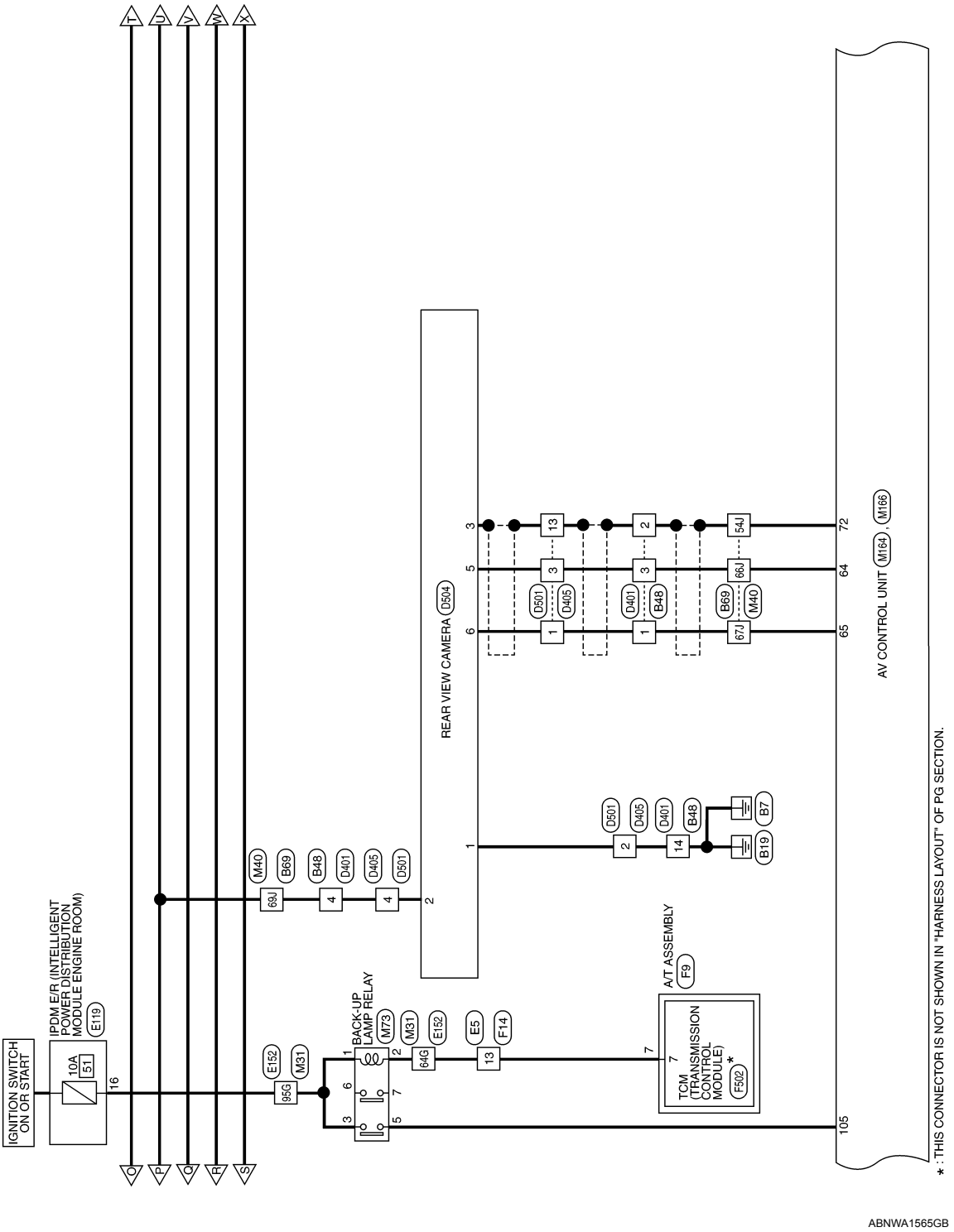

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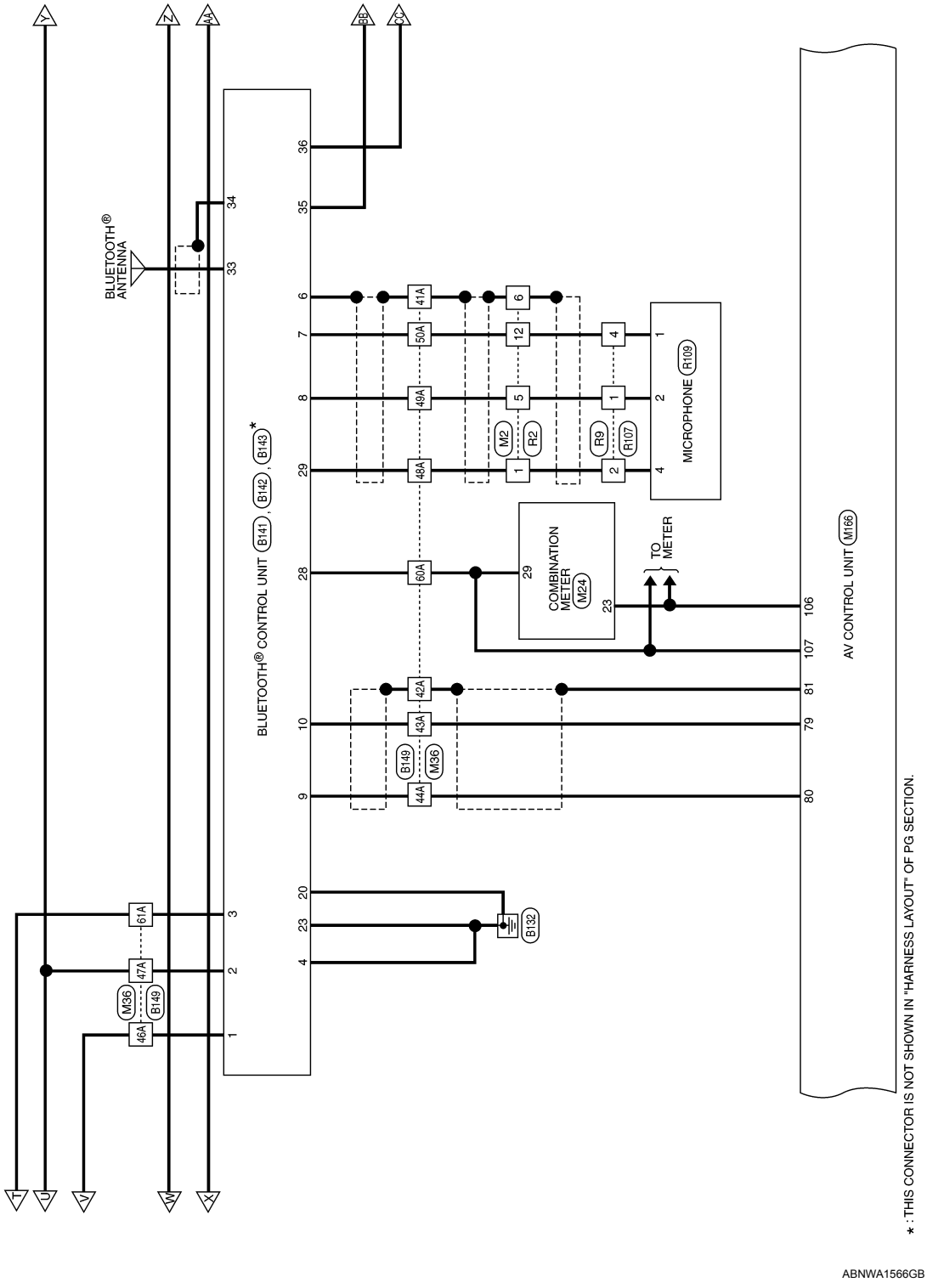
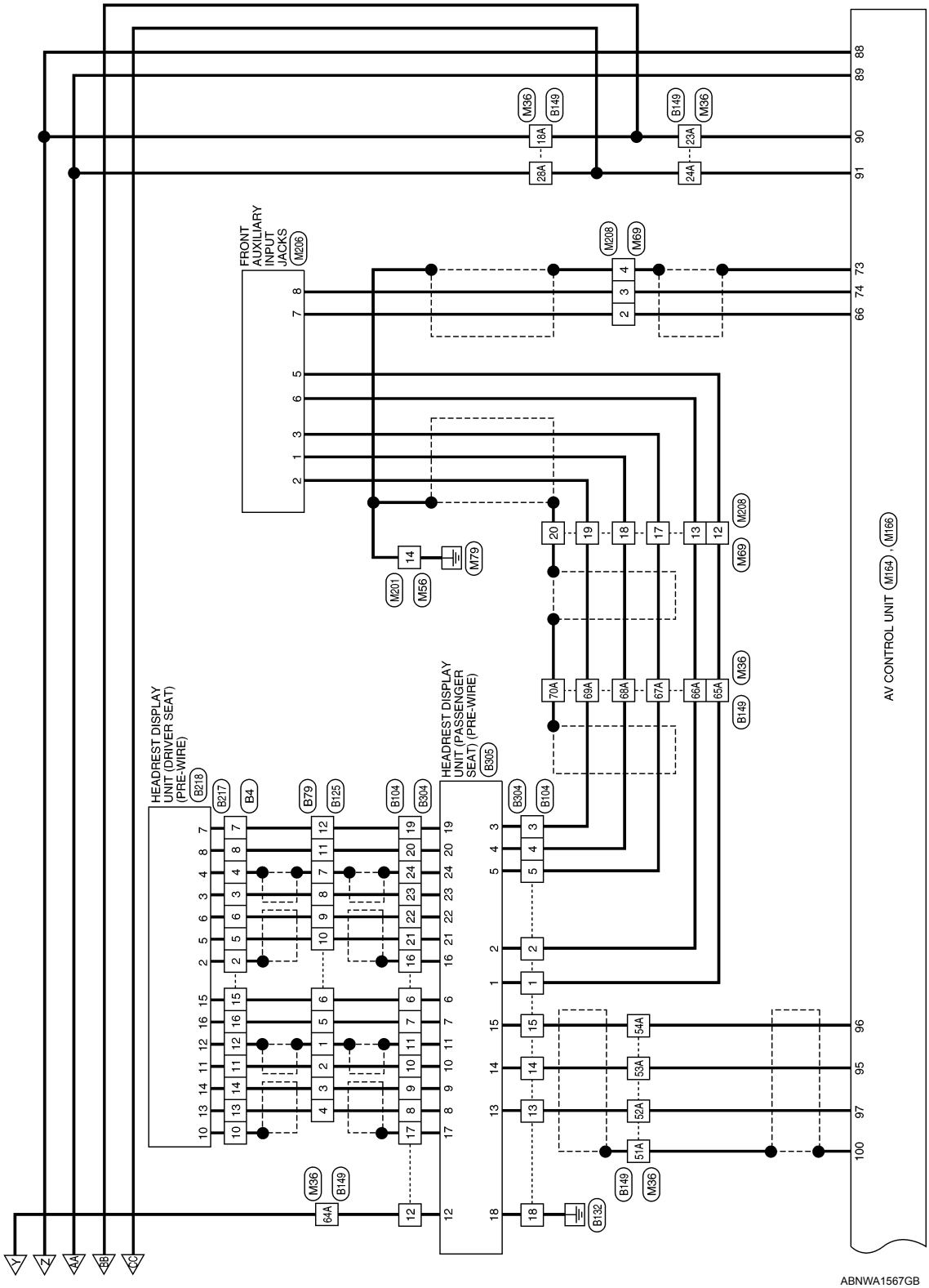


ABNWA1566GB


FRONT AUXILIARY INPUT JACKS M206
HEADREST DISPLAY UNIT (DRIVER SEAT) (PRE-WIRE) B218
HEADREST DISPLAY UNIT (PASSENGER SEAT) (PRE-WIRE) B305
AV CONTROL UNIT M164, M166
M36 B149 18A 28A
B149 M36 23A 24A
M208 M69
M201 M56 M79
B217 B4 B79 B125 B104 B304
B304 B104
70A 69A 68A 67A 66A 65A
54A 53A 52A 51A
64A
B132
Y Z AA BB CC
ABNWA1567GB

BOSE AUDIO SYSTEM CONNECTORS - WITHOUT NAVIGATION SYSTEM

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	R/W	– (WITHOUT NAVI)
5	R/L	–
6	SHIELD	–
12	B	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
4P	V	–
16P	R	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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
23	G	PARK BRAKE
29	W/R	SPEED OUT

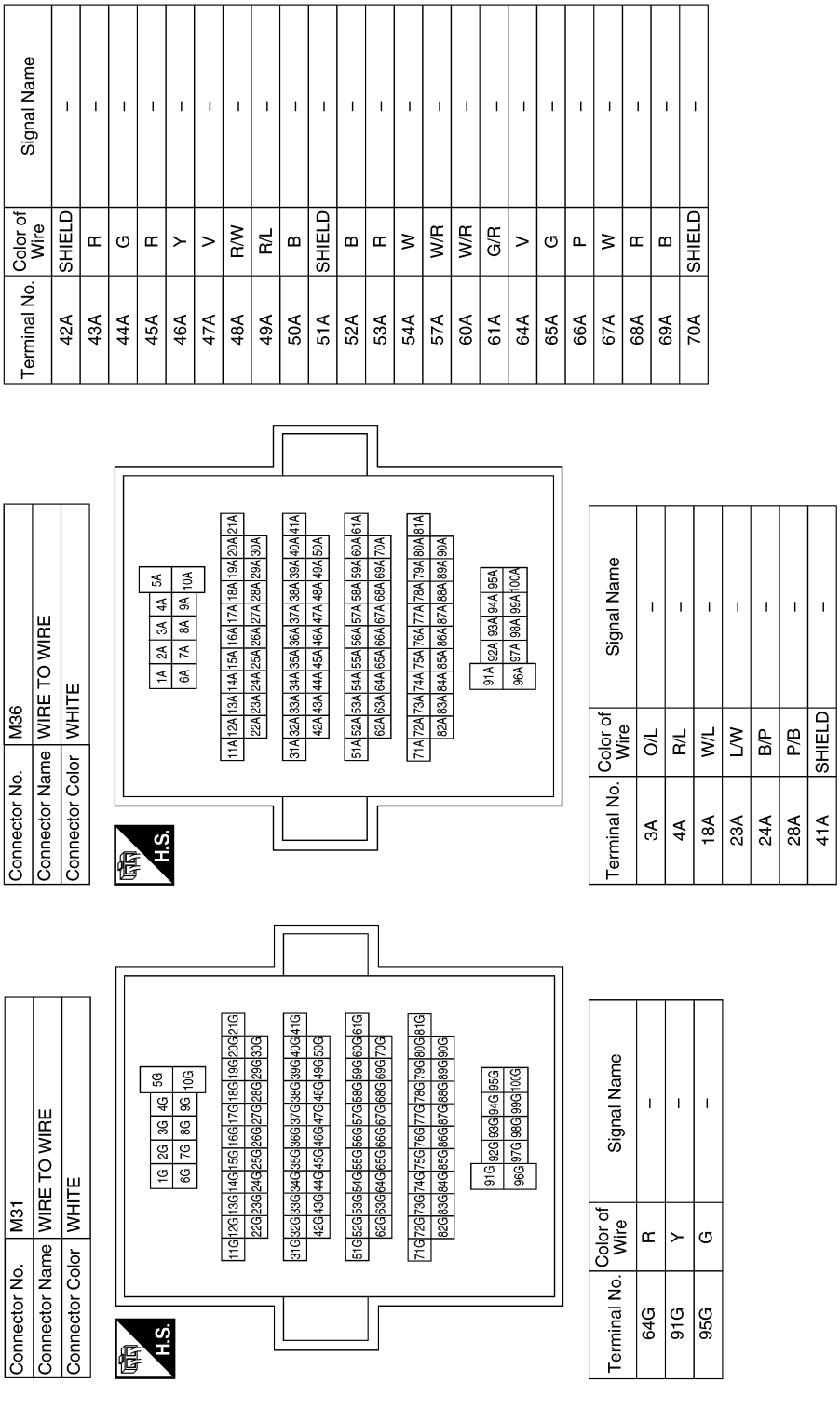
Connector No.	M30
Connector Name	COMBINATION SWITCH
Connector Color	GRAY

H.S.

24	25	26	27
31	32	33	34

Terminal No.	Color of Wire	Signal Name
24	Y	–
25	BR	–
31	SHIELD	–

ABNIA3881GB



ABNIA3882GB

Connector No.	M45
Connector Name	SATELLITE RADIO TUNER
Connector Color	WHITE

H.S.

22	24	26	32	34	36
21	23	25	27	28	29	30	31	33	35

Terminal No.	Color of Wire	Signal Name
21	B	SAT LH- OUT
22	W	SAT LH+ OUT
23	BR	SAT RH- OUT
24	Y	SAT RH+ OUT
25	SHIELD	SIG SHIELD
26	SHIELD	DATA GND
27	–	–
28	W	REQ1 (SAT-HU)
29	R	TXD (SAT-HU)
30	B	RXD (HU-SAT)
31	–	–
32	Y	BATT
33	–	–
34	–	–
35	–	–
36	V	ACC

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1J	2J	3J	4J	5J
6J	7J	8J	9J	10J

11J	12J	13J	14J	15J	16J	17J	18J	19J	20J	21J
22J	23J	24J	25J	26J	27J	28J	29J	30J

31J	32J	33J	34J	35J	36J	37J	38J	39J	40J	41J
42J	43J	44J	45J	46J	47J	48J	49J	50J

51J	52J	53J	54J	55J	56J	57J	58J	59J	60J	61J
62J	63J	64J	65J	66J	67J	68J	69J	70J

71J	72J	73J	74J	75J	76J	77J	78J	79J	80J	81J
82J	83J	84J	85J	86J	87J	88J	89J	90J

91J	92J	93J	94J	95J
96J	97J	98J	99J	100J

Terminal No.	Color of Wire	Signal Name
1J	B/Y	–
7J	SB	–
24J	W	–
25J	B	–
54J	SHIELD	–
57J	G	–
58J	R	–
59J	W/G	–
62J	B	–
66J	B	–
67J	W	–
69J	V	–
96J	R	–

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

3Q		2Q	1Q
8Q	7Q	6Q	5Q	4Q

Terminal No.	Color of Wire	Signal Name
1Q	G/R	–

ABNIA3883GB

Connector No.	M56
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	B	–

Connector No.	M68
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

1

Terminal No.	Color of Wire	Signal Name
1	V	–

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	W	–
3	B	–
4	SHIELD	–
12	G	–
13	P	–
17	W	–
18	R	–
19	B	–
20	SHIELD	–

Connector No.	M72
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)
Connector Color	WHITE

H.S.

114	115	116	117	118	119
108	109	110	111	112	113

Terminal No.	Color of Wire	Signal Name
108	W	RR RH PRE+
109	BR	FR RH PRE+
110	GR/L	AMP ON
111	SHIELD	SHIELD
112	L	RR LH PRE+
113	LG	FR LH PRE+
114	B	RR RH PRE-
115	B/R	FR RH PRE-
116	–	–
117	–	–
118	B/W	RR LH PRE-
119	V	FR LH PRE-

Connector No.	M73
Connector Name	BACK-UP LAMP RELAY
Connector Color	BROWN

H.S.

2		1
7		5
6		3

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	–
3	G	–
5	G/W	–
6	W/B	–
7	Y/R	–

ABNIA3884GB

Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

4	3		2	1
10	9	8	7	6	5

Terminal No.	Color of Wire	Signal Name
2	L/B	–
5	W/B	–

Connector No.	M78
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

1	2

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	M93
Connector Name	DISPLAY UNIT (WITHOUT NAVI)
Connector Color	WHITE

H.S.

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	B	GND
2	BR/Y	INV VCC
3	B/O	SIG VCC
4	SHIELD	COMP IN SHIELD
5	L	COMP IN -
6	B	G
7	SHIELD	RGB GND
8	W/L	HP
9	O	YS
10	–	–
11	V	IT DISP
12	–	–
13	B	INV GND
14	G/O	SIG GND
15	Y	COMP IN+
16	–	–
17	W	R
18	R	B
19	W	RGB SYNC
20	O/L	VP
21	SHIELD	RGB SYNC GND
22	LG	DISP-IT
23	SHIELD	SHIELD
24	–	–

Connector No.	M98
Connector Name	A/C AND AV SWITCH ASSEMBLY
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	B	–
2	V	–
3	R/L	–
4	BR	–
5	W/L	–
6	P/B	–
7	B	–
8	SB	–
9	–	–
10	–	–
11	–	–
12	–	–
13	–	–
14	–	–
15	–	–
16	GR/R	–

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Connector No.	M102
Connector Name	COMBINATION SWITCH
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
16	R	–
17	BR	–
20	W	–

Connector No.	M111
Connector Name	FRONT TWEETER RH
Connector Color	BROWN

H.S.

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

Connector No.	M109
Connector Name	FRONT TWEETER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	L/W	–
2	L/R	–

Connector No.	M112
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	RR DR LH+ OUT
2	O/L	RR DR RH+ OUT
3	R/L	RR DR RH- OUT
4	L/W	FR DR LH+ OUT
5	L/R	FR DR LH- OUT
6	G	PWR BK DR LH+
7	R	PWR BK DR LH-
8	W/B	FR DR RH+ OUT
9	W	WOOFER+ OUT
10	B/Y	RR DR LH- OUT
11	Y	BATT
12	B	GND
13	L/B	FR DR RH- OUT
14	B	WOOFER- OUT

Connector No.	M110
Connector Name	CENTER SPEAKER
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	V	–
2	R	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	SHIELD	–
2	W	–
3	G	–
4	R	–
6	L	–

Terminal No.	Color of Wire	Signal Name
7	V	ACC
8	–	–
9	R/L	ILL
10	–	–
11	–	–
12	–	–
13	–	–
14	–	–
15	SHIELD	STRG SW GND
16	BR	STRG SW B
17	–	–
18	–	–
19	Y	B+
20	B	GND

Connector No.	M113
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
15	V	CENTER+
16	–	–
17	–	–
18	LG	FR LH+ (IN)
19	BR	FR RH+ (IN)
20	B/R	FR RH- (IN)
21	L	RR LH+ (IN)
22	B/W	RR LH- (IN)

Terminal No.	Color of Wire	Signal Name
23	W	RR RH+ (IN)
24	–	–
25	W/G	AMP CTRL
26	–	–
27	R	PWR BK DR RH-
28	R	CENTER-
29	–	–
30	–	–
31	GR/L	AMP ON
32	V	FR LH- (IN)
33	B	RR RH+ (IN)
34	–	–
35	–	–
36	–	–
37	W/R	PWR BK DR RH+

Connector No.	M160
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	–	–
2	–	–
3	–	–
4	–	–
5	–	–
6	Y	STRG SW A

Connector No.	M129
Connector Name	SATELLITE RADIO TUNER
Connector Color	VIOLET

H.S.

Terminal No.	Color of Wire	Signal Name
37	B	–

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Connector No.	M164
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)
Connector Color	WHITE

H.S.

67	66	65	64	63	62	61	60
75	74	73	72	71	70	69	68

Terminal No.	Color of Wire	Signal Name
60	–	–
61	–	–
62	–	–
63	–	–
64	B	COMP2 IN-
65	W	COMP2 IN+
66	W	COMP1 IN+
67	–	–
68	B	CAMERA DETECT
69	–	–
70	–	–
71	–	–
72	SHIELD	COMP2 IN SHIELD
73	SHIELD	COMP IN SHIELD
74	B	COMP1 IN-
75	–	–

Connector No.	M166
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)
Connector Color	WHITE

H.S.

91	90	89	88	87	86	85	84	83	82	81	80	79	78	77	76
107	106	105	104	103	102	101	100	99	98	97	96	95	94	93	92

Terminal No.	Color of Wire	Signal Name
76	–	–
77	–	–
78	–	–
79	R	TEL VOICE (TO IT)+
80	G	TEL VOICE (TO IT)-
81	SHIELD	VOICE SHIELD
82	–	–
83	–	–
84	–	–
85	B	SW GND
86	L	CAN-H
87	P	CAN-L
88	W/L	M-CAN1-H
89	P/B	M-CAN1-L
90	L/W	M-CAN2-H
91	B/P	M-CAN2-L
92	–	–
93	–	–
94	–	–
95	R	AUX AUDIO RH+
96	W	AUX AUDIO LH+
97	B	AUX GND
98	–	–
99	–	–
100	SHIELD	AUDIO BUS SHIELD
101	–	–
102	–	–
103	SB	CD EJECT
104	G/R	IGN
105	G/W	REVERSE SIG
106	G	PKB SIG
107	W/R	SPEED 8P

Connector No.	M169
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)
Connector Color	WHITE

H.S.

122	121
124	123
125	

Terminal No.	Color of Wire	Signal Name
121	W	VBUS
122	G	USB GND
123	L	USB D+
124	R	USB D-
125	SHIELD	CONNECTOR SHIELD GND

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Connector No.	M170
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
21	B	N BUS LH-
22	W	N BUS LH+
23	BR	N BUS RH-
24	Y	N BUS RH+
25	SHIELD	N BUS SHIELD
26	SHIELD	DATA GND
27	–	–
28	W	REQ1 (TO HU)
29	R	RX (TO HU)
30	B	TX (FROM HU)
31	–	–
32	–	–

Connector No.	M171
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)
Connector Color	WHITE

H.S.

47	46	45	44	43	42	41	40	39	38	37	36
59	58	57	56	55	54	53	52	51	50	49	48

Terminal No.	Color of Wire	Signal Name
36	Y	COMP OUT+
37	BR	COMP OUT -
38	R	B
39	B	G
40	W	R
41	W	RGB SYNC
42	SHIELD	RGB SYNC GND
43	O	YS
44	LG	DISP IT
45	W/L	HP
46	G/O	SIG GND
47	B/O	SIG VCC
48	–	–
49	SHIELD	COMP OUT SHIELD
50	SHIELD	RGB GND
51	–	–
52	–	–
53	–	–
54	–	–
55	SHIELD	SHIELD
56	V	IT DISP
57	O/L	VP
58	B	INV GND
59	BR/Y	INV VCC

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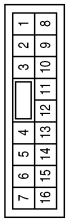
Connector No.	M174
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
33	–	–
34	B	–
35	B	–

Connector No.	M201
Connector Name	WIRE TO WIRE
Connector Color	WHITE

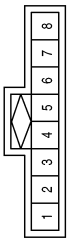
H.S.



Terminal No.	Color of Wire	Signal Name
14	B	–

Connector No.	M206
Connector Name	FRONT AUXILIARY INPUT JACKS
Connector Color	WHITE

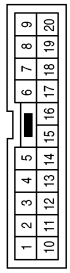
H.S.



Terminal No.	Color of Wire	Signal Name
1	R	–
2	B	–
3	W	–
4	–	–
5	G	–
6	P	–
7	W	–
8	B	–

Connector No.	M208
Connector Name	WIRE TO WIRE
Connector Color	BROWN

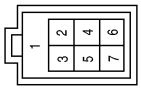
H.S.



Terminal No.	Color of Wire	Signal Name
2	W	–
3	B	–
4	SHIELD	–
12	G	–
13	P	–
17	W	–
18	R	–
19	B	–
20	SHIELD	–

Connector No.	M213
Connector Name	WIRE TO WIRE
Connector Color	GRAY

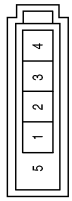
H.S.



Terminal No.	Color of Wire	Signal Name
1	SHIELD	–
2	W	–
3	G	–
4	R	–
6	L	–

Connector No.	M214
Connector Name	USB INTERFACE
Connector Color	GRAY

H.S.



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

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Connector No.	M350
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	M351
Connector Name	SATELLITE ANTENNA
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

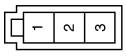
Connector No.	M550
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	M551
Connector Name	WIRE TO WIRE
Connector Color	GRAY

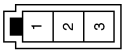
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	M601
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	M602
Connector Name	ANTENNA AMP.
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

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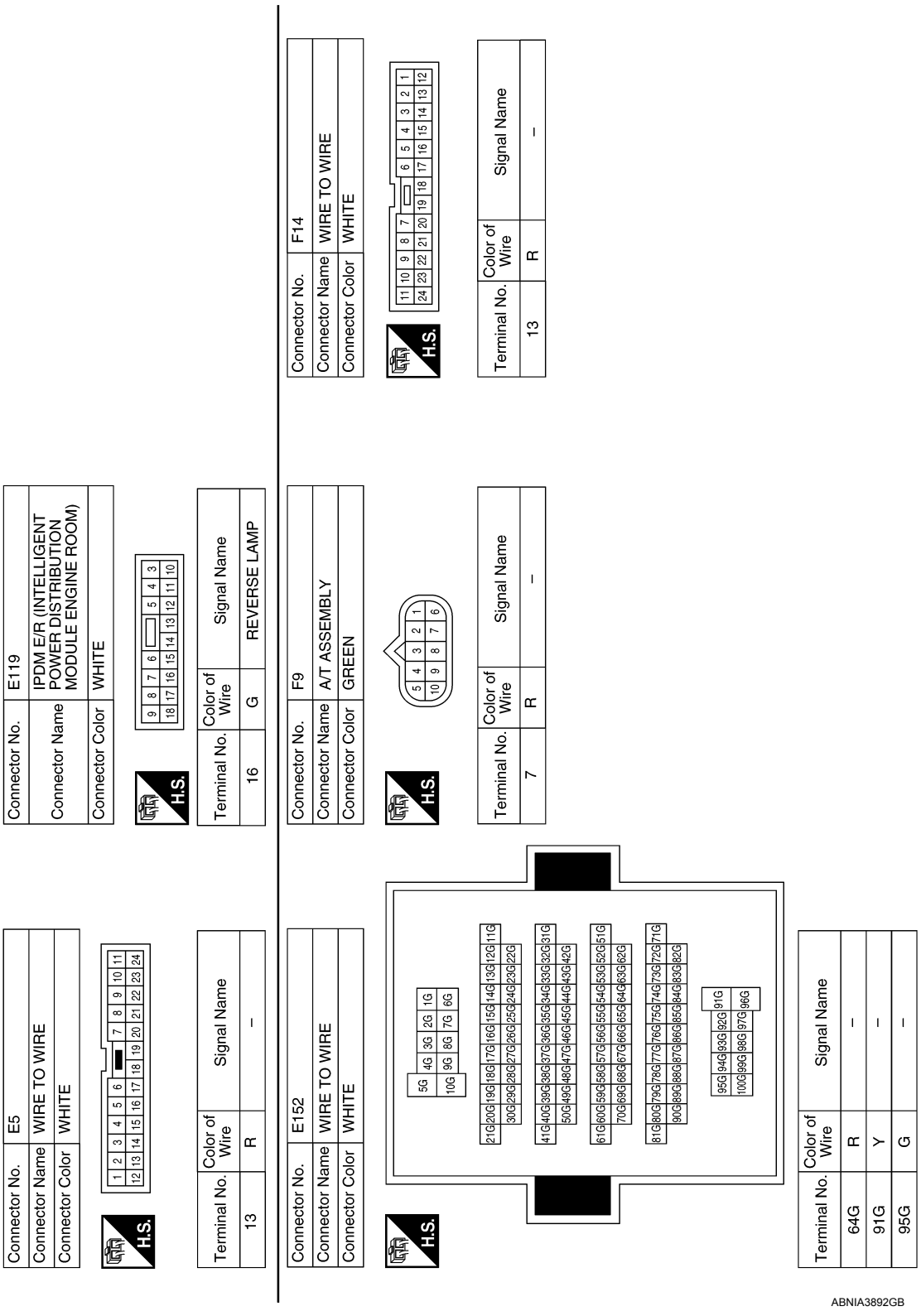
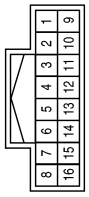

Connector No. E5
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1 2 3 4 5 6 7 8 9 10 11
12 13 14 15 16 17 18 19 20 21 22 23 24
Terminal No. Color of Wire Signal Name
13 R –
Connector No. E119
Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE
H.S.
9 8 7 6 5 4 3
18 17 16 15 14 13 12 11 10
Terminal No. Color of Wire Signal Name
16 G REVERSE LAMP
Connector No. E152
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
5G 4G 3G 2G 1G
10G 9G 8G 7G 6G
21G 20G 19G 18G 17G 16G 15G 14G 13G 12G 11G
30G 29G 28G 27G 26G 25G 24G 23G 22G
41G 40G 39G 38G 37G 36G 35G 34G 33G 32G 31G
50G 49G 48G 47G 46G 45G 44G 43G 42G
61G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G
70G 69G 68G 67G 66G 65G 64G 63G 62G
81G 80G 79G 78G 77G 76G 75G 74G 73G 72G 71G
90G 89G 88G 87G 86G 85G 84G 83G 82G
95G 94G 93G 92G 91G
100G 99G 98G 97G 96G
Terminal No. Color of Wire Signal Name
64G R –
91G Y –
95G G –
Connector No. F9
Connector Name A/T ASSEMBLY
Connector Color GREEN
H.S.
5 4 3 2 1
10 9 8 7 6
Terminal No. Color of Wire Signal Name
7 R –
Connector No. F14
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
11 10 9 8 7 6 5 4 3 2 1
24 23 22 21 20 19 18 17 16 15 14 13 12
Terminal No. Color of Wire Signal Name
13 R –
ABNIA3892GB

Terminal No.	Color of Wire	Signal Name
8	R	–
10	SHIELD	–
11	W	–
12	SHIELD	–
13	G	–
14	R	–
15	B	–
16	L	–

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Color	WHITE

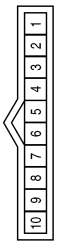
H.S.



Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
3	W	–
4	SHIELD	–
5	G	–
6	R	–
7	G	–

Connector No.	F502
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	GRAY

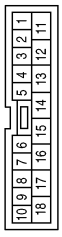
H.S.



Terminal No.	Color of Wire	Signal Name
7	O	REV LAMP RLY

Connector No.	B48
Connector Name	WIRE TO WIRE
Connector Color	WHITE

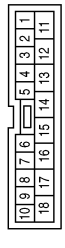
H.S.



Terminal No.	Color of Wire	Signal Name
1	W	–
2	SHIELD	–
3	B	–
4	R	–
11	R	–
12	G	–
14	B	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
14	B/Y	–
15	SB	–

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Connector No.	B72
Connector Name	SUBWOOFER
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	W	–
3	–	–
4	W/G	–
5	B	–
6	R	–

Terminal No.	Color of Wire	Signal Name
1J	B/Y	–
7J	SB	–
24J	W	–
25J	B	–
54J	SHIELD	–
57J	G	–
58J	R	–
59J	W/G	–
62J	B	–
66J	B	–
67J	W	–
69J	R	–
96J	R	–

Connector No.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
4	G	–
5	L	–
6	B	–
7	SHIELD	–
8	W	–
9	R	–
10	G	–
11	R	–
12	G	–

Connector No.	B79
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	SHIELD	–
2	W	–
3	R	–

ABNIA3894GB

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

H.S.

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	G	–
2	P	–
3	B	–
4	R	–
5	W	–
6	B	–
7	L	–
8	G	–

Connector No.	B106
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	–

Terminal No.	Color of Wire	Signal Name
9	R	–
10	W	–
11	SHIELD	–
12	V	–
13	B	–
14	R	–
15	W	–
16	SHIELD	–
17	SHIELD	–
18	B	–
19	G	–
20	R	–
21	G	–
22	R	–
23	W	–
24	SHIELD	–

Connector No.	B125
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
1	SHIELD	–
2	W	–
3	R	–
4	G	–

Connector No.	B139
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	P	–
3	L	–

Terminal No.	Color of Wire	Signal Name
5	L	–
6	B	–
7	SHIELD	–
8	W	–
9	R	–
10	G	–
11	R	–
12	G	–

ABNIA3895GB

Connector No.	B141
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE

H.S.

35	37	39	41
36	38	40	42

Terminal No.	Color of Wire	Signal Name
35	W/L	M-CAN1-H
36	Y/L	M-CAN1-L
37	–	–
38	–	–
39	–	–
40	–	–
41	–	–
42	–	–

Connector No.	B142
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE

H.S.

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	Y	BATT
2	V	ACC
3	G/R	IGN
4	B/W	GND
5	–	–
6	SHIELD	MIC SHIELD
7	B	MIC IN+
8	R/L	MIC IN-

Terminal No.	Color of Wire	Signal Name
9	G	AUDIO OUT+
10	R	AUDIO OUT-
11	–	–
12	–	–
13	–	–
14	–	–
15	–	–
16	–	–
17	–	–
18	–	–
19	–	–
20	B	CONT 1

Terminal No.	Color of Wire	Signal Name
21	–	–
22	–	–
23	B	CONT 4
24	–	–
25	–	–
26	–	–
27	–	–
28	W/R	SPEED SIGNAL
29	R/W	MIC POWER
30	–	–
31	–	–
32	–	–

AANIA2379GB

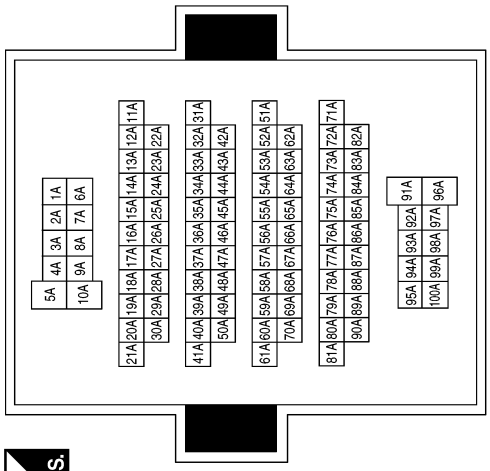
Connector No.	B143
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
33	B	–
34	B	–

Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
3A	O/L	–
4A	R/L	–
18A	W/L	–
23A	W/L	–
24A	P/B	–
28A	P/B	–
41A	SHIELD	–
42A	SHIELD	–
43A	R	–
44A	G	–
45A	L	–
46A	Y	–
47A	V	–
48A	R/W	–
49A	R/L	–

Terminal No.	Color of Wire	Signal Name
50A	B	–
51A	SHIELD	–
52A	B	–
53A	R	–
54A	W	–
57A	P	–
60A	W/R	–
61A	G/R	–
64A	V	–
65A	G	–
66A	P	–
67A	W	–
68A	R	–
69A	B	–
70A	SHIELD	–

ABNIA3897GB

Connector No.	B218
Connector Name	HEADREST DISPLAY UNIT (DRIVER SEAT)
Connector Color	

H.S.

Terminal No.	Color of Wire	Signal Name
8		
10		
11		
12		
13		
14		
15		
16		

Connector No.	B305
Connector Name	HEADREST DISPLAY UNIT (PASSENGER SEAT) (PRE-WIRE)
Connector Color	

H.S.

Terminal No.	Color of Wire	Signal Name
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		

Connector No.	B217
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2		
3		
4		
5		
6		
7		

Connector No.	B304
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
1		
2		
3		
4		
5		
6		
7		
8		
9		

AANIA2380GB

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	R/W	– (WITHOUT NAVI)
5	R/L	–
6	SHIELD	–
12	B	–

Connector No.	R9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

3		2	1
8	7	6	5	4

Terminal No.	Color of Wire	Signal Name
1	R/L	– (WITHOUT NAVI)
2	R/W	– (WITHOUT NAVI)
4	B	–

Connector No.	R107
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2		3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	R/L	–
2	R/W	–
4	B	–

Connector No.	R109
Connector Name	MICROPHONE
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	B	– (WITHOUT NAVI)
2	R/L	– (WITHOUT NAVI)
4	R/W	–

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

Connector No.	D12
Connector Name	FRONT DOOR SPEAKER LH
Connector Color	WHITE

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	L/W	–
2	L/R	–

ABNIA3899GB

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

H.S.

1	2		3	4
5	6	7	8	9	10

Terminal No.	Color of Wire	Signal Name
2	L/B	–
5	W/B	–

Connector No.	D112
Connector Name	FRONT DOOR SPEAKER RH
Connector Color	WHITE

H.S.

2	1

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

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	B/Y	–
15	SB	–

Connector No.	D207
Connector Name	REAR DOOR SPEAKER LH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	B/Y	–

Connector No.	D208
Connector Name	REAR DOOR TWEETER LH
Connector Color	BROWN

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	B/Y	–

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

H.S.

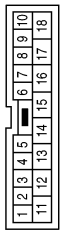
1	2	3	4	5		6	7	8	9	10
11	12	13	14	15	16	17	18			

Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	–

ABNIA3900GB

Connector No.	D401
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	W	–
2	SHIELD	–
3	B	–
4	R	–
11	R	–
12	G	–
14	B	–

Connector No.	D308
Connector Name	REAR DOOR TWEETER RH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	O/L	–
2	R/L	–

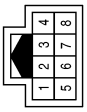
Connector No.	D307
Connector Name	REAR DOOR SPEAKER RH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	O/L	–
2	R/L	–

Connector No.	D504
Connector Name	REAR VIEW CAMERA
Connector Color	WHITE

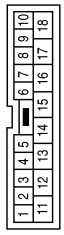
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	R	–
3	SHIELD	–
4	–	–
5	B	–
6	W	–
7	–	–
8	–	–

Connector No.	D501
Connector Name	WIRE TO WIRE
Connector Color	WHITE

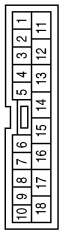
H.S.



Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	B	–
4	R	–
11	R	–
12	G	–
13	SHIELD	–

Connector No.	D405
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	B	–
4	R	–
11	R	–
12	G	–
13	SHIELD	–

ABNIA3901GB

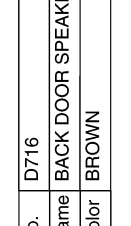
Connector No.	D606
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–

Connector No.	D602
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2	P	–
3	L	–

Connector No.	D716
Connector Name	BACK DOOR SPEAKER RH
Connector Color	BROWN

H.S.

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

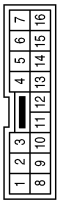
Connector No.	D518
Connector Name	BACK DOOR SPEAKER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	–

Connector No.	D701
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–

ABNIA3902GB

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:0000000009820956

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	AV control unit	Malfunction in AV control unit. Refer to AV-136, "AV CONTROL UNIT : Diagnosis Description".

Symptoms	Check items	Probable malfunction location
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-227, "Wiring Diagram". • Bose amp. ON signal circuit malfunction. Refer to AV-194, "Diagnosis Procedure". • Bose speaker amp. power supply and ground circuits malfunction. Refer to AV-160, "BOSE SPEAKER AMP : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, center speaker, rear door speaker LH, rear door speaker RH, rear door tweeter LH, rear door tweeter RH, back door speaker LH, back door speaker RH, subwoofer) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and Bose speaker amp. Refer to: - AV-173, "Diagnosis Procedure" (front door speaker). - AV-176, "Diagnosis Procedure" (front tweeter). - AV-179, "Diagnosis Procedure" (center speaker). - AV-182, "Diagnosis Procedure" (rear door speaker). - AV-185, "Diagnosis Procedure" (rear door tweeter). - AV-188, "Diagnosis Procedure" (back door speaker). - AV-191, "Diagnosis Procedure" (subwoofer). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: - AV-173, "Diagnosis Procedure" (front door speaker). - AV-176, "Diagnosis Procedure" (front tweeter). - AV-179, "Diagnosis Procedure" (center speaker). - AV-182, "Diagnosis Procedure" (rear door speaker). - AV-185, "Diagnosis Procedure" (rear door tweeter). - AV-188, "Diagnosis Procedure" (back door speaker). - AV-191, "Diagnosis Procedure" (subwoofer). • Malfunction in speaker. Refer to: - AV-273, "Removal and Installation" (front door speaker). - AV-271, "Removal and Installation" (front tweeter). - AV-272, "Removal and Installation" (center speaker). - AV-274, "Removal and Installation" (rear door speaker). - AV-274, "Removal and Installation" (rear door tweeter). - AV-275, "Removal and Installation" (back door speaker). - AV-276, "Removal and Installation" (subwoofer). • Malfunction in AV control unit. Refer to AV-136, "AV CONTROL UNIT : Diagnosis Description". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-278, "Removal and Installation".

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	• Malfunction in AV control unit. Refer to AV-136, "AV CONTROL UNIT : Diagnosis Description". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-278, "Removal and Installation".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, center speaker, rear door speaker LH, rear door speaker RH, rear door tweeter LH, rear door tweeter RH, back door speaker LH, back door speaker RH, subwoofer).	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and Bose speaker amp. Refer to: - AV-173, "Diagnosis Procedure" (front door speaker). - AV-176, "Diagnosis Procedure" (front tweeter). - AV-179, "Diagnosis Procedure" (center speaker). - AV-182, "Diagnosis Procedure" (rear door speaker). - AV-185, "Diagnosis Procedure" (rear door tweeter). - AV-188, "Diagnosis Procedure" (back door speaker). - AV-191, "Diagnosis Procedure" (subwoofer). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: - AV-173, "Diagnosis Procedure" (front door speaker). - AV-176, "Diagnosis Procedure" (front tweeter). - AV-179, "Diagnosis Procedure" (center speaker). - AV-182, "Diagnosis Procedure" (rear door speaker). - AV-185, "Diagnosis Procedure" (rear door tweeter). - AV-188, "Diagnosis Procedure" (back door speaker). - AV-191, "Diagnosis Procedure" (subwoofer). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-273, "Removal and Installation" (front door speaker). - AV-271, "Removal and Installation" (front tweeter). - AV-272, "Removal and Installation" (center speaker). - AV-274, "Removal and Installation" (rear door speaker). - AV-274, "Removal and Installation" (rear door tweeter). - AV-275, "Removal and Installation" (back door speaker). - AV-276, "Removal and Installation" (subwoofer). • Malfunction in AV control unit. Refer to AV-136, "AV CONTROL UNIT : Diagnosis Description". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-278, "Removal and Installation".
	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. Refer to AV-279, "Location of Antennas".

Symptoms	Check items	Probable malfunction location
No radio reception or poor reception.	• Other audio sounds are normal. • 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).	• Antenna amp. ON signal circuit malfunction. Refer to AV-209, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-279, "Location of Antennas".
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result. Refer to AV-143, "AV CONTROL UNIT : CONSULT Function".	• Malfunction in antenna, antenna feeder, satellite radio tuner or AV control unit. Perform DTC diagnosis. Refer to AV-143, "AV CONTROL UNIT : CONSULT Function". • Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. Refer to AV-279, "Location of Antennas".
	There is no malfunction in the CONSULT self diagnosis result. Refer to AV-143, "AV CONTROL UNIT : CONSULT Function".	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-279, "Location of Antennas".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

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

a. Using the website's search engine, find out if the customer's phone is on the approved list.

b. If the customer's phone is NOT on the approved list:

   Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.

c. If the feature related to the customer's concern shows as "N" (not compatible):
   Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".

d. If the feature related to the customer's concern shows as "Y" (compatible):
   Perform diagnosis as per the following table.

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 Bluetooth® control unit. Replace Bluetooth® control unit. Refer to AV-287, "Removal and Installation".
Hands-free phone cannot be established.	• Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.	
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-202, "Diagnosis Procedure".
The system cannot be operated.	• The voice recognition can be controlled. • Steering switch's VOL+ , VOL− , and ☎ switch works, but 🎤 does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-277, "Removal and Installation".
	Steering switch's 🎤 , VOL+ , VOL− , and ☎ switches do not work.	Steering switch signal circuit malfunction. Refer to AV-195, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-195, "Diagnosis Procedure".

NORMAL OPERATING CONDITION

Description

INFOID:0000000009820957

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, ignition switch turned to each position, and operation of each piece of electrical equipment, and determine the cause.

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

Type of Noise and Possible Cause

Occurrence condition		Possible cause
Occurs only when engine is ON.	A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed.	• Ignition components
The occurrence of the noise is linked with the operation of the fuel pump.		• Fuel pump condenser
Noise only occurs when various electrical components are operating.	A cracking or snapping sound occurs with the operation of various switches.	• Relay malfunction, audio unit malfunction
	The noise occurs when various motors are operating.	• Motor case ground • Motor
The noise occurs constantly, not just under certain conditions.		• Rear defogger coil malfunction • Open circuit in printed heater • Poor ground of antenna feeder line
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		• Ground wire of body parts • Ground due to improper part installation • Wiring connections or a short circuit

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” in AV-257, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • The vehicle is outside of the telephone service area. • 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. • The cellular phone is locked to prevent it from being dialed. **NOTE:** 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.

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

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010159181

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

WARNING:

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

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

WARNING:

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

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000009820959

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the ″LOCK″ position.
- Always use CONSULT to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.
For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.
If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both battery cables.
   NOTE:
   Supply power using jumper cables if battery is discharged.
2. Use the Intelligent Key or mechanical key to turn the ignition switch to the ″ACC″ position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.

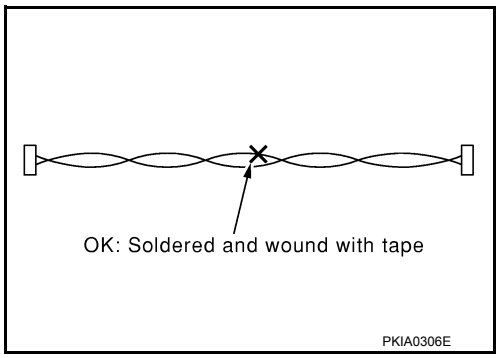
5. When the repair work is completed, return the ignition switch to the ″LOCK″ position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT.

Precaution for Harness Repair

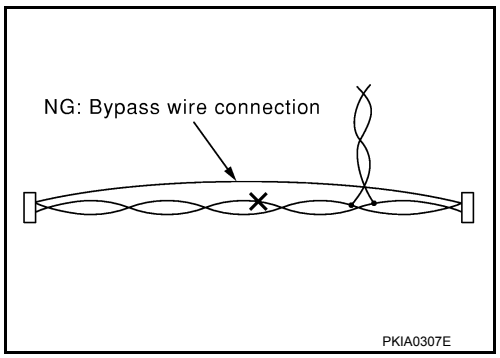
INFOID:0000000010159275

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 Work

INFOID:0000000009820960

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

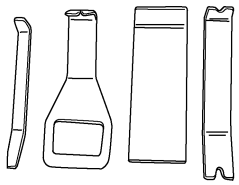
PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000010159190

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

Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

Commercial Service Tools

INFOID:0000000009820962

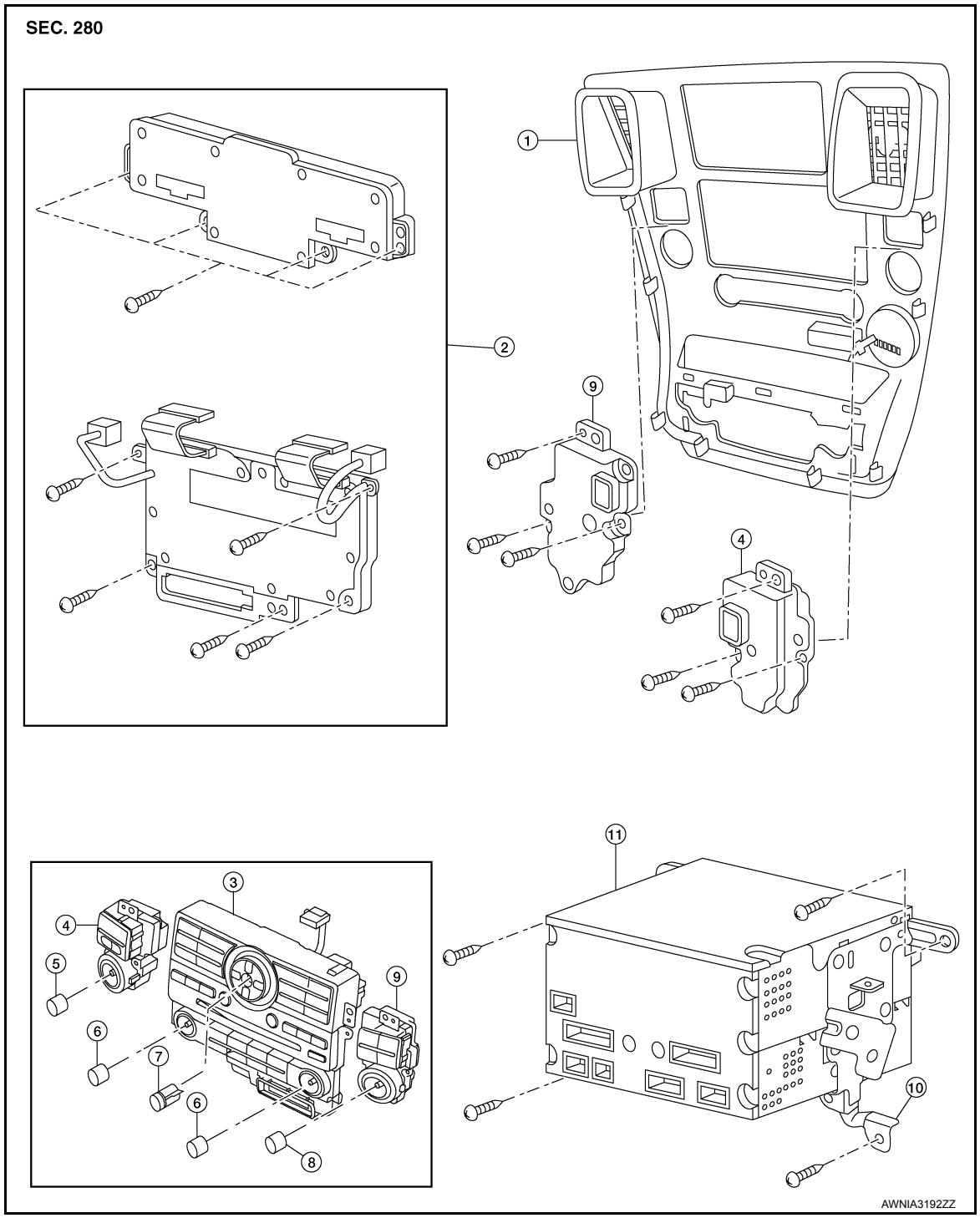
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Removal and Installation

INFOID:0000000010159194



1. Cluster lid C
2. A/C and AV switch assembly (rear view)
3. A/C and AV switch assembly (front view)
4. Volume knob switch
5. Volume knob
6. Temp knobs (LH/RH)
7. Enter button
8. Tuner knob
9. Tuner knob switch
10. AV control unit bracket
11. AV control unit

REMOVAL

CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to AV-123, "CONFIGURATION (AV CONTROL UNIT) : Description".

1. Remove cluster lid C. Refer to IP-15, "Removal and Installation".
2. Remove the AV control unit screws.
3. Remove the AV control unit.
4. Remove the A/C and AV switch assembly from cluster lid C (if necessary).
   CAUTION:
   Only remove and replace the A/C or AV switch assembly knobs if damaged or missing. The knobs must not be removed from switches when removing and installing the A/C or AV switch assembly to prevent damage to the switch assembly.

INSTALLATION

CAUTION:

- **When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to AV-123, "CONFIGURATION (AV CONTROL UNIT) : Description".**

Installation is in the reverse order of removal.

AV AND A/C SWITCH ASSEMBLY

Removal and Installation

INFOID:0000000009820964

CAUTION:
Only remove and replace the A/C or AV switch assembly knobs if damaged or missing. The knobs must not be removed from switches when removing and installing the A/C or AV switch assembly to prevent damage to the switch assembly.

REMOVAL

1. Remove the cluster lid C. Refer to IP-15, "Removal and Installation".
2. Remove the A/C and AV switch assembly from cluster lid C.

INSTALLATION

Installation is in the reverse order of removal.

DISPLAY UNIT

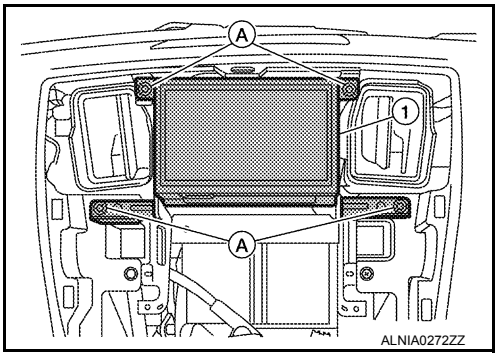
Removal and Installation

INFOID:0000000009820965

REMOVAL

1. Remove cluster lid C. Refer to IP-15, "Removal and Installation".
2. Remove the display unit.

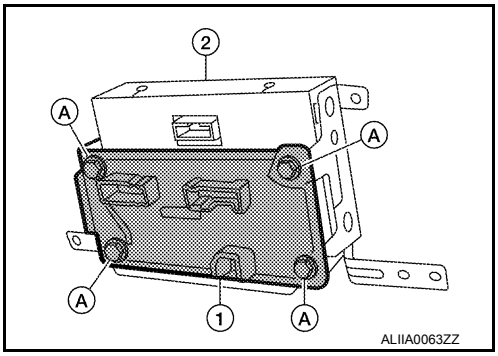
a. Remove the display unit screws (A).
b. Pull the display unit (1) from the instrument panel.
c. Disconnect the harness connectors from the display unit.



3. Remove the A/C auto amp screws (A).

a. Separate the A/C auto amp (1) from the display unit (2).

4. Remove the display unit bracket screws and the display unit brackets.



INSTALLATION

Installation is in the reverse order of removal.

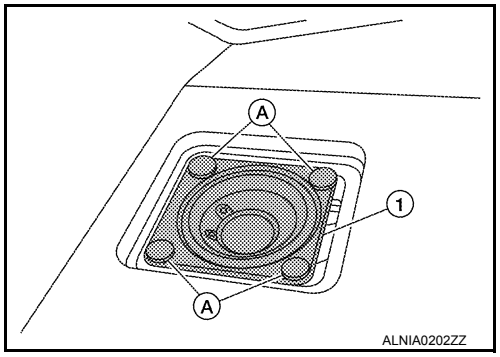
FRONT TWEETER

Removal and Installation

INFOID:0000000009820966

REMOVAL

1. Remove front tweeter speaker grille, using a suitable tool.
2. Remove the front tweeter clips (A).
3. Disconnect the harness connector from the front tweeter (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

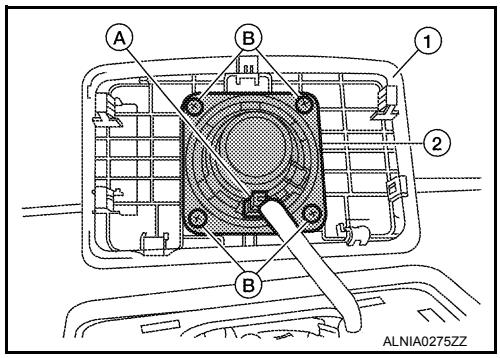
CENTER SPEAKER

Removal and Installation

INFOID:0000000009820967

REMOVAL

1. Remove the center speaker grille finisher (1), using a suitable tool.
2. Disconnect the harness connector (A) from the center speaker.
3. Remove the center speaker screws (B).
4. Remove the center speaker (2).



INSTALLATION

Installation is in the reverse order of removal.

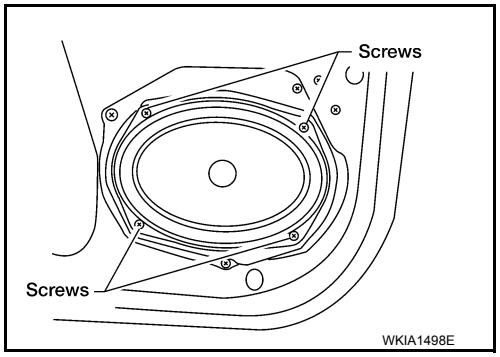
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000009820968

REMOVAL

1. Remove the front door finisher. Refer to INT-15, "Removal and Installation".
2. Remove the front door speaker screws.
3. Disconnect the harness connector from the front door speaker.
4. Remove the front door speaker.



INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

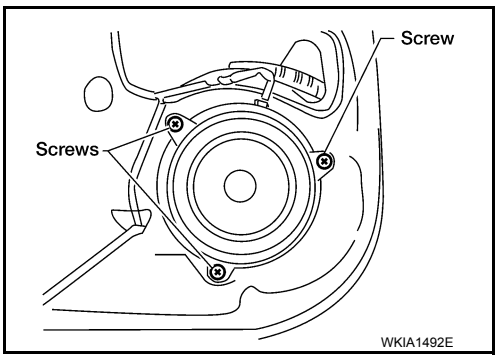
Removal and Installation

INFOID:0000000009820969

REAR DOOR SPEAKER

Removal

1. Remove the rear door finisher. Refer to INT-15, "Removal and Installation".
2. Remove the rear door speaker screws.
3. Disconnect the harness connector from the rear door speaker.
4. Remove the rear door speaker.



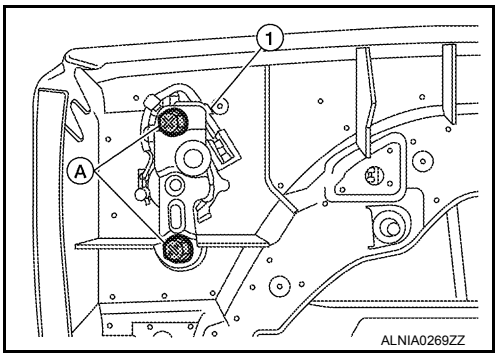
Installation

Installation is in the reverse order of removal.

REAR DOOR TWEETER

Removal

1. Remove the rear door finisher. Refer to INT-15, "Removal and Installation".
2. Remove the rear door tweeter screws (A).
3. Remove the rear door tweeter (1).



Installation

Installation is in the reverse order of removal.

BACK DOOR SPEAKER

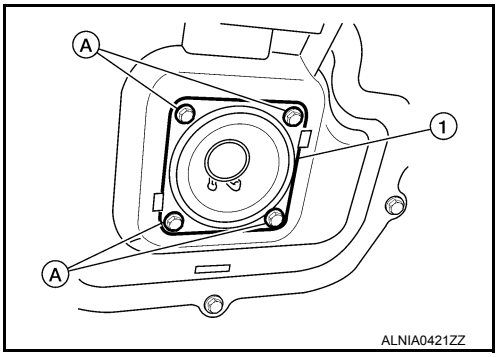
Removal and Installation

INFOID:0000000009820970

REMOVAL

1. Remove the back door lower finisher. Refer to INT-26, "Removal and Installation".
2. Remove the back door speaker (1).

a. Remove the back door speaker screws (A).
b. Pull out the back door speaker from the door.
c. Disconnect the harness connector from the back door speaker.



INSTALLATION

Installation is in the reverse order of removal.

WOOFER

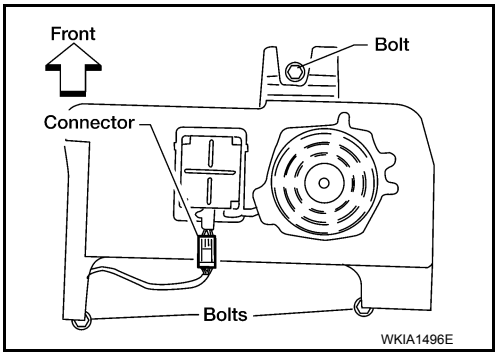
Removal and Installation

INFOID:0000000009820971

SUBWOOFER (BOSE SYSTEM)

Removal

1. Remove the front seat assembly (LH). Refer to SE-63, "Removal and Installation - Front Seat Assembly".
2. Disconnect the harness connector from the subwoofer.
3. Remove the subwoofer bolts.
4. Remove the subwoofer.



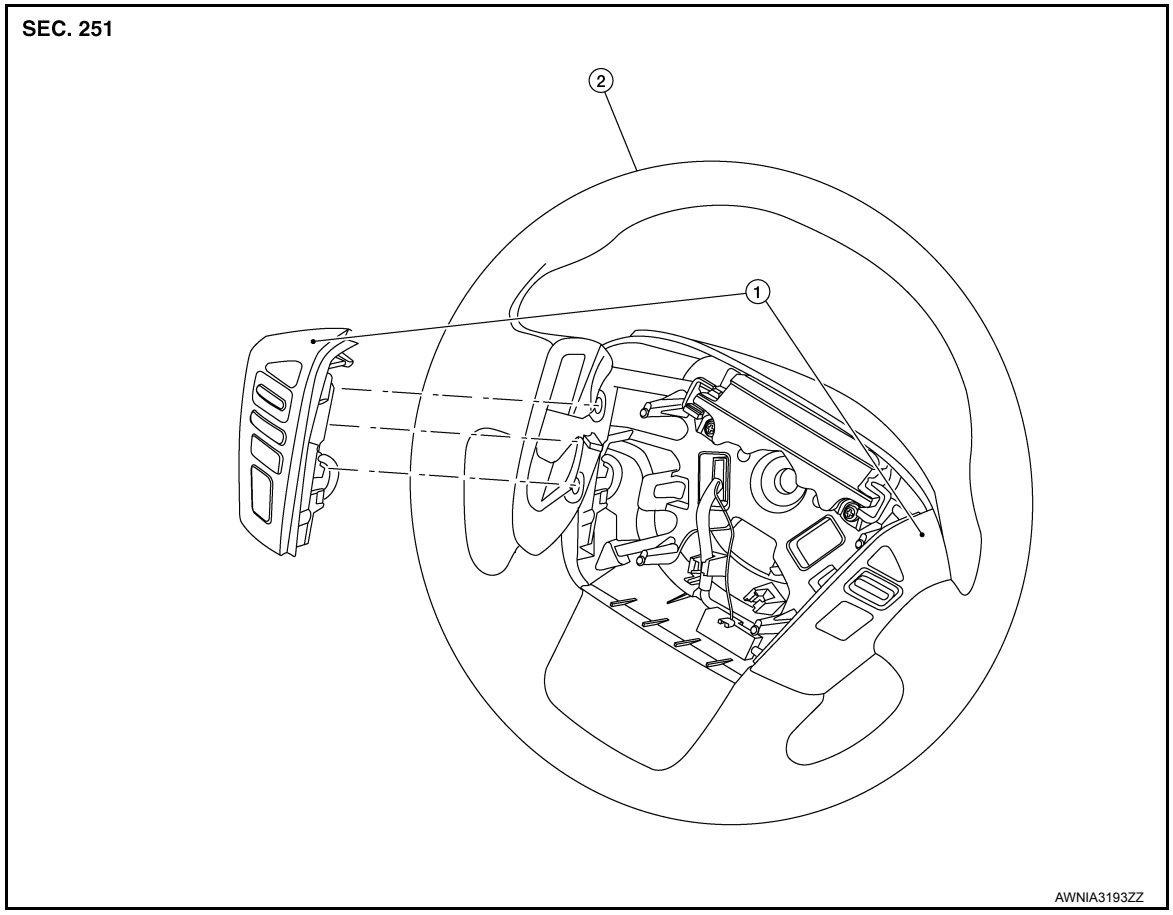
Installation

Installation is in the reverse order of removal.

STEERING SWITCH

Removal and Installation

INFOID:0000000010159234



1. Steering wheel audio control switches 2. Steering wheel

REMOVAL

1. Remove the steering wheel. Refer to ST-28, "Removal and Installation".
2. Remove the steering wheel rear cover.
3. Pull the steering wheel audio control switches out of the steering wheel and disconnect the harness connector from the steering while audio control switches.
4. Remove the steering wheel audio control switch finisher screws and the steering wheel audio control switches finisher.

INSTALLATION

Installation is in the reverse order of removal.

BOSE AMP.

Removal and Installation

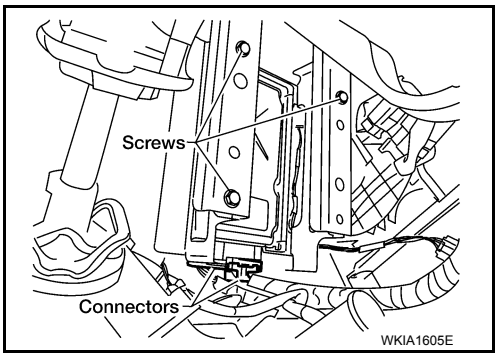
INFOID:0000000009820973

REMOVAL

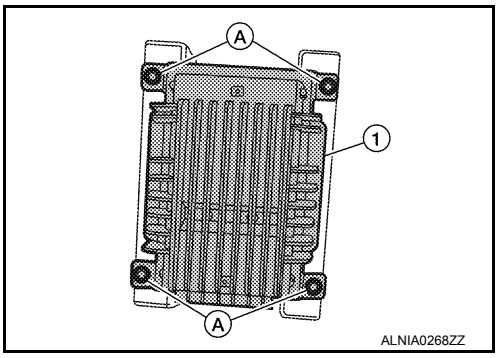
1. Remove the accelerator pedal. Refer to AP-14, "Removal and Installation".
2. Remove the BCM. Refer to BCS-54, "Removal and Installation".
3. Remove the BOSE amp.

a. Disconnect the harness connectors from the BOSE amp.

b. Remove the BOSE amp bracket screws and slide the BOSE amp and bracket assembly down.



4. Remove the BOSE amp. screws (A) and separate the BOSE amp. (1) from the bracket.



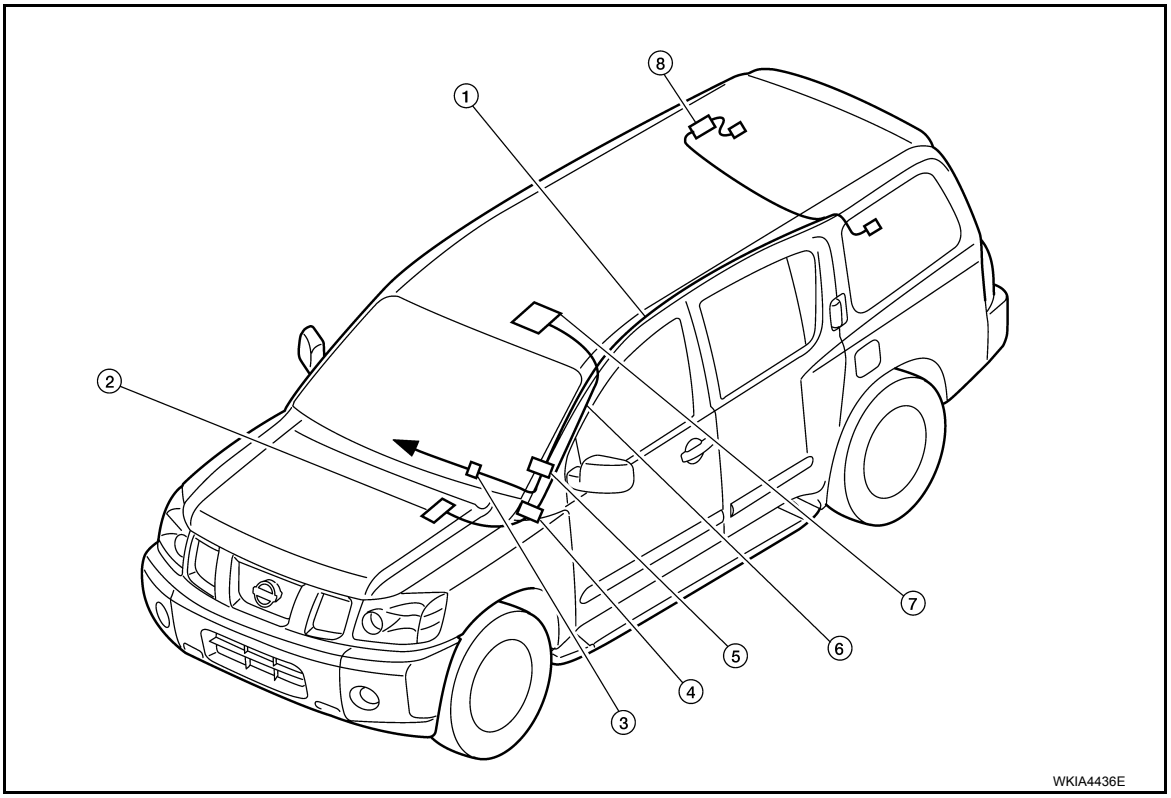
INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antennas

INFOID:0000000009820974



1. Antenna Feeder
2. Satellite radio tuner M129
3. M78, M550
4. M68, M350
5. M551, M601
6. Satellite antenna feeder
7. Satellite antenna (if equipped, factory installed) M351
8. Antenna amp M602

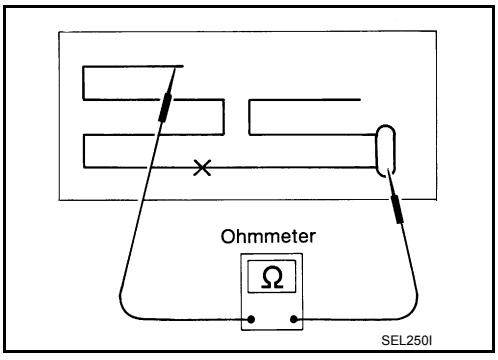
⬅ To AV control unit

Window Antenna Repair

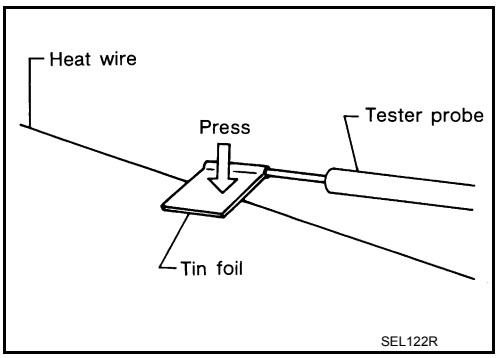
INFOID:0000000009820975

ELEMENT CHECK

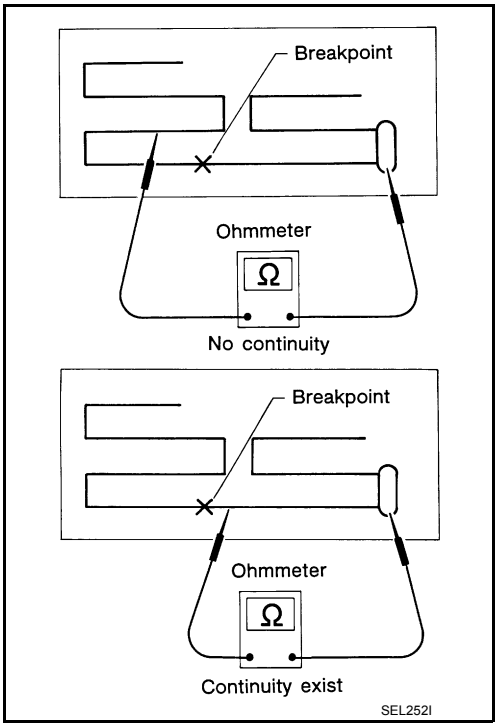
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



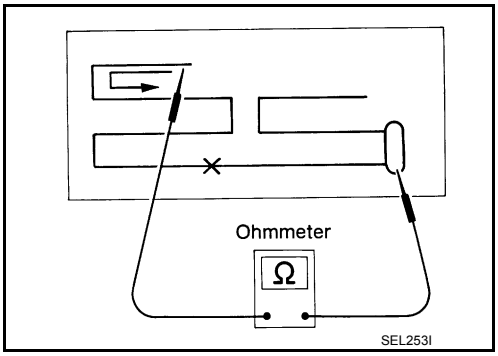
- **When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.**



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



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



ELEMENT REPAIR

Refer to DEF-52, "Inspection and Repair".

FRONT AUXILIARY INPUT JACKS

Removal and Installation

INFOID:0000000010159242

Removal

1. Remove the front center console bin. Refer to IP-20, "Exploded View".
2. Remove the front auxiliary input jack.

Installation

Installation is in the reverse order of removal.

USB CONNECTOR

Removal and Installation

INFOID:0000000009820977

REMOVAL

1. Remove the console bin. Refer to IP-20, "Exploded View".
2. Release the USB connector from the console bin.
3. Disconnect the harness connector from the USB connector and remove.

INSTALLATION

Installation is in the reverse order of removal.

ANTENNA AMP.

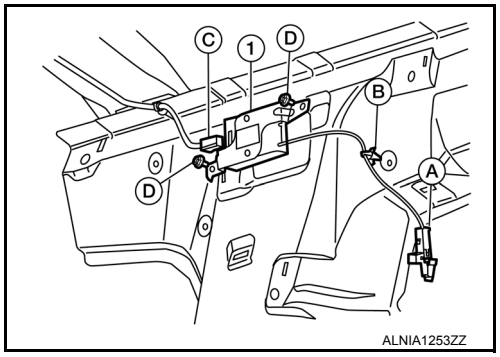
Removal and Installation

INFOID:0000000009820978

REMOVAL

1. Remove the headlining. Refer to INT-21, "Removal and Installation".
2. Remove the antenna amp. (1).

a. Disconnect the harness connector (A) from the antenna amp.
b. Release the antenna amp. harness clip (B).
c. Disconnect the harness connector (C) from the antenna feeder.
d. Remove the antenna amp. screws (D).



INSTALLATION

Installation is in the reverse order of removal.

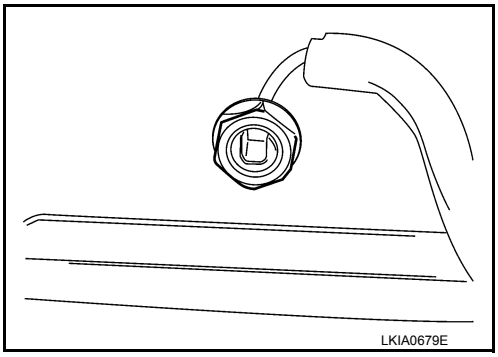
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:0000000009820979

REMOVAL

1. Lower the front of the headlining. Refer to INT-21, "Removal and Installation".
2. Disconnect the harness connector from the satellite radio antenna.
3. Remove the satellite radio antenna nut.
4. Remove the satellite radio antenna.



INSTALLATION

Installation is in the reverse order of removal.

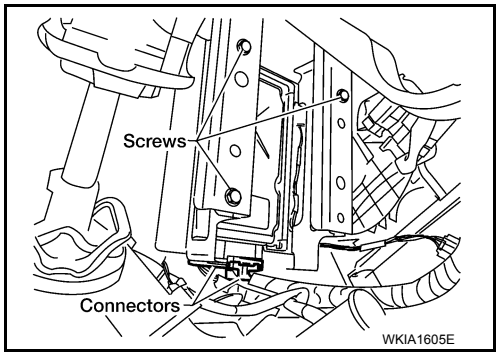
SATELLITE RADIO TUNER

Removal and Installation

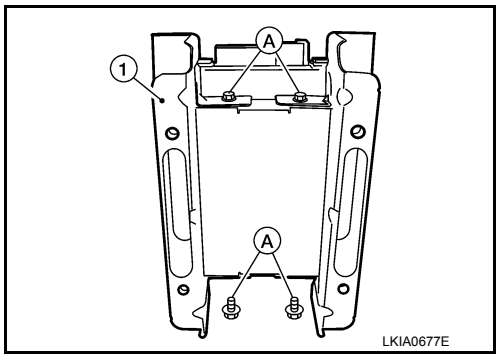
INFOID:0000000009820980

REMOVAL

1. Remove the accelerator pedal. Refer to ACC-4, "Removal and Installation".
2. Remove the BCM. Refer to BCS-54, "Removal and Installation".
3. Remove the BOSE amp. Refer to AV-278, "Removal and Installation".
4. Remove the satellite radio tuner.
   a. Disconnect the harness connectors from the satellite radio tuner.
   b. Remove the satellite radio tuner bracket screws.
   c. Slide the satellite radio tuner bracket down.



5. Remove the satellite radio tuner screws (A), then separate the satellite radio tuner from satellite radio tuner bracket (1).



INSTALLATION

Installation is in the reverse order of removal.

MICROPHONE

Removal and Installation

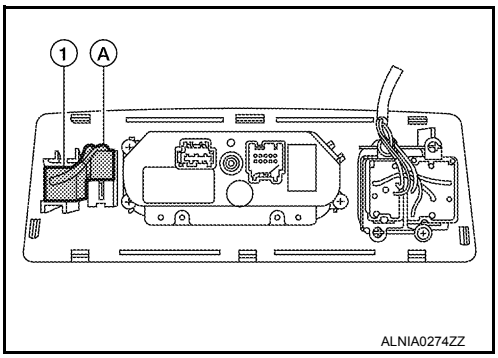
INFOID:0000000009820981

REMOVAL

1. Remove the front roof console finisher. Refer to INT-21, "Removal and Installation".
2. Remove the Bluetooth microphone (1).

a. Disconnect the harness connector (A) from the Bluetooth microphone.

b. Release the Bluetooth microphone (1) from the front roof console finisher and remove.



INSTALLATION

Installation is in the reverse order of removal.

BLUETOOTH CONTROL UNIT

Removal and Installation

INFOID:0000000009820982

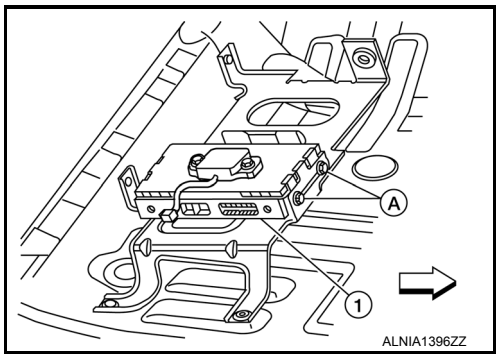
REMOVAL

1. Disconnect the negative battery terminal. Refer to PG-77, "Removal and Installation".
2. Slide the front seat (RH) forward.
3. Remove the Bluetooth control unit kick shield screws and the Bluetooth control unit kick shield.
4. Remove the Bluetooth control unit (1).

a. Remove the Bluetooth control unit screws (A)

b. Disconnect the harness connectors from the Bluetooth control unit.

⇦: Front



INSTALLATION

Installation is in the reverse order of removal.

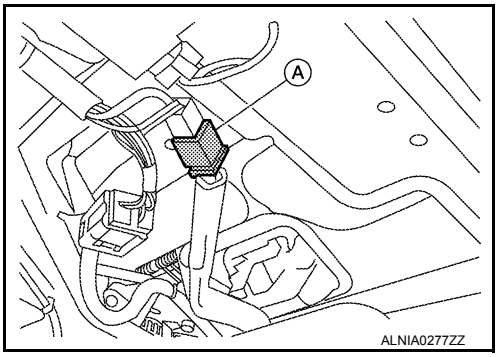
REAR VIEW CAMERA

Removal and Installation

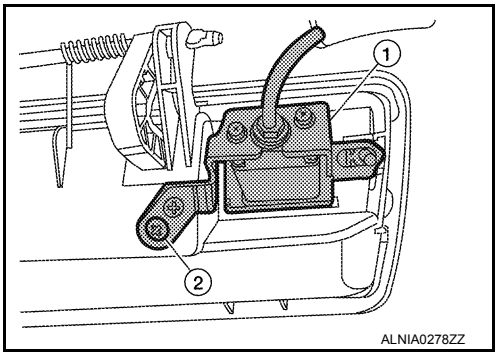
INFOID:0000000009820983

REMOVAL

1. Remove the back door lower finisher. Refer to INT-26, "Removal and Installation".
2. Disconnect the harness connector (A) from the rear view camera.
3. Remove the back door handle. Refer to DLK-399, "Door Lock Assembly".



4. Remove the rear view camera screw (2) and the rear view camera (1).



INSTALLATION

Installation is in the reverse order of removal.

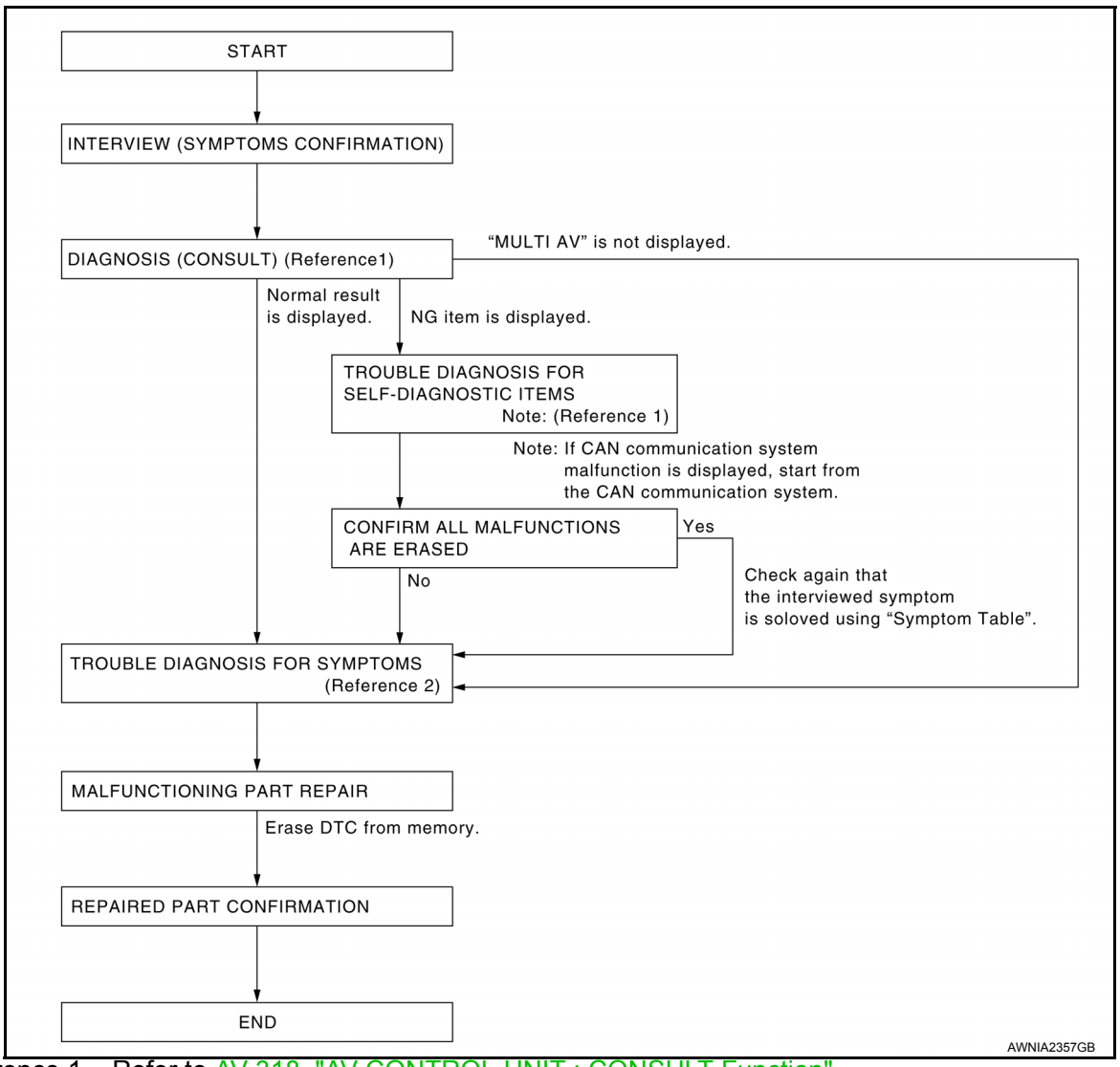
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000009820984

OVERALL SEQUENCE



- Reference 1··· Refer to AV-318, "AV CONTROL UNIT : CONSULT Function".
- Reference 2··· Refer to AV-429, "Symptom Table".

DETAILED FLOW

1.CHECK SYMPTOM

Check the malfunction symptoms by performing the following items.
- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

>> GO TO 2.

2.SELF-DIAGNOSIS (CONSULT)

1. Connect CONSULT and perform "SELF-DIAGNOSIS" for "MULTI AV".
   NOTE:
   Skip to step 4 of the diagnosis procedure if "MULTI AV" is not displayed.
2. Check if any DTC No. is displayed in the self-diagnosis results.

Is any DTC No. displayed?

YES >> GO TO 3.
NO >> GO TO 4.

3. CHECK SELF-DIAGNOSIS RESULTS (CONSULT)

1. Check the DTC No. indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC No. list. Refer to AV-394, "DTC Index".

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

>> GO TO 5.

4. PERFORM DIAGNOSIS BY SYMPTOM

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-429, "Symptom Table".

>> GO TO 5.

5. REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace the identified malfunctioning parts.

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

>> GO TO 6.

6. CHECK AFTER REPAIR

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

Is any DTC No. displayed?

YES >> GO TO 3.
NO >> GO TO 7.

7. FINAL CHECK

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

Are any symptoms present?

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

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:0000000009820985

BEFORE REPLACEMENT

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

NOTE:

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing AV control unit.

AFTER REPLACEMENT

CAUTION:

When replacing AV control unit, you must perform “After Replace ECU” with CONSULT.

- **Complete the procedure of “After Replace ECU” in order.**
- **If you set incorrect “After Replace ECU”, 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:0000000009820986

1. SAVING VEHICLE SPECIFICATION

-CONSULT

Enter “Re/Programming, Configuration” and perform “Before Replace ECU” to save or print current vehicle specification.

NOTE:

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing AV control unit.

>> GO TO 2.

2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to AV-448, "Removal and Installation".

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

CONSULT

1. Enter "Re/Programming, Configuration".
2. If “Before Replace ECU” operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press “Confirm” to write vehicle specification. Refer to AV-292, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".
3. If “Before Replace ECU” operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to AV-292, "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) are normal.

>> Work End.

CONFIGURATION (AV CONTROL UNIT)

CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:0000000009820987

Vehicle specification needs to be written with CONSULT because it is not written after replacing AV control unit.
Configuration has three functions as follows:

Function	Description
"Before Replace ECU"	• Reads the vehicle configuration of current AV control unit. • Saves the read vehicle configuration.
"After Replace ECU"	Writes the vehicle configuration with manual selection.
"Select Saved Data List"	Writes the vehicle configuration with saved data.

CAUTION:
- **When replacing AV control unit, you must perform “Select Saved Data List” or "After Replace ECU" with CONSULT.**
- **Complete the procedure of “Select Saved Data List” or "After Replace ECU" in order.**
- **If you set incorrect “Select Saved Data List” or "After Replace ECU", incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **Never perform “Select Saved Data List” or "After Replace ECU" except for new AV control unit.**

CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:0000000009820988

1.WRITING MODE SELECTION

CONSULT
Select “Reprogramming, Configuration” of AV control unit.

When writing saved data>>GO TO 2.
When writing manually>>GO TO 3.

2.PERFORM “SAVED DATA LIST”

CONSULT
Automatically “Operation Log Selection” window will display if “Before Replace ECU” was performed. Select applicable file from the “Save Data List” and press “Confirm”.

>> Work End.

3.PERFORM “AFTER REPLACE ECU” OR “MANUAL CONFIGURATION”

CONSULT
1. Select “After Replace ECU” or “Manual Configuration”.
2. Identify the correct model and configuration list. Refer to AV-293, "CONFIGURATION (AV CONTROL UNIT) : Configuration List".
3. Confirm and/or change setting value for each item.
   CAUTION:
   Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.
4. Select “Next”.
   CAUTION:
   Make sure to select “Next”, confirm each setting value and press “OK” even if the indicated configuration of brand new AV control unit is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model can not be memorized.
5. When "Completed", select "End".

>> GO TO 4.

4.OPERATION CHECK

Confirm that each function controlled by AV control unit operates normally.

>> Work End.

CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:0000000009820989

CAUTION:
Thoroughly read and understand the vehicle specification. Incorrect settings may result in abnormal control of ECU.

MANUAL SETTING ITEM	
Items	Setting value
SOUND SYSTEM	BASE ⇔ BOSE
GRADE	MODE 1 ⇔ MODE 2⇔ MODE 3
CAMERA SYSTEM	NONE/AVM ⇔ REAR CAMERA

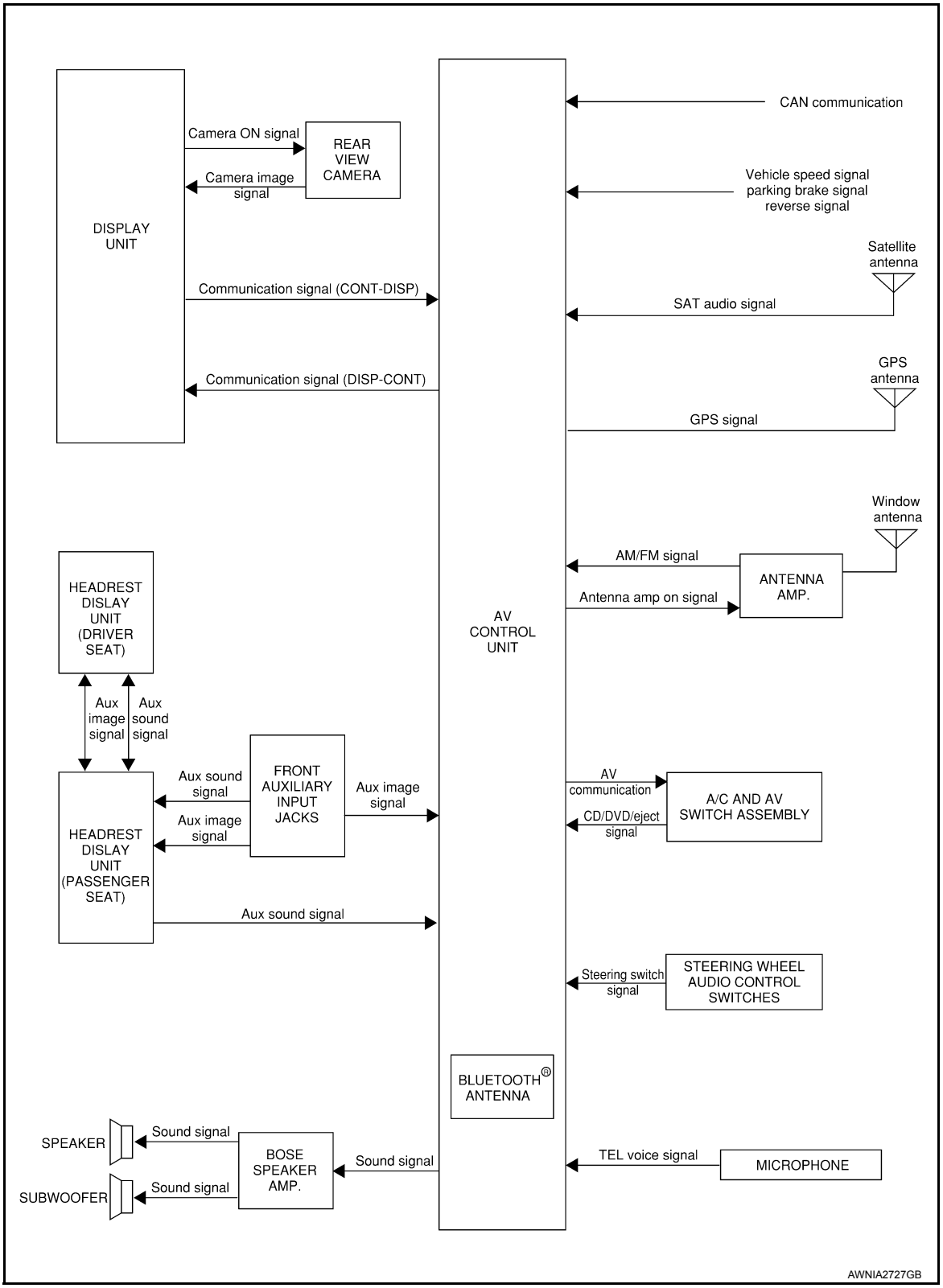
⇔: Items which confirm vehicle specifications

SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram

INFOID:0000000009820990



System Description

INFOID:0000000009820991

AUDIO SYSTEM

The audio system consists of the following components
- AV control unit
- Display unit
- BOSE speaker amp.
- Window antenna
- Steering wheel audio control switches
- A/C and AV switch assembly
- Front door speakers
- Front tweeters
- Center speaker
- Rear door speakers
- Rear door tweeters
- Back door speakers
- Subwoofer

When the audio system is on, radio signals are received by the window antenna. The AV control unit then sends audio signals to the BOSE speaker amp. The BOSE speaker amp. amplifies the audio signals before sending them to the front door speakers, front tweeters, center speaker, rear door speakers, rear door tweeters, back door speakers and the subwoofer.
Refer to Owner's Manual for audio system operating instructions.

SATELLITE RADIO SYSTEM

The satellite radio system consists of the following components
- Satellite antenna
- AV control unit

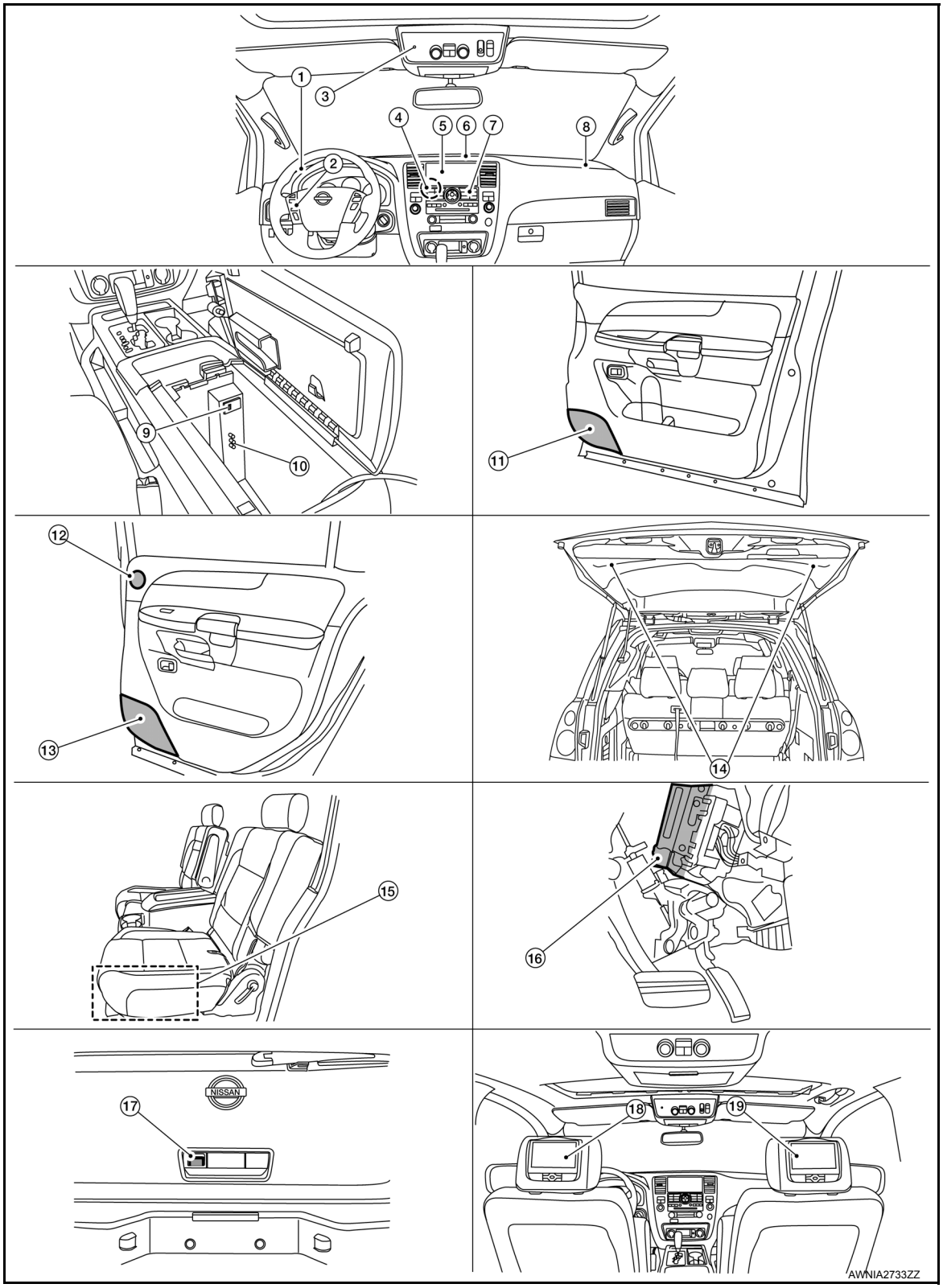
When the satellite radio system is on, radio signals are supplied to the AV control unit from the satellite antenna. The AV control unit then sends audio signals to the BOSE speaker amp.
Refer to Owner's Manual for satellite radio system operating instructions.

SPEED SENSITIVE VOLUME SYSTEM

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

Component Parts Location

INFOID:0000000009820992



1. Front tweeter LH M109
2. Steering wheel audio control switches
3. Microphone R109
4. AV control unit M97, M125, M161, M162, M163, M165, M167
5. Display unit M168
6. Center speaker M110
7. A/C and AV switch assembly M98
8. Front tweeter RH M111
9. USB interface M214

10. Front auxiliary input jacks M206
11. Front door speaker LH D12 RH D112
12. Rear door tweeter LH D208 RH D308
13. Rear door speaker LH D207 RH D307
14. Back door speaker LH D518 RH D716
15. Subwoofer B72 (under driver's seat)
16. BOSE speaker amp M112, M113 (view behind instrument panel above accelerator pedal)
17. Rear view camera D504
18. Headrest display unit (driver seat) B219
19. Headrest display unit (passenger seat) B306

Component Description

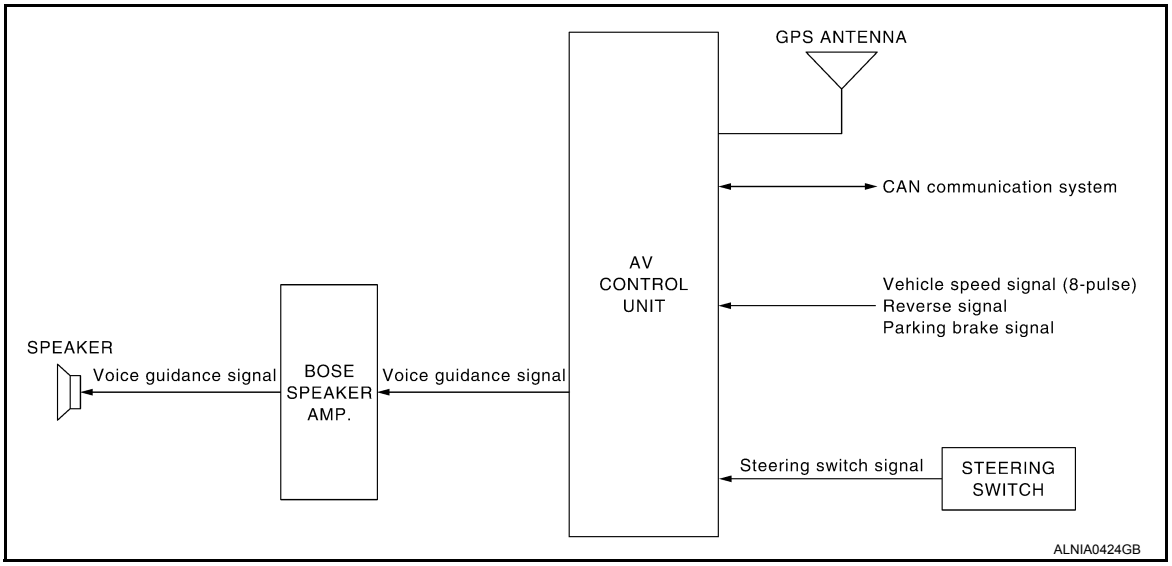
INFOID:0000000009820993

Part name	Description
AV control unit	Controls audio system, NAVI functions and satellite radio system functions
Display unit	• Touch screen controls all audio and A/C operations • Displays all audio and climate control related information
BOSE speaker amp.	Receives power (amp ON) and audio signals from AV control unit and outputs audio signals to each speaker.
Steering wheel audio control switches	• Audio operation can be operated • Steering switch signal is output to AV control unit
Front door speakers	• Outputs audio signal from BOSE speaker amp. • Outputs high, mid and low range sounds
Front tweeters	• Outputs audio signal from BOSE speaker amp. • Outputs high range sounds
Center speaker	• Outputs audio signal from BOSE speaker amp. • Outputs high range sounds
Rear door speakers	• Outputs audio signal from BOSE speaker amp. • Outputs high, mid and low range sounds
Rear door tweeters	• Outputs audio signal from BOSE speaker amp. • Outputs high range sounds
Back door speakers	• Outputs audio signal from BOSE speaker amp. • Outputs high, mid and low range sounds
Subwoofer	• Outputs audio signal from BOSE speaker amp. • Outputs low range sounds
Satellite antenna	Audio signal (satellite radio) is received and output to AV control unit.

NAVIGATION SYSTEM

System Diagram

INFOID:0000000009820994



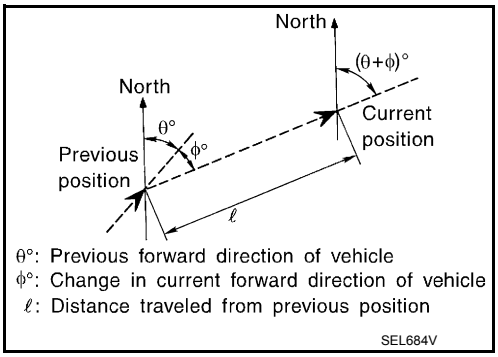
System Description

INFOID:0000000009820995

NOTE:
Refer to NAVI System Owner's Manual for system operation.

The navigation system periodically calculates the vehicle's current position according to the following three signals: Travel distance of the vehicle as determined by the vehicle speed sensor, turning angle of the vehicle as determined by the gyroscope (angular velocity sensor), and the direction of vehicle travel as determined by the GPS antenna (GPS information).
The current position of the vehicle is then identified by comparing the calculated vehicle position with map data read from the map data, which is stored in the hard disk drive (HDD) (map-matching), and indicated on the screen with a current-location mark.

By comparing the vehicle position detection results found by the GPS and by map-matching, more accurate vehicle position data can be used.
The current vehicle position will be calculated by detecting the distance the vehicle moved from the previous calculation point and its direction.



TRAVEL DISTANCE

Travel distance calculations are based on the vehicle speed input signal. Therefore, the calculation may become incorrect as the tires wear down. To prevent this, an automatic distance fine adjustment function has been adopted.

TRAVEL DIRECTION

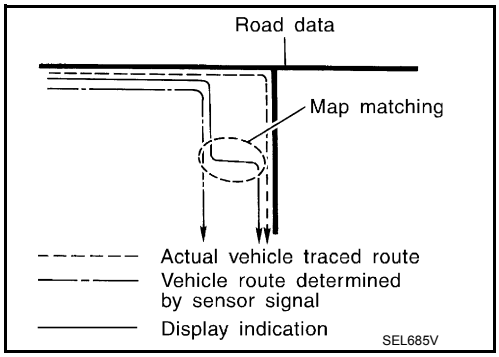
Change in the travel direction of the vehicle is calculated by a gyroscope (angular velocity sensor) and a GPS antenna (GPS information). As the gyroscope and GPS antenna have both merit and demerit, input signals from them are prioritized in each situation. However, this order of priority may change in accordance with more detailed travel conditions so that the travel direction is detected more accurately.

Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	• Can detect the vehicle's turning angle quite accurately.	• Direction errors may accumulate when the vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	• Can detect the vehicle's travel direction (North/South/East/West).	• Correct direction cannot be detected when the vehicle speed is low.

MAP–MATCHING

Map–matching is a function that repositions the vehicle on the road map when a new location is judged to be the most accurate. This is done by comparing the current vehicle position, calculated by the method described in the position detection principle, with the road map data around the vehicle, read from the map data stored on the HDD.

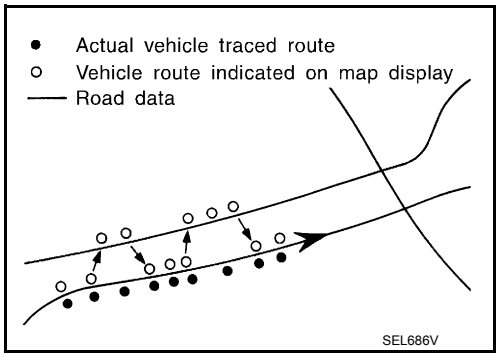
Therefore, the vehicle position may not be corrected after the vehicle is driven over a certain distance or time in which GPS information is hard to receive. In this case, the current-location mark on the display must be corrected manually.



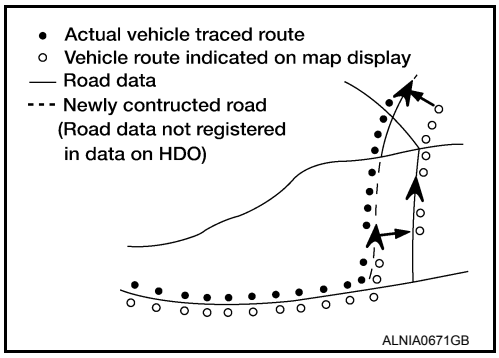
CAUTION:

The road map data is based on data stored on the HDD.

- In map-matching, alternative routes to reach the destination will be shown and prioritized, after the road on which the vehicle is currently driven has been judged and the current-location mark has been repositioned.
  If there is an error in distance and/or direction, the alternative routes will be shown in different order of priority, and the wrong road can be avoided.
  If two roads are running in parallel, they are of the same priority. Therefore, the current-location mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.



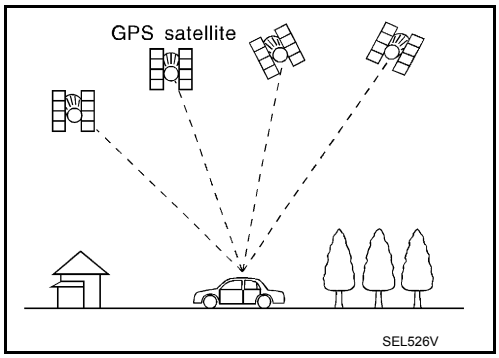
- Map-matching does not function correctly when the road on which the vehicle is driving is new and not recorded on the HDD, or when the road pattern stored in the map data and the actual road pattern are different due to repair.
  When driving on a road not present in the map, the map-matching function may find another road and position the current-location mark on it. Then, when the correct road is detected, the current-location mark may leap to it.
- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data read from the HDD is limited. Therefore, when there is an excessive gap between the current vehicle position and the position on the map, correction by map-matching is not possible.



GPS (GLOBAL POSITIONING SYSTEM)

GPS (Global Positioning System) has been developed and controlled by the US Department of Defense. The system utilizes GPS satellite (NAVSTAR), sending out radio waves while flying on an orbit around the earth at the height of approx. 21,000 km (13,000 miles).

The GPS receiver calculates the vehicle's position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves received from four or more GPS satellites (three-dimensional positioning). If radio waves were received only from three GPS satellites, the GPS receiver calculates the vehicle's position in two dimensions (latitude/longitude), utilizing the altitude data calculated previously by using radio waves from four or more GPS satellites (two-dimensional positioning).

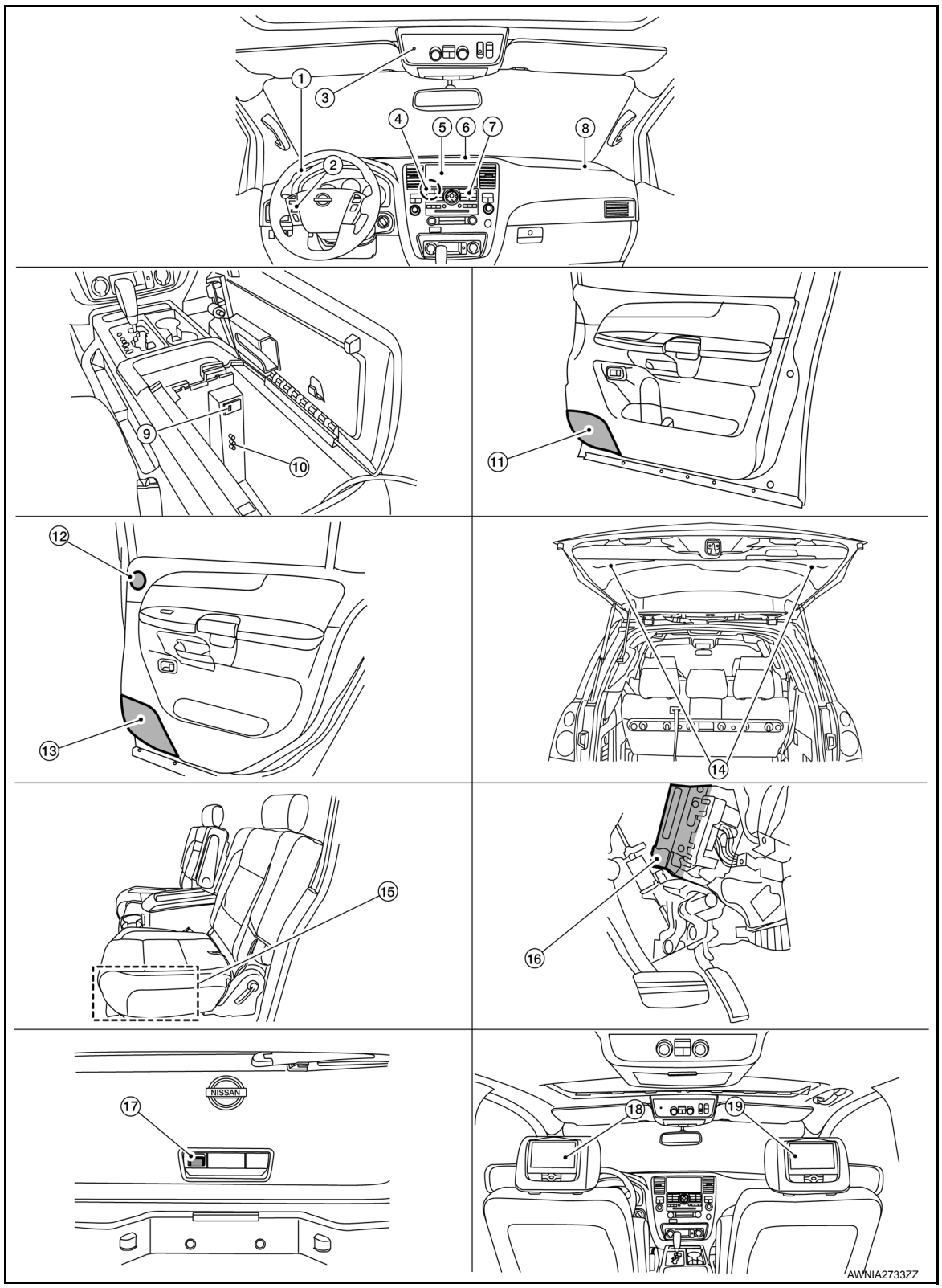


Accuracy of the GPS will deteriorate under the following conditions.

- In two-dimensional positioning, the GPS accuracy will deteriorate when the altitude of the vehicle position changes.
- There may be an error of approximately 10 m (30 ft.) in position detected by three-dimensional positioning, which is more accurate than two-dimensional positioning. The accuracy can be even lower depending on the arrangement of the GPS satellites utilized for the positioning.
- Position detection is not possible when the vehicle is in an area where radio waves from the GPS satellite do not reach, such as in a tunnel, parking lot in a building, and under an elevated highway. Radio waves from the GPS satellites may not be received when some object is located over the GPS antenna.
- Position correction by GPS is not available while the vehicle is stopped.

Component Parts Location

INFOID:0000000009820996



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5. Display unit M168
6. Center speaker M110
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14. Back door speaker LH D518 RH D716
15. Subwoofer B72 (under driver's seat)
16. BOSE speaker amp M112, M113 (view behind instrument panel above accelerator pedal)
17. Rear view camera D504
18. Headrest display unit (driver seat) B219
19. Headrest display unit (passenger seat) B306

Component Description

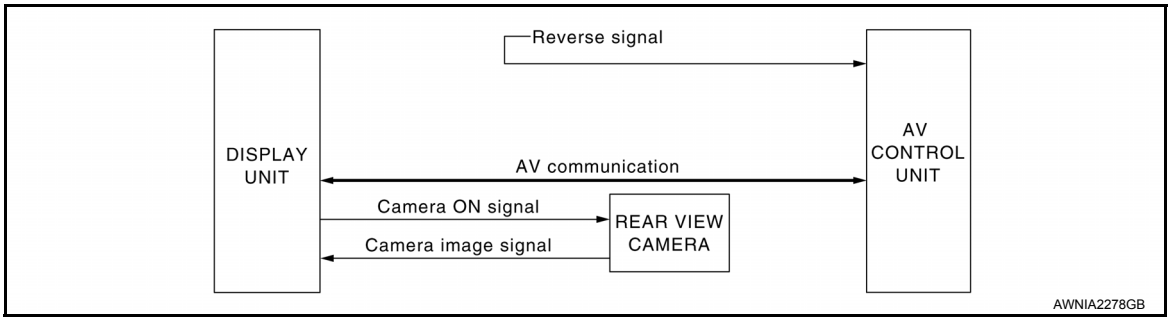
INFOID:0000000009820997

Part name	Description
AV control unit	• Controls each operation of the navigation system • HDD is built in • Voice guidance signal is output to BOSE speaker amp.
BOSE speaker amp.	Voice guidance signal is input from AV control unit, and it is output to speakers.
Tweeter	Voice guidance signal from BOSE speaker amp. is output.
Steering wheel audio control switches	• Each operation of navigation system can be performed • Switch operating signal is output to AV control unit
Microphone	Sends voice signals to AV control unit
GPS antenna	GPS signal is received and is output to AV control unit.

REAR VIEW MONITOR SYSTEM

System Diagram

INFOID:0000000009820998



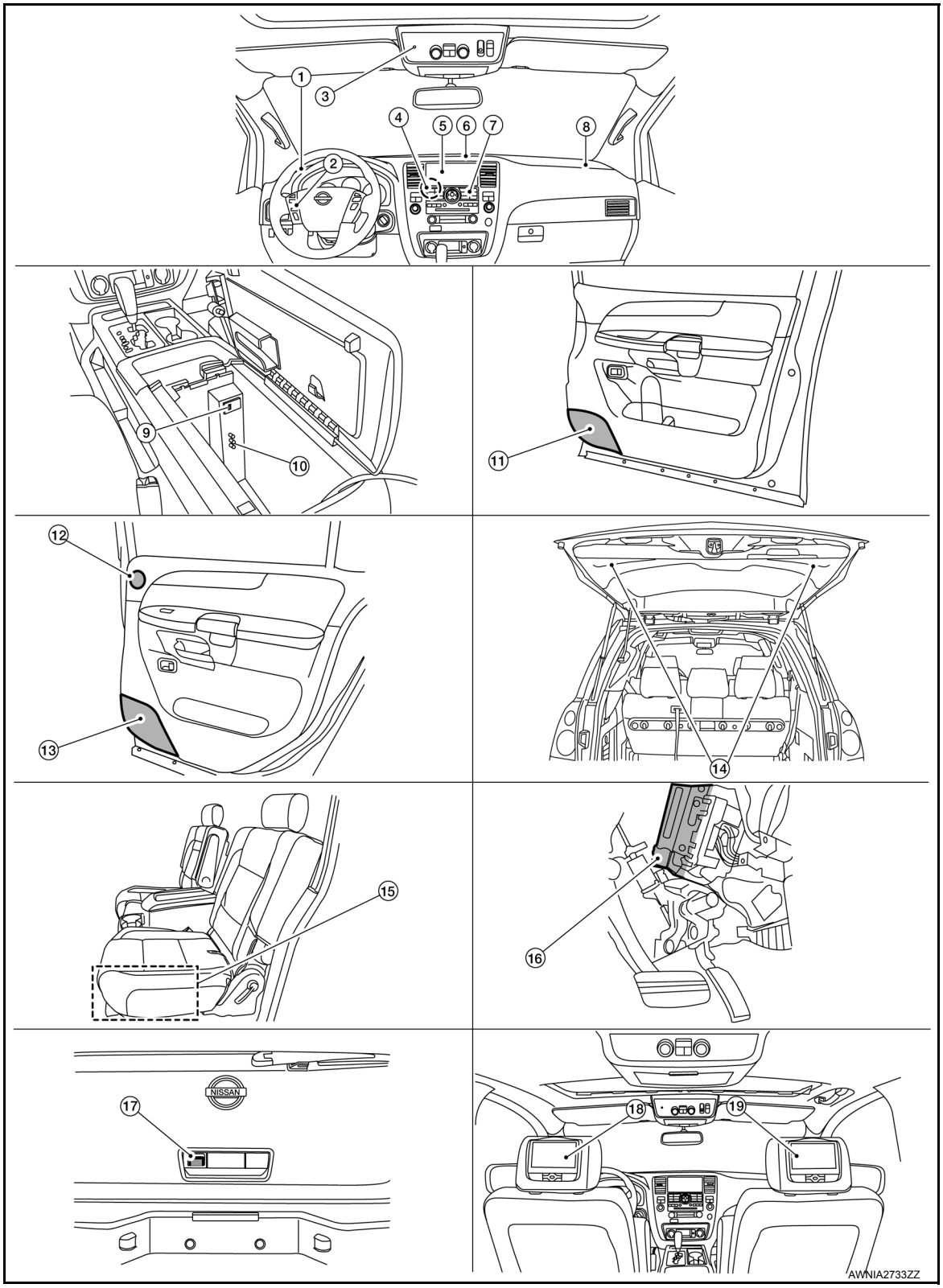
System Description

INFOID:0000000009820999

When the selector is in the R position, the display unit receives communication from the AV control unit, camera image signals from the rear view camera and shows a view to the rear of the vehicle. Lines which indicate the vehicle clearance and distances are also displayed.

Component Parts Location

INFOID:0000000009821000



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17. Rear view camera D504
18. Headrest display unit (driver seat) B219
19. Headrest display unit (passenger seat) B306

Component Description

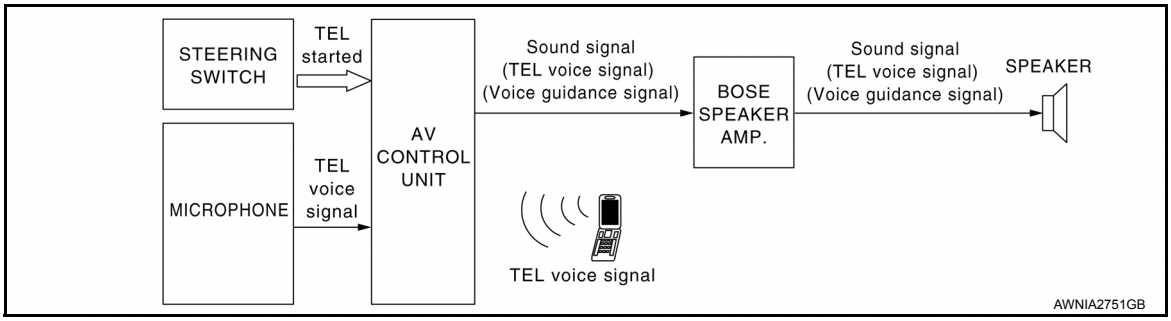
INFOID:0000000009821001

Part name	Description
AV control unit	• Receives reverse signal from back-up lamp relay • Camera image signal is sent from display unit
Display unit	• Receives rear view camera image signal • Sends camera ON signal to rear view camera • Sends image signal to AV control unit
Rear view camera	• Receives camera ON signal from display unit • Sends image signal to display unit

HANDS-FREE PHONE SYSTEM

System Diagram

INFOID:0000000009821002



System Description

INFOID:0000000009821003

Refer to the Owner's Manual for Bluetooth® telephone system operating instructions.
NOTE:
Cellular telephones must have their wireless connection set up (paired) before using the Bluetooth® telephone system.

Bluetooth® telephone system allows users who have a Bluetooth® equipped cellular telephone to make a wireless connection between their cellular telephone and the AV control unit. Hands-free cellular telephone calls can be sent and received. Personal memos can be created using the Nissan Voice Recognition system.

Some Bluetooth® cellular telephones may not be recognized by the AV control unit. When a cellular telephone or the AV control unit is replaced, the telephone must be paired with the AV control unit. Different cellular telephones may have different pairing procedures. Refer to the cellular telephone operating manual and the vehicle Owner's Manual for more information.

AV CONTROL UNIT

When the ignition switch is turned to ACC or ON, the AV control unit will power up. During power up, the Bluetooth® feature is initialized and performs various self checks. Initialization may take up to 10 seconds. If a phone is present in the vehicle and paired with the AV control unit, Nissan Voice Recognition will then become active. Bluetooth® telephone functions can be turned off using the Nissan Voice Recognition system.

STEERING WHEEL AUDIO CONTROL SWITCHES

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

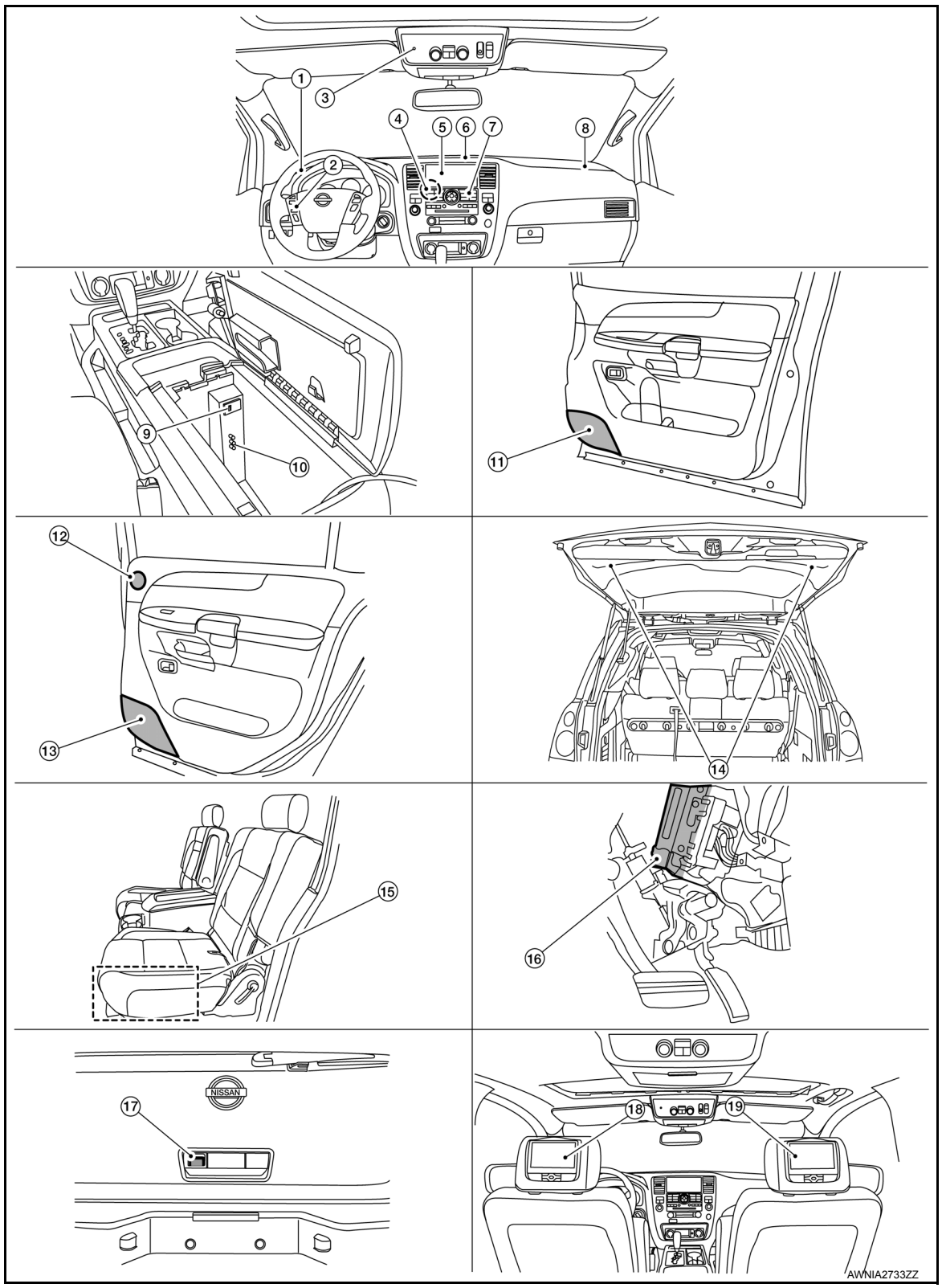
- Initiate Self Diagnosis of the Bluetooth® telephone system
- Start a voice recognition session
- Answer and end telephone calls
- Adjust the volume of calls
- Record memos

MICROPHONE

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

Component Parts Location

INFOID:0000000009821004



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16. BOSE speaker amp M112, M113 (view behind instrument panel above accelerator pedal)
17. Rear view camera D504
18. Headrest display unit (driver seat) B219
19. Headrest display unit (passenger seat) B306

Component Description

INFOID:0000000009821005

Part name	Description
AV control unit	• Receives telephone voice signal from Antenna and Microphone • Sends telephone voice and voice guidance signals to the speakers
BOSE speaker amp.	• Receives audio signals from the AV control unit • Outputs amplified audio signals to the speakers.
Front door speaker	Receives telephone voice and voice guidance signals from the AV control unit through the BOSE speaker amp.
Front tweeter	
Center speaker	
Steering wheel audio control switches	• Start a voice recognition session • Answer and end telephone calls • Adjust the volume level
Microphone	Sends voice signals to AV control unit

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Description

INFOID:0000000009821006

DESCRIPTION

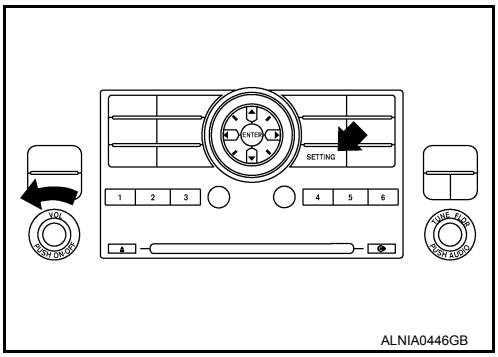
- Diagnosis function consists of the “Self-Diagnosis” mode performed automatically and the “Confirmation/ Adjustment” mode operated manually.
- “Self-Diagnosis” mode checks for connections between the units constituting this system, analyzes each individual unit at the same time, and displays the results on the LCD screen.
- “Confirmation/Adjustment” mode is used to perform trouble diagnosis that requires operation and judgment by an operator (trouble that cannot be automatically judged by the system), to check/change the set value, and to display the error history of the AV control unit.

DIAGNOSIS ITEM

Mode			Description
Self-diagnosis			• AV control unit diagnosis. • Analyzes connection between the AV control unit, front display, switches, DVD deck, GPS antenna and SAT antenna.
CONFIRMATION/ ADJUSTMENT	Display diagnosis	Color spectrum bar	Color tone of the screen can be checked by the display of a color bar.
		Gradation bar	Shading of the screen can be checked by the display of a gray scale.
		Touch panel	• Touch panel calibration. • Touch panel response check.
		White display	White display can be checked.
	Vehicle signals		The following vehicle signals are analyzed: Vehicle speed signal, parking brake signal, light signal, ignition switch signal, and reverse signal.
	Speaker test		Connection can be checked by sending a test tone to each speaker.
	Navigation	Steering angle adjustment	Confirm/adjust the steering angle when there is a difference between the displayed vehicle mark turning angle and actual.
		Speed calibration	Confirm/adjust the speed calibration when there is a difference between the displayed vehicle mark location and actual.
		XM SAT subscription status	Check the subscription status of the XM NAV Traffic subscription.
	Error history		Diagnosis results previously stored in the memory are displayed in this mode.
	Synchronize FES clock		Turns FES (Family Entertainment System) clock synchronization function ON/OFF.
	Vehicle CAN diagnosis		The transmitting/receiving of CAN communication can be monitored.
	AV COMM diagnosis		The transmitting/receiving of AV communication can be monitored.
	Hands-free phone	Hands-free volume adjustment	Adjust hands-free volume (low, medium, high).
		Voice microphone test	Test microphone operation.
		Delete hands-free memory	Erase hands-free system memory.
	SAT	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	Not used.
	Delete unit connection log		Erase the error history and connection history of the unit.
	Initialize settings		All audio settings are reset to default levels.

OPERATION PROCEDURE

1. Start the engine.
2. Turn the audio system off.
3. While pressing the “SETTING” button, turn the volume control dial counterclockwise 30 clicks or more.



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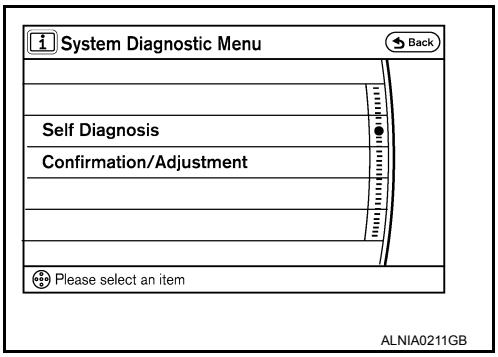
4. The initial trouble diagnosis screen will be displayed, and items “Self-Diagnosis” and “Confirmation/Adjustment” can be selected.



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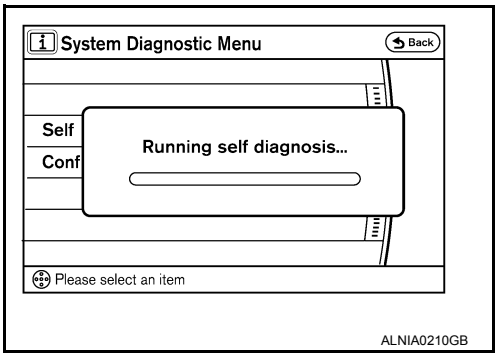
SELF-DIAGNOSIS

1. Perform self-diagnosis by selecting “Self-Diagnosis”.
   - Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
   - A bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.

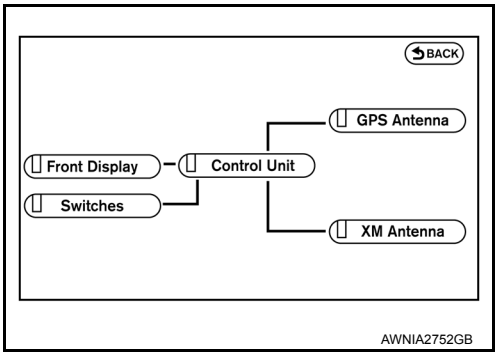
   NOTE:
   Self-diagnosis requires approximately 10 seconds to complete.



ALNIA0210GB

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.

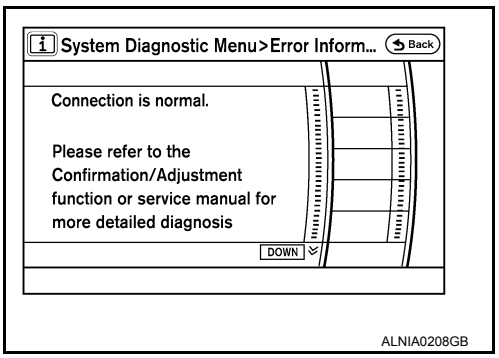
Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction Note	Red	Green



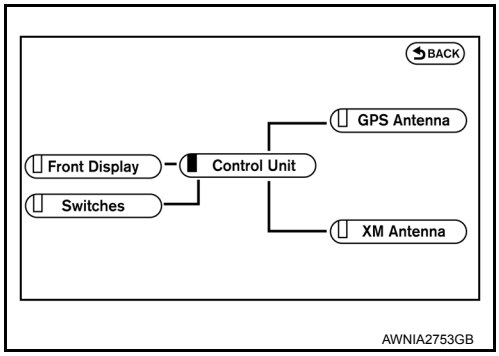
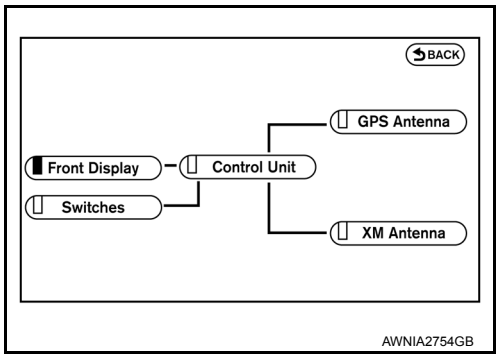
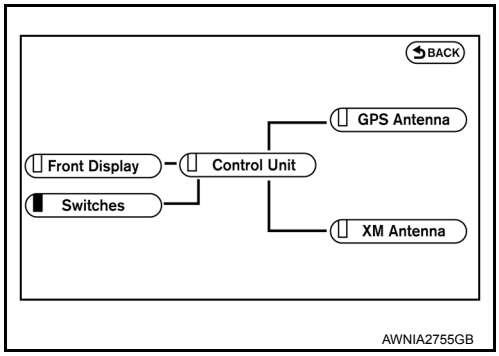
AWNIA2752GB

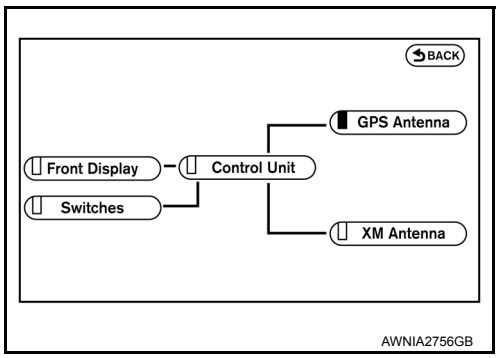
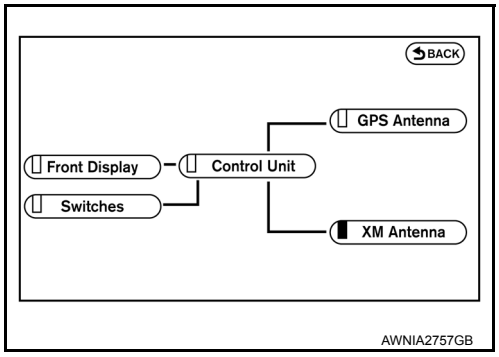
Note:
- Only the AV control unit is displayed in red.
- If multiple malfunctions occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > yellow > gray.

3. Select a component on the “Self-Diagnosis” screen and comments for the diagnosis results will be shown.



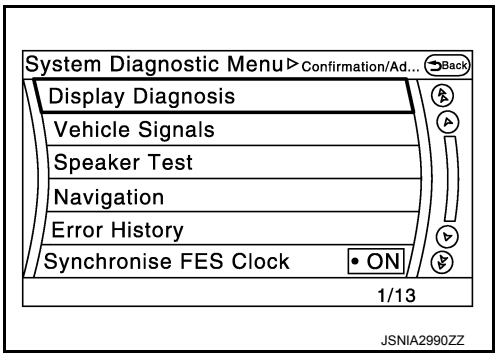
Self-Diagnosis Results

Area with yellow connection lines	Description	Possible malfunction location / Action to take
	AV control unit malfunction is detected.	Replace the AV control unit. Refer to AV-448, "Removal and Installation".
	Poor connection is detected for the display unit.	• Harness or connector. • AV control unit. • Display unit.
	Switch malfunction is detected.	Perform A/C and AV switch assembly diagnostics. Refer to AV-320, "A/C AND AV SWITCH ASSEMBLY : Component Function Check".

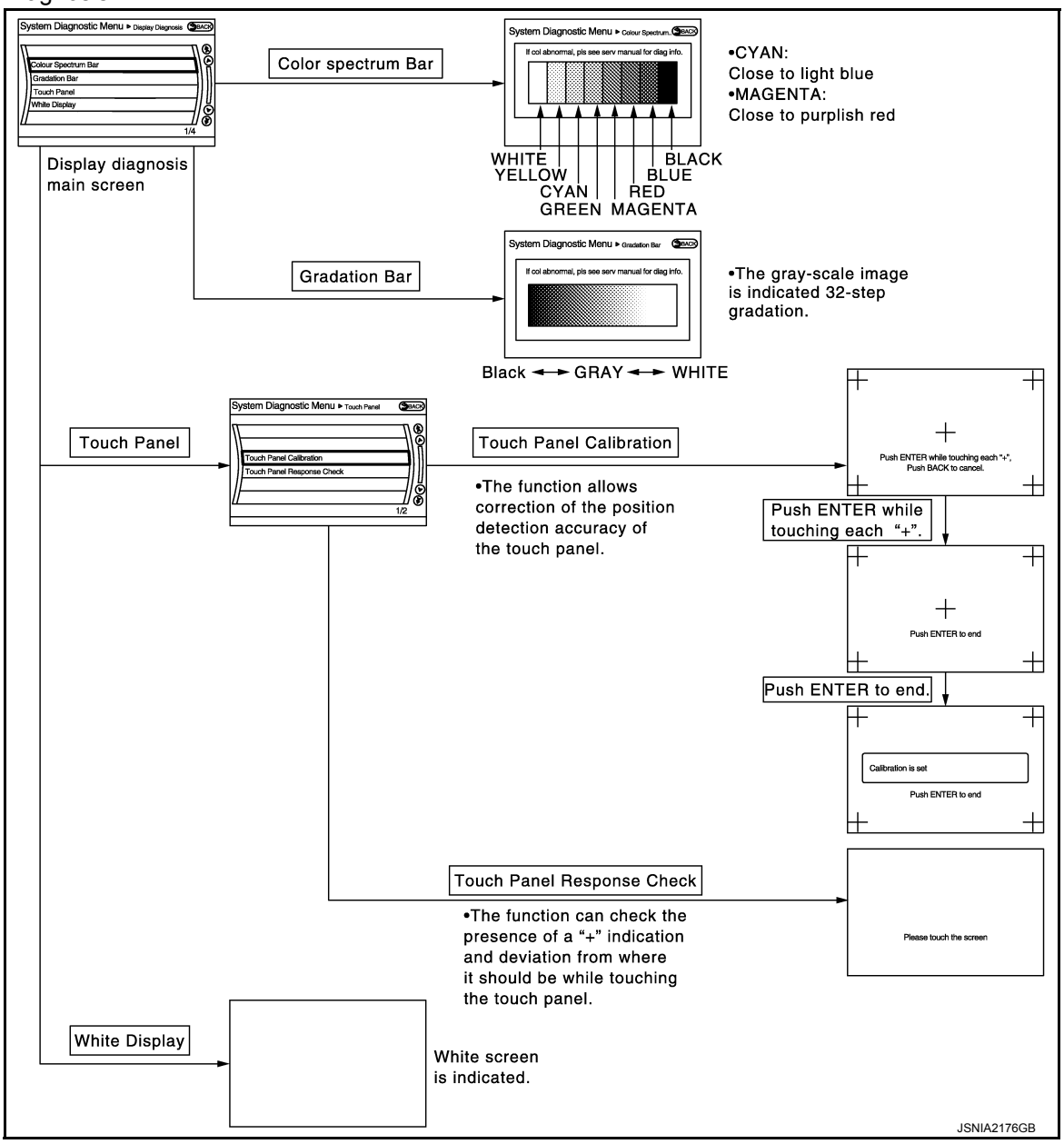
Area with yellow connection lines	Description	Possible malfunction location / Action to take
	Poor connection is detected for the GPS antenna.	• Harness or connector. • AV control unit. • GPS antenna.
	Poor connection is detected for the satellite antenna.	• Harness or connector. • AV control unit. • Satellite antenna.

CONFIRMATION/ADJUSTMENT MODE

1. Start the diagnosis function and select “Confirmation/Adjustment”. The confirmation/adjustment mode indicates where each item can be checked or adjusted.
2. Select each item on the “Confirmation/Adjustment” mode screen to display the relevant trouble diagnosis screen. Touch “BACK” on the display or press the “BACK” button to return to the initial Confirmation/Adjustment Mode screen.



Display Diagnosis

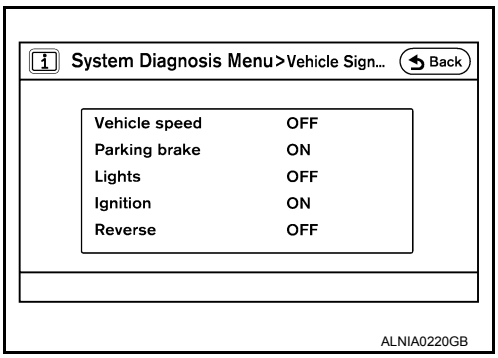


The tint of the color bar indication is as per the following list if RGB signal error is detected.

R (red) signal error : Light blue (Cyan) tint
G (green) signal error : Purple (Magenta) tint
B (blue) signal error : Yellow tint

Vehicle Signals

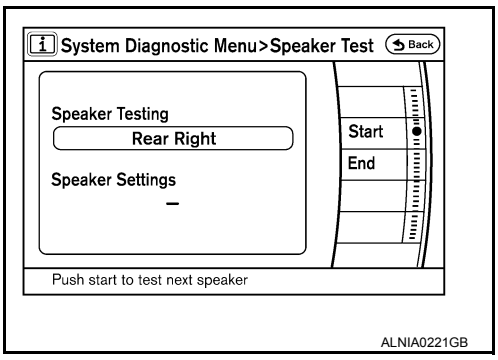
A comparison check can be made of each actual vehicle signal and the signals recognized by the system.



Diagnosis item	Display	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h	Changes in indication may be delayed by approximately 1.5 seconds. This is normal.
	OFF	Vehicle speed = 0 km/h	
	–	Ignition switch in ACC position	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights	ON	Light switch ON	Block the light beam from the auto light optical sensor.
	OFF	Light switch OFF	
Ignition	ON	Ignition switch ON	—
	OFF	Ignition switch in ACC position	
Reverse	ON	Selector lever in R position	Changes in indication may be delayed by approximately 1.5 seconds. This is normal.
	OFF	Selector lever in any position other than R	
	–	Ignition switch in ACC position	

Speaker Test

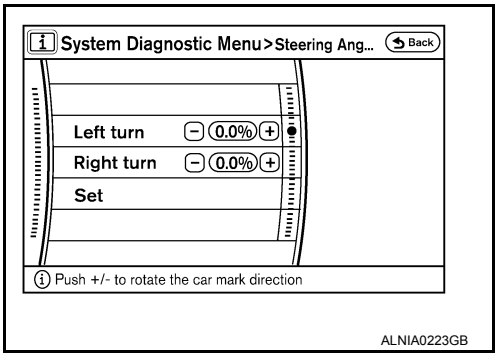
Select “Speaker Test” to display the speaker diagnosis screen. Press “Start” to generate a test tone in speakers. Touch “End” to stop the test tones.



Navigation

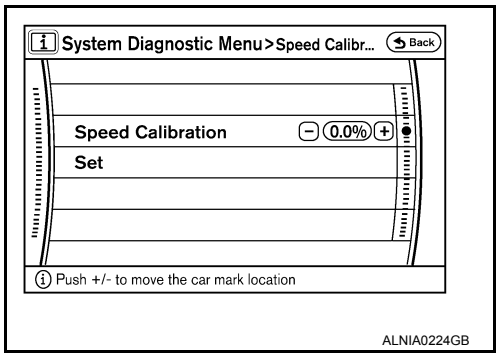
STEERING ANGLE ADJUSTMENT

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



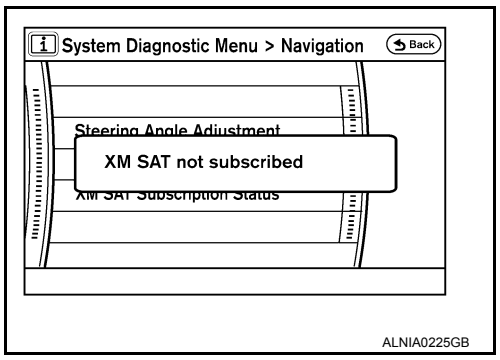
SPEED CALIBRATION

During normal driving, distance error caused by tire wear and tire pressure change is automatically adjusted for by the automatic distance correction function. This function, on the other hand, is for immediate adjustment, in cases such as driving with tire chain fitted on tires.



XM SUBSCRIPTION STATUS

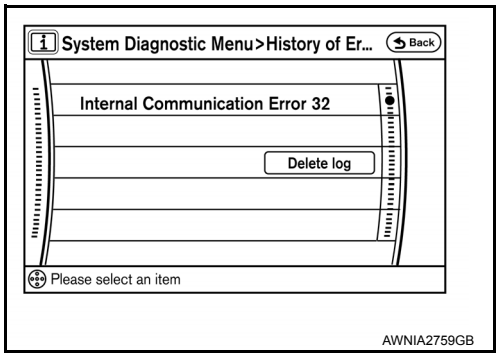
The XM NavTraffic subscription status can be checked.



Error History

The self-diagnosis results are judged depending on whether any error occurs from when “Self-diagnosis” is selected until the self-diagnosis results are displayed.

However, the diagnosis results are judged normal if an error has occurred before the ignition SW is turned ON and then no error has occurred until the self-diagnosis start. Check the “Error History” to detect any error that may have occurred before the self-diagnosis start because of this situation.



Count up method A

- The counter resets to 0 if an error occurs when IGN switch is turned ON. The counter increases by 1 if the condition is normal at a next IGN ON cycle.
- The counter upper limit is 39. Any counts exceeding 39 are ignored. The counter can be reset (no error record display) with the “Delete log” switch or CONSULT.

Count up method B

- The counter increases by 1 if an error occurs when IGN switch is ON. The counter will not decrease even if the condition is normal at the next IGN ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. The counter can be reset (no error record display) with the “Delete log” switch or CONSULT.

Display method of occurrence frequency	Error history display item
Count up method A	CAN communication line, control unit (CAN), AV communication line, control unit (AV communication)
Count up method B	Other than above

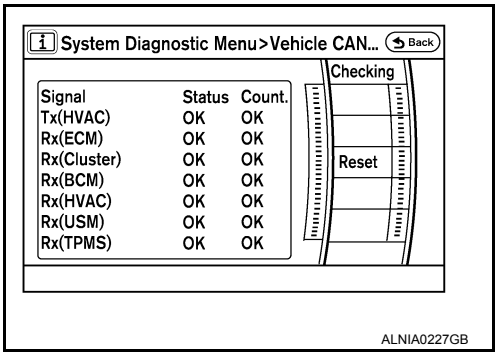
Error item

Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT	CAN communication malfunction is detected.	Perform diagnosis with CONSULT, and then repair the malfunctioning parts according to the diagnosis results. Refer to AV-318, "AV CONTROL UNIT : CONSULT Function".
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	Replace the AV control unit. Refer to AV-448, "Removal and Installation".
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	
FLASH-ROM Error Of Control Unit	AV control unit malfunction is detected.	
Connection Of Gyro		
XM SERIAL COMM Error		
CAN Controller Memory Error		
Bluetooth® Module Connection Error		
HDD CONN Error		
HDD READ Error		
HDD WRITE Error		
HDD COMM Error		
HDD ACCESS Error		
DSP CONN Error		
DSP COMM Error		
Internal Communication Error		AV control unit power supply and ground circuit. Refer to AV-346, "AV CONTROL UNIT : Diagnosis Procedure".
GPS Communication Error	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-448, "Removal and Installation".
GPS ROM Error		
GPS RAM Error		
GPS RTC Error		
Front Display Connection Error	• Display unit power supply and ground circuit malfunction is detected. • Malfunction is detected on communication circuit between display unit and AV control unit. • Malfunction is detected on communication signal between display unit and AV control unit.	• Display unit power supply and ground circuit. Refer to AV-347, "DISPLAY UNIT : Diagnosis Procedure". • Communication circuit between display unit and AV control unit.
GPS Antenna Error	GPS antenna connection malfunction is detected.	GPS antenna.
XM Antenna Connection Error	Poor connection is detected in satellite radio antenna.	Satellite radio antenna.
• AV COMM CIRCUIT • Switches Connection Error	• A/C and AV switch assembly power supply and ground circuit malfunction is detected. • A malfunction is detected in AV communication circuit between AV control unit and A/C and AV switch assembly. • A malfunction is detected in AV communication signal between AV control unit and A/C and AV switch assembly.	• A/C and AV switch assembly power supply and ground circuits. Refer to AV-347, "A/C AND AV SWITCH ASSEMBLY : Diagnosis Procedure". • AV communication circuit between AV control unit and A/C and AV switch assembly.

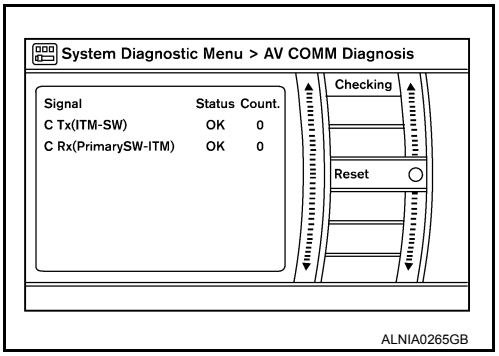
Vehicle CAN Diagnosis

- CAN communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if reset.



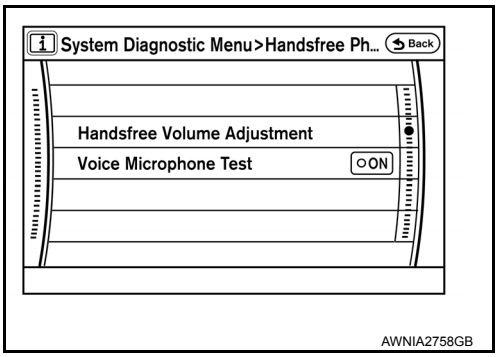
AV COMM Diagnosis

- AV communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if reset.



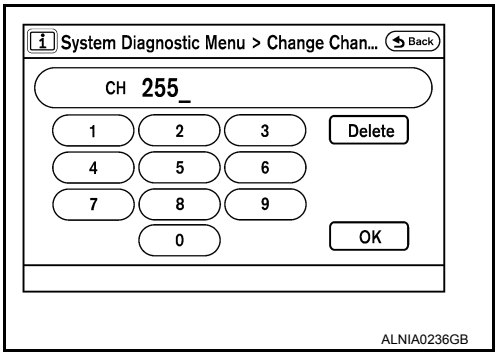
Hands-free Phone

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

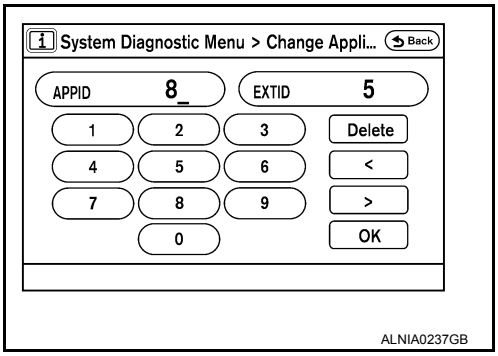


SAT

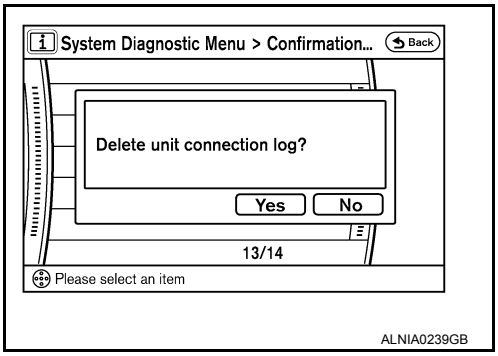
- Change Channel
- Any necessary channels required to receive traffic information from the satellite radio system can be set.



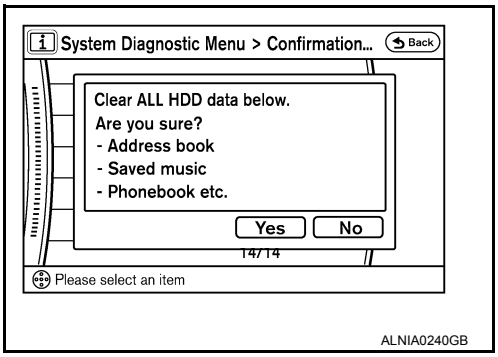
• Change Application ID
- Any application ID's required to receive traffic information from the satellite radio system can be set.



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



Initialize Settings
Initializes the AV control unit memory.



AV CONTROL UNIT : CONSULT Function

INFOID:0000000009821007

CONSULT can display each diagnostic item using the diagnostic test modes shown following.

MULTI AV diagnosis mode	Description
ECU IDENTIFICATION	The part number of AV control unit can be checked.
SELF DIAGNOSTIC RESULT	Displays AV control unit self-diagnosis results.
DATA MONITOR	Displays AV control unit input/output data in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

Self-diagnosis results

• In CONSULT self-diagnosis, self-diagnosis results and error history are displayed collectively.
• The current malfunction indicates “CRNT”. The past malfunction indicates “PAST”.
• The timing is displayed as “0” if any of the error codes [U1000], [U1010], [U1300] and [U1310] is detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

Self-diagnosis results display item

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT[U1000]	CAN communication malfunction is detected	Perform diagnosis with CONSULT, and then repair the malfunctioning parts according to the diagnosis results. Refer to AV-321, "Description".
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected	Replace the AV control unit
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected	
Control Unit FLASH-ROM [U1200]	AV control unit malfunction is detected	
Gyro NO CONN [U1201]		
CAN CONT [U1216]		
BLUETOOTH CONN [U1217]		
HDD CONN [U1218]		
HDD READ [U1219]		
XM SERIAL COMM [U1220]		
HDD WRITE [U121A]		
HDD COMM [U121B]		
HDD ACCESS [U121C]		
DSP CONN [U121D]		
DSP COMM [U121E]		
INTERNAL COMM [U121F]		AV control unit power supply and ground circuit
GPS COMM [U1204]	GPS malfunction is detected	An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly.
GPS ROM [U1205]		
GPS RAM [U1206]		
GPS RTC [U1207]		
FRONT DISP CONN [U1243]	• Display unit power supply and ground circuit malfunction is detected • Malfunction is detected on communication circuit between display unit and AV control unit • Malfunction is detected on communication signal between display unit and AV control unit	• Display unit power supply and ground circuit • Communication circuit between display unit and AV control unit
GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected	GPS antenna
XM ANTENNA CONN [U1258]	Poor connection is detected in satellite radio antenna	Satellite radio antenna
• AV COMM CIRCUIT [U1300] • SWITCHE CONN [U1240]	• Multifunction switch power supply and ground circuit malfunction is detected • A malfunction is detected in AV communication circuit between AV control unit and multifunction switch • A malfunction is detected in AV communication signal between AV control unit and multifunction switch	• Multifunction switch power supply and ground circuits • AV communication circuit between AV control unit and multifunction switch

DATA MONITOR

Display Item List

Display item [unit]	ALL SIGNALS	SELECTION FROM MENU	Description
VHCL SPD SIG [ON/OFF]	X	X	Displays “ON” when vehicle speed > 0 km/h. Displays “OFF” when vehicle speed = 0 km/h.
PKB SIG [ON/OFF]	X	X	Displays [ON/OFF] condition of parking brake switch.
ILLUM SIG [ON/OFF]	X	X	Displays [ON/OFF] condition of lighting switch.
IGN SIG [ON/OFF]	X	X	Displays [ON/OFF] condition of ignition switch.
REV SIG [ON/OFF]	X	X	Displays [ON/OFF] condition of back-up lamp switch.

A/C AND AV SWITCH ASSEMBLY

A/C AND AV SWITCH ASSEMBLY : Component Function Check

INFOID:0000000009821008

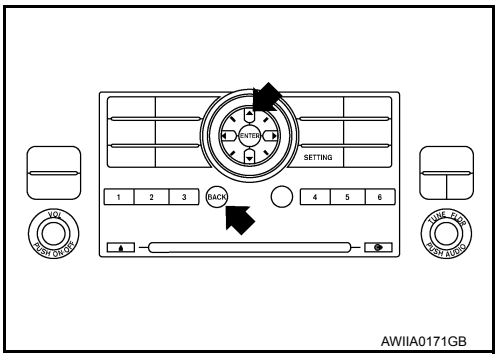
A/C and AV switch assembly self-diagnosis function

Description

The ON/OFF operation (continuity) of each switch in the A/C and AV switch assembly can be checked.

Self-diagnosis mode

- Press the “BACK” button and the “UP” button within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. When the self-diagnosis mode starts, a beep will sound and all LED indicators of the switch will illuminate.
- The continuity of each switch and control dial of the A/C and AV switch assembly can be checked. If the switch is operating normally, the system will beep and the LED’s will illuminate when each switch is operated.



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Finishing self-diagnosis mode

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

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000009821009

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-46, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000009821010

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	Diagnostic item is detected when ...	Probable malfunction location
U1000	CAN COMM CIRCUIT	When AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

Diagnosis Procedure

INFOID:0000000009821011

1.PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check “Self Diagnostic Result” of “AV Control Unit”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to “LAN system”. Refer to LAN-14, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI section. Refer to GI-42, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

Description

INFOID:0000000009821012

Initial diagnosis of AV control unit.

DTC Logic

INFOID:0000000009821013

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	Diagnostic item is detected when ...	Probable malfunction location
U1010	CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	AV control unit.

Diagnosis Procedure

INFOID:0000000009821014

1.REPLACE AV CONTROL UNIT

When DTC U1010 is detected, replace AV control unit. Refer to AV-448, "Removal and Installation".

>> Inspection End.

U1200 AV CONTROL UNIT

Description

INFOID:0000000009821015

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821016

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U1200	Control Unit FLASH- ROM [U1200]	An internal malfunction is detected in AV control unit (FLASH-ROM).	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U1201 AV CONTROL UNIT

Description

INFOID:0000000009821017

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821018

DTC DETECTION LOGIC

DTC	CONSULT display	Detection condition	Action to take
U1201	GYRO NO CONN [U1201]	An internal malfunction is detected in AV control unit (gyrocompass disconnection).	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U1204 GPS COMM

Description

INFOID:0000000009821019

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821020

DTC DETECTION LOGIC

DTC	CONSULT display	Detection condition	Action to take
U1204	GPS COMM [U1204]	An internal malfunction is detected in AV control unit (GPS malfunction).	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U1205 GPS ROM

Description

INFOID:0000000009821021

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821022

DTC DETECTION LOGIC

DTC	CONSULT display	Detection condition	Action to take
U1205	GPS ROM [U1205]	An internal malfunction is detected in AV control unit (GPS malfunction).	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U1206 GPS RAM

Description

INFOID:0000000009821023

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821024

DTC DETECTION LOGIC

DTC	CONSULT display	Detection condition	Action to take
U1206	GPS RAM [U1206]	An internal malfunction is detected in AV control unit (GPS malfunction).	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U1207 GPS RTC

Description

INFOID:0000000009821025

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821026

DTC DETECTION LOGIC

DTC	CONSULT display	Detection condition	Action to take
U1207	GPS RTC [U1207]	An internal malfunction is detected in AV control unit (GPS malfunction).	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U1216 AV CONTROL UNIT

Description

INFOID:0000000009821027

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821028

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U1216	CAN CONT [U1216]	Internal malfunction of AV control unit (CAN controller) is detected.	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U1217 AV CONTROL UNIT

Description

INFOID:0000000009821029

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821030

DTC DETECTION LOGIC

DTC	CONSULT display	Detection condition	Action to take
U1217	BLUETOOTH CONN [U1217]	An internal malfunction is detected in AV control unit (Bluetooth module connection malfunction).	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U1218 AV CONTROL UNIT

Description

INFOID:0000000009821031

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821032

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U1218	HDD-CONN [U1218]	Internal malfunction of AV control unit (HDD connection malfunction) is detected.	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U1219 AV CONTROL UNIT

Description

INFOID:0000000009821033

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821034

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U1219	HDD-READ [U1219]	Internal malfunction of AV control unit (HDD read malfunction) is detected.	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U121A AV CONTROL UNIT

Description

INFOID:0000000009821035

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821036

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U121A	HDD-WRITE [U121A]	Internal malfunction of AV control unit (HDD write malfunction) is detected.	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U121B AV CONTROL UNIT

Description

INFOID:0000000009821037

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821038

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U121B	HDD-COMM [U121B]	Internal malfunction of AV control unit (HDD communication error) is detected.	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U121C AV CONTROL UNIT

Description

INFOID:0000000009821039

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821040

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U121C	HDD-ACCESS [U121C]	Internal malfunction of AV control unit (HDD access error) is detected.	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U121D AV CONTROL UNIT

Description

INFOID:0000000009821041

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821042

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U121D	DSP CONN [U121D]	Internal malfunction of AV control unit (DSP connection error) is detected.	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U121E AV CONTROL UNIT

Description

INFOID:0000000009821043

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821044

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U121E	DSP COMM [U121E]	Internal malfunction of AV control unit (DSP communication error) is detected.	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U121F AV CONTROL UNIT

Description

INFOID:0000000009821045

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821046

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U121F	INTERNAL COMM [U121F]	Internal malfunction of AV control unit (internal communication error) is detected.	AV control unit power supply and ground circuit.

Diagnosis Procedure

INFOID:0000000009821047

1.CHECK AV CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check AV control unit power supply and ground circuit. Refer to AV-346, "AV CONTROL UNIT : Diagnosis Procedure".

Is inspection result OK?

YES >> Inspection End.
NO >> Repair malfunctioning parts.

U1220 AV CONTROL UNIT

Description

INFOID:0000000009821048

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821049

DTC DETECTION LOGIC

DTC	CONSULT display	Detection condition	Action to take
U1220	XM SERIAL COMM [U1220]	An internal malfunction is detected in AV control unit (satellite radio tuner communication malfunction).	Replace AV control unit. Refer to AV-448, "Removal and Installation".

U1243 DISPLAY UNIT

Description

INFOID:0000000009821050

Part name	Description
DISPLAY UNIT	• Display image is controlled by the serial communication from AV control unit. • RGB image signal is input from AV control unit (RGB, RGB area and RGB synchronizing). Camera image signal is input from the rear view camera. • Synchronize signal (HP, VP) is output to AV control unit. • Touch panel function can be operated for each system by touching a display directly.

DTC Logic

INFOID:0000000009821051

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1243	FRONT DISP CONN [U1243]	• Display unit power supply and ground circuit malfunction is detected. • Malfunction is detected on communication circuit between display unit and AV control unit. • Malfunction is detected on communication signal between display unit and AV control unit.	• Display unit power supply and ground circuit. • Communication circuit between display unit and AV control unit.

Diagnosis Procedure

INFOID:0000000009821052

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to AV-347, "DISPLAY UNIT : Diagnosis Procedure".

Is inspection result OK?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2.CHECK CONTINUITY COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M168 and AV control unit connector M165.
3. Check continuity between display unit harness connector M168 and AV control unit harness connector M165.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M168	10	M165	61	Yes
	9		77	

4. Check continuity between display unit harness connector M168 and ground.

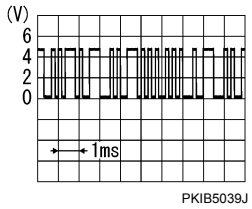
Display unit		—	Continuity
Connector	Terminal		
M168	10	Ground	No
	9		

Are continuity results as specified?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK COMMUNICATION SIGNAL

1. Connect display unit connector M168 and AV control unit connector M165.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M168 terminal 10 and ground.

Connector	Terminals		Reference Signal
	(+)	(-)	
M168	10	Ground	

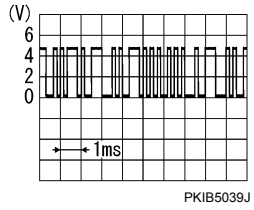
PKIB5039J

Are voltage readings as specified?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".

4.CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector M168 terminal 9 and ground.

Connector	Terminals		Reference Signal
	(+)	(-)	
M168	9	Ground	

PKIB5039J

Are voltage readings as specified?

YES >> Inspection End.
NO >> Replace display unit. Refer to AV-451, "Removal and Installation".

U1244 GPS ANTENNA

Description

INFOID:0000000009821053

Part Name	Description
GPS ANTENNA	GPS signal is detected and transmitted to the AV control unit.

DTC Logic

INFOID:0000000009821054

DTC DETECTION LOGIC

DTC	CONSULT display	Detection condition
U1244	GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.

Diagnosis Procedure

INFOID:0000000009821055

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.GPS ANTENNA CHECK

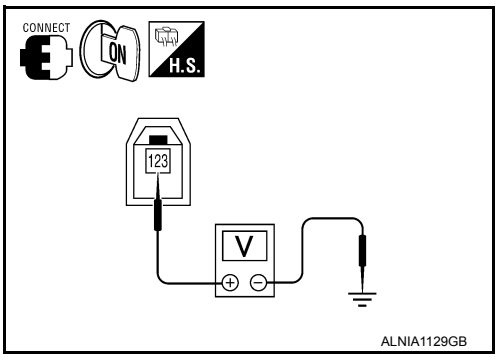
Inspect GPS antenna and antenna feeder for damage or poor connection.

Is the GPS antenna and feeder clean and undamaged?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning parts.

2.CHECK AV CONTROL UNIT VOLTAGE

1. Turn ignition switch ON.
2. Check voltage between AV control unit connector M97 terminal 123 and ground.



(+)		(-)	Voltage (approx.)
Connector	Terminal		
M97	123	Ground	5V

Is the voltage reading as specified?

YES >> Replace GPS antenna. Refer to AV-467, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".

U1258 SATELLITE RADIO ANTENNA

Description

INFOID:0000000009821056

Part name	Description
SATELLITE RADIO ANTENNA	Satellite radio signal is received and sent to audio control unit.

DTC Logic

INFOID:0000000009821057

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1258	XM ANETNNA CONN [U1258]	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection.

Diagnosis Procedure

INFOID:0000000009821058

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.SATELLITE RADIO ANTENNA CHECK

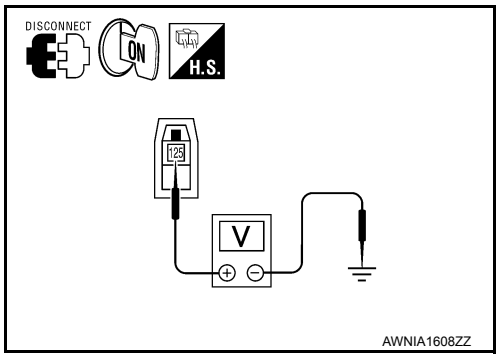
Visually check satellite radio antenna and antenna feeder.

Is inspection result OK?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect AV control unit connector M125.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M125 terminal 125 and ground.



(+)		(-)	Voltage (approx.)
Connector	Terminal		
M125	125	Ground	5V

Is voltage approximately 5 volts?

YES >> Replace satellite radio antenna. Refer to AV-466, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".

U1300 AV COMM CIRCUIT

Description

INFOID:0000000009821059

U1300 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

Self-diagnosis results display item

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1300	• AV COMM CIRCUIT [U1300]	When AV control unit is not transmitting or receiving AV communication signal for 2 seconds or more.	AV communication system.

U1310 AV CONTROL UNIT

Description

INFOID:0000000009821060

Replace the AV control unit if this DTC is displayed. Refer to AV-448, "Removal and Installation".

Part name	Description
AV CONTROL UNIT	• Integrates HDD (hard disk drive) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, and vehicle information functions. • It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function. • It inputs the automatic brightness ON/OFF signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

DTC Logic

INFOID:0000000009821061

DTC	Display contents of CONSULT	DTC Detection Condition	Action to take
U1310	CONTROL UNIT (AV) [U1310]	An initial diagnosis error is detected in AV communication circuit.	Replace AV control unit. Refer to AV-448, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT
AV CONTROL UNIT
AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009821062

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK FUSES

Check that the following AV control unit fuses are not blown.

Unit	Terminals	Signal name	Fuse No.
AV control unit	19	Battery power	31
	7	Ignition switch ACC or ON	4
	68	Ignition switch ON or START	12

Are the fuses OK?

YES >> GO TO 2
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect AV control unit connectors M161 and M165.
2. Check voltage between the AV control unit connectors M161 and M165 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M161	7	Ground	0V	Battery voltage	Battery voltage
	19	Ground	Battery voltage	Battery voltage	Battery voltage
M165	68	Ground	0V	0V	Battery voltage

Are the voltage results as specified?

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

3.GROUND CIRCUIT CHECK

1. Ignition OFF.
2. Disconnect AV control unit connector M163.
3. Check continuity between AV control unit harness connectors M161, M163 and M165 and ground.

Connector	(+)	(-)	Continuity
	Terminal		
M161	20	Ground	Yes
M165	54		
M163	93		
	95		
	99		
	100		
	102		

Are the continuity results as specified?

YES >> Inspection End.
NO >> Repair AV control unit ground.

DISPLAY UNIT

DISPLAY UNIT : Diagnosis Procedure

INFOID:0000000009821063

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK FUSES

Check that the following display unit fuses are not blown.

Unit	Terminals	Signal name	Fuse No.
Display Unit	11	Battery power	31
	23	Ignition switch ACC or ON	4

Are the fuses OK?

YES >> GO TO 2.
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch to ACC
2. Check voltage between display unit harness connector M168 and ground.

(+)		(-)	Value (Approx.)
Connector	Terminal		
M168	11	Ground	Battery voltage
	23		

Does specified voltage exist?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector.
3. Check continuity between display unit harness connector M168 and ground.

(+)		(-)	Continuity
Connector	Terminal		
M168	12	Ground	Yes

Does continuity exist?

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

A/C AND AV SWITCH ASSEMBLY

A/C AND AV SWITCH ASSEMBLY : Diagnosis Procedure

INFOID:0000000009821064

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK FUSE

Check that the A/C and AV switch assembly fuse is not blown.

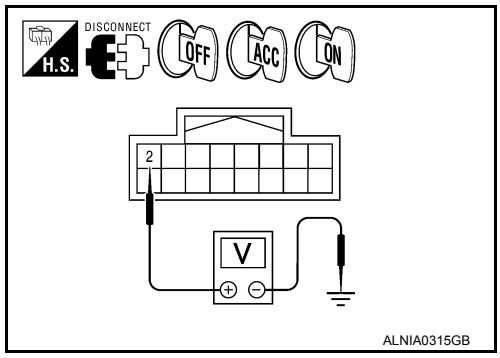
Unit	Terminal	Signal name	Fuse No.
A/C and AV switch assembly	2	Ignition switch ACC or ON	4

Is the fuse OK?

YES >> GO TO 2.
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect A/C and AV switch assembly connector M98.
2. Check voltage between the A/C and AV switch assembly connector M98 and ground.



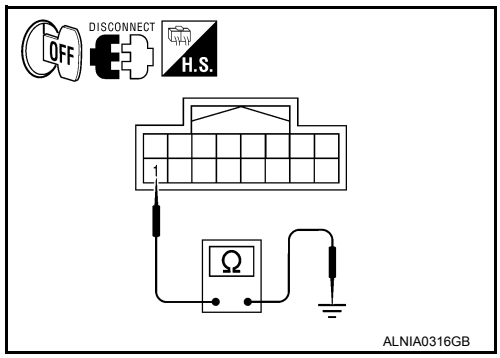
(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M98	2	Ground	0V	Battery voltage	Battery voltage

Are the voltage results as specified?

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

3.GROUND CIRCUIT CHECK

1. Ignition OFF.
2. Check continuity between A/C and AV switch assembly harness connector M98 and ground.



(+)		(-)	Continuity
Connector	Terminal		
M98	1	Ground	Yes

Are the continuity results as specified?

YES >> Inspection End.
NO >> Repair A/C and AV switch assembly ground.

BOSE SPEAKER AMP

BOSE SPEAKER AMP : Diagnosis Procedure

INFOID:0000000009821065

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK FUSE

Check that the BOSE speaker amp. fuse is not blown.

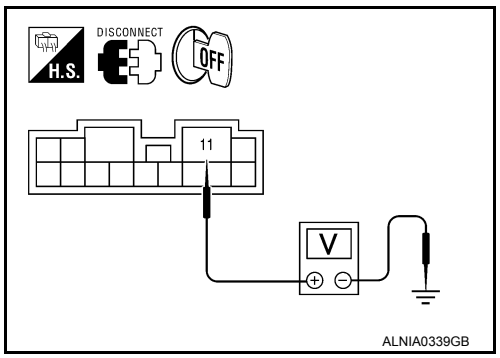
Unit	Terminal	Signal name	Fuse No.
BOSE speaker amp.	11	Battery power	31

Are the fuses OK?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. connector.
3. Check voltage between BOSE speaker amp. harness connector M112 terminal 11 and ground.



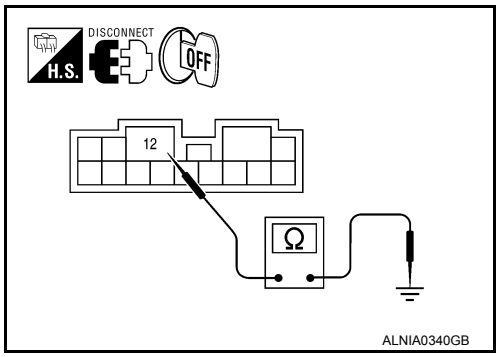
(+)		(-)	Voltage (approx.)
Connector	Terminal		
M112	11	Ground	Battery voltage

Is battery voltage present?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. connector.
3. Check continuity between BOSE speaker amp. harness connector M112 terminal 12 and ground.



(+)		(-)	Continuity
Connector	Terminal		
M112	12	Ground	Yes

Does continuity exist?

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

SUBWOOFER

SUBWOOFER : Diagnosis Procedure

INFOID:0000000009821066

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK FUSE

Check that the subwoofer fuse is not blown.

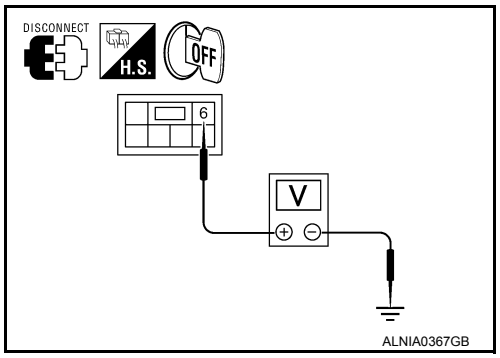
Unit	Terminal	Signal name	Fuse No.
Subwoofer	6	Battery power	17

Is the fuse OK?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect subwoofer connector.
3. Check voltage between subwoofer harness connector B72 terminal 6 and ground.



(+)		(-)	Voltage (approx.)
Connector	Terminal		
B72	6	Ground	Battery voltage

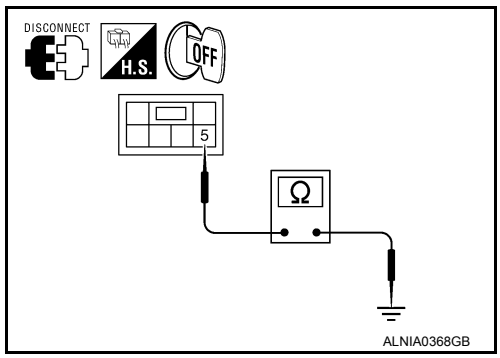
Is battery voltage present?

YES >> GO TO 3.
NO >> Check harness between subwoofer and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between subwoofer harness connector B72 terminal 5 and ground.

(+)		(-)	Continuity
Connector	Terminal		
B72	5	Ground	Yes



Does continuity exist?

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

REAR VIEW CAMERA

REAR VIEW CAMERA : Diagnosis Procedure

INFOID:0000000009821067

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK FUSE

Check that the fuse of the rear view camera is not blown.

Unit	Terminal	Signal name	Fuse No.
Rear view camera	2	Ignition switch ACC or ON	4

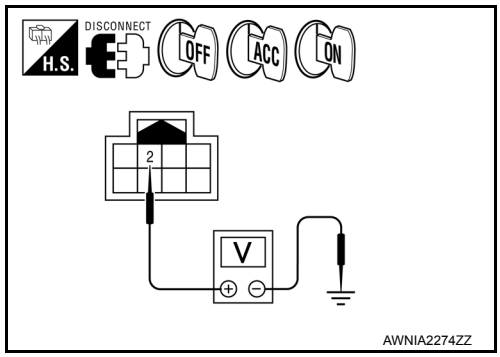
Is the fuse OK?

YES >> GO TO 2.
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect rear view camera connector D504.
2. Check voltage between the rear view camera connector D504 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
D504	2	Ground	0V	Battery voltage	Battery voltage



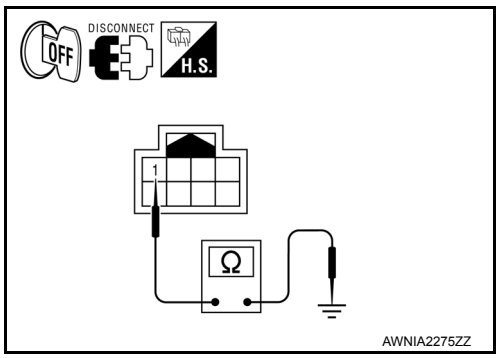
Is the voltage result as specified?

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

3.GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Check continuity between rear view camera harness connector D504 and ground.

Connector	Terminal	—	Continuity
D504	1	Ground	Yes



Is the continuity result as specified?

YES >> Inspection End.
NO >> Repair harness or ground.

HEADREST DISPLAY UNIT

HEADREST DISPLAY UNIT : Diagnosis Procedure

INFOID:0000000009821068

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

PASSENGER SEAT

1.CHECK FUSE

Check that the fuse is not blown.

Terminal	Signal name	Fuse No.
2	Ignition switch ACC or ON	4

Is the fuse OK?

YES >> GO TO 2.
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between headrest display unit (passenger seat) connector B306 and ground.

(+)		(-)	Value (Approx.)
Connector	Terminal		
B306	12	Ground	Battery voltage

Does specified voltage exist?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect headrest display unit (passenger seat) connector.
3. Check continuity between headrest display unit (passenger seat) connector B306 and ground.

Connector	Terminal	—	Continuity
B306	18	Ground	Yes

Does continuity exist?

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

DRIVER SEAT

1.CHECK POWER SUPPLY CIRCUIT

Check voltage between headrest display unit (driver seat) connector B219 and ground.

(+)		(-)	Value (Approx.)
Connector	Terminal		
B219	15	Ground	Battery voltage

Does specified voltage exist?

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

2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect headrest display unit (driver seat) and headrest display unit (passenger seat) connectors.
3. Check continuity between headrest display unit (driver side) connector B219 and headrest display unit (passenger side) connector B306.

Headrest display unit (driver seat)		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	
B219	15	B306	6	Yes

4. Check continuity between headrest display unit (driver side) connector B219 and ground.

Headrest display unit (driver seat)		—	Continuity
Connector	Terminal		
B219	15	Ground	No

Are the continuity test results as specified?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between headrest display unit (driver side) connector B219 and headrest display unit (passenger side) connector B306.

Headrest display unit (driver seat)		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	
B219	16	B306	7	Yes

Does continuity exist?

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

MICROPHONE

MICROPHONE : Diagnosis Procedure

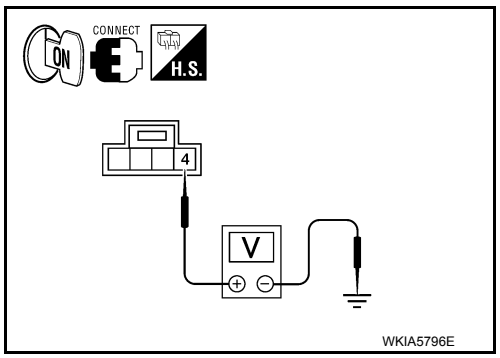
INFOID:0000000009821069

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK POWER SUPPLY CIRCUIT

Check voltage between microphone harness connector R109 terminal 4 and ground.

(+)		(-)	Value (Approx.)
Connector	Terminal		
R109	4	Ground	5V



Is approximately 5V present?

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

2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect microphone and AV control unit harness connectors.
3. Check continuity between microphone harness connector R109 terminal 4 and AV control unit harness connector M165 terminal 60.

Microphone		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
R109	4	M165	60	Yes

4. Check continuity between microphone harness connector R109 terminal 4 and ground.

Microphone		—	Continuity
Connector	Terminal		
R109	4	Ground	No

Are the continuity test results as specified?

YES >> Replace the AV control unit. Refer to AV-448, "Removal and Installation".
NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect microphone harness connector R109 and AV control unit harness connector M165.
3. Check continuity between microphone harness connector R109 terminal 2 and AV control unit harness connector M165 terminal 75.

Microphone		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
R109	2	M165	75	Yes

Does continuity exist?

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

FRONT DOOR SPEAKER

Description

INFOID:0000000009821070

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

Diagnosis Procedure

INFOID:0000000009821071

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or looses terminals

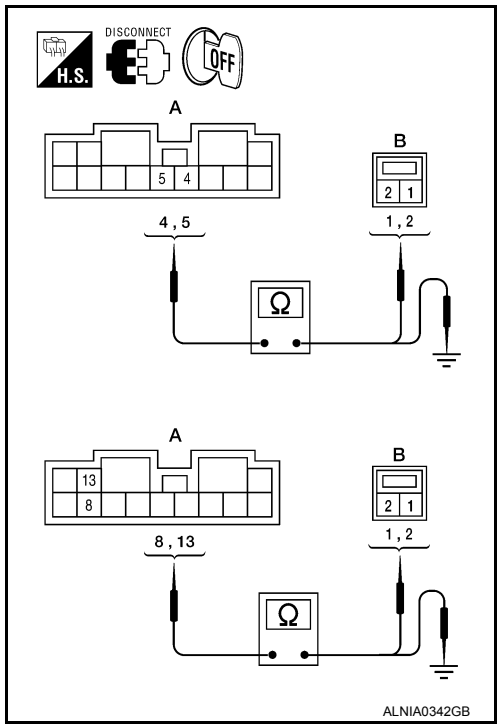
Is the inspection result normal?

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

2.HARNESS CHECK

1. Disconnect BOSE speaker amp. connector M112 and suspect speaker connector.
2. Check continuity between BOSE speaker amp. harness connector M112 (A) and suspect speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M112	4	D12	1	Yes
	5		2	
	8	D112	1	
	13		2	



3. Check continuity between BOSE speaker amp. harness connector M112 (A) and ground.

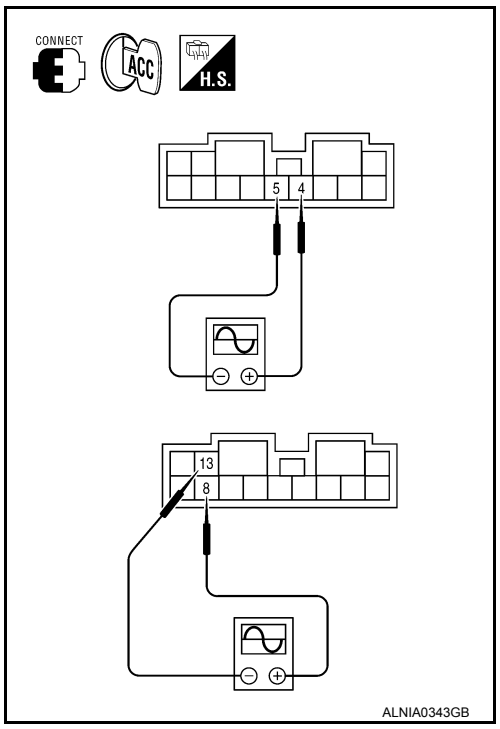
A		—	Continuity
Connector	Terminal		
M112	4	Ground	No
	5		
	8		
	13		

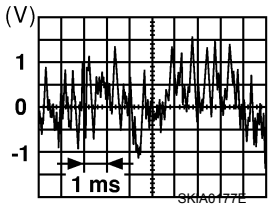
Are continuity test results as specified?

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

3.FRONT SPEAKER SIGNAL CHECK

1. Connect BOSE speaker amp. connector M112 and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between BOSE speaker amp. harness connector M112 terminals with CONSULT or oscilloscope.



Connector	Terminal (+)	Terminal (-)	Condition	Reference signal
M112	4	5	Receive audio signal	
	8	13		

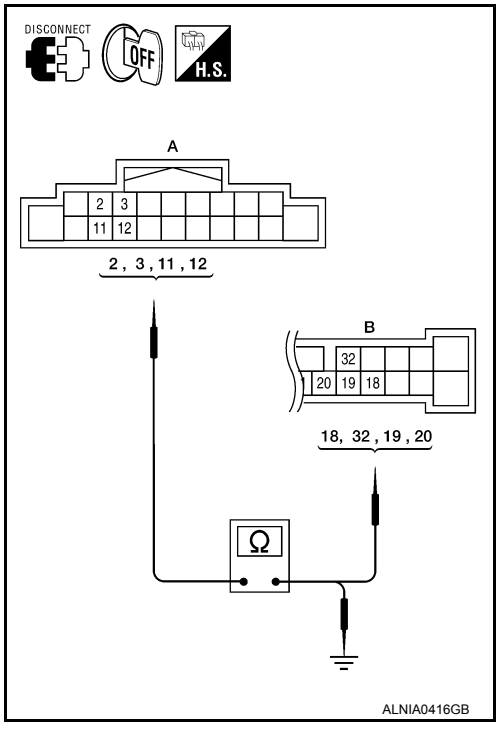
Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to AV-455, "Removal and Installation".

NO >> GO TO 4.

4. HARNESS CHECK

1. Disconnect AV control unit connector M161 and BOSE speaker amp. connector M113.
2. Check continuity between AV control unit harness connector M161 (A) and BOSE speaker amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M161	2	M113	18	Yes
	3		32	
	11		19	
	12		20	

3. Check continuity between AV control unit harness connector M161 (A) and ground.

A		—	Continuity
Connector	Terminal		
M161	2	Ground	No
	3		
	11		
	12		

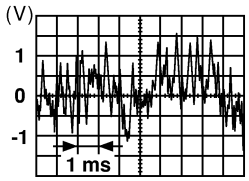
Are continuity test results as specified?

YES >> GO TO 5.

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

5. FRONT SPEAKER SIGNAL CHECK

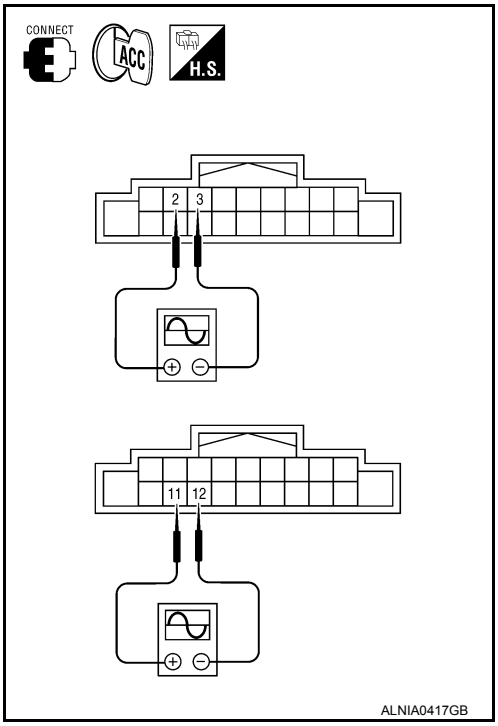
1. Connect AV control unit connector and BOSE speaker amp. connector.
2. Turn ignition switch ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M161 terminals with CONSULT or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M161	2	3	Receive audio signal	 SKIA0177E
	11	12		

Are the audio signal voltage readings as specified?

YES >> Replace BOSE speaker amp. Refer to AV-460, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".



FRONT TWEETER

Description

INFOID:0000000009821072

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

Diagnosis Procedure

INFOID:0000000009821073

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or looses terminals

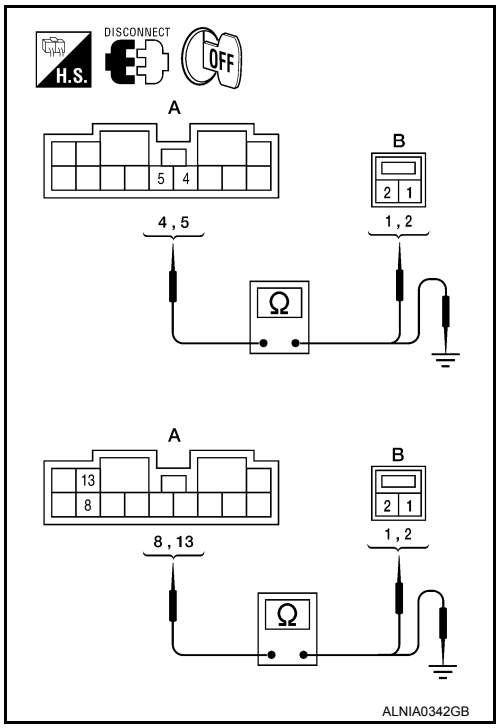
Is the inspection result normal?

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

2.HARNESS CHECK

1. Disconnect BOSE speaker amp. connector M112 and suspect tweeter connector.
2. Check continuity between BOSE speaker amp. harness connector M112 (A) and suspect tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M112	4	M109	1	Yes
	5		2	
	8	M111	1	
	13		2	



3. Check continuity between BOSE speaker amp. harness connector M112 (A) and ground.

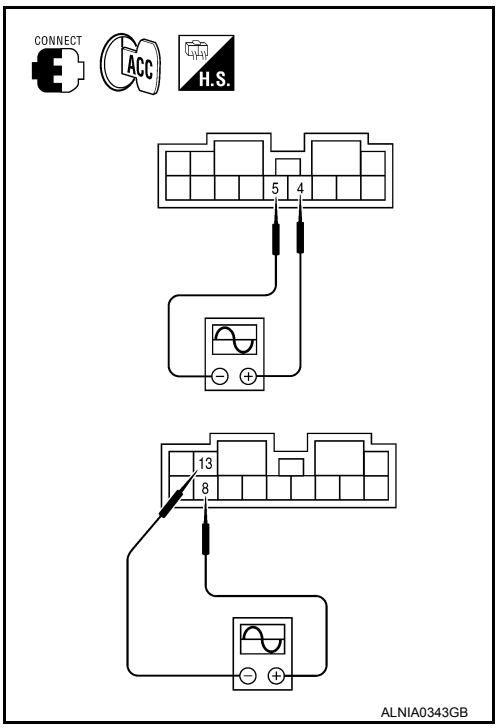
A		—	Continuity
Connector	Terminal		
M112	4	Ground	No
	5		
	8		
	13		

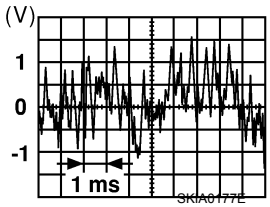
Are continuity test results as specified?

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

3.FRONT TWEETER SIGNAL CHECK

1. Connect BOSE speaker amp. connector M112 and suspect tweeter connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between BOSE speaker amp. harness connector M112 terminals with CONSULT or oscilloscope.



Connector	Terminal		Condition	Reference signal
	(+)	(-)		
M112	4	5	Receive audio signal	
	8	13		

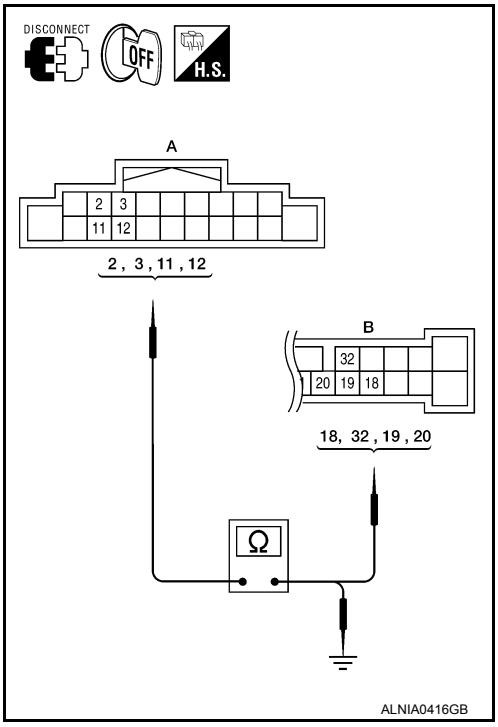
Is audio signal voltage as specified?

YES >> Replace suspect tweeter. Refer to AV-453, "Removal and Installation".

NO >> GO TO 4.

4. HARNESS CHECK

1. Disconnect AV control unit connector M161 and BOSE speaker amp. connector M113.
2. Check continuity between AV control unit harness connector M161 (A) and BOSE speaker amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M161	2	M113	18	Yes
	3		32	
	11		19	
	12		20	

3. Check continuity between AV control unit harness connector M161 (A) and ground.

A		—	Continuity
Connector	Terminal		
M161	2	Ground	No
	3		
	11		
	12		

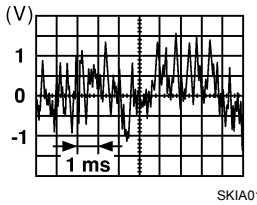
Are continuity test results as specified?

YES >> GO TO 5.

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

5. FRONT SPEAKER SIGNAL CHECK

1. Connect AV control unit connector and BOSE speaker amp. connector.
2. Turn ignition switch ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M161 terminals with CONSULT or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M161	2	3	Receive audio signal	
	11	12		

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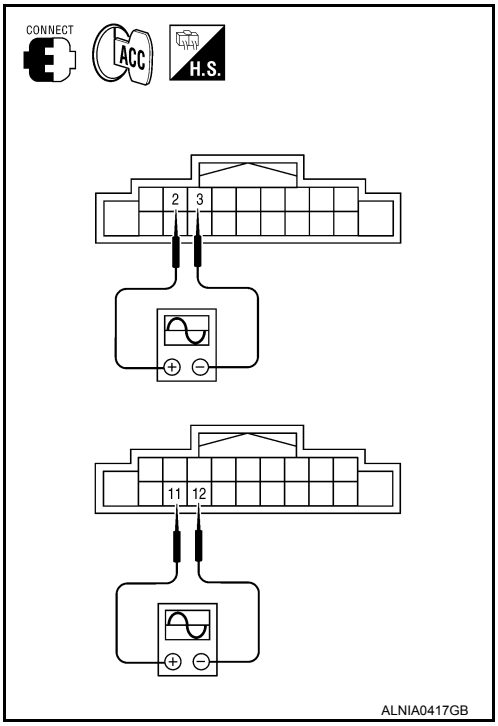
Are the audio signal voltage readings as specified?

YES >> Replace BOSE speaker amp. Refer to AV-460, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".



ALNIA0417GB

CENTER SPEAKER

Description

INFOID:0000000009821074

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

Diagnosis Procedure

INFOID:0000000009821075

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CONNECTOR CHECK

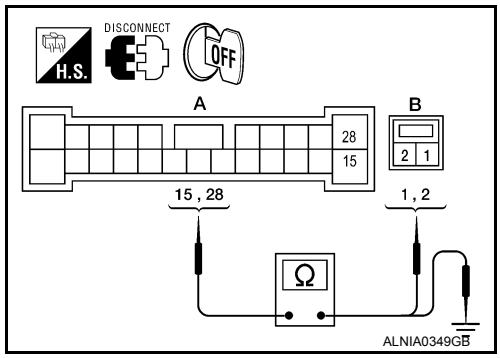
Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or looses terminals

Is the inspection result normal?

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

2.HARNESS CHECK

1. Disconnect BOSE speaker amp. connector M113 and center speaker connector M110.
2. Check continuity between BOSE speaker amp. harness connector M113 (A) and center speaker harness connector M110 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	15	M110	1	Yes
	28		2	

3. Check continuity between BOSE speaker amp. harness connector M113 (A) and ground.

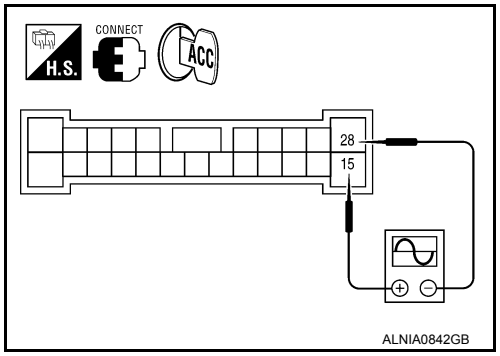
A		—	Continuity
Connector	Terminal		
M113	15	Ground	No
	28		

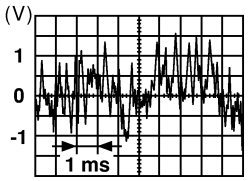
Are continuity test results as specified?

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

3.CENTER SPEAKER SIGNAL CHECK

1. Connect BOSE speaker amp. connector M113 and center speaker connector M110.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between BOSE speaker amp. harness connector M113 terminals with CONSULT or oscilloscope.



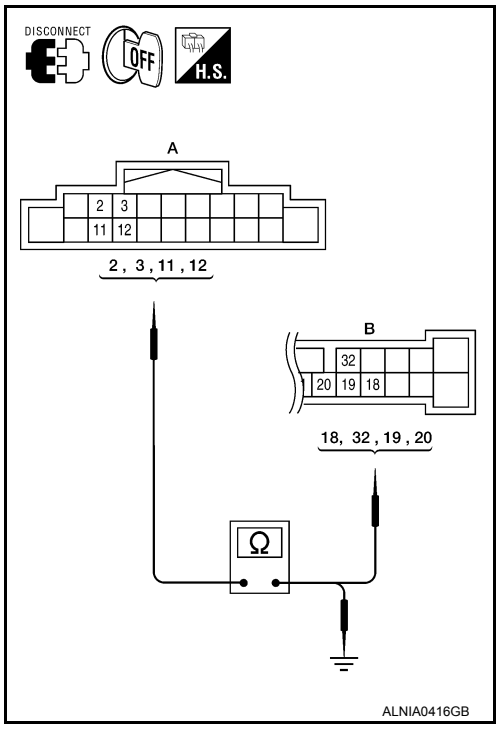
Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	15	28	Receive audio signal	

Is the audio signal voltage reading as specified?

YES >> Replace center speaker. Refer to AV-454, "Removal and Installation".
NO >> GO TO 4.

4. HARNESS CHECK

1. Disconnect AV control unit connector M161 and BOSE speaker amp. connector M113.
2. Check continuity between AV control unit harness connector M161 (A) and BOSE speaker amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M161	2	M113	18	Yes
	3		32	
	11		19	
	12		20	

3. Check continuity between AV control unit harness connector M161 (A) and ground.

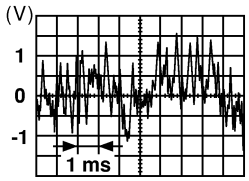
A		—	Continuity
Connector	Terminal		
M161	2	Ground	No
	3		
	11		
	12		

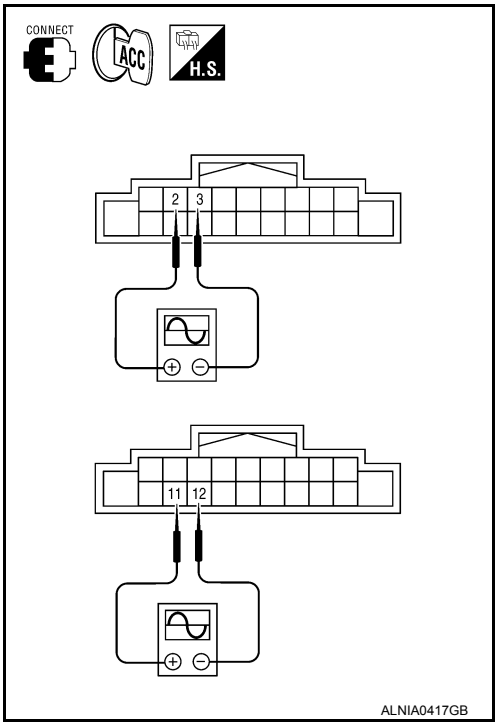
Are continuity test results as specified?

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

5. FRONT SPEAKER SIGNAL CHECK

1. Connect AV control unit connector and BOSE speaker amp. connector.
2. Turn ignition switch ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M161 terminals with CONSULT or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M161	2	3	Receive audio signal	 SKIA0177E
	11	12		



Are the audio signal voltage readings as specified?

YES >> Replace BOSE speaker amp. Refer to AV-460, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".

REAR DOOR SPEAKER

Description

INFOID:0000000009821076

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

Diagnosis Procedure

INFOID:0000000009821077

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or looses terminals

Is the inspection result normal?

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

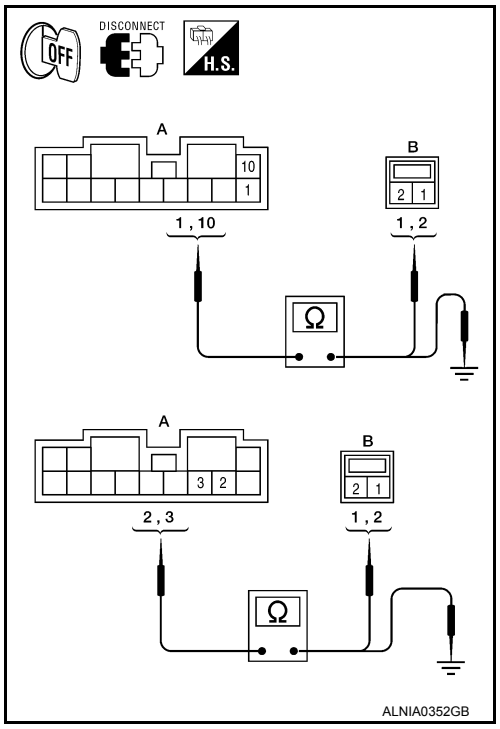
2.HARNESS CHECK

1. Disconnect BOSE speaker amp. connectors M112 and suspect speaker connector.
2. Check continuity between BOSE speaker amp. harness connectors M112 (A) and suspect speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M112	1	D207	1	Yes
	10		2	
	2	D307	1	
	3		2	

3. Check continuity between BOSE speaker amp. harness connectors M112 (A) and ground.

Connector	Terminal	-	Continuity
M112	1	Ground	No
	10		
	2		
	3		

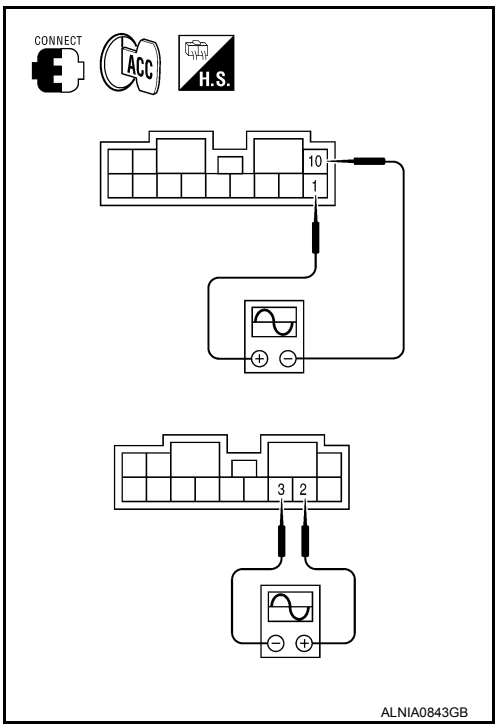


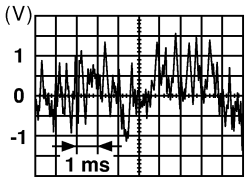
Are the continuity test results as specified?

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

3.REAR DOOR SPEAKER SIGNAL CHECK

1. Connect BOSE speaker amp. connectors and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between BOSE speaker amp. harness connectors M112 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M112	1	10	Receive audio signal	
	2	3		

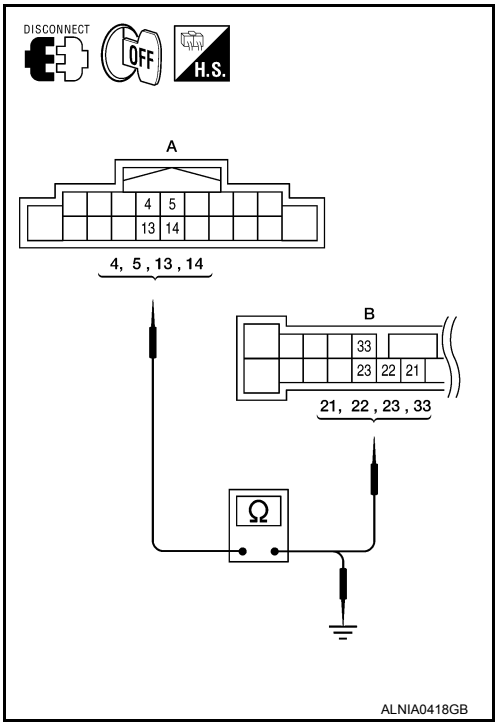
Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to AV-456, "Removal and Installation".

NO >> GO TO 4.

4. HARNESS CHECK

1. Disconnect AV control unit connector M161 and BOSE speaker amp. connector M113.
2. Check continuity between AV control unit harness connector M161 (A) and BOSE speaker amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M161	4	M113	21	Yes
	5		22	
	13		23	
	14		33	

3. Check continuity between AV control unit harness connector M161 (A) and ground.

A		—	Continuity
Connector	Terminal		
M161	4	Ground	No
	5		
	13		
	14		

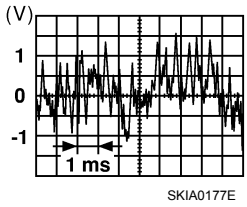
Are the continuity test results as specified?

YES >> GO TO 5.

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

5. REAR DOOR SPEAKER SIGNAL CHECK

1. Connect AV control unit connector M161 and BOSE speaker amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M161 terminals with CONSULT or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M161	4	5	Receive audio signal	
	13	14		

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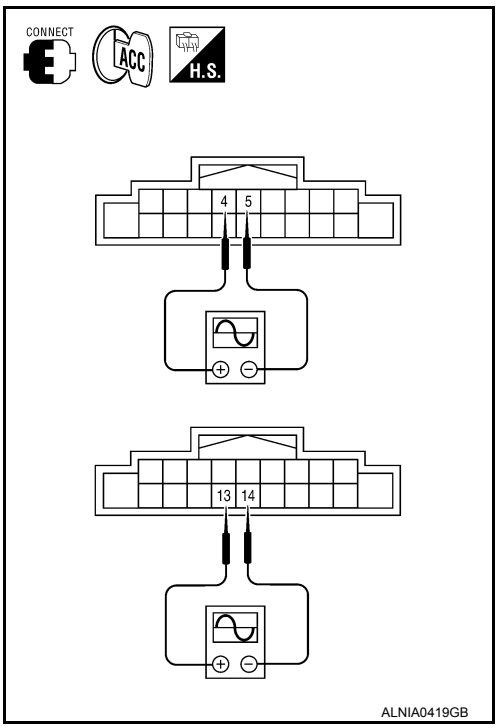
Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to AV-460, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".



ALNIA0419GB

REAR TWEETER

Description

INFOID:0000000009821078

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

Diagnosis Procedure

INFOID:0000000009821079

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or looses terminals

Is the inspection result normal?

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

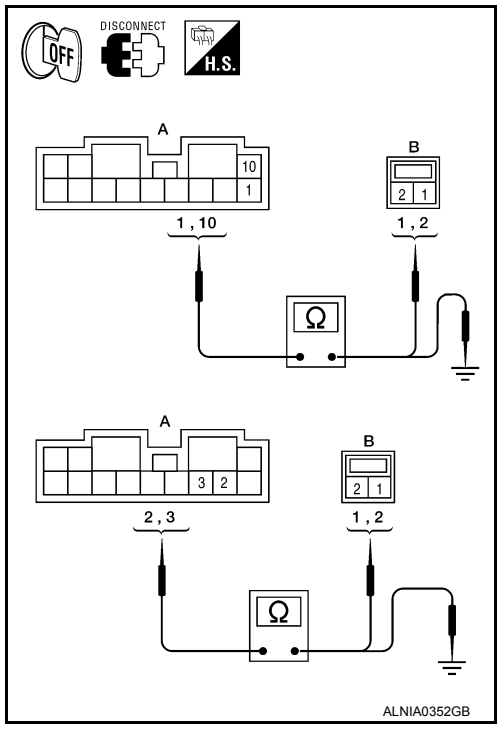
2.HARNESS CHECK

1. Disconnect BOSE speaker amp. connectors M112 and suspect tweeter connector.
2. Check continuity between BOSE speaker amp. harness connectors M112 (A) and suspect tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M112	1	D208	1	Yes
	10		2	
	2	D308	1	
	3		2	

3. Check continuity between BOSE speaker amp. harness connectors M112 (A) and ground.

Connector	Terminal	-	Continuity
M112	1	Ground	No
	10		
	2		
	3		

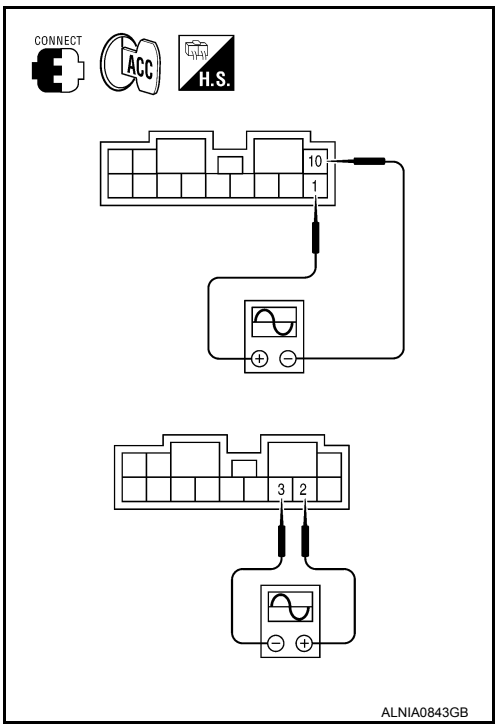


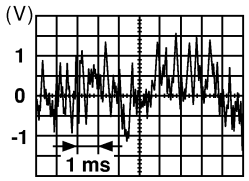
Are the continuity test results as specified?

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

3.REAR TWEETER SIGNAL CHECK

1. Connect BOSE speaker amp. connectors and suspect tweeter connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between BOSE speaker amp. harness connectors M112 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M112	1	10	Receive audio signal	
	2	3		

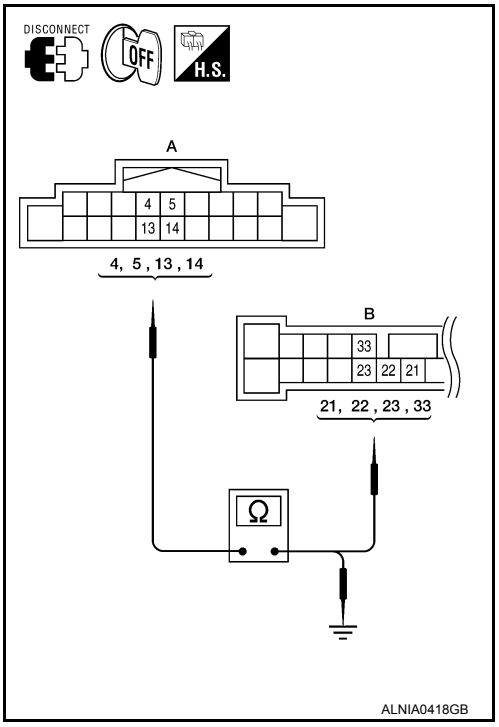
Are audio signal voltage readings as specified?

YES >> Replace suspect tweeter. Refer to AV-456, "Removal and Installation".

NO >> GO TO 4.

4. HARNESS CHECK

1. Disconnect AV control unit connector M161 and BOSE speaker amp. connector M113.
2. Check continuity between AV control unit harness connector M161 (A) and BOSE speaker amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M161	4	M113	21	Yes
	5		22	
	13		23	
	14		33	

3. Check continuity between AV control unit harness connector M161 (A) and ground.

A		—	Continuity
Connector	Terminal		
M161	4	Ground	No
	5		
	13		
	14		

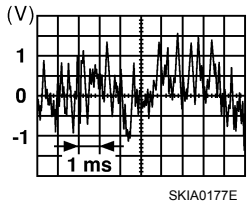
Are the continuity test results as specified?

YES >> GO TO 5.

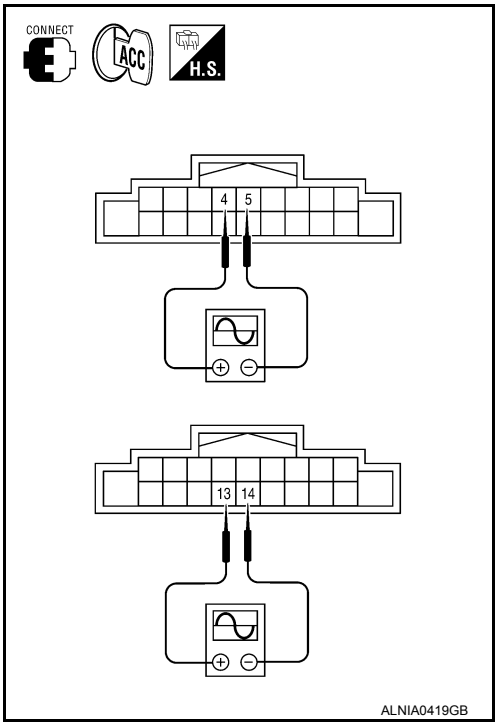
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

5. REAR DOOR SPEAKER SIGNAL CHECK

1. Connect AV control unit connector M161 and BOSE speaker amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M161 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M161	4	5	Receive audio signal	
	13	14		

SKIA0177E



ALNIA0419GB

Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to AV-460, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".

BACK DOOR SPEAKER

Description

INFOID:0000000009821080

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

Diagnosis Procedure

INFOID:0000000009821081

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or looses terminals

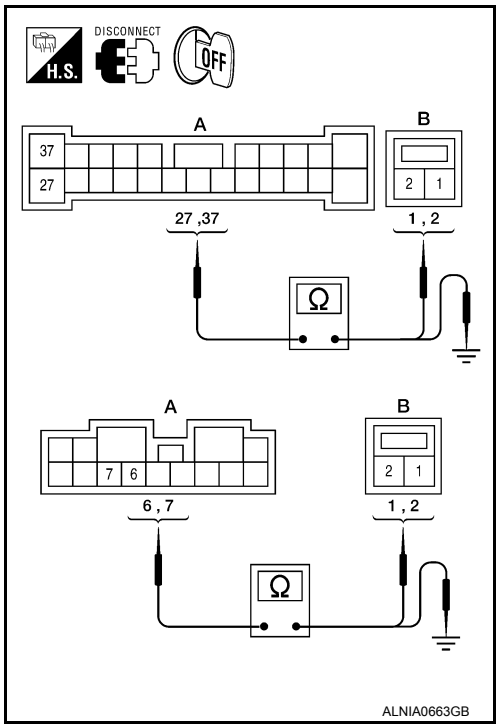
Is the inspection result normal?

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

2.HARNESS CHECK

1. Disconnect BOSE speaker amp. connectors and suspect speaker connector.
2. Check continuity between BOSE speaker amp. harness connectors M112 and M113 (A) and suspect speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M112	6	D518	1	Yes
	7		2	
M113	37	D716	1	
	27		2	



3. Check continuity between BOSE speaker amp. harness connectors M112 and M113 (A) and ground.

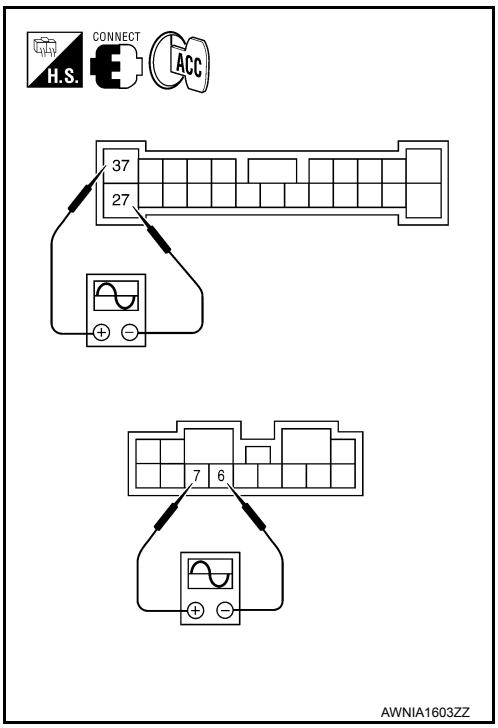
Connector	Terminal	-	Continuity
M112	6	Ground	No
	7		
M113	27		
	37		

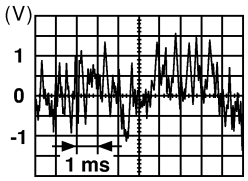
Are the continuity test results as specified?

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

3.BACK DOOR SPEAKER SIGNAL CHECK

1. Connect BOSE speaker amp. connectors and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between BOSE speaker amp. harness connectors M113 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M112	7	6	Receive audio signal	
M113	37	27		

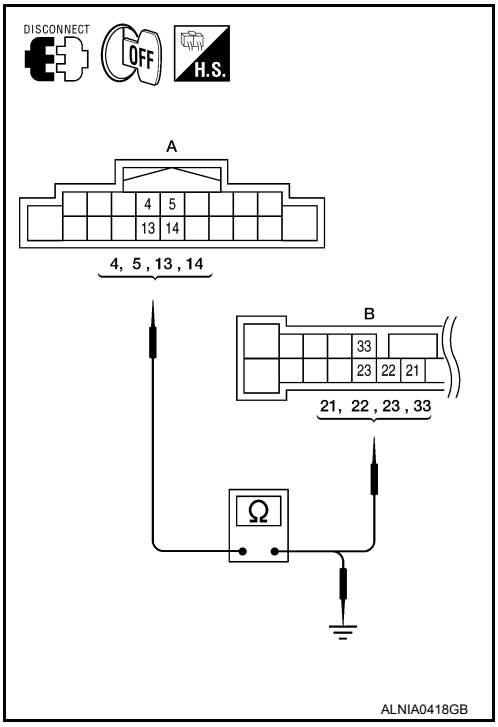
SKIA0177E

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to AV-457, "Removal and Installation".
NO >> GO TO 4.

4. HARNESS CHECK

1. Disconnect AV control unit connector M161 and BOSE speaker amp. connector M113.
2. Check continuity between AV control unit harness connector M161 (A) and BOSE speaker amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M161	4	M113	21	Yes
	5		22	
	13		23	
	14		33	

3. Check continuity between AV control unit harness connector M161 (A) and ground.

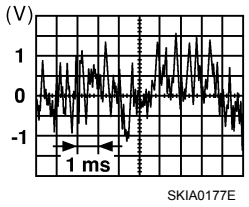
A		—	Continuity
Connector	Terminal		
M161	4	Ground	No
	5		
	13		
	14		

Are the continuity test results as specified?

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

5. REAR DOOR SPEAKER SIGNAL CHECK

1. Connect AV control unit connector M161 and BOSE speaker amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M161 terminals with CONSULT or oscilloscope.

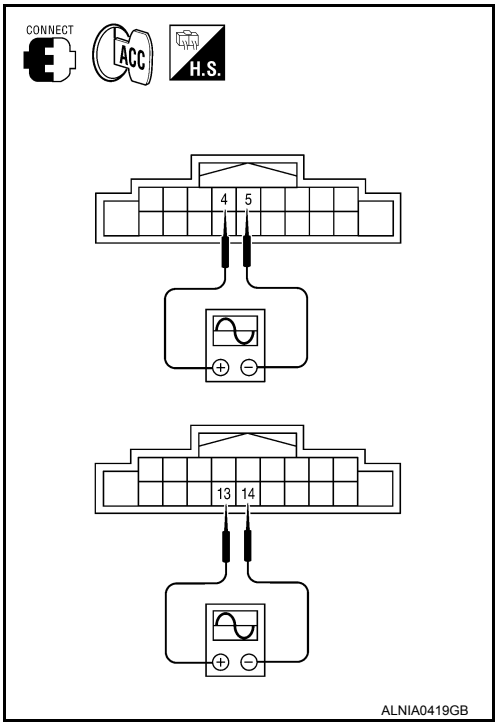
Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M161	4	5	Receive audio signal	
	13	14		

SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to AV-460, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".



ALNIA0419GB

SUBWOOFER

Description

INFOID:0000000009821082

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

Diagnosis Procedure

INFOID:0000000009821083

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and subwoofer connectors for the following:
- Proper connection
- Damage
- Disconnected or looses terminals

Is the inspection result normal?

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

2.VERIFY SUBWOOFER POWER AND GROUND SUPPLY

Check power and ground supply to the subwoofer. Refer to AV-349, "SUBWOOFER : Diagnosis Procedure".

Did the power and ground supply check OK?

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

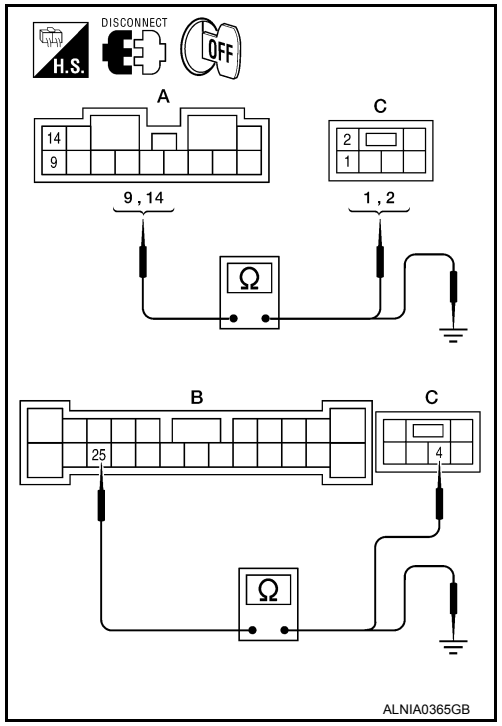
3.HARNESS CHECK

1. Disconnect BOSE speaker amp. connector M112 and subwoofer connector.
2. Check continuity between BOSE speaker amp. harness connector M112 (A) and M113 (B) and subwoofer harness connector B72 (C).

Connector	Terminal	Connector	Terminal	Continuity
A: M112	9	C: B72	2	Yes
	14		1	
B: M113	25		4	

3. Check continuity between BOSE speaker amp. harness connector M112 (A) and M113 (B) and ground.

Connector	Terminal	-	Continuity
A: M112	9	Ground	No
	14		
B: M113	25		

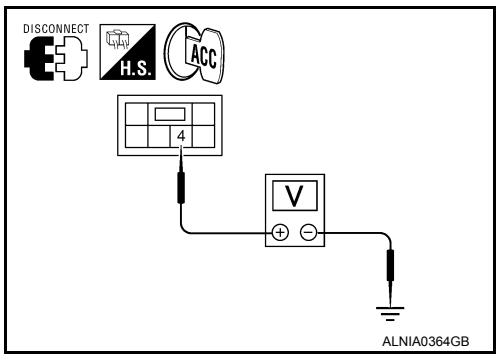


Are the continuity test results as specified?

YES >> GO TO 4.
NO >>
- Check connector housings for disconnected or loose terminals.
- Repair harness or connector.

4.SUBWOOFER AMP ON SIGNAL CHECK

1. Connect BOSE speaker amp. connector M112.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check voltage between subwoofer connector B72 terminal 4 and ground.



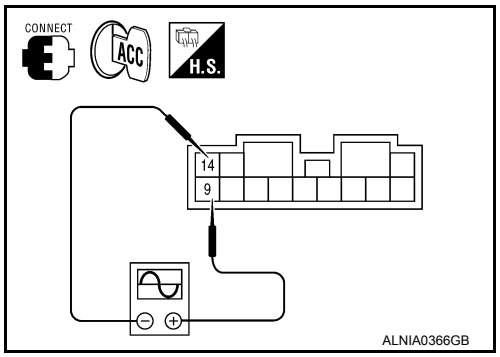
(+)		(-)	ACC
Connector	Terminal		
B72	4	Ground	Battery voltage

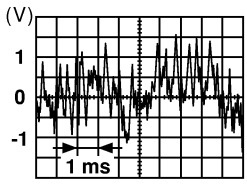
Are the voltage test results as specified?

YES >> GO TO 5.
NO >> Replace BOSE speaker amp. Refer to AV-460, "Removal and Installation".

5. SUBWOOFER AUDIO SIGNAL CHECK

1. Connect BOSE speaker amp. connector M112 and subwoofer connector B72.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between BOSE speaker amp. harness connector M112 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M112	9	14	Receive audio signal	

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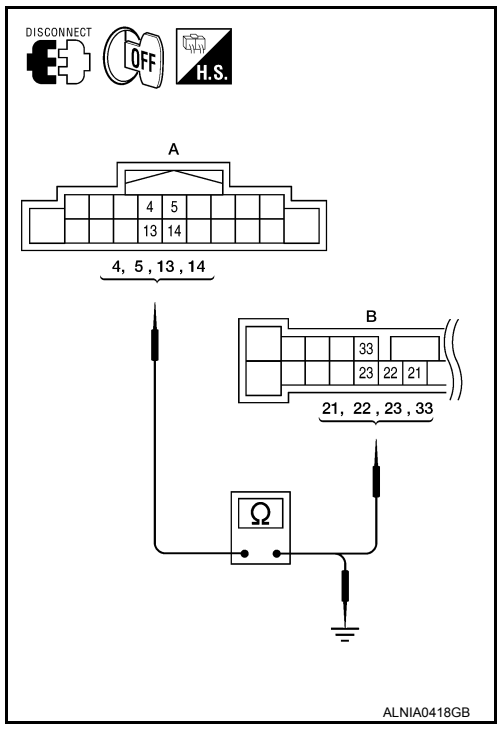
Is the audio signal voltage as specified?

YES >> Replace subwoofer. Refer to AV-458, "Removal and Installation".
NO >> GO TO 6.

6. HARNESS CHECK

1. Disconnect AV control unit connector M161 and BOSE speaker amp. connector M113.
2. Check continuity between AV control unit harness connector M161 (A) and BOSE speaker amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M161	4	M113	21	Yes
	5		22	
	13		23	
	14		33	

3. Check continuity between AV control unit harness connector M161 (A) and ground.

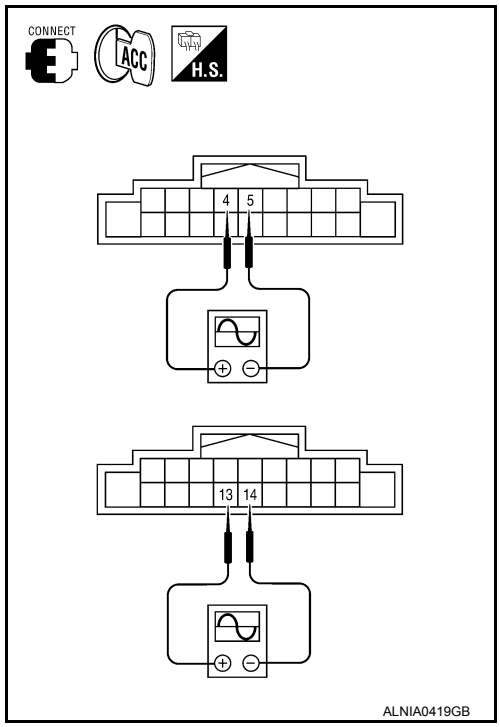
A		—	Continuity
Connector	Terminal		
M161	4	Ground	No
	5		
	13		
	14		

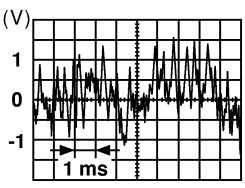
Are the continuity test results as specified?

YES >> GO TO 7.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

7. SUBWOOFER SPEAKER SIGNAL CHECK

1. Connect AV control unit connector M161 and BOSE speaker amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M161 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M161	4	5	Receive audio signal	
	13	14		

Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to AV-460, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".

RGB DIGITAL IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000009821084

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK RGB DIGITAL IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M130 and display unit connector M131.
3. Check continuity between AV control unit connector M130 and display unit connector M131.

AV control unit		Display unit		Continuity
Connector	Terminals	Connector	Terminals	
M130	134	M131	28	Yes
	135		27	

4. Check continuity between AV control unit connector M130 and ground.

AV control unit		Ground	Continuity
Connector	Terminals		
M130	135	—	No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK RGB DIGITAL IMAGE SIGNAL

1. Connect AV control unit connector M130.
2. Turn ignition switch ON.
3. Check signal between display unit connector M131 and ground.

Display unit connector M131		Condition	Voltage (Approx.)
(+)	(−)		
Terminal	Terminal		
27	28	Audio system is ON.	1.3 V

Is the inspection result normal?

YES >> Replace display unit. Refer to AV-451, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".

COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO FRONT DISPLAY UNIT)

Diagnosis Procedure

INFOID:0000000009821085

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK COMPOSITE IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M165 and display unit connector M168.
3. Check continuity between AV control unit connector M165 and display unit connector M168.

AV control unit		Display unit		Continuity
Connector	Terminal	Connector	Terminal	
M165	56	M168	18	Yes
	55		19	

4. Check continuity between AV control unit connector M165 and ground.

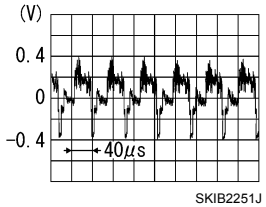
AV control unit		Ground	Continuity
Connector	Terminal		
M165	56	—	No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK COMPOSITE IMAGE SIGNAL

1. Connect AV control unit connector M165 and display unit connector M168.
2. Turn ignition switch ON.
3. Check signal between AV control unit connector M165 and ground.

AV control unit connector M165		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
56	55	DVD image is displayed.	

SKIB2251J

Is the inspection result normal?

YES >> Replace display unit. Refer to AV-451, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".

AMP ON SIGNAL CIRCUIT

Description

INFOID:0000000009821086

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

Diagnosis Procedure

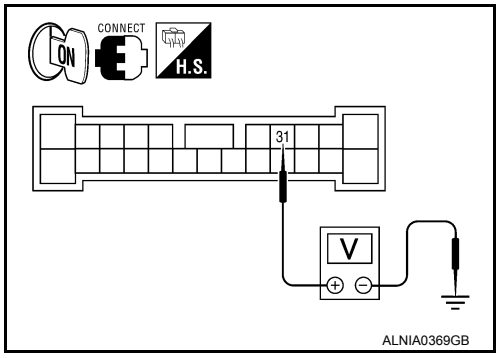
INFOID:0000000009821087

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK AMP ON SIGNAL (BOSE SPEAKER AMP)

1. Turn audio system ON.
2. Check voltage between BOSE speaker amp. harness connector M113 terminal 31 and ground.

(+)		(-)	ACC
Connector	Terminal		
M113	31	Ground	Battery voltage



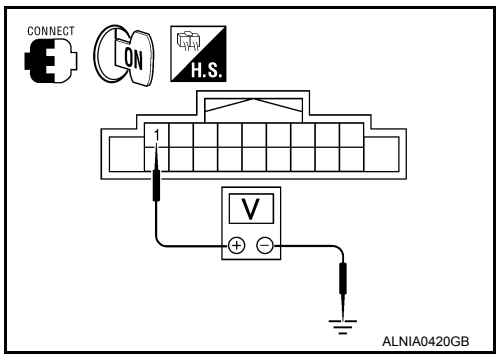
Is battery voltage present?

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

2.CHECK AMP ON SIGNAL (AV CONTROL UNIT)

Check voltage between AV control unit harness connector M161 terminal 1 and ground.

(+)		(-)	ACC
Connector	Terminal		
M161	1	Ground	Battery voltage



Is battery voltage present?

YES >> Repair harness or connector.
NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".

STEERING SWITCH

Description

INFOID:0000000009821088

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

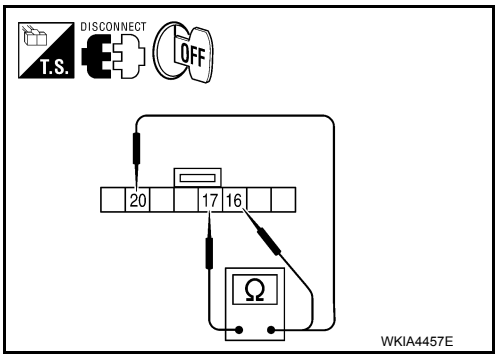
Diagnosis Procedure

INFOID:0000000009821089

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Disconnect combination switch connector M102.
2. Check resistance between combination switch connector terminals.



Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
16	17	Volume (down)	Depress − switch.	1
		Volume (up)	Depress + switch.	121
		Phone	Depress switch.	321
		Back	Depress switch.	723
20	17	Source	Depress SOURCE switch.	1
		Seek (up)	Depress △ switch.	121
		Seek (down)	Depress ▽ switch.	321
		Phone/Send	Depress switch.	723
		Enter	Depress ENTER switch.	2023

Do the steering wheel audio control switches check OK?

YES >> GO TO 2.
NO >> Replace steering wheel audio control switch. Refer to AV-459, "Removal and Installation".

2.CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M161 and combination switch connector M30.
3. Check continuity between AV control unit harness connector M161 and combination switch harness connector M30.

AV control unit		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M161	6	M30	24	Yes
	15		31	
	16		25	

4. Check continuity between AV control unit connector M161 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M161	6	Ground	No
	15		
	16		

Are the continuity results as specified?

YES >> GO TO 3.
NO >> Repair harness.

3. SPIRAL CABLE CHECK

Check continuity between combination switch harness connectors M30 and M102.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M102	20	Yes
	31		17	
	25		16	

Does the spiral cable check OK?

YES >> Inspection End.
NO >> Replace spiral cable. Refer to SR-7, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000009821090

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

Diagnosis Procedure

INFOID:0000000009821091

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK HARNESS BETWEEN AV CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and microphone connector.
3. Check continuity between AV control unit harness connector M165 and microphone harness connector R109.

AV control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M165	59	R109	1	Yes
	75		2	
	60		4	

4. Check continuity between AV control unit harness connector M165 and ground.

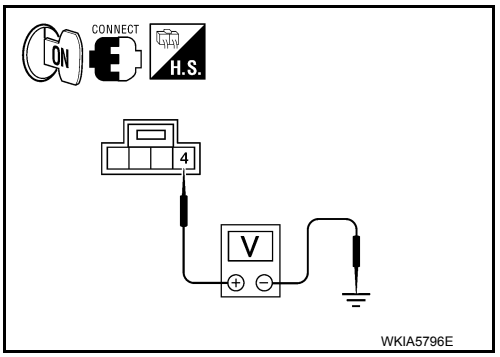
AV control unit		—	Continuity
Connector	Terminal		
M165	59	Ground	No
	60		
	75		

Are the continuity test results as specified?

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

2.CHECK MICROPHONE POWER SUPPLY

1. Connect AV control unit connector and microphone connector.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector R109 terminal 4 and ground.



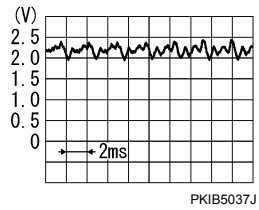
(+)		(-)	Voltage (approx)
Connector	Terminal		
R109	4	Ground	5V

Is voltage reading approx. 5 volts?

YES >> GO TO 3.
NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

Check signal between AV control unit harness connector M165 terminals 75 and 59.

Connector	(+)	(-)	Reference signal
	Terminal	Terminal	
M165	75	59	While speaking into MIC  PKIB5037J

Are voltage readings as specified?

YES >> Replace AV control unit. Refer to AV-448, "Removal and Installation".
NO >> Replace microphone. Refer to AV-468, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000009821092

Rear view camera signals are transmitted from the rear view camera to the AV control unit using the camera signal circuits.

Diagnosis Procedure

INFOID:0000000009821093

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK REVERSE POSITION INPUT SIGNAL

NOTE:
Apply parking brakes before proceeding.
1. Turn ignition switch ON.
2. Shift transmission into reverse.
3. Check voltage between AV control unit harness connector M165 terminal 69 and ground.

(+)		(-)	Transmission position	Value (Approx.)
Connector	Terminal			
M165	69	Ground	Reverse	12V

Is voltage reading approximately 12 volts?

YES >> GO TO 2
NO >> Check harness for open or short between AV control unit and back-up lamp relay.

2.CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect display unit connector M168 and rear view camera connector D504.
3. Check continuity between display unit harness connector M168 terminals 7, 8, 21 and rear view camera harness connector D504 terminals 3, 5 and 6.

8 - 6 : Continuity should exist.
7 - 5 : Continuity should exist.
21 - 3 : Continuity should exist.

4. Check continuity between display unit harness connector M168 terminals 7, 8, 21 and ground.

7, 8, 21 - Ground : Continuity should not exist.

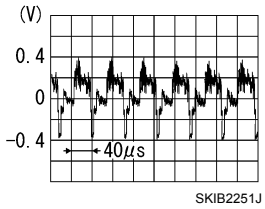
Is inspection result OK?

YES >> GO TO 3
NO >> Repair harness or connector.

3.CHECK CAMERA IMAGE SIGNAL

1. Connect display unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift transmission into reverse.
4. Check signal between display unit harness connector M168 terminals 8 and 7.

8 - 7 :



SKIB2251J

Is inspection result OK?

YES >> Replace display unit. Refer to AV-451, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-469, "Removal and Installation".

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000009821094

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M173 and USB interface connector M214.
3. Check continuity between AV control unit connector M173 and USB interface connector M214.

AV control unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M173	127	M214	4	Yes
	128		1	
	129		3	
	130		2	
	131		5	

4. Check continuity between AV control unit connector M173 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M173	127	Ground	No
	129		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-464, "Removal and Installation".
NO >> Repair or replace harness or connectors.

FRONT AUXILIARY INPUT JACK AUDIO SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000009821095

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK AUX SOUND SIGNAL CIRCUIT CONTINUITY 1

1. Turn ignition switch OFF.
2. Disconnect front auxiliary input jacks connector M206 and headrest display unit (passenger seat) connector B306.
3. Check continuity between front auxiliary input jacks connector M206 terminals 1, 3 and headrest display unit (passenger seat) connector B306 terminals 4, 5.

Front auxiliary input jacks		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	
M206	1	B306	4	Yes
	3		5	

4. Check continuity between front auxiliary input jacks connector M206 terminals 1, 3 and ground.

Front auxiliary input jacks		Ground	Continuity
Connector	Terminal		
M206	1	—	No
	3		

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK AUX SOUND SIGNAL CIRCUIT CONTINUITY 2

1. Disconnect AV control unit connector M177.
2. Check continuity between AV control unit connector M177 terminals 38, 24 and headrest display unit (passenger seat) connector B306 terminals 14, 15.

AV control unit		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	
M177	38	B306	14	Yes
	24		15	

3. Check continuity between AV control unit connector M177 terminals 38, 24 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M177	38	—	No
	241		

Is inspection result normal?

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

3.CHECK AUX SOUND SIGNAL GROUND CIRCUIT CONTINUITY 1

Check continuity between front auxiliary input jacks connector M206 terminal 2 and headrest display unit (passenger seat) connector B306 terminal 3.

Front auxiliary input jacks		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	
M206	2	B306	3	Yes

Is inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4. CHECK AUX SOUND SIGNAL GROUND CIRCUIT CONTINUITY 2

Check continuity between AV control unit connector M177 terminal 39 and headrest display unit (passenger seat) connector B306 terminal 13.

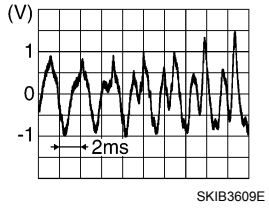
AV control unit		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	
M177	39	B306	13	Yes

Is inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness or connectors.

5. CHECK AUX SOUND SIGNAL

1. Connect AV control unit connector M177 and headrest display unit (passenger seat) connector B306.
2. Turn ignition switch to ACC.
3. Select AUX mode.
4. Check signals between AV control unit connector M177 and ground.

AV control unit connector M177		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
38	24	AUX mode selected	
24	39		

SKIB3609E

Is the inspection result normal?

YES >> Replace front auxiliary input jacks. Refer to AV-463, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".

HEADREST DISPLAY UNIT

Diagnosis Procedure

INFOID:0000000009821096

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK VIDEO SIGNAL CIRCUITS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect headrest display unit (passenger seat) and headrest display unit (driver seat) connectors.
3. Check continuity between headrest display unit (passenger seat) connector B306 and headrest display unit (driver seat) connector B219.

Headrest display unit (passenger seat)		Headrest display unit (driver seat)		Continuity
Connector	Terminal	Connector	Terminal	
B306	10	B219	11	Yes
	23		3	

4. Check continuity between headrest display unit (passenger seat) connector B306 and ground.

Headrest display unit (passenger seat)		Ground	Continuity
Connector	Terminal		
B306	10	—	No
	23		

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK MONITOR SIGNAL CIRCUITS CONTINUITY

1. Check continuity between headrest display unit (passenger seat) connector B306 and headrest display unit (driver seat) connector B219.

Headrest display unit (passenger seat)		Headrest display unit (driver seat)		Continuity
Connector	Terminal	Connector	Terminal	
B306	19	B219	7	Yes
	20		8	

2. Check continuity between headrest display unit (passenger seat) connector B306 and ground.

Headrest display unit (passenger seat)		Ground	Continuity
Connector	Terminal		
B306	19	—	No
	20		

Is inspection result normal?

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

3.CHECK AUDIO SIGNAL CIRCUITS CONTINUITY

1. Check continuity between headrest display unit (passenger seat) connector B306 and headrest display unit (driver seat) connector B219.

Headrest display unit (passenger seat)		Headrest display unit (driver seat)		Continuity
Connector	Terminal	Connector	Terminal	
B306	8	B219	13	Yes
	9		14	
	21		5	
	22		6	

2. Check continuity between headrest display unit (passenger seat) connector B306 and ground.

Headrest display unit (passenger seat)		Ground	Continuity
Connector	Terminal		
B306	8	—	No
	9		
	21		
	22		

Is inspection result normal?

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

ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

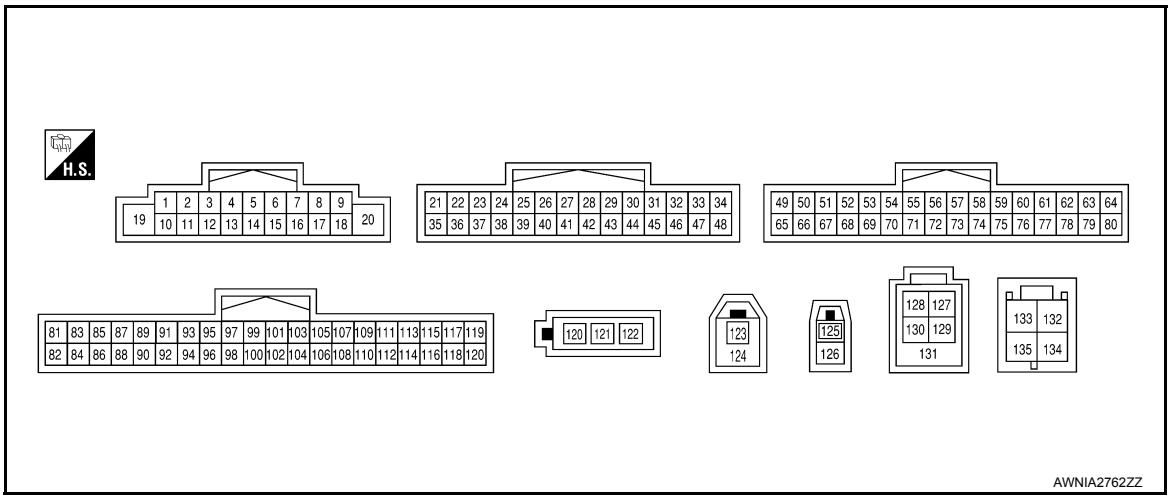
INFOID:0000000009821097

VALUES ON THE DIAGNOSIS TOOL

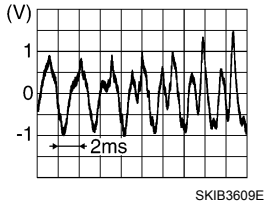
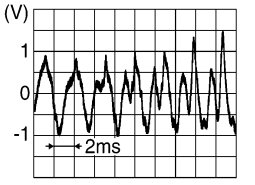
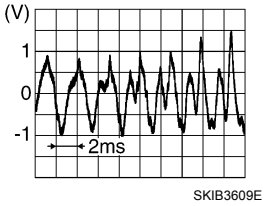
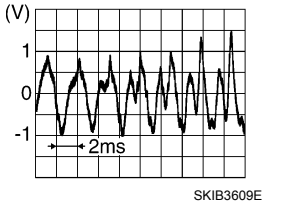
CONSULT data monitor item

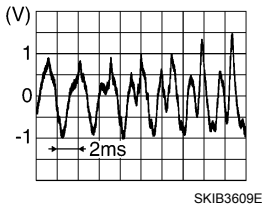
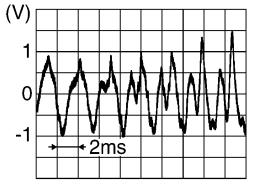
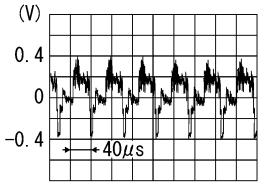
Display Item	Display	Vehicle status	Remarks
VHCL SPD SIG	ON	Vehicle speed >0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed =0 km/h (0 MPH)	
PKB SIG	ON	Parking brake is applied.	Changes in indication may be delayed. This is normal.
	OFF	Parking brake is released.	
ILLUM SIG	ON	Block the light beam from the auto light optical sensor when the light SW is ON.	—
	OFF	Expose the auto light optical sensor to light when the light SW is OFF or ON.	
IGN SIG	ON	Ignition switch ON	—
	OFF	Ignition switch in ACC position	
REV SIG	ON	Selector lever in R position	Changes in indication may be delayed. This is normal.
	OFF	Selector lever in any position other than R	

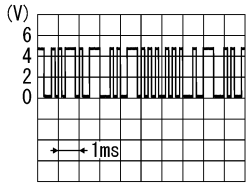
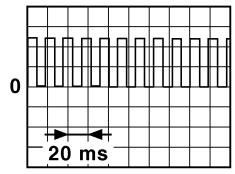
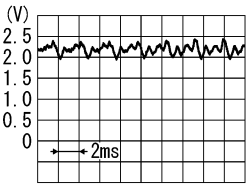
TERMINAL LAYOUT

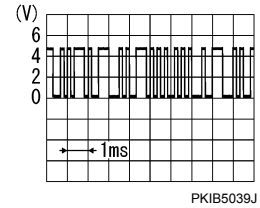
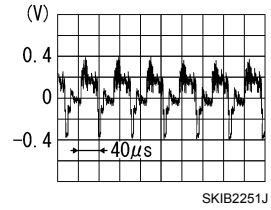
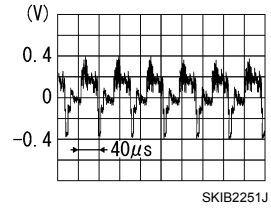


PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (GR/L)	Ground	Amp. ON signal	Output	Ignition switch ON	—	12V
2 (LG)	3 (V)	Pre-amp. audio signal front LH	Output	Ignition switch ON	Audio output	 SKIB3609E
4 (L)	5 (B/W)	Pre-amp. audio signal rear LH	Output	Ignition switch ON	Audio output	 SKIB3609E
6 (Y)	Ground	Steering switch signal A	Input	Ignition switch ON	Press and hold SOURCE switch.	0V
					Press and hold △ switch.	1.0V
					Press and hold ▽ switch.	2.0V
					Press and hold switch.	3.0V
					Press and hold ENTER switch.	4.0V
					Except for above.	5.0V
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	–	Battery voltage
10	—	Shield	—	—	—	—
11 (BR)	12 (B/R)	Pre-amp. audio signal front RH	Output	Ignition switch ON	Audio output	 SKIB3609E
13 (W)	14 (B)	Audio signal rear RH	Output	Ignition switch ON	Audio output	 SKIB3609E
15	Ground	Steering switch signal ground	—	Ignition switch ON	—	0V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
16 (BR)	Ground	Steering switch signal B	Input	Ignition switch ON	Press and hold – switch	0V
					Press and hold + switch	1.0V
					Press and hold switch	2.0V
					Press and hold switch.	3.0V
					Except for above	5.0V
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
20 (B)	Ground	Ground	—	Ignition switch ON	—	0V
24 (W)	39 (B)	AUX sound signal LH	Input	Ignition switch ON	When front AUX mode is selected.	 SKIB3609E
37	—	Shield	—	—	—	—
38 (R)	39 (B)	AUX sound signal RH	Input	Ignition switch ON	When front AUX mode is selected.	 SKIB3609E
53 (G)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake is applied.	0 V
					Parking brake is released.	4.5 V
54 (B)	Ground	Ground	—	Ignition switch ON	—	0V
55 (R)	Ground	Composite image signal ground	—	Ignition switch ON	—	0 V
56 (W)	Ground	Composite image signal	Output	Ignition switch ON	At DVD image is displayed.	 SKIB2251J
59	—	Shield	—	—	—	—
60 (W)	Ground	Microphone VCC	Output	Ignition switch ON	—	5.0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
61 (V)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
62 (P)	—	CAN–L	Input/ Output	—	—	—
63 (P/B)	—	AV communication signal (L)	Input/ Output	—	—	—
64 (B/P)	—	AV communication signal (L)	Input/ Output	—	—	—
67 (R/L)	—	MR output	—	—	—	—
68 (G/R)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
69 (G/W)	Ground	Reverse signal	Input	Ignition switch ON	Selector lever is in R position.	Battery voltage
					Selector lever is in other than R position.	0 V
70 (W/R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
71	—	Shield	—	—	—	—
72 (B)	Ground	Ground	Input	Ignition switch ON	—	0V
75 (B)	59	Microphone signal	Input	Ignition switch ON	Give a voice.	 PKIB5037J
76	—	Shield	—	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
77 (LG)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
78 (L)	—	CAN–H	Input/ Output	—	—	—
79 (W/L)	—	AV communication signal (H)	Input/ Output	—	—	—
80 (L/W)	—	AV communication signal (H)	Input/ Output	—	—	—
91 (W)	Ground	AUX image signal	Input	Ignition switch ON	At front AUX image is displayed.	 SKIB2251J
92 (B)	Ground	AUX image signal ground	—	Ignition switch ON	—	0 V
93 (B)	Ground	Ground	Input	Ignition switch ON	—	0V
94	—	Shield	—	—	—	—
95 (B)	Ground	Camera image signal	Input	Ignition switch ON	Camera image displayed	 SKIB2251J
97 (SB)	Ground	Disk eject signal	Input	Ignition switch ON	Pressing the eject switch.	0 V
					Except for above.	5.0 V
98 (B)	Ground	Switch ground	—	Ignition switch ON	—	0 V
99 (B)	Ground	EQ mode ground	Input	Ignition switch ON	—	0V
100 (B)	Ground	Ground	Input	Ignition switch ON	—	0V
102 (B)	Ground	Ground	Input	Ignition switch ON	—	0V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
121	Ground	Antenna amp. ON signal	Output	Ignition switch ACC	—	12V
122	—	Amplified window antenna signal	Input	—	—	—
123	—	GPS antenna signal	—	—	—	—
124	—	Shield	—	—	—	—
125	—	Satellite antenna signal	Input	Ignition switch ACC	—	—
126	—	Shield	—	—	—	—
127 (W)	—	V BUS signal	—	—	—	—
128 (G)	—	USB ground	—	—	—	—
129 (L)	—	USB D+ signal	—	—	—	—
130 (R)	—	USB D– signal	—	—	—	—
131	—	Shield	—	—	—	—
132	—	Shield	—	—	—	—
133	—	Shield	—	—	—	—
134 (B)	Ground	RGB digital image signal (–)	Output	Ignition switch ON	Connector not connected.	1.3 V
135 (B)	Ground	RGB digital image signal (+)	Output	Ignition switch ON	Connector not connected.	1.3 V

DTC Index

INFOID:0000000009821098

Self-diagnosis results display item

Error item	Refer to
CAN COMM CIRCUIT [U1000]	AV-321
CONTROL UNIT (CAN) [U1010]	AV-322
Control Unit FLASH-ROM [U1200]	AV-323
Gyro NO CONN [U1201]	AV-324
GPS COMM [U1204]	AV-325
GPS ROM [U1205]	AV-326
GPS RAM [U1206]	AV-327
GPS RTC [U1207]	AV-328
CAN CONT [U1216]	AV-329
BLUETOOTH CONN [U1217]	AV-330
HDD CONN [U1218]	AV-331
HDD READ [U1219]	AV-332
HDD WRITE [U121A]	AV-333

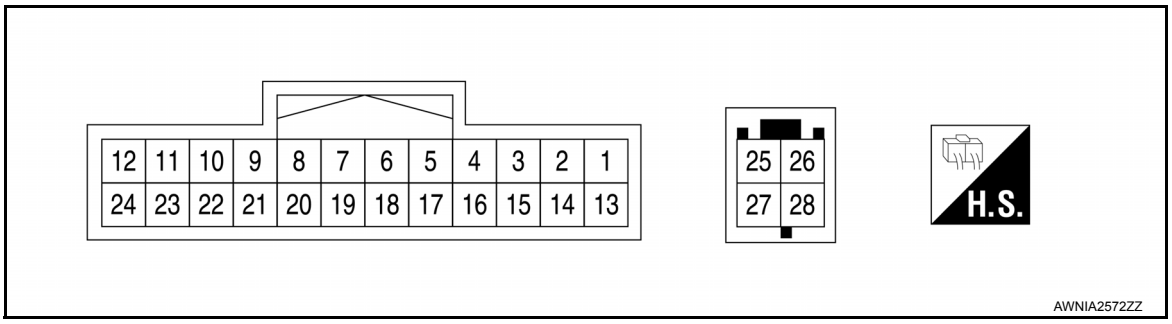
Error item	Refer to
HDD COMM [U121B]	AV-334
HDD ACCESS [U121C]	AV-335
DSP CONN [U121D]	AV-336
DSP COMM [U121E]	AV-337
INTERNAL COMM [U121F]	AV-338
XM SERIAL COMM [U1220]	AV-339
FRONT DISP CONN [U1243]	AV-340
GPS ANTENNA CONN [U1244]	AV-342
XM ANTENNA CONN [U1258]	AV-343
AV COMM CIRCUIT [U1300]	AV-344
CONTROL UNIT (AV) [U1310]	AV-345

DISPLAY UNIT

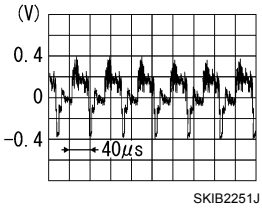
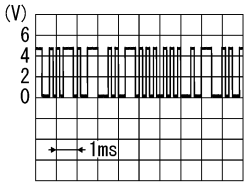
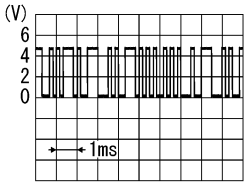
Reference Value

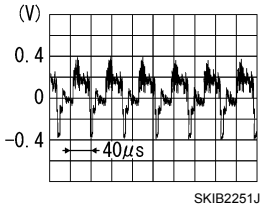
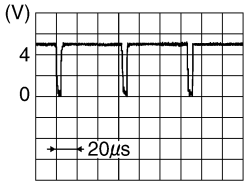
INFOID:0000000009821099

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
6	—	Shield	—	—	—	—
8 (Y)	7 (BR)	Camera image signal	Input	Ignition switch ON	At camera image is displayed.	 SKIB2251J
9 (LG)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
10 (V)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
11 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON	—	0 V

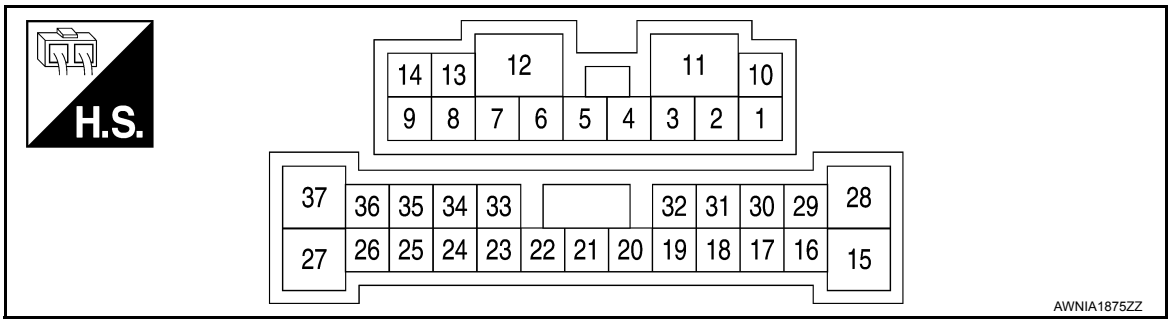
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
18 (W)	Ground	Composite image signal	Input	Ignition switch ON	At DVD image is displayed.	 SKIB2251J
19 (R)	Ground	Composite image signal ground	—	Ignition switch ON	—	0 V
20 (B)	Ground	Composite image synchro-nizing signal	Input	Ignition switch ON	—	 SKIB0825E
21	—	Shield	—	—	—	—
22	—	Shield	—	—	—	—
23 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
25	—	Shield	—	—	—	—
26	—	Shield	—	—	—	—
27 (B)	—	RGB digital image signal (–)	Input	—	—	—
28 (B)	—	RGB digital image signal (+)	Input	—	—	—

BOSE SPEAKER AMP

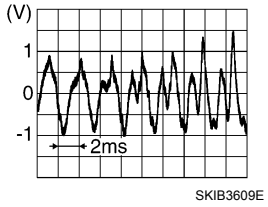
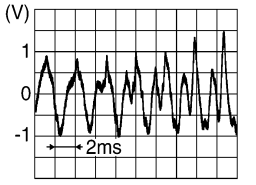
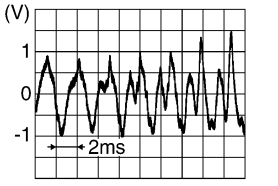
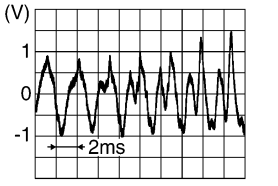
Reference Value

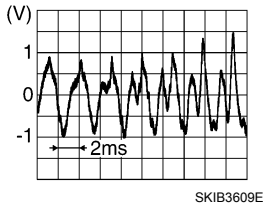
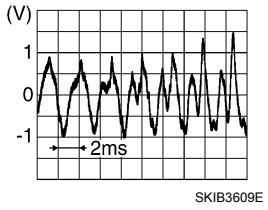
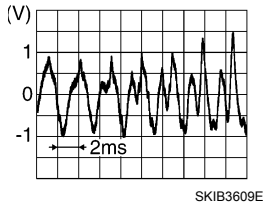
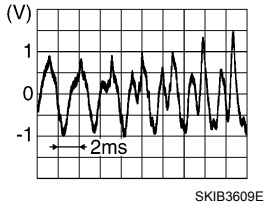
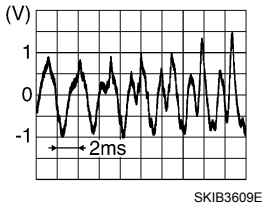
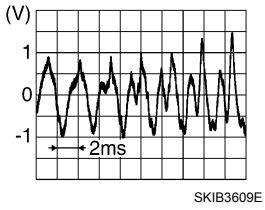
INFOID:0000000009821100

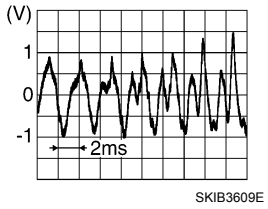
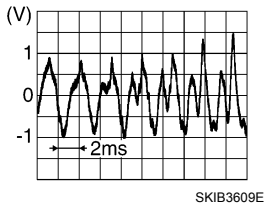
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (SB)	10 (B/Y)	Audio signal rear door speaker and tweeter LH	Output	Ignition switch ON	Audio output	 SKIB3609E
2 (O/L)	3 (R/L)	Audio signal rear door speaker and tweeter RH	Output	Ignition switch ON	Audio output	 SKIB3609E
4 (L/W)	5 (L/R)	Audio signal front door speaker and tweeter LH	Output	Ignition switch ON	Audio output	 SKIB3609E
6 (G)	7 (R)	Audio signal back door speaker LH	Output	Ignition switch ON	Audio output	 SKIB3609E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
8 (W/B)	13 (L/B)	Audio signal front door speaker and tweeter RH	Output	Ignition switch ON	Audio output	 SKIB3609E
9 (W)	14 (B)	Audio signal subwoofer	Output	Ignition switch ON	Audio output	 SKIB3609E
11 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON	—	0V
15 (V)	28 (R)	Audio signal center speaker	Output	Ignition switch ON	Audio output	 SKIB3609E
18 (LG)	32 (V)	Audio signal front LH	Input	Ignition switch ON	Audio input	 SKIB3609E
19 (BR)	20 (B/R)	Audio signal front RH	Input	Ignition switch ON	Audio input	 SKIB3609E
21 (L)	22 (B/W)	Audio signal rear LH	Input	Ignition switch ON	Audio input	 SKIB3609E

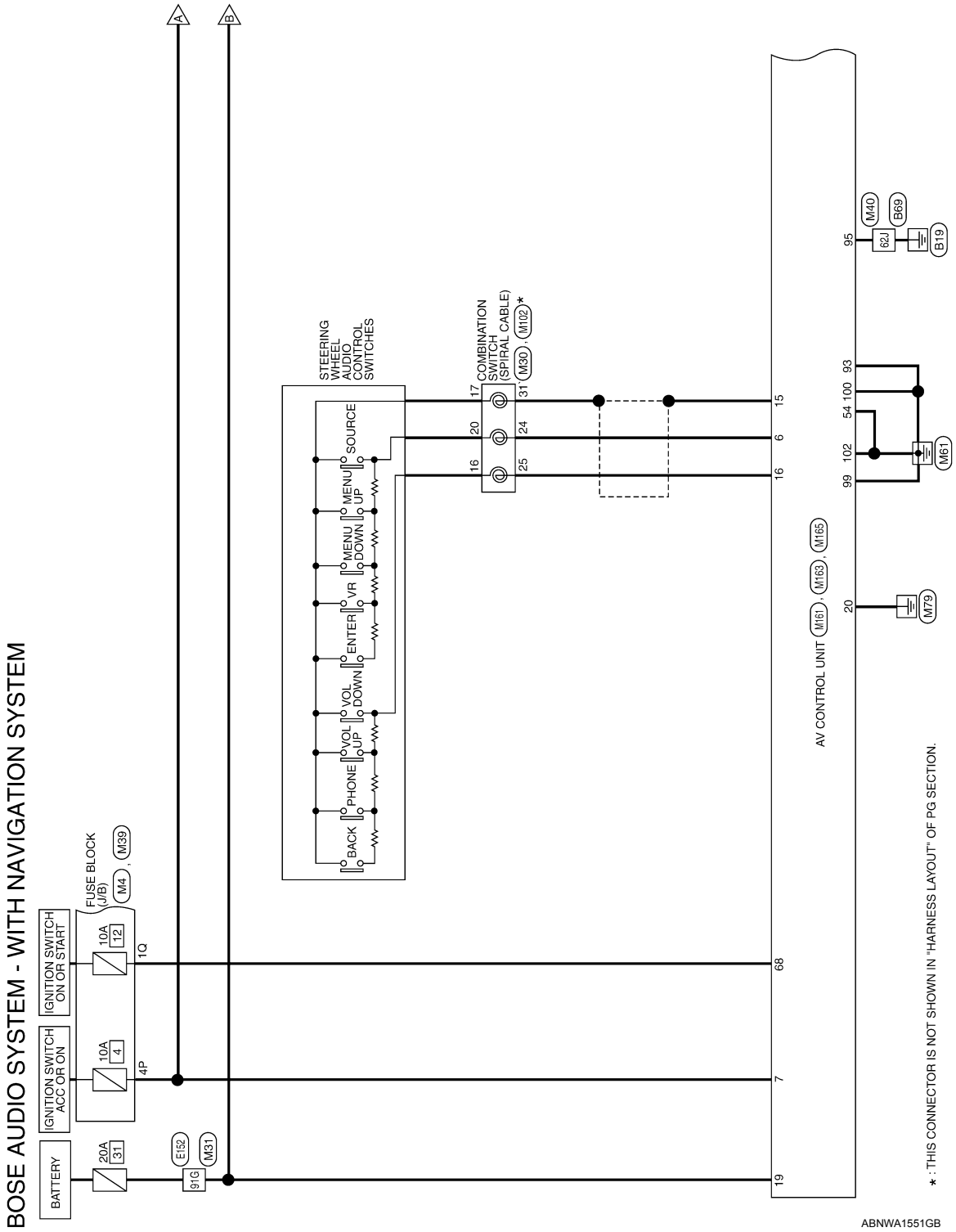
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
23 (W)	33 (B)	Audio signal rear RH	Input	Ignition switch ON	Audio input	 SKIB3609E
25 (W/G)	Ground	Subwoofer amp. ON signal	Output	Ignition switch ACC	—	12V
31 (GR/L)	Ground	Amp. ON signal	Input	Ignition switch ACC	—	12V
37 (W/R)	27 (R)	Audio signal back door speaker RH	Input	Ignition switch ON	Audio input	 SKIB3609E

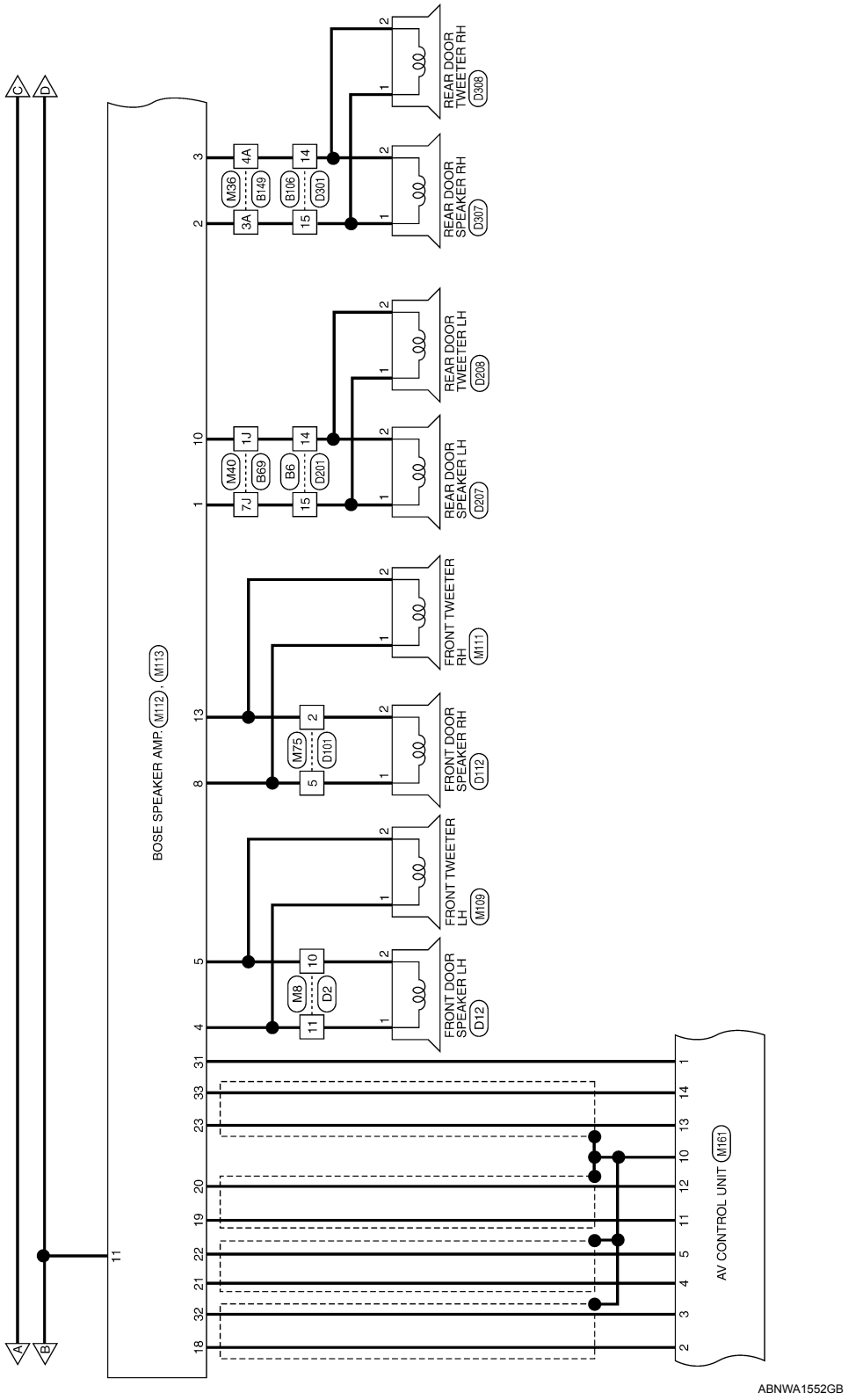
WIRING DIAGRAM

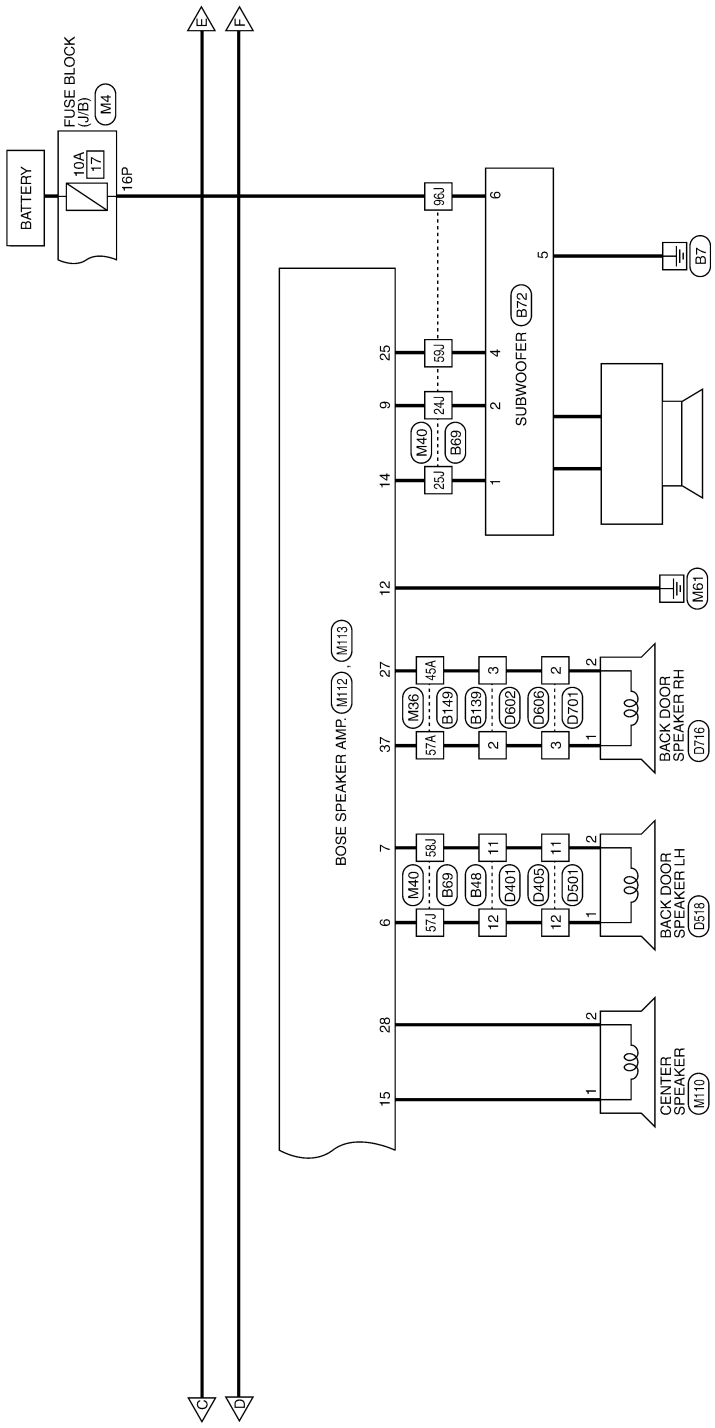
BOSE AUDIO SYSTEM - WITH NAVIGATION SYSTEM

Wiring Diagram

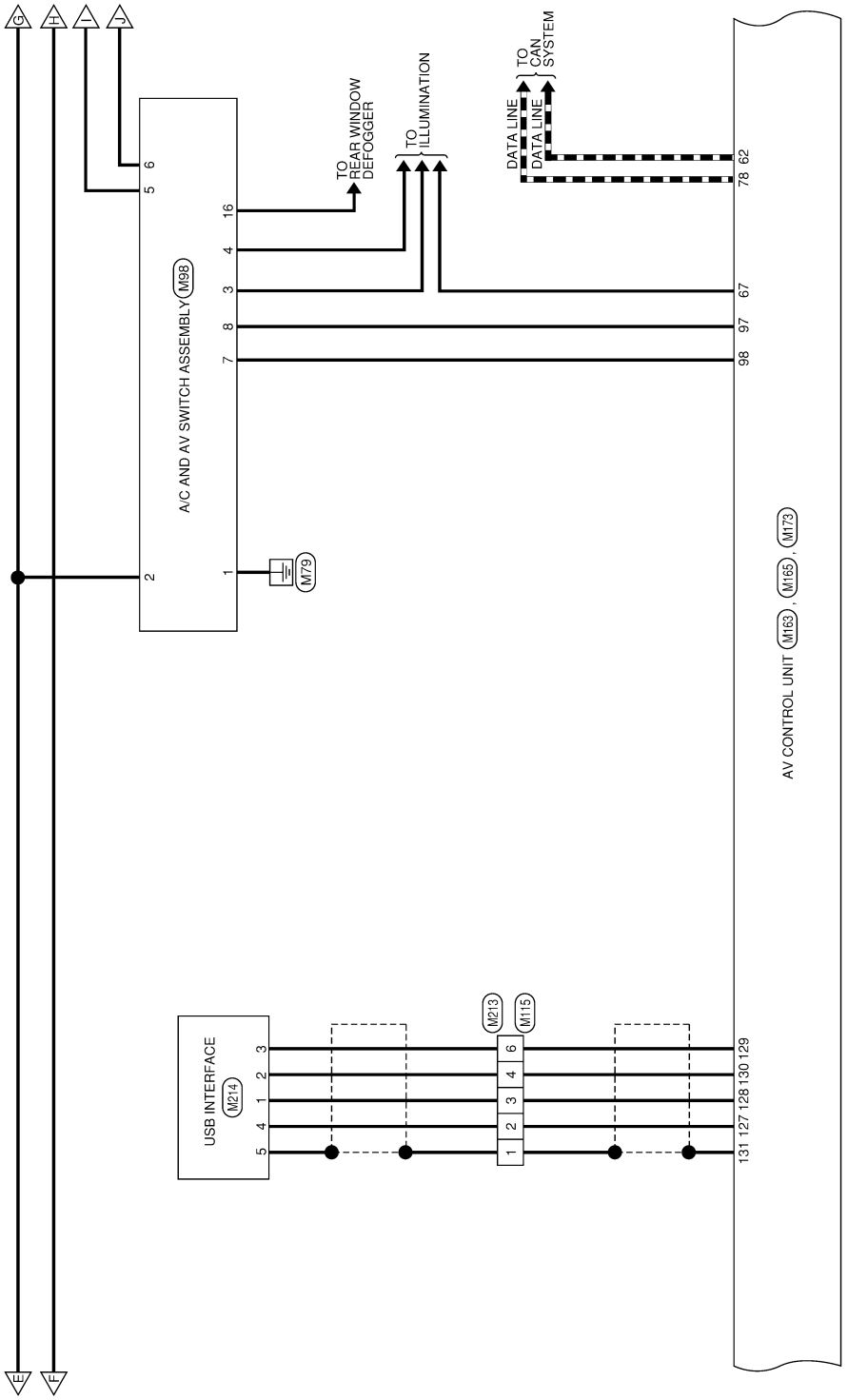
INFOID:0000000009821101

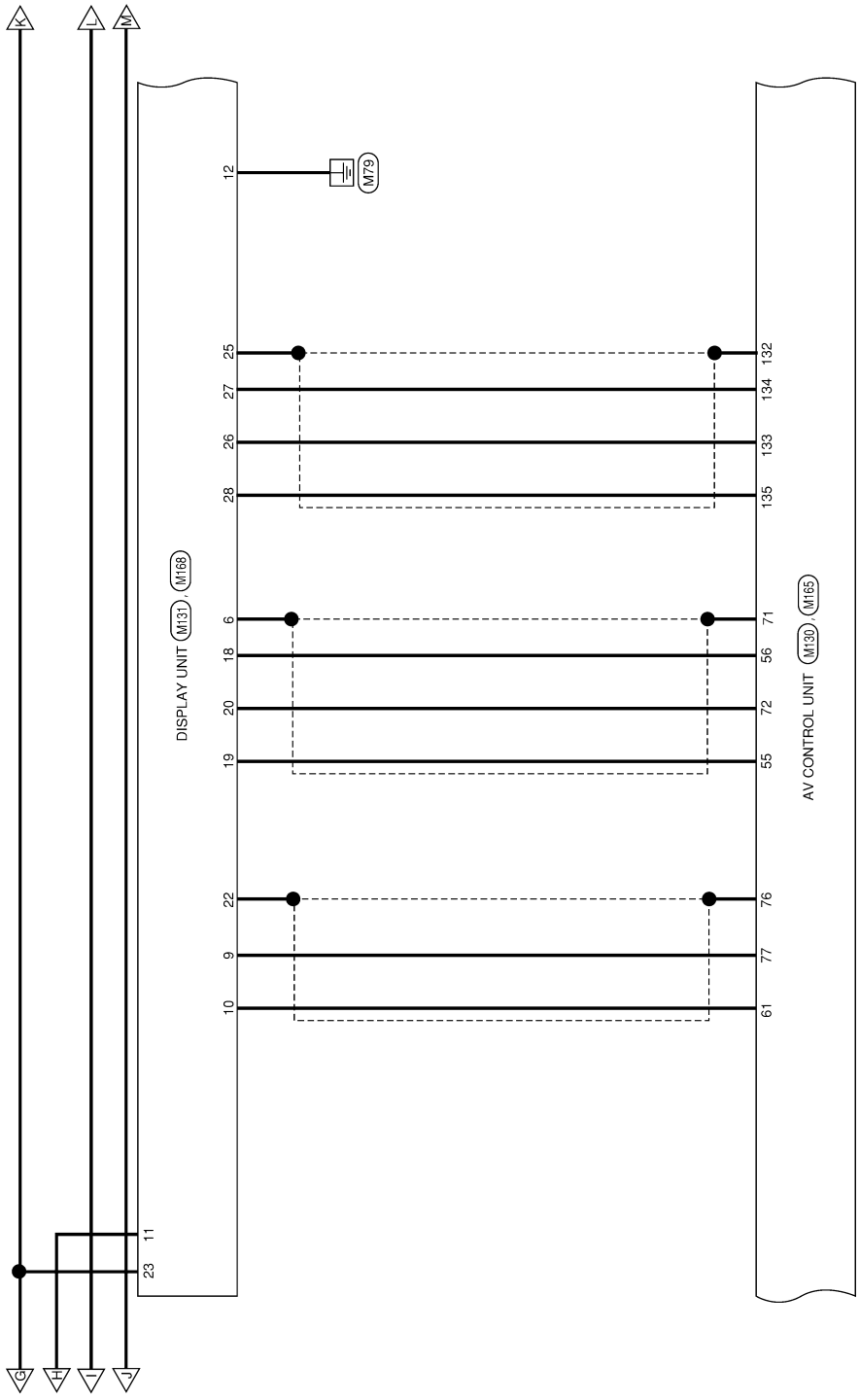



BOSE SPEAKER AMP. (M112), (M113)
AV CONTROL UNIT (M161)
REAR DOOR TWEETER RH (D308)
REAR DOOR SPEAKER RH (D207)
REAR DOOR TWEETER LH (D208)
REAR DOOR SPEAKER LH (D207)
FRONT TWEETER RH (M111)
FRONT DOOR SPEAKER RH (D112)
FRONT TWEETER LH (M109)
FRONT DOOR SPEAKER LH (D12)
M36
4A
B149
3A
B106
14
D301
15
M40
1J
B69
7J
B6
D201
M75
2
D101
5
M8
10
D2
11
A
B
C
D
ABNWA1552GB



ABNWA1553GB


TO REAR WINDOW DEFOGGER
TO ILLUMINATION
DATA LINE
DATA LINE
TO CAN SYSTEM
A/C AND AV SWITCH ASSEMBLY M98
M79
AV CONTROL UNIT M163, M165, M173
USB INTERFACE M214
M213
M115
ABNWA1554GB



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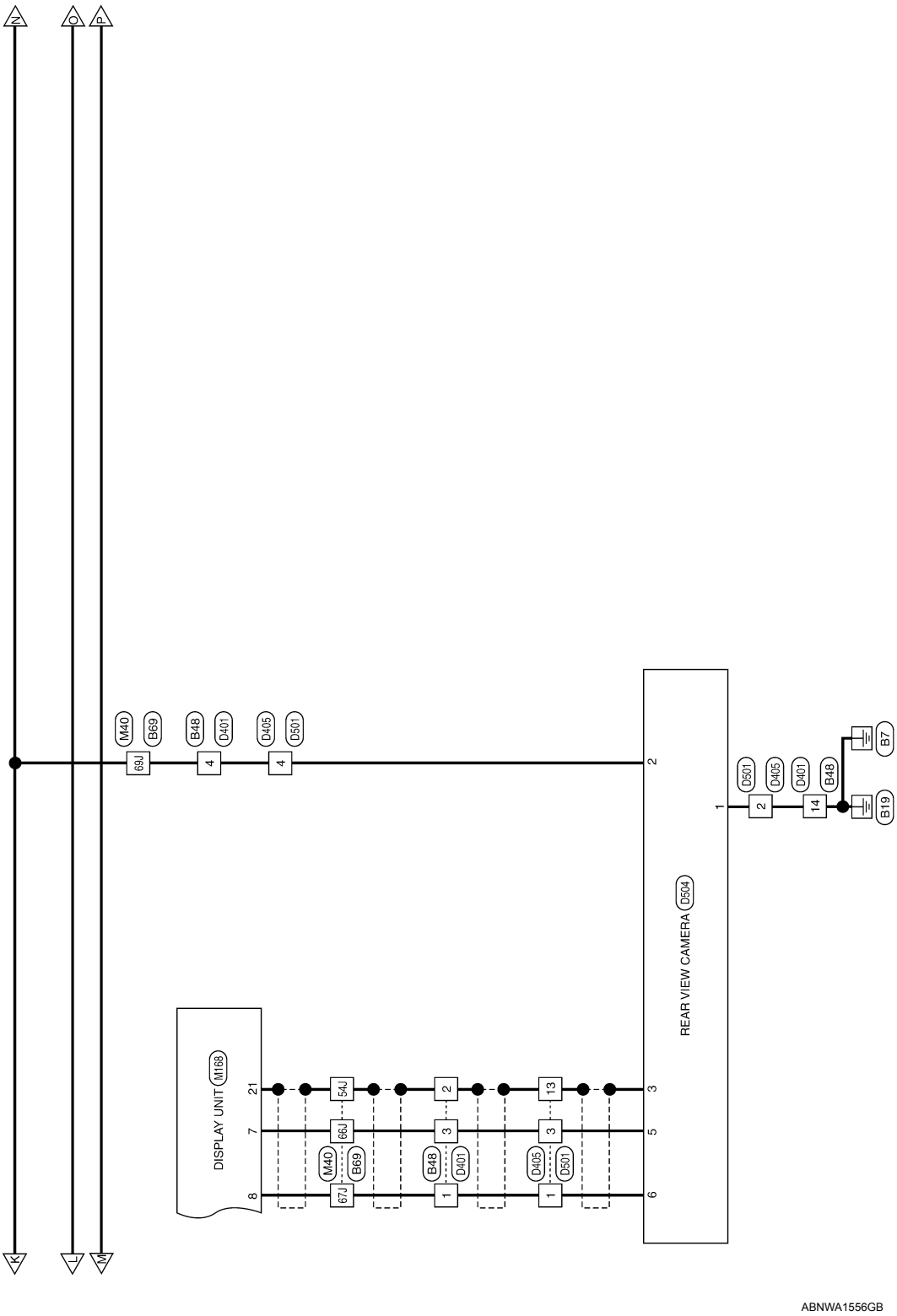
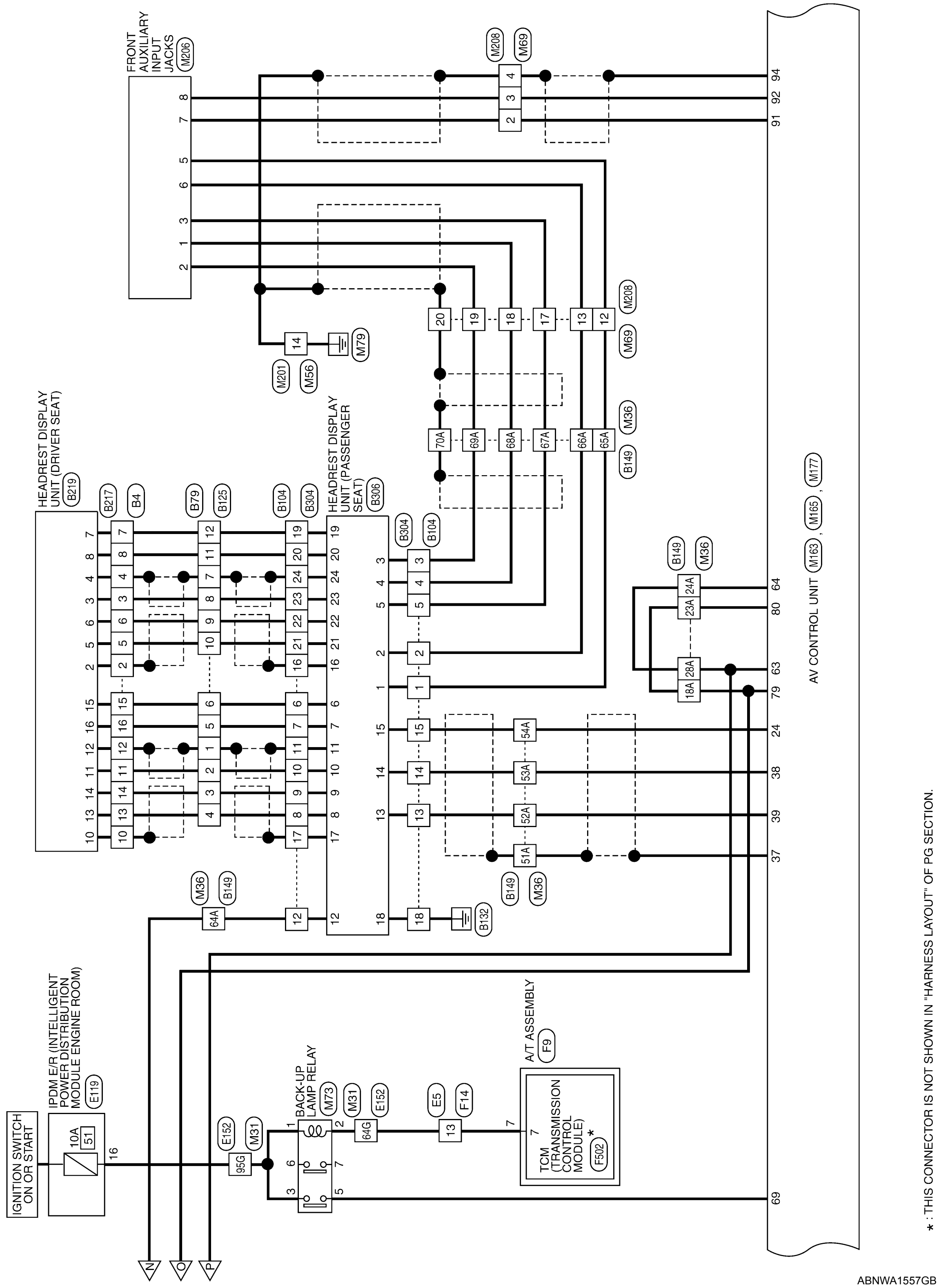
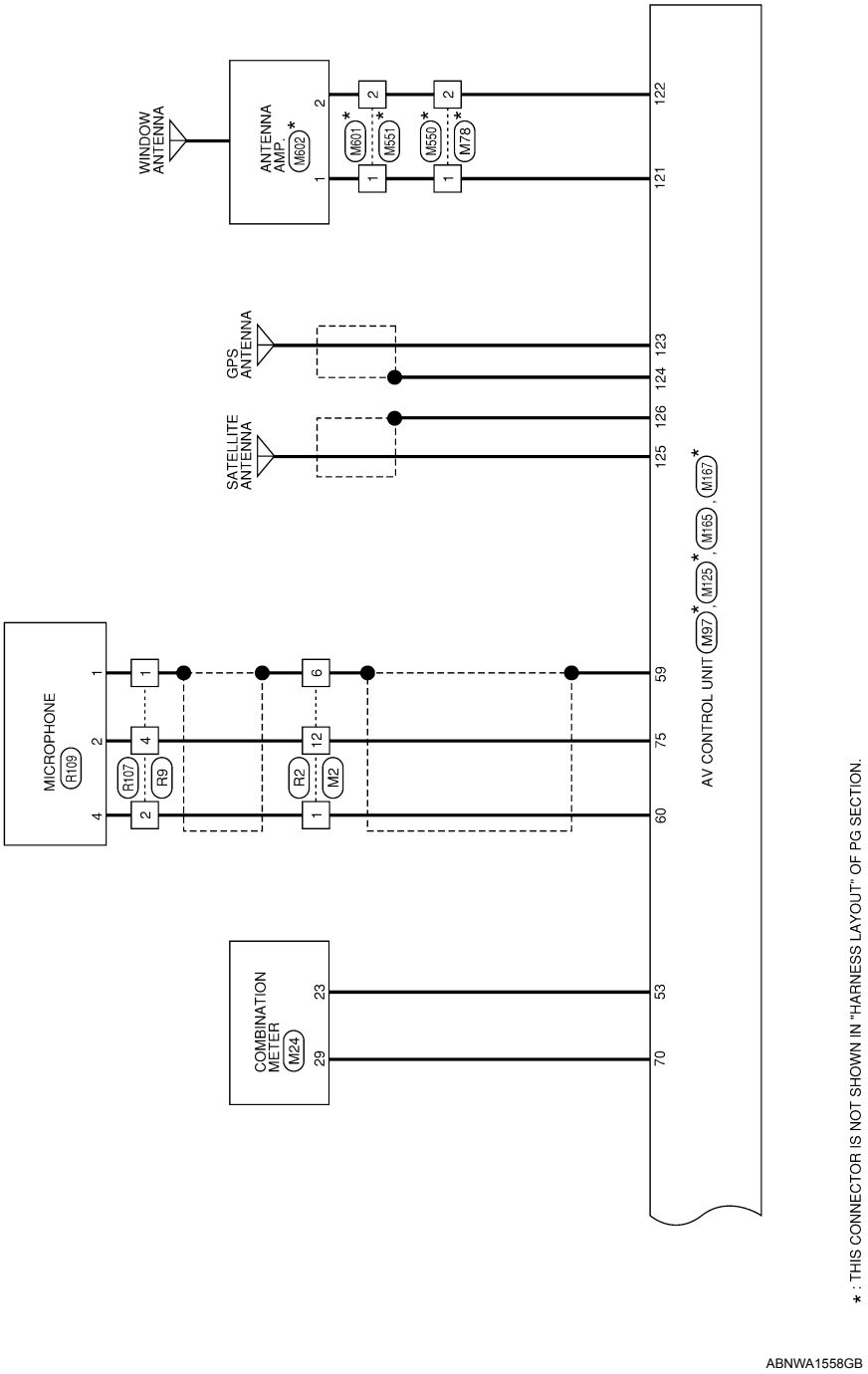


ABNWA1556GB


FRONT AUXILIARY INPUT JACKS
M206
HEADREST DISPLAY UNIT (DRIVER SEAT)
B219
HEADREST DISPLAY UNIT (PASSENGER SEAT)
B306
AV CONTROL UNIT
M163, M165, M177
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E119
IGNITION SWITCH ON OR START
BACK-UP LAMP RELAY
M73
A/T ASSEMBLY
F9
TCM (TRANSMISSION CONTROL MODULE)
F502
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.
ABNWA1557GB



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

ABNWA1558GB

BOSE AUDIO SYSTEM CONNECTORS - WITH NAVIGATION SYSTEM

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	W	– (WITH NAVI)
6	SHIELD	–
12	B	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
4P	V	–
16P	R	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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
23	G	PARK BRAKE
29	W/R	SPEED OUT

Connector No.	M30
Connector Name	COMBINATION SWITCH
Connector Color	GRAY

H.S.

24	25	26	27
31	32	33	34

Terminal No.	Color of Wire	Signal Name
24	Y	–
25	BR	–
31	SHIELD	–

ABNIA3861GB

Terminal No.	Color of Wire	Signal Name
64A	V	–
65A	G	–
66A	P	–
67A	W	–
68A	R	–
69A	B	–
70A	SHIELD	–

Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3A	O/L	–
4A	R/L	–
18A	W/L	–
23A	L/W	–
24A	B/P	–
28A	P/B	–
45A	R	–
51A	SHIELD	–
52A	B	–
53A	R	–
54A	W	–
57A	W/R	–

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

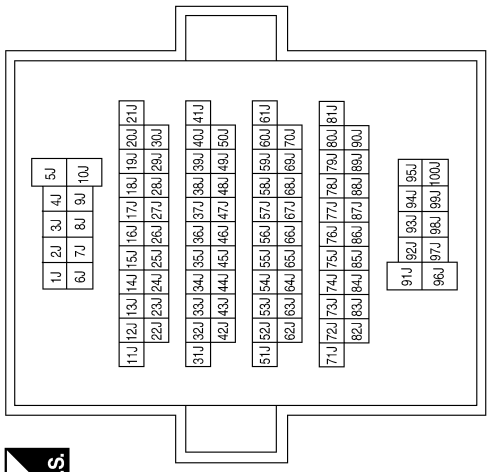
Terminal No.	Color of Wire	Signal Name
64G	R	–
91G	Y	–
95G	G	–

ABNIA3862GB

Terminal No.	Color of Wire	Signal Name
1J	B/Y	–
7J	SB	–
24J	W	–
25J	B	–
54J	SHIELD	–
57J	G	–
58J	R	–
59J	W/G	–
62J	B	–
66J	B	–
67J	W	–
69J	V	–
96J	R	–

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Color	WHITE

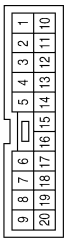
H.S.



Terminal No.	Color of Wire	Signal Name
13	P	–
17	W	–
18	R	–
19	B	–
20	SHIELD	–

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	BROWN

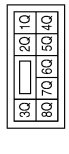
H.S.



Terminal No.	Color of Wire	Signal Name
2	W	–
3	B	–
4	SHIELD	–
12	G	–

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

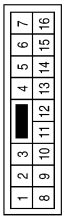
H.S.



Terminal No.	Color of Wire	Signal Name
1Q	G/R	–

Connector No.	M56
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
14	B	–

ABNIA3863GB

Connector No.	M73
Connector Name	BACK-UP LAMP RELAY
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	–
3	G	–
5	G/W	–
6	W/B	–
7	Y/R	–

Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	L/B	–
5	W/B	–

Connector No.	M78
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	M97
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITH NAVI)
Connector Color	–

H.S.

Terminal No.	Color of Wire	Signal Name
123	B	GPS ANT
124	B	GPS SHIELD

Connector No.	M98
Connector Name	A/C AND AV SWITCH ASSEMBLY
Connector Color	WHITE

H.S.

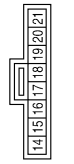
Terminal No.	Color of Wire	Signal Name
1	B	–
2	V	–
3	R/L	–

Terminal No.	Color of Wire	Signal Name
4	BR	–
5	W/L	–
6	P/B	–
7	B	–
8	SB	–
9	–	–
10	–	–
11	–	–
12	–	–
13	–	–
14	–	–
15	–	–
16	GR/R	–

ABNIA3864GB

Connector No.	M102
Connector Name	COMBINATION SWITCH
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
16	R	–
17	BR	–
20	W	–

Connector No.	M109
Connector Name	FRONT TWEETER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	L/W	–
2	L/R	–

Connector No.	M110
Connector Name	CENTER SPEAKER
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	V	–
2	R	–

Connector No.	M111
Connector Name	FRONT TWEETER RH
Connector Color	BROWN

H.S.

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

Connector No.	M112
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	RR DR LH+ OUT
2	O/L	RR DR RH+ OUT
3	R/L	RR DR RH- OUT
4	L/W	FR DR LH+ OUT
5	L/R	FR DR LH- OUT
6	G	PWR BK DR LH+
7	R	PWR BK DR LH-
8	W/B	FR DR RH+ OUT
9	W	WOOFER+ OUT
10	B/Y	RR DR LH- OUT
11	Y	BATT
12	B	GND
13	L/B	FR DR RH- OUT
14	B	WOOFER- OUT

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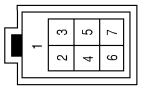
Connector No.	M115
Connector Name	WIRE TO WIRE
Connector Color	GRAY

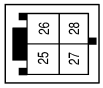
H.S.



Terminal No.	Color of Wire	Signal Name
1	SHIELD	–
2	W	–
3	G	–
4	R	–
6	L	–

Connector No.	M131
Connector Name	DISPLAY UNIT
Connector Color	BROWN

H.S.

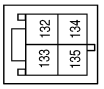


Terminal No.	Color of Wire	Signal Name
25	SHIELD	GND
26	SHIELD	GND
27	B	GVIF+
28	B	GVIF-

Terminal No.	Color of Wire	Signal Name
21	L	RR LH+ (IN)
22	B/W	RR LH- (IN)
23	W	RR RH+ (IN)
24	–	–
25	W/G	AMP CTRL
26	–	–
27	R	PWR BK DR RH-
28	R	CENTER-
29	–	–
30	–	–
31	GR/L	AMP ON
32	V	FR LH- (IN)
33	B	RR RH+ (IN)
34	–	–
36	–	–
37	W/R	PWR BK DR RH+

Connector No.	M130
Connector Name	AV CONTROL UNIT
Connector Color	BLUE

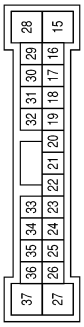
H.S.



Terminal No.	Color of Wire	Signal Name
132	SHIELD	GND
133	SHIELD	GND
134	B	GVIF-
135	B	GVIF+

Connector No.	M113
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN

H.S.



Terminal No.	Color of Wire	Signal Name
15	V	CENTER+
16	–	–
17	–	–
18	LG	FR LH+ (IN)
19	BR	FR RH+ (IN)
20	B/R	FR RH- (IN)

Connector No.	M125
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITH NAVI)
Connector Color	–

H.S.

Terminal No.	Color of Wire	Signal Name
125	B	XM ANTENNA
126	B	SHIELD

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Terminal No.	Color of Wire	Signal Name
10	SHIELD	SHIELD
11	BR	FR RH PRE+
12	B/R	FR RH PRE-
13	W	RR RH PRE+
14	B	RR RH PRE-
15	SHIELD	STRG SW GND
16	BR	STRG SW B
17	–	–
18	–	–
19	Y	+B
20	B	GND

Terminal No.	Color of Wire	Signal Name
107	–	–
108	–	–
109	–	–
110	–	–
111	–	–
112	–	–
113	–	–
114	–	–
115	–	–
116	–	–
117	–	–
118	–	–
119	–	–
120	–	–

Terminal No.	Color of Wire	Signal Name
3	V	FR LH PRE-
4	L	RR LH PRE+
5	B/W	RR LH PRE-
6	Y	STRG SW A
7	V	ACC
8	–	–
9	–	–

Terminal No.	Color of Wire	Signal Name
89	–	–
90	–	–
91	W	AUX VIDEO+
92	B	AUX VIDEO-
93	B	GND
94	SHIELD	VIDEO SHIELD
95	B	CAMERA
96	–	–
97	SB	DVD EJECT
98	B	EJECT GND
99	B	EQ MODE
100	B	GND
101	–	–
102	B	GND
103	–	–
104	–	–
105	–	–
106	–	–

Connector No.	M161
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITH NAVI)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	GR/L	AMP ON
2	LG	FR LH PRE+

Connector No.	M163
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITH NAVI)
Connector Color	WHITE

H.S.

81	83	85	87	89	91	93	95	97	99	101	103	105	107	109	111	113	115	117	119
82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120

Terminal No.	Color of Wire	Signal Name
81	–	–
82	–	–
83	–	–
84	–	–
85	–	–
86	–	–
87	–	–
88	–	–

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Terminal No.	Color of Wire	Signal Name
69	G/W	REVERSE SIG
70	W/R	SPEED
71	SHIELD	NAVI COMP1 SHIELD
72	B	GND
73	–	–
74	–	–
75	B	MIC SIG
76	SHIELD	DISP SHIELD
77	LG	DISP IT
78	L	CAN-H
79	W/L	M-CAN1-H
80	L/W	M-CAN2 H

Terminal No.	Color of Wire	Signal Name
9	LG	FR DISP IT
10	V	IT FRONT DISP
11	Y	BATT
12	B	GND
13	–	–
14	–	–
15	–	–
16	–	–
17	–	–
18	W	FR COMP+
19	R	FR COMP-
20	B	FR SYNC
21	SHIELD	COMP IN SHIELD
22	SHIELD	SHIELD
23	V	ACC
24	–	–

Connector No.	M165
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITH NAVI)
Connector Color	WHITE

49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

Terminal No.	Color of Wire	Signal Name
49	–	–
50	–	–
51	–	–
52	–	–
53	G	PKB SIG
54	B	GND

Terminal No.	Color of Wire	Signal Name
55	R	NAVI COMP 1-
56	W	NAVI COMP 1+
57	–	–
58	–	–
59	SHIELD	MIC GND
60	W	MIC VCC
61	V	IT DISP
62	P	CAN-L
63	P/B	M-CAN1-L
64	B/P	M-CAN2-L
65	–	–
66	–	–
67	R/L	MR OUTPUT
68	G/R	IGN

Connector No.	M168
Connector Name	DISPLAY UNIT (WITH NAVI)
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

Connector No.	M167
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITH NAVI)
Connector Color	GRAY

120	121	122

Terminal No.	Color of Wire	Signal Name
120	–	–
121	B	–
122	B	–

Terminal No.	Color of Wire	Signal Name
1	–	–
2	–	–
3	–	–
4	–	–
5	–	–
6	SHIELD	FR COMP SHIELD
7	BR	RR CAMERA-COMP IN-
8	Y	RR CAMERA-COMP IN+

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Connector No.	M173
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITH NAVI)
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
127	W	VBUS
128	G	USB GND
129	L	USB D+
130	R	USB D-
131	SHIELD	CONNECTOR SHIELD GND

Connector No.	M177
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITH NAVI)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
21	–	–
22	–	–
23	–	–
24	W	AUX AUDIO LH
25	–	–
26	–	–
27	–	–
28	–	–
29	–	–
30	–	–
31	–	–
32	–	–
33	–	–
34	–	–
35	–	–
36	–	–
37	SHIELD	AUX SHIELD
38	R	AUX AUDIO RH
39	B	AUX AUDIO-
40	–	–
41	–	–
42	–	–
43	–	–
44	–	–
45	–	–
46	–	–
47	–	–
48	–	–

Connector No.	M201
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
14	B	–

Connector No.	M206
Connector Name	FRONT AUXILIARY INPUT JACKS
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	B	–
3	W	–
4	–	–
5	G	–
6	P	–
7	W	–
8	B	–

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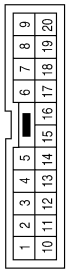
Connector No.	M208
Connector Name	WIRE TO WIRE
Connector Color	BROWN

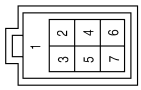
H.S.



Terminal No.	Color of Wire	Signal Name
2	W	–
3	B	–
4	SHIELD	–
12	G	–
13	P	–
17	W	–
18	R	–
19	B	–
20	SHIELD	–

Connector No.	M213
Connector Name	WIRE TO WIRE
Connector Color	GRAY

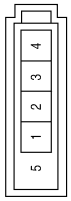
H.S.



Terminal No.	Color of Wire	Signal Name
1	SHIELD	–
2	W	–
3	G	–
4	R	–
6	L	–

Connector No.	M214
Connector Name	USB INTERFACE
Connector Color	GRAY

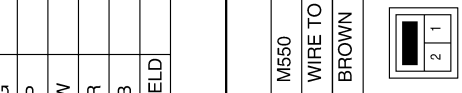
H.S.



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

Connector No.	M550
Connector Name	WIRE TO WIRE
Connector Color	BROWN

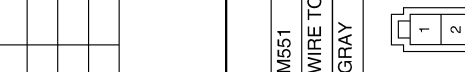
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	M551
Connector Name	WIRE TO WIRE
Connector Color	GRAY

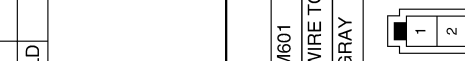
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	M601
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

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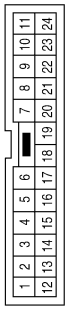
Connector No.	M602
Connector Name	ANTENNA AMP.
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	E5
Connector Name	WIRE TO WIRE
Connector Color	WHITE

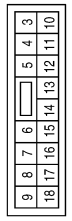
H.S.



Terminal No.	Color of Wire	Signal Name
13	R	–

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

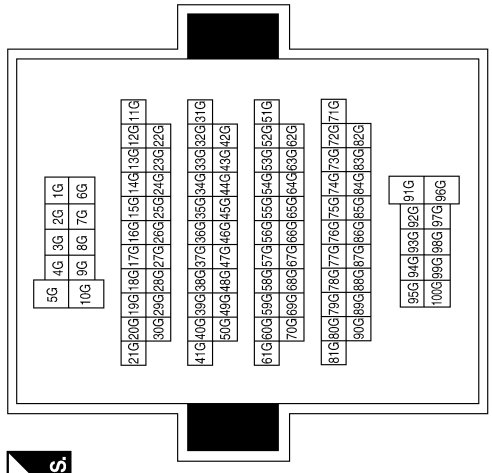
H.S.



Terminal No.	Color of Wire	Signal Name
16	G	REVERSE LAMP

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

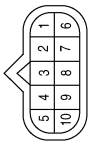
H.S.



Terminal No.	Color of Wire	Signal Name
64G	R	–
91G	Y	–
95G	G	–

Connector No.	F9
Connector Name	A/T ASSEMBLY
Connector Color	GREEN

H.S.



Terminal No.	Color of Wire	Signal Name
7	R	–

ABNIA3871GB

Connector No.	F14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

11	10	9	8	7		6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13	12

Terminal No.	Color of Wire	Signal Name
13	R	–

Connector No.	F502
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	GRAY

H.S.

10	9	8	7	6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
7	O	REV LAMP RLY

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

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

Terminal No.	Color of Wire	Signal Name
10	SHIELD	–
11	W	–
12	SHIELD	–
13	G	–
14	R	–
15	B	–
16	L	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	B/Y	–
15	SB	–

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Connector No.	B48
Connector Name	WIRE TO WIRE
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1	W	–
2	SHIELD	–
3	B	–
4	R	–
11	R	–
12	G	–
14	B	–

Connector No.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1J	B/Y	–
7J	SB	–
24J	W	–
25J	B	–
54J	SHIELD	–
57J	G	–
58J	R	–
59J	W/G	–
62J	B	–
66J	B	–
67J	W	–
69J	R	–
96J	R	

Connector No.	B72
Connector Name	SUBWOOFER
Connector Color	BROWN

Terminal No.	Color of Wire	Signal Name
1	B	–
2	W	–
4	W/G	–
5	B	–
6	R	–

Connector No.	B79
Connector Name	WIRE TO WIRE
Connector Color	BROWN

Terminal No.	Color of Wire	Signal Name
1	SHIELD	–
2	W	–
3	R	–
4	G	–
5	L	–
6	B	–

Terminal No.	Color of Wire	Signal Name
7	SHIELD	–
8	W	–
9	R	–
10	G	–
11	R	–
12	G	–

ABNIA3873GB

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

H.S.

12	11	10	9	8	7	6	5	4	3	2	1	13
24	23	22	21	20	19	18	17	16	15	14		

Terminal No.	Color of Wire	Signal Name
1	G	–
2	P	–
3	B	–
4	R	–
5	W	–
6	B	–
7	L	–
8	G	–

Terminal No.	Color of Wire	Signal Name
9	R	–
10	W	–
11	SHIELD	–
12	V	–
13	B	–
14	R	–
15	W	–
16	SHIELD	–
17	SHIELD	–
18	B	–
19	G	–
20	R	–
21	G	–
22	R	–
23	W	–
24	SHIELD	–

Connector No.	B106
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	–

Connector No.	B125
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

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

Terminal No.	Color of Wire	Signal Name
6	B	–
7	SHIELD	–
8	W	–
9	R	–
10	G	–
11	R	–
12	G	–

Connector No.	B139
Connector Name	WIRE TO WIRE
Connector Color	WHITE

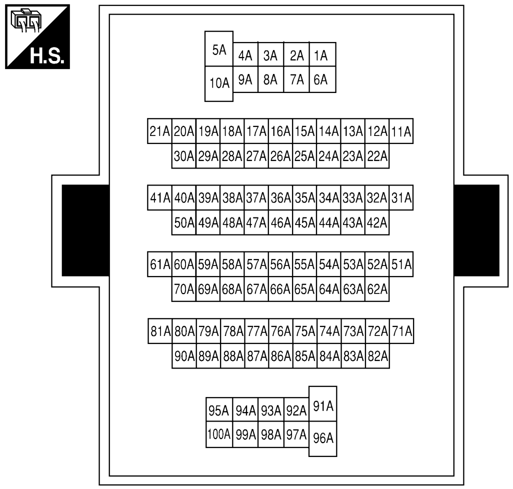
H.S.

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

Terminal No.	Color of Wire	Signal Name
2	P	–
3	L	–

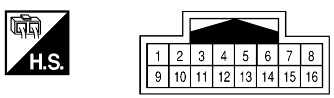
ABNIA3874GB

Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3A	O/L	–
4A	R/L	–
18A	W/L	–
23A	W/L	–
24A	P/B	–
28A	P/B	–
45A	L	–
51A	SHIELD	–
52A	B	–
53A	R	–
54A	W	–
57A	P	–
64A	V	–
65A	G	–
66A	P	–
67A	W	–
68A	R	–
69A	B	–
70A	SHIELD	–

Connector No.	B217
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	LG	–
3	SB	–
4	SB	–
5	L	–
6	BR	–
7	SHIELD	–
8	Y	–
10	O	–
11	V	–
12	B	–
13	W	–
14	G	–
15	R	–
16	SHIELD	–

ABNIA3875GB

Connector No.	B219
Connector Name	HEADREST DISPLAY UNIT (DRIVER SEAT)
Connector Color	WHITE

H.S.

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	W	REAR 1 HP LH-
2	G	REAR 1 HP LRH-
3	SHIELD	REAR 1 HP SHIELD
4	P	REAR 1 COMP -
5	–	–
6	SB	CONT GND
7	L	AUX REQ. OUT
8	–	–
9	LG	M-CAN 2 L
10	SB	M-CAN 2 H
11	–	–
12	B	GND
13	B	REAR 1 HP LH+
14	R	REAR 1 HP RH+
15	SHIELD	REAR 1 COMP SHIELD
16	L	REAR 1 COMP+
17	P	AV GND
18	–	–
19	BR	ACC DET. IN
20	–	–
21	LG	M-CAN 1 L
22	SB	M-CAN 1 H
23	–	–
24	SB	BAT

Connector No.	B304
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
1	W	–
2	G	–
3	SHIELD	–
4	Y	–
6	BR	–
7	LG	–
9	LG	–
10	SB	–
13	B	–
14	R	–
15	SHIELD	–
16	O	–
17	SB	–
19	SB	–
20	SHIELD	–
21	LG	–
22	SB	–
24	Y	–

Connector No.	B306
Connector Name	HEADREST DISPLAY UNIT (PASSENGER SEAT)
Connector Color	WHITE

H.S.

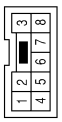
12	11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13

Terminal No.	Color of Wire	Signal Name
1	W	REAR 1 HP LH-
2	G	REAR 1 HP LRH-
3	SHIELD	REAR 1 HP SHIELD
4	Y	REAR 1 COMP -
5	–	–
6	BR	CONT GND
7	LG	AUX REQ. OUT
8	–	–
9	LG	M-CAN 2 L
10	SB	M-CAN 2 H
11	–	–
12	B	GND
13	B	REAR 1 HP LH+
14	R	REAR 1 HP RH+
15	SHIELD	REAR 1 COMP SHIELD
16	O	REAR 1 COMP+
17	SB	AV GND
18	–	–
19	SB	ACC DET. IN
20	SHIELD	SHIELD M-CAN
21	LG	M-CAN 1 L
22	SB	M-CAN 1 H
23	–	–
24	Y	BAT

ABNIA3876GB

Connector No.	R107
Connector Name	WIRE TO WIRE
Connector Color	WHITE

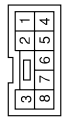
H.S.



Terminal No.	Color of Wire	Signal Name
1	R/L	–
2	R/W	–
4	B	–

Connector No.	R9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

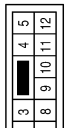
H.S.



Terminal No.	Color of Wire	Signal Name
1	SHIELD	– (WITH NAVI)
2	W	– (WITH NAVI)
4	B	–

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

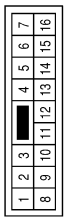
H.S.



Terminal No.	Color of Wire	Signal Name
1	W	– (WITH NAVI)
6	SHIELD	–
12	B	–

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

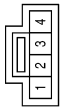
H.S.



Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

Connector No.	R109
Connector Name	MICROPHONE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	R/L	– (WITH NAVI)
2	B	– (WITH NAVI)
4	R/W	–

ABNIA3877GB

Connector No.	D12
Connector Name	FRONT DOOR SPEAKER LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L/W	–
2	L/R	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	L/B	–
5	W/B	–

Connector No.	D112
Connector Name	FRONT DOOR SPEAKER RH
Connector Color	WHITE

H.S.

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

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

H.S.

Terminal No.	Color of Wire	Signal Name
14	B/Y	–
15	SB	–

Connector No.	D207
Connector Name	REAR DOOR SPEAKER LH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	B/Y	–

Connector No.	D208
Connector Name	REAR DOOR TWEETER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	B/Y	–

ABNIA3878GB

Connector No.	D308
Connector Name	REAR DOOR TWEETER RH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	O/L	–
2	R/L	–

Connector No.	D307
Connector Name	REAR DOOR SPEAKER RH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	O/L	–
2	R/L	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	–

Connector No.	D501
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	B	–
4	R	–
11	R	–
12	G	–
13	SHIELD	–

Connector No.	D405
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	B	–
4	R	–
11	R	–
12	G	–
13	SHIELD	–

Connector No.	D401
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	SHIELD	–
3	B	–
4	R	–
11	R	–
12	G	–
14	B	–

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Connector No.	D504
Connector Name	REAR VIEW CAMERA
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	R	–
3	SHIELD	–
4	–	–
5	B	–
6	W	–
7	–	–
8	–	–

Connector No.	D518
Connector Name	BACK DOOR SPEAKER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	–

Connector No.	D602
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	P	–
3	L	–

Connector No.	D606
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–

Connector No.	D701
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–

Connector No.	D716
Connector Name	BACK DOOR SPEAKER RH
Connector Color	BROWN

H.S.

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

ABNIA3880GB

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:0000000009821102

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	AV control unit	Malfunction in AV control unit. Refer to AV-309, "AV CONTROL UNIT : Diagnosis Description".

Symptoms	Check items	Probable malfunction location
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-401, "Wiring Diagram". • Bose amp. ON signal circuit malfunction. Refer to AV-377, "Diagnosis Procedure". • Bose speaker amp. power supply and ground circuits malfunction. Refer to AV-348, "BOSE SPEAKER AMP : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, center speaker, rear door speaker LH, rear door speaker RH, rear door tweeter LH, rear door tweeter RH, back door speaker LH, back door speaker RH, subwoofer) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and Bose speaker amp. Refer to: - AV-354, "Diagnosis Procedure" (front door speaker). - AV-357, "Diagnosis Procedure" (front tweeter). - AV-360, "Diagnosis Procedure" (center speaker). - AV-363, "Diagnosis Procedure" (rear door speaker). - AV-366, "Diagnosis Procedure" (rear door tweeter). - AV-369, "Diagnosis Procedure" (back door speaker). - AV-372, "Diagnosis Procedure" (subwoofer). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: - AV-354, "Diagnosis Procedure" (front door speaker). - AV-357, "Diagnosis Procedure" (front tweeter). - AV-360, "Diagnosis Procedure" (center speaker). - AV-363, "Diagnosis Procedure" (rear door speaker). - AV-366, "Diagnosis Procedure" (rear door tweeter). - AV-369, "Diagnosis Procedure" (back door speaker). - AV-372, "Diagnosis Procedure" (subwoofer). • Malfunction in speaker. Refer to: - AV-455, "Removal and Installation" (front door speaker). - AV-453, "Removal and Installation" (front tweeter). - AV-454, "Removal and Installation" (center speaker). - AV-456, "Removal and Installation" (rear door speaker). - AV-456, "Removal and Installation" (rear door tweeter). - AV-457, "Removal and Installation" (back door speaker). - AV-458, "Removal and Installation" (subwoofer). • Malfunction in AV control unit. Refer to AV-309, "AV CONTROL UNIT : Diagnosis Description". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-460, "Removal and Installation".

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	• Malfunction in AV control unit. Refer to AV-309, "AV CONTROL UNIT : Diagnosis Description". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-460, "Removal and Installation".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, center speaker, rear door speaker LH, rear door speaker RH, rear door tweeter LH, rear door tweeter RH, back door speaker LH, back door speaker RH, subwoofer).	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and Bose speaker amp. Refer to: - AV-354, "Diagnosis Procedure" (front door speaker). - AV-357, "Diagnosis Procedure" (front tweeter). - AV-360, "Diagnosis Procedure" (center speaker). - AV-363, "Diagnosis Procedure" (rear door speaker). - AV-366, "Diagnosis Procedure" (rear door tweeter). - AV-369, "Diagnosis Procedure" (back door speaker). - AV-372, "Diagnosis Procedure" (subwoofer). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: - AV-354, "Diagnosis Procedure" (front door speaker). - AV-357, "Diagnosis Procedure" (front tweeter). - AV-360, "Diagnosis Procedure" (center speaker). - AV-363, "Diagnosis Procedure" (rear door speaker). - AV-366, "Diagnosis Procedure" (rear door tweeter). - AV-369, "Diagnosis Procedure" (back door speaker). - AV-372, "Diagnosis Procedure" (subwoofer). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-455, "Removal and Installation" (front door speaker). - AV-453, "Removal and Installation" (front tweeter). - AV-454, "Removal and Installation" (center speaker). - AV-456, "Removal and Installation" (rear door speaker). - AV-456, "Removal and Installation" (rear door tweeter). - AV-457, "Removal and Installation" (back door speaker). - AV-458, "Removal and Installation" (subwoofer). • Malfunction in AV control unit. Refer to AV-309, "AV CONTROL UNIT : Diagnosis Description". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-460, "Removal and Installation".
	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. Refer to AV-461, "Location of Antennas".

Symptoms	Check items	Probable malfunction location
No radio reception or poor reception.	• Other audio sounds are normal. • 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).	• Antenna amp. ON signal circuit malfunction. Refer to AV-389, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-461, "Location of Antennas".
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result. Refer to AV-318, "AV CONTROL UNIT : CONSULT Function".	• Malfunction in antenna, antenna feeder, satellite radio tuner or AV control unit. Perform DTC diagnosis. Refer to AV-318, "AV CONTROL UNIT : CONSULT Function". • Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. Refer to AV-461, "Location of Antennas".
	There is no malfunction in the CONSULT self diagnosis result. Refer to AV-318, "AV CONTROL UNIT : CONSULT Function".	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-461, "Location of Antennas".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

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

a. Using the website's search engine, find out if the customer's phone is on the approved list.

b. If the customer's phone is NOT on the approved list:

   Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.

c. If the feature related to the customer's concern shows as "N" (not compatible):
   Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".

d. If the feature related to the customer's concern shows as "Y" (compatible):
   Perform diagnosis as per the following table.

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. Replace AV control unit. Refer to AV-448, "Removal and Installation".
Hands-free phone cannot be established.	• Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.	
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-380, "Diagnosis Procedure".
The system cannot be operated.	• The voice recognition can be controlled. • Steering switch's , , and switch works, but does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-459, "Removal and Installation".
	Steering switch's , , , and switches do not work.	Steering switch signal circuit malfunction. Refer to AV-378, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-378, "Diagnosis Procedure".

RELATED TO NAVIGATION

Symptoms	Check items	Probable malfunction location
Navigation system is inoperative.	Navigation malfunction.	• Malfunction in hard disk drive (HDD). • Malfunction in AV control unit. Refer to AV-309, "AV CONTROL UNIT : Diagnosis Description".
	Steering switches malfunction.	Steering switch signal circuit malfunction. Refer to AV-378, "Diagnosis Procedure".
	Voice activated control malfunction.	Microphone signal circuit malfunction. Refer to AV-380, "Diagnosis Procedure". Steering switch signal circuit malfunction. Refer to AV-378, "Diagnosis Procedure".

RELATED TO REAR DISPLAY (HEADREST-MOUNTED)

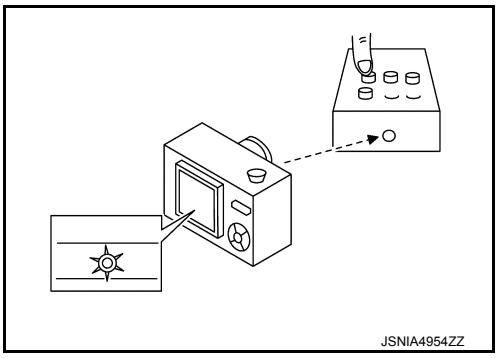
Perform diagnosis of the following items before starting diagnosis by symptom:

- Power supply and ground circuit: refer to AV-351, "HEADREST DISPLAY UNIT : Diagnosis Procedure".

Symptom	Check item		Possible malfunction location/Action to take
Video is not shown on the headrest display unit screen.	Use the touch button in front display to switch video images on the headrest display unit.	Video is shown.	Operate with the remote to see if videos can be switched.
		Video is not shown.	Replace headrest display unit.

Symptom	Check item		Possible malfunction location/Action to take
Headrest display unit inoperative with the remote.	All keys inoperative.	• Check battery polarity. • Replace battery.	• Check with a remote from the same vehicle family. • Check infrared* of the luminescent part (LED) of the remote.
	Some keys inoperative.	• Check with a remote from the same vehicle family. • Check infrared* of the luminescent part (LED) of the remote.	The function corresponding to the remote operation is not included (this is not a malfunction).
Headrest display unit screen is black.	Play a DVD.	Video is not shown.	Switch from AUX mode to DVD mode and check video.
		Screen is dark.	Adjust screen for image quality (this is not a malfunction).
		Screen is black.	Replace headrest display unit.
Video shown on headrest display unit screen becomes distorted or rolls up/down	Adjust the color settings using the display screen menu items.		If the symptom does not change, replace headrest display unit.
Headrest display unit screen is blue.	—		Replace headrest display unit.

*: To check infrared, check light of the luminescent part (LED) through the lens of digital camera when operating the remote.



NORMAL OPERATING CONDITION

Description

INFOID:0000000009821103

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, ignition switch turned to each position, and operation of each piece of electrical equipment, and determine the cause.

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

Type of Noise and Possible Cause

Occurrence condition		Possible cause
Occurs only when engine is ON.	A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed.	• Ignition components
The occurrence of the noise is linked with the operation of the fuel pump.		• Fuel pump condenser
Noise only occurs when various electrical components are operating.	A cracking or snapping sound occurs with the operation of various switches.	• Relay malfunction, audio unit malfunction
	The noise occurs when various motors are operating.	• Motor case ground • Motor
The noise occurs constantly, not just under certain conditions.		• Rear defogger coil malfunction • Open circuit in printed heater • Poor ground of antenna feeder line
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		• Ground wire of body parts • Ground due to improper part installation • Wiring connections or a short circuit

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” in AV-429, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • The vehicle is outside of the telephone service area. • 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. • The cellular phone is locked to prevent it from being dialed. **NOTE:** 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.

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. Audio guide volume is too low or too high.	Volume control is set to OFF, MIN or MAX.	Adjust the audio guide volume.
	Audio guidance is not available while the vehicle is driving on a dark pink route.	System is not malfunctioning.
Screen is too dark. 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. 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 ignition 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. 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.

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

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

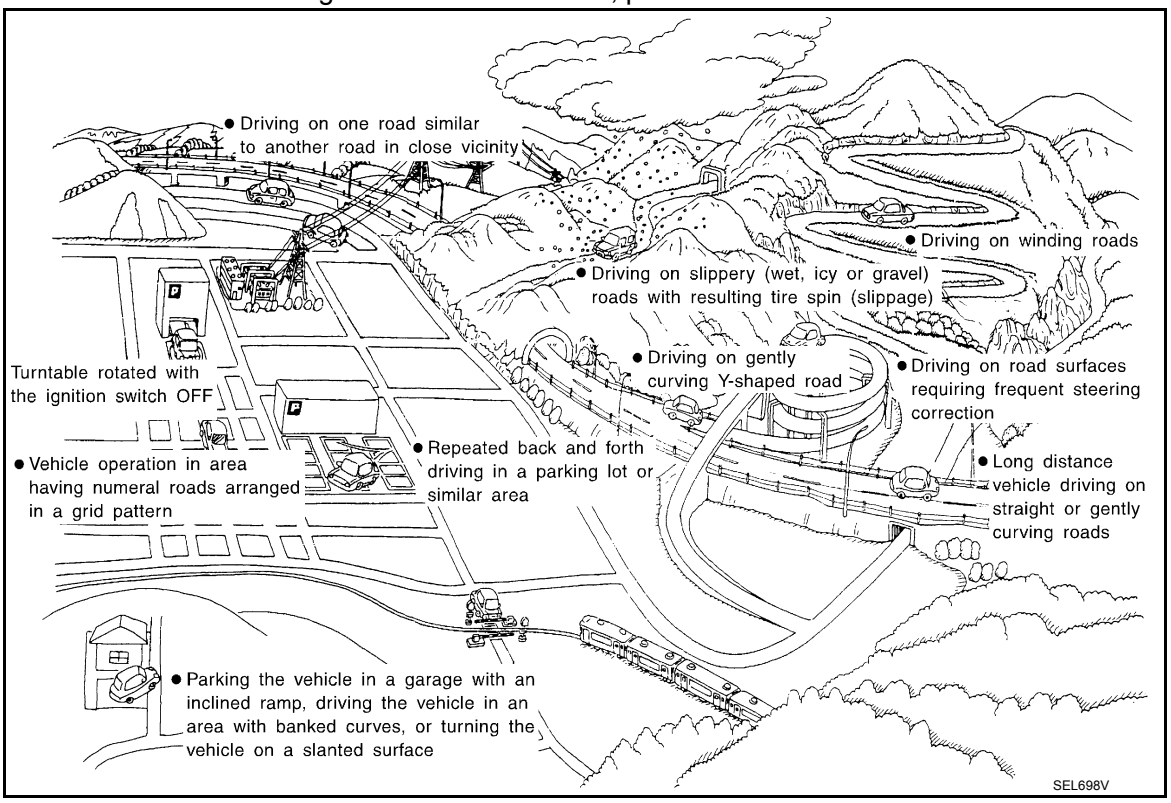
Symptom	Cause	Remedy
No route is shown.	No road to be searched is found around the destination.	Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads.
	Starting point and the destination 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(Note)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.

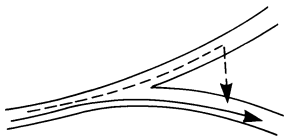
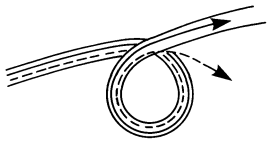
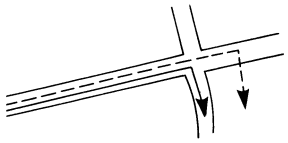
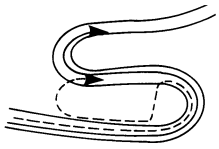
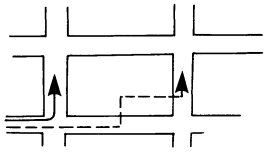
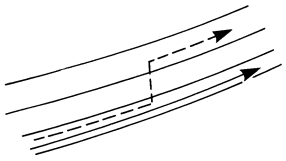
NOTE:

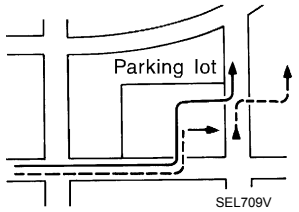
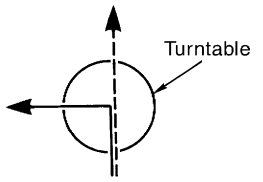
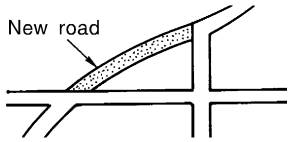
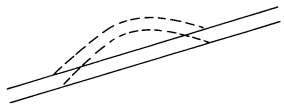
Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

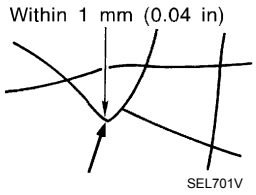
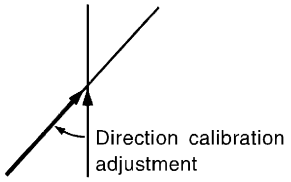
Examples of Current-Location Mark Displacement

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.



Cause (condition) –: While driving ooo: Display		Driving condition	Remarks (correction, etc.)
Road configuration	Y–intersections  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.
	Spiral roads  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.	
	Straight roads  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.	
	Zigzag roads  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.	
	Roads laid out in a grid pattern  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.	
	Parallel roads  ELK0197D	When two roads are running in parallel (such as highway and sideway), the map may be matched to the other road by mistake and the vehicle mark may deviate from the correct location.	

Cause (condition) –: While driving ooo: Display		Driving condition	Remarks (correction, etc.)
Place	In a parking lot  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. 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  SEL710V	When the ignition 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 ignition 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  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 (Changed due to repair)  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.)

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  SEL701V	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. Caution: Whenever possible, use detailed map for the correction.
	Direction when location is corrected  SEL702V	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

- Because calculation of the current location cannot be done when traveling with the ignition 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 ignition 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.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010159182

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

WARNING:

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

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

WARNING:

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

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000009821105

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the ″LOCK″ position.
- Always use CONSULT to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.
For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.
If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both battery cables.
   NOTE:
   Supply power using jumper cables if battery is discharged.
2. Use the Intelligent Key or mechanical key to turn the ignition switch to the ″ACC″ position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.

5. When the repair work is completed, return the ignition switch to the ″LOCK″ position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT.

Precaution for Trouble Diagnosis

INFOID:0000000009821106

AV COMMUNICATION SYSTEM

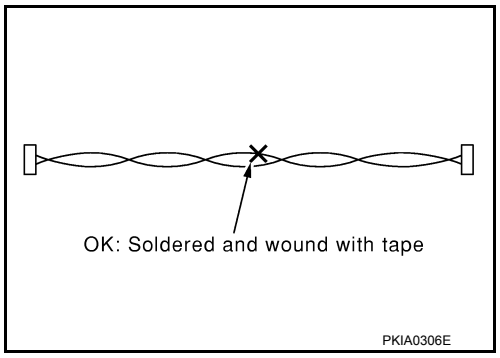
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

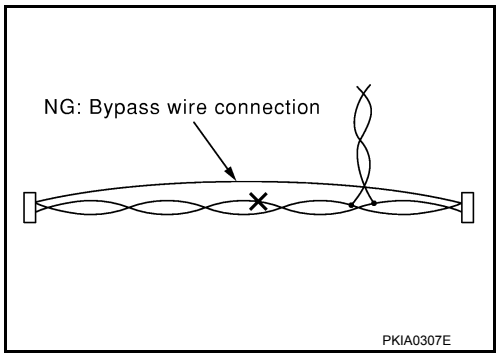
INFOID:0000000009821107

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 Work

INFOID:0000000009821108

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:

- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:

- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.

- For genuine leather seats, use a genuine leather seat cleaner.

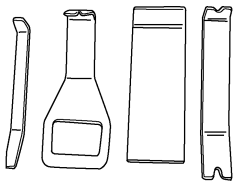
PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000010159191

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

Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

Commercial Service Tools

INFOID:0000000009821110

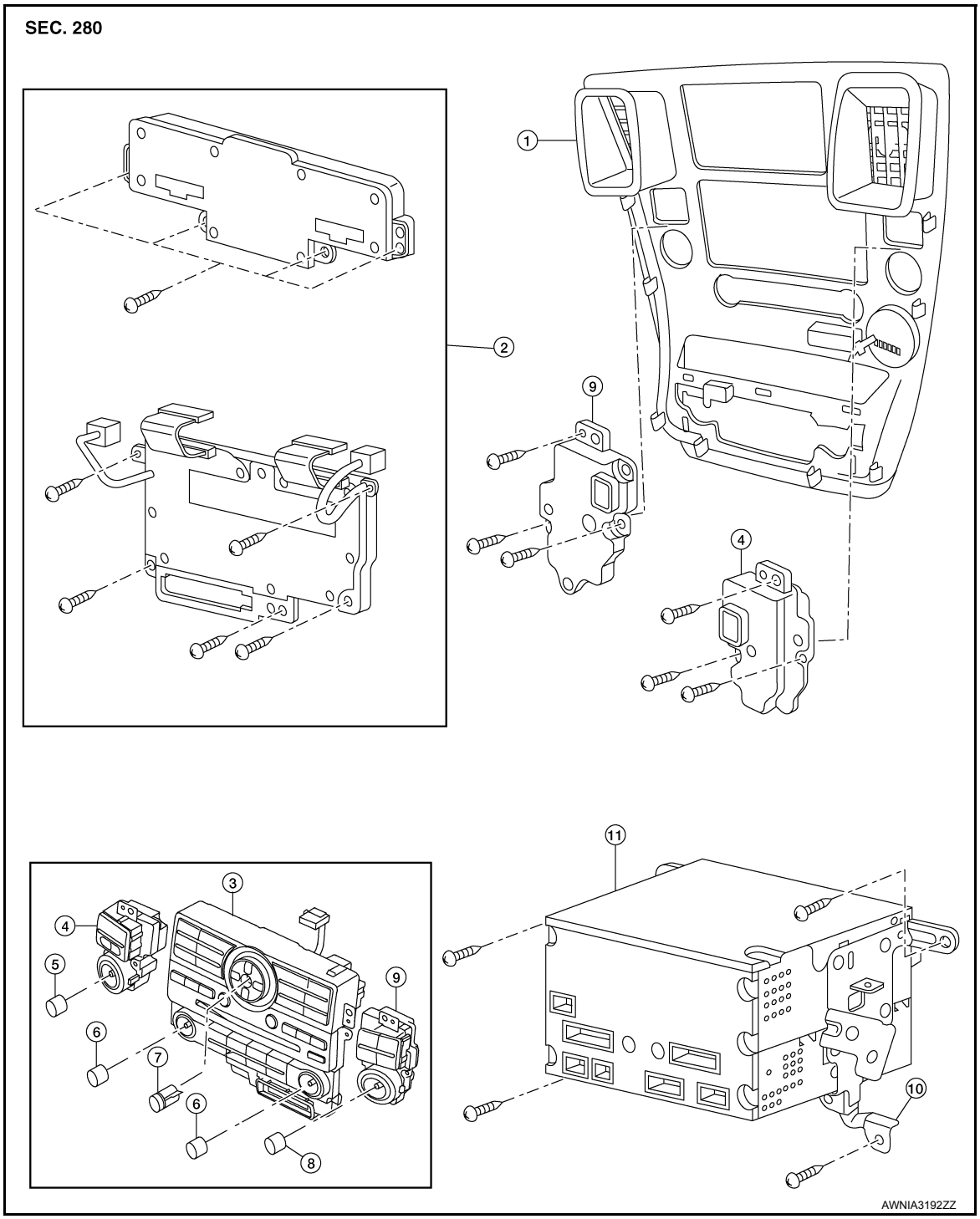
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Removal and Installation

INFOID:0000000010159195



1. Cluster lid C
2. A/C and AV switch assembly (rear view)
3. A/C and AV switch assembly (front view)
4. Volume knob switch
5. Volume knob
6. Temp knobs (LH/RH)
7. Enter button
8. Tuner knob
9. Tuner knob switch
10. AV control unit bracket
11. AV control unit

REMOVAL

CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to AV-123, "CONFIGURATION (AV CONTROL UNIT) : Description".

1. Remove cluster lid C. Refer to IP-15, "Removal and Installation".
2. Remove the AV control unit screws.
3. Remove the AV control unit.
4. Remove the A/C and AV switch assembly from cluster lid C (if necessary).
   CAUTION:
   Only remove and replace the A/C or AV switch assembly knobs if damaged or missing. The knobs must not be removed from switches when removing and installing the A/C or AV switch assembly to prevent damage to the switch assembly.

INSTALLATION

CAUTION:

- **When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to AV-123, "CONFIGURATION (AV CONTROL UNIT) : Description".**

Installation is in the reverse order of removal.

AV AND A/C SWITCH ASSEMBLY

Removal and Installation

INFOID:0000000009821112

CAUTION:

Only remove and replace the A/C or AV switch assembly knobs if damaged or missing. The knobs must not be removed from switches when removing and installing the A/C or AV switch assembly to prevent damage to the switch assembly.

REMOVAL

1. Remove the cluster lid C. Refer to IP-15, "Removal and Installation".
2. Remove the A/C and AV switch assembly from cluster lid C.

INSTALLATION

Installation is in the reverse order of removal.

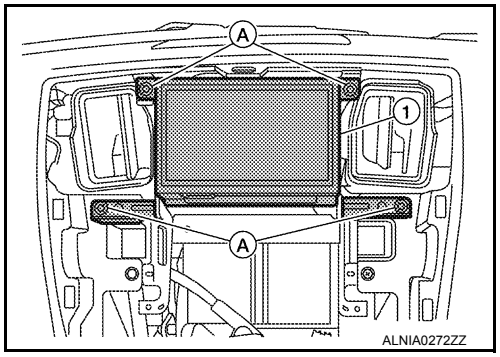
DISPLAY UNIT

Removal and Installation

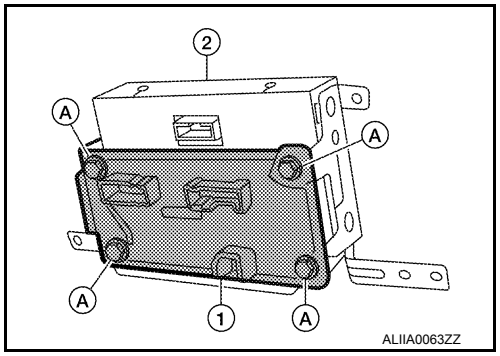
INFOID:0000000009821113

REMOVAL

1. Remove cluster lid C. Refer to IP-15, "Removal and Installation".
2. Remove the display unit.
a. Remove the display unit screws (A).
b. Pull the display unit (1) from the instrument panel.
c. Disconnect the harness connectors from the display unit.



3. Remove the A/C auto amp screws (A).
a. Separate the A/C auto amp (1) from the display unit (2).
4. Remove the display unit bracket screws and the display unit brackets.



INSTALLATION

Installation is in the reverse order of removal.

HEADREST DISPLAY UNIT

Removal and Installation

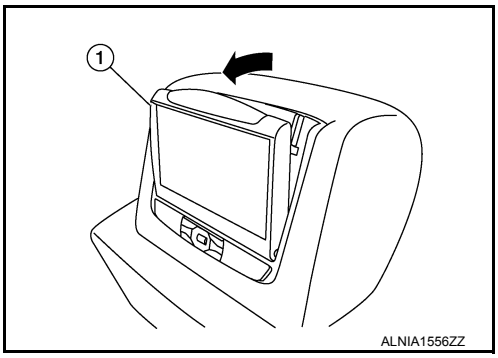
INFOID:0000000010159244

REMOVAL

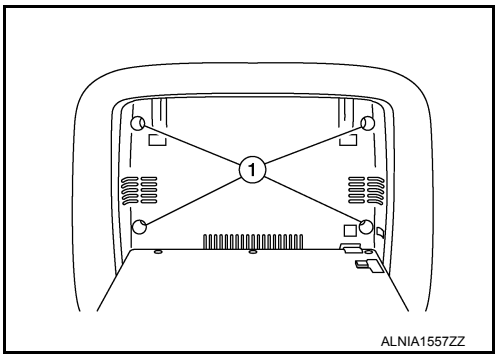
CAUTION:

- **Do not press on the panel surface of display (glass area).**
- **Do not press or pull out the movable part of display.**

1. Rotate headrest display unit to rearward position.
2. Reach behind headrest display unit (1) to release pin and rotate down to access bracket screws.



3. Remove bracket screws (1) and separate headrest display unit from headrest.



4. Disconnect the harness connectors from headrest display unit.

INSTALLATION

Installation is in the reverse order of removal.

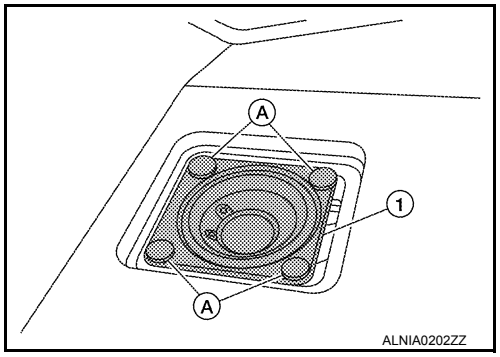
FRONT TWEETER

Removal and Installation

INFOID:0000000009821114

REMOVAL

1. Remove front tweeter speaker grille, using a suitable tool.
2. Remove the front tweeter clips (A).
3. Disconnect the harness connector from the front tweeter (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

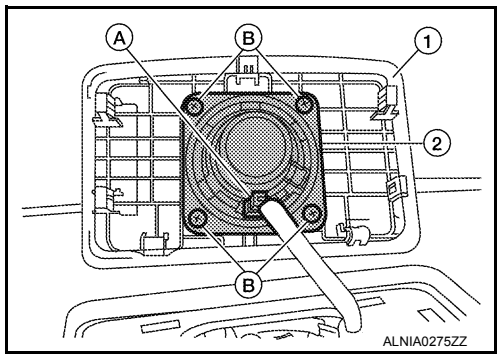
CENTER SPEAKER

Removal and Installation

INFOID:0000000009821115

REMOVAL

1. Remove the center speaker grille finisher (1), using a suitable tool.
2. Disconnect the harness connector (A) from the center speaker.
3. Remove the center speaker screws (B).
4. Remove the center speaker (2).



INSTALLATION

Installation is in the reverse order of removal.

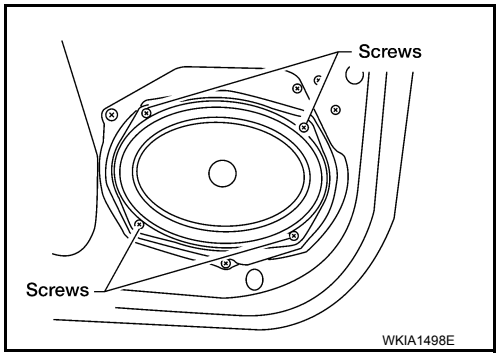
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000009821116

REMOVAL

1. Remove the front door finisher. Refer to INT-15, "Removal and Installation".
2. Remove the front door speaker screws.
3. Disconnect the harness connector from the front door speaker.
4. Remove the front door speaker.



INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

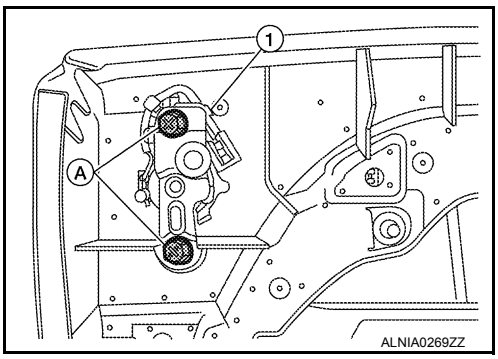
Removal and Installation

INFOID:0000000009821117

REAR DOOR TWEETER

Removal

1. Remove the rear door finisher. Refer to INT-15, "Removal and Installation".
2. Remove the rear door tweeter screws (A).
3. Remove the rear door tweeter (1).



Installation

Installation is in the reverse order of removal.

BACK DOOR SPEAKER

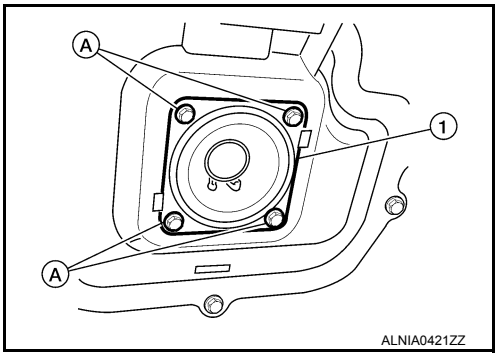
Removal and Installation

INFOID:0000000009821118

REMOVAL

1. Remove the back door lower finisher. Refer to INT-26, "Removal and Installation".
2. Remove the back door speaker (1).

a. Remove the back door speaker screws (A).
b. Pull out the back door speaker from the door.
c. Disconnect the harness connector from the back door speaker.



INSTALLATION

Installation is in the reverse order of removal.

WOOFER

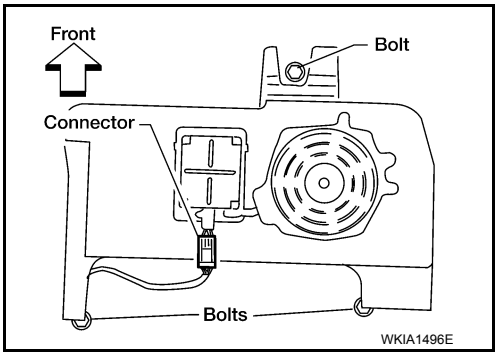
Removal and Installation

INFOID:0000000009821119

SUBWOOFER (BOSE SYSTEM)

Removal

1. Remove the front seat assembly (LH). Refer to SE-63, "Removal and Installation - Front Seat Assembly".
2. Disconnect the harness connector from the subwoofer.
3. Remove the subwoofer bolts.
4. Remove the subwoofer.



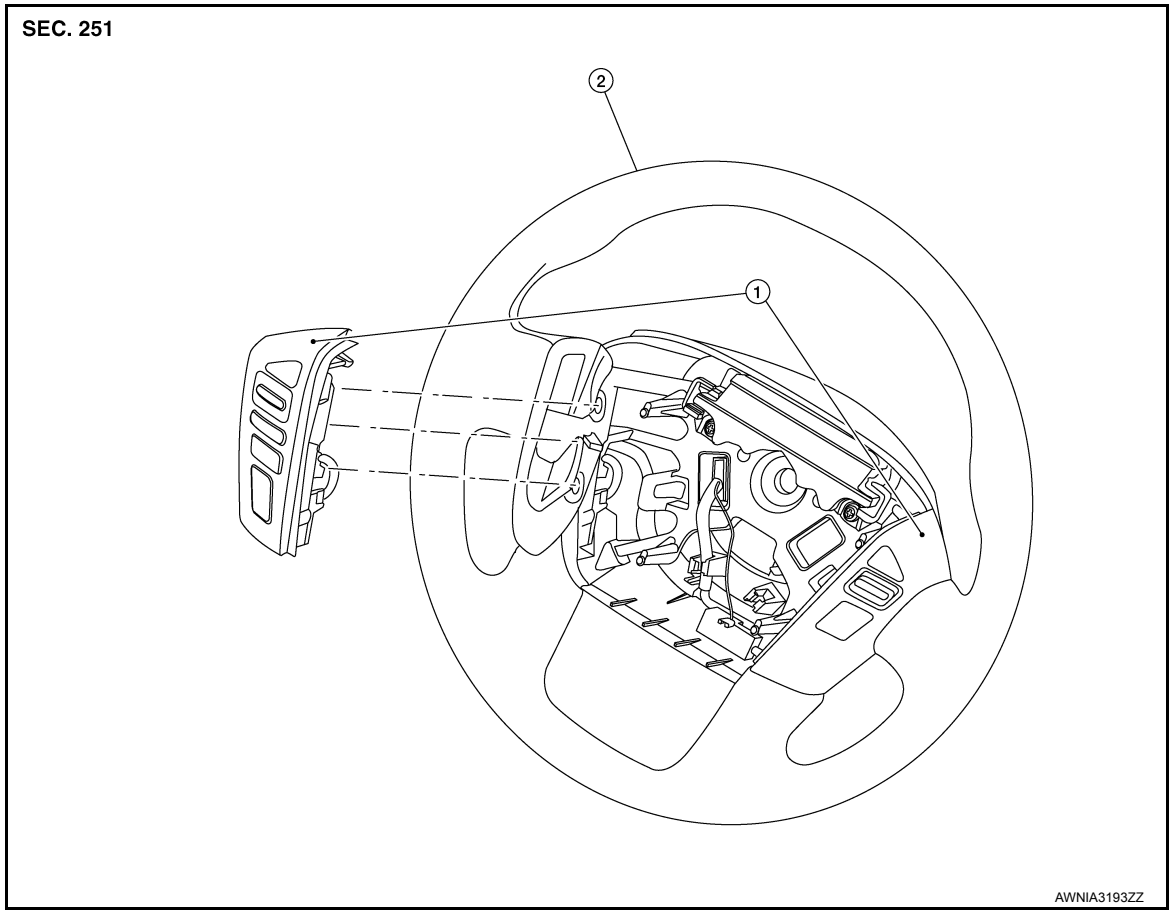
Installation

Installation is in the reverse order of removal.

STEERING SWITCH

Removal and Installation

INFOID:0000000010159235



1. Steering wheel audio control switches 2. Steering wheel

REMOVAL

1. Remove the steering wheel. Refer to ST-28, "Removal and Installation".
2. Remove the steering wheel rear cover.
3. Pull the steering wheel audio control switches out of the steering wheel and disconnect the harness connector from the steering while audio control switches.
4. Remove the steering wheel audio control switch finisher screws and the steering wheel audio control switches finisher.

INSTALLATION

Installation is in the reverse order of removal.

BOSE AMP.

Removal and Installation

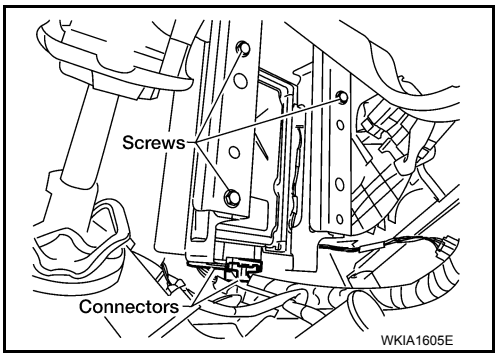
INFOID:0000000009821121

REMOVAL

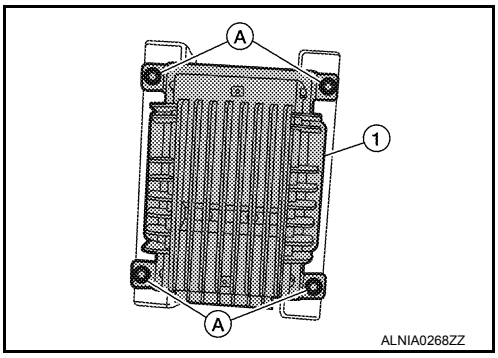
1. Remove the accelerator pedal. Refer to AP-14, "Removal and Installation".
2. Remove the BCM. Refer to BCS-54, "Removal and Installation".
3. Remove the BOSE amp.

a. Disconnect the harness connectors from the BOSE amp.

b. Remove the BOSE amp bracket screws and slide the BOSE amp and bracket assembly down.



4. Remove the BOSE amp. screws (A) and separate the BOSE amp. (1) from the bracket.



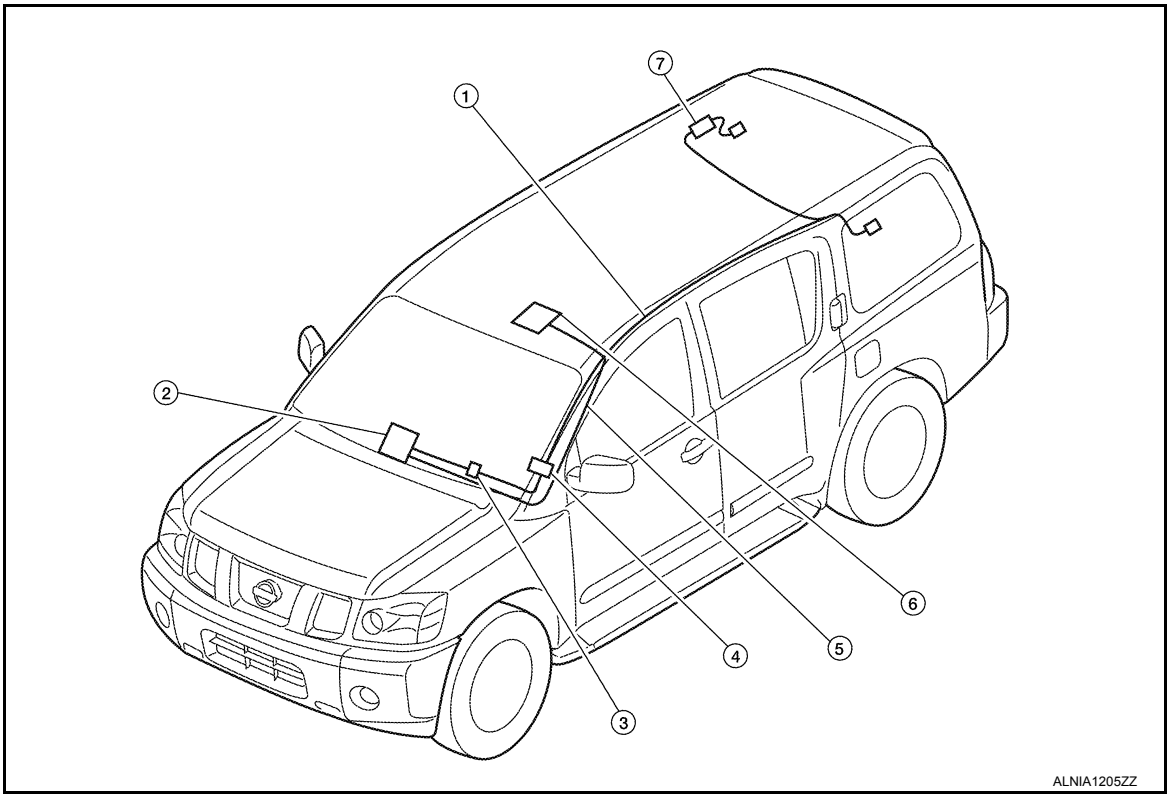
INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antennas

INFOID:0000000009821122



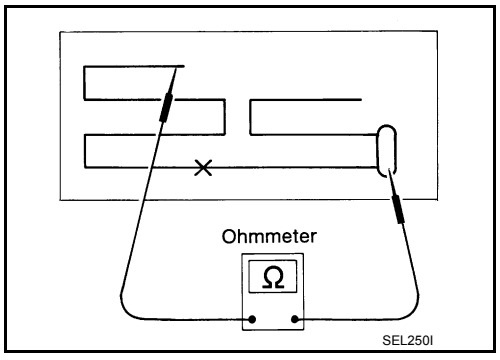
1. Antenna Feeder
2. AV control unit M125, M167
3. M78, M550
4. M551, M601
5. Satellite antenna feeder
6. Satellite antenna
7. Antenna amp M602

Window Antenna Repair

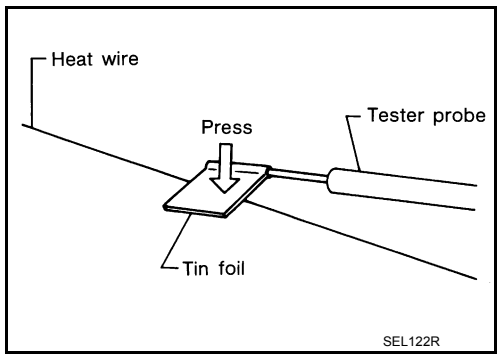
INFOID:0000000009821123

ELEMENT CHECK

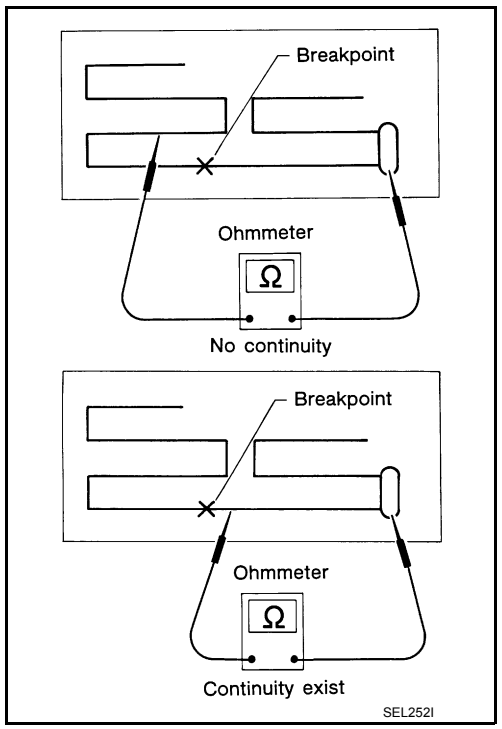
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



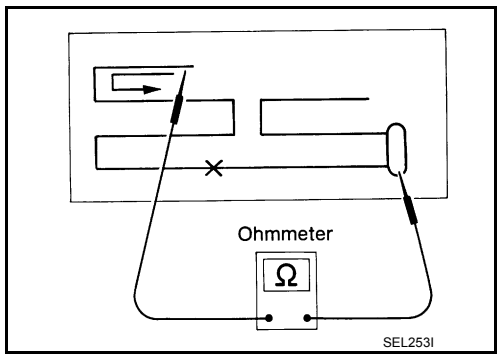
- **When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.**



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



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



ELEMENT REPAIR

Refer to DEF-52, "Inspection and Repair".

FRONT AUXILIARY INPUT JACKS

Removal and Installation

INFOID:0000000010159243

Removal

1. Remove the front center console bin. Refer to IP-20, "Exploded View".
2. Remove the front auxiliary input jack.

Installation

Installation is in the reverse order of removal.

USB CONNECTOR

Removal and Installation

INFOID:0000000009821125

REMOVAL

1. Remove the console bin. Refer to IP-20, "Exploded View".
2. Release the USB connector from the console bin.
3. Disconnect the harness connector from the USB connector and remove.

INSTALLATION

Installation is in the reverse order of removal.

ANTENNA AMP.

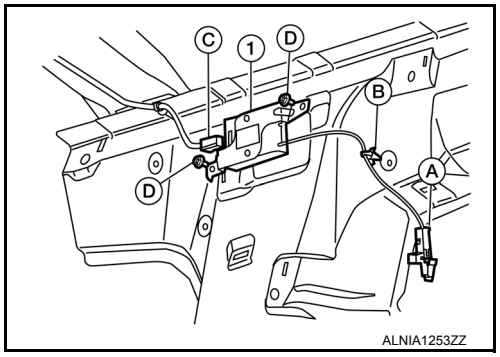
Removal and Installation

INFOID:0000000009821126

REMOVAL

1. Remove the headlining. Refer to INT-21, "Removal and Installation".
2. Remove the antenna amp. (1).

a. Disconnect the harness connector (A) from the antenna amp.
b. Release the antenna amp. harness clip (B).
c. Disconnect the antenna feeder harness connector (C).
d. Remove the antenna amp. screws (D).



INSTALLATION

Installation is in the reverse order of removal.

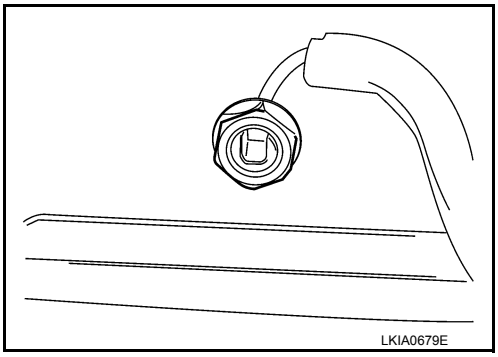
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:0000000009821127

REMOVAL

1. Lower the front of the headlining. Refer to INT-21, "Removal and Installation".
2. Disconnect the harness connector from the satellite radio antenna.
3. Remove the satellite radio antenna nut.
4. Remove the satellite radio antenna.



INSTALLATION

Installation is in the reverse order of removal.

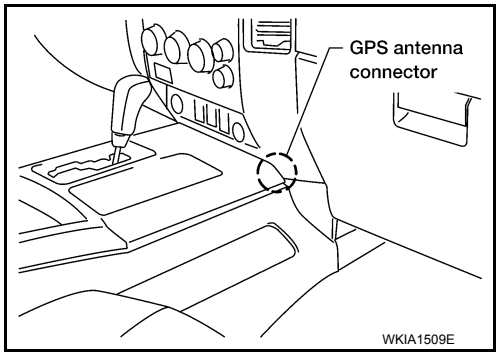
GPS ANTENNA

Removal and Installation

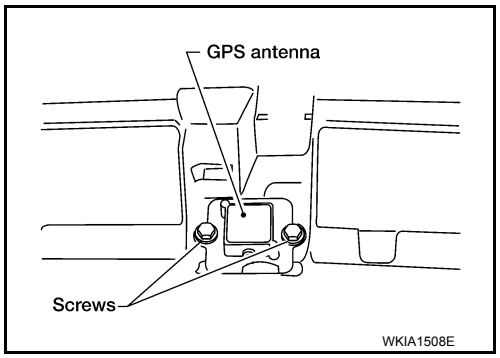
INFOID:0000000009821128

REMOVAL

1. Remove cluster lid C. Refer to IP-12, "Removal and Installation".
2. Disconnect center speaker.
3. Remove defroster grille. Refer to IP-12, "Removal and Installation".
4. Disconnect GPS antenna connector.



5. Remove the GPS antenna.



INSTALLATION

Installation is in the reverse order of removal.

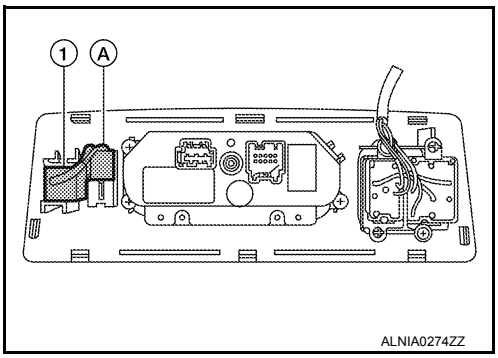
MICROPHONE

Removal and Installation

INFOID:0000000009821129

REMOVAL

1. Remove the front roof console finisher. Refer to INT-21, "Removal and Installation".
2. Disconnect the harness connector (A) from the Bluetooth microphone.
3. Release the Bluetooth microphone (1) from the front roof console finisher and remove the Bluetooth microphone (1).



INSTALLATION

Installation is in the reverse order of removal.

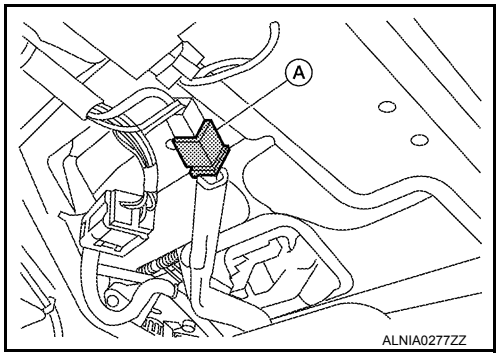
REAR VIEW CAMERA

Removal and Installation

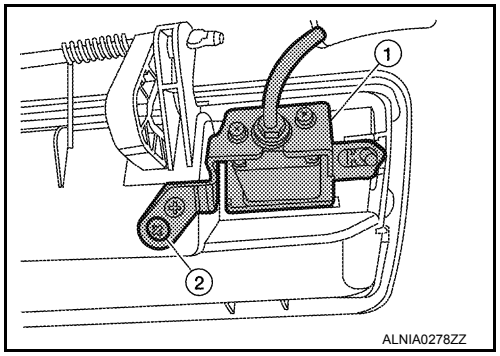
INFOID:0000000009821130

REMOVAL

1. Remove the back door lower finisher. Refer to INT-26, "Removal and Installation".
2. Disconnect the harness connector (A) from the rear view camera.
3. Remove the back door handle. Refer to DLK-399, "Door Lock Assembly".



4. Remove the rear view camera screw (2) and remove the rear view camera (1).



INSTALLATION

Installation is in the reverse order of removal.