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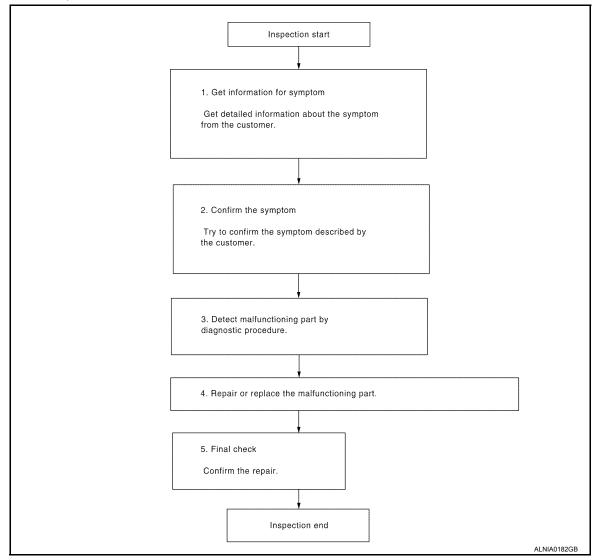
< BASIC INSPECTION > [BASE AUDIO]

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION > [BASE AUDIO]

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5. FINAL CHECK

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

Has the symptom been repaired?

YES >> Inspection End.

NO >> GO TO 2.

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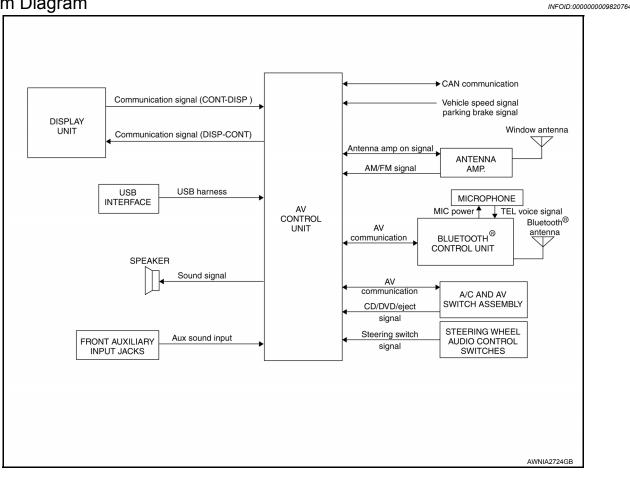
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SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram



System Description

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.

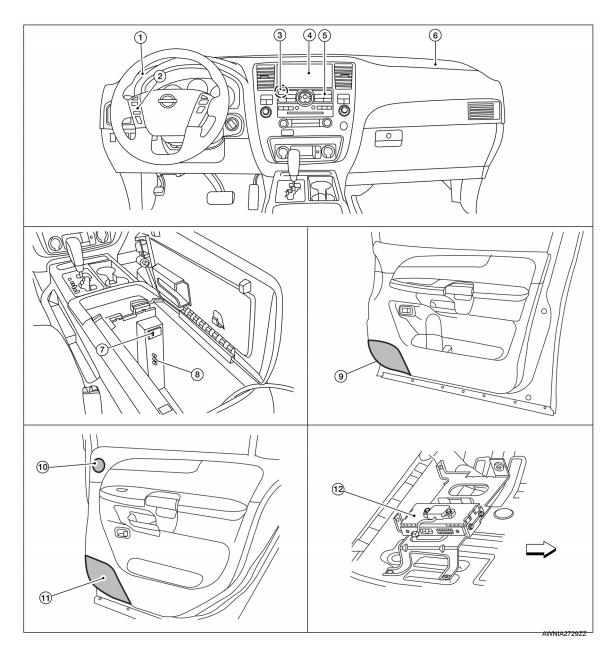
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AV

Component Parts Location

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- 1. Front tweeter LH M109
- 4. Display unit M93
- 7. USB interface M214
- Rear door tweeter
 LH D209
 RH D309

- 2. Steering wheel audio control switches 3.
- 5. A/C and AV switch assembly M98
- 8. Front auxiliary input jacks M206
- 11. Rear door speaker LH D209 RH D309

- AV control unit M42, M43, M44, M46, M48, M124
- 6. Front tweeter RH M111
- 9. Front door speaker LH D12 RH D112
- 12. Bluetooth® control unit B141, B142, B143 (view with front passenger seat removed)

AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[BASE AUDIO]

Component Description

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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

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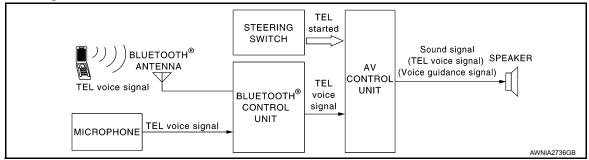
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HANDS-FREE PHONE SYSTEM

System Diagram

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System Description

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

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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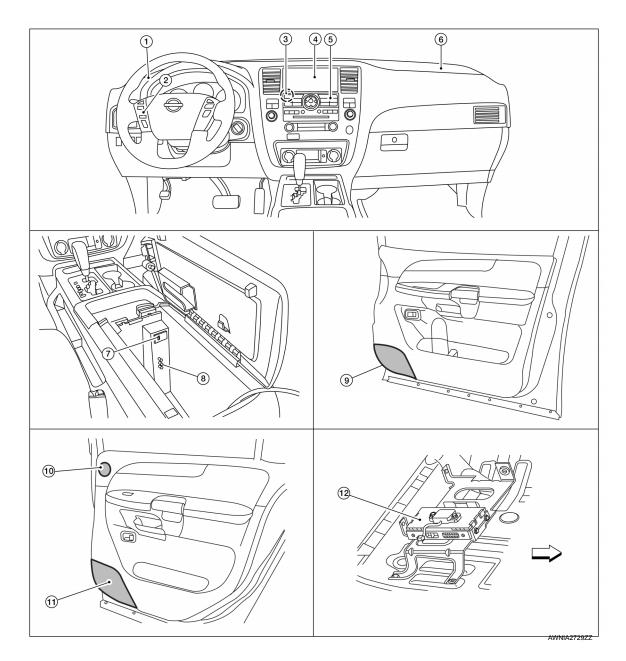
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- 1. Front tweeter LH M109
- 4. Display unit M93
- 7. USB interface M214
- 10. Rear door tweeter LH D209 RH D309

- Steering wheel audio control switches 3.
- 5. A/C and AV switch assembly M98
- 8. Front auxiliary input jacks M206
- 11. Rear door speaker LH D209 RH D309

- AV control unit M42, M43, M44, M46, M48, M124
- 6. Front tweeter RH M111
- 9. Front door speaker LH D12 RH D112
- 12. Bluetooth® control unit B141, B142, B143 (view with front passenger seat removed)

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HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[BASE AUDIO]

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	Descrives telephone voice and voice guidenes signals from the guide unit
Front tweeter	Receives telephone voice and voice guidance signals from the audio unit
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

< SYSTEM DESCRIPTION >

[BASE AUDIO]

DIAGNOSIS SYSTEM (AV CONTROL UNIT) AV CONTROL UNIT

AV CONTROL UNIT: Diagnosis Description

INFOID:0000000009820772

DESCRIPTION

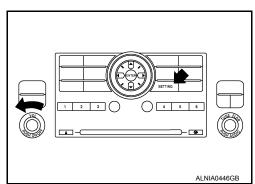
- Diagnosis function consists of the "Self-Diagnosis" mode performed automatically and the "Confirmation/ Adjustment" mode operated manually.
- "Self-Diagnosis" mode checks for connections between the units constituting this system, analyzes each individual unit at the same time, and displays the results 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

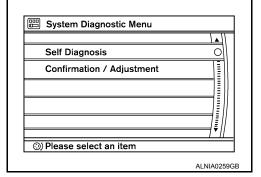
Mode			Description	
Self-diagnosis			 AV control unit diagnosis Analyzes connection between the AV control unit, front display and switches. 	
			Color tone of the screen can be checked by the display of a color bar.	
	Display diagnosis	Gradation bar	Shading of the screen can be checked by the display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



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



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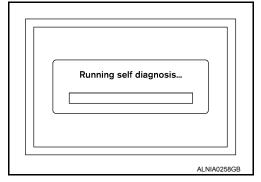
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SELF-DIAGNOSIS

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

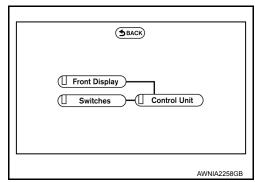
NOTE:

Self-diagnosis requires approximately 10 seconds to complete.



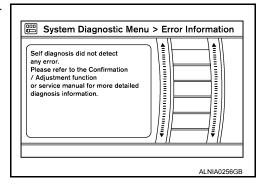
Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

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

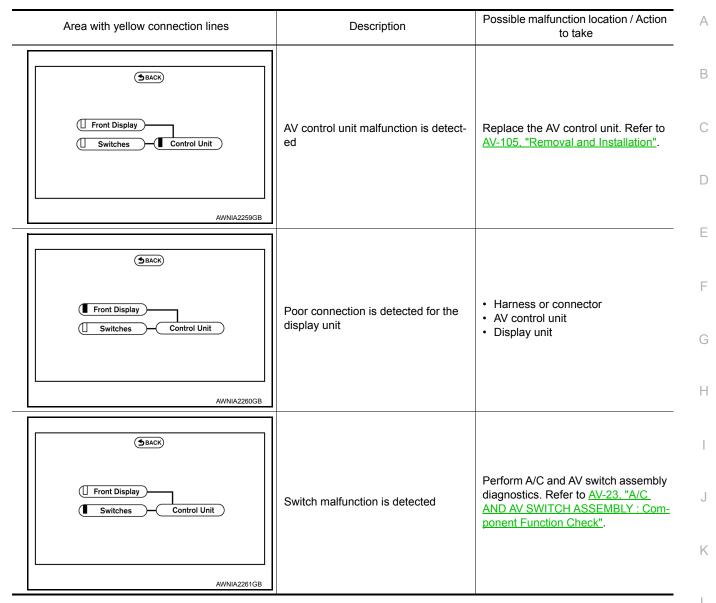


Note:

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



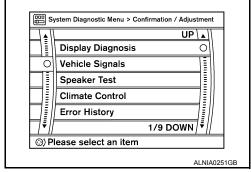
Self-Diagnosis Results



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.

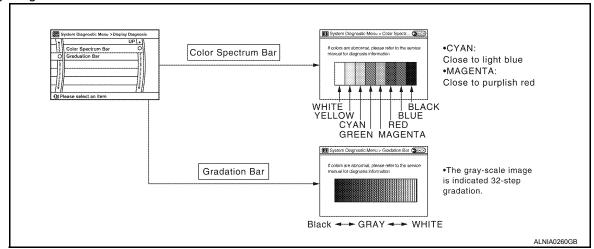


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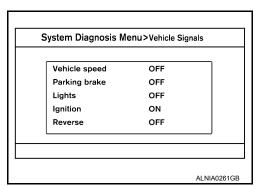
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Display Diagnosis



Vehicle Signals

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



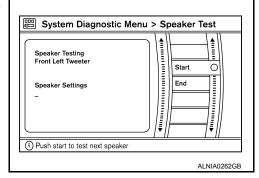
Diagnosis item	Dis- play	Vehicle status	Remarks	
	ON	Vehicle speed > 0 km/h		
Vehicle speed	OFF	Vehicle speed = 0 km/h		
	_	Ignition switch in ACC position	Changes in indication may be delayed by approximately 1.5 seconds. This is normal.	
Dayling broke	ON	Parking brake is applied.	matery the education that is normal.	
Parking brake	OFF	Parking brake is released.	1	
Lighto	ON	Light switch ON	Plack the light beam from the outs light entirel concer	
Lights	OFF	Light switch OFF	 Block the light beam from the auto light optical ser 	
lanition	ON	Ignition switch ON		
Ignition	OFF	Ignition switch in ACC position	_	
	ON	Selector lever in R position		
Reverse	OFF	Selector lever in any position other than R	Changes in indication may be delayed by approximately 1.5 seconds. This is normal.	
	_	Ignition switch in ACC position		

Speaker Test

< SYSTEM DESCRIPTION >

[BASE AUDIO]

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.

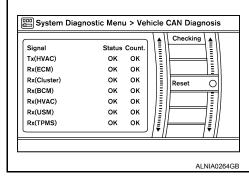
Count up method B

- 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.

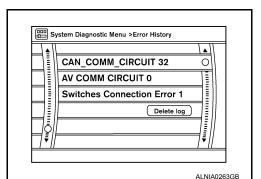
Display method of occur- rence frequency	Error history display item	
Count up method A	CAN communication line, control unit (CAN), AV communication line, control unit (AV communication)	
Count up method B	Other than above	

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



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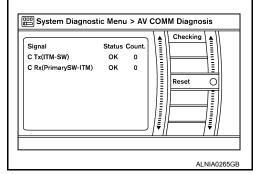
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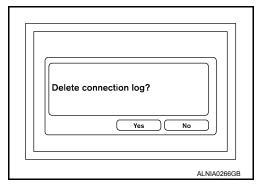
[BASE AUDIO]

- · 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.

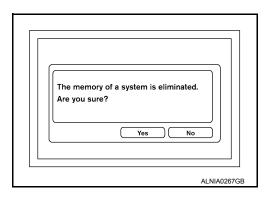


Delete Unit Connection Log

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: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"

< SYSTEM DESCRIPTION >

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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]	х	х	Displays "ON" when vehicle speed > 0 km/h. Displays "OFF" when vehicle speed = 0 km/h.
PKB SIG [ON/OFF]	Х	Х	Displays [ON/OFF] condition of parking brake switch.
ILLUM SIG [ON/OFF]	Х	Х	Displays [ON/OFF] condition of lighting switch.
IGN SIG [ON/OFF]	Х	Х	Displays [ON/OFF] condition of ignition switch.
REV SIG [ON/OFF]	Х	Х	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

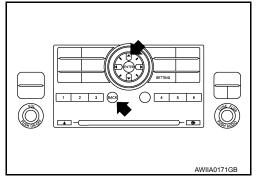
A/C and AV switch assembly self-diagnosis function

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.

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DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

Diagnosis Description

INFOID:0000000009820775

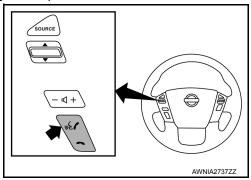
The Bluetooth[®] control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

BLUETOOTH® CONTROL UNIT INITIALIZATION CHECKS

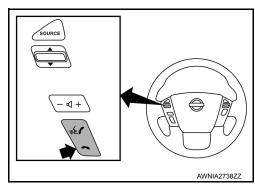
- · Internal control unit failure
- Bluetooth[®] antenna connection open or shorted
- · Steering wheel audio control switches (SEND/END) stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth[®] inquiry check

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 <u>AV-24</u>, "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".
- 3. Self-diagnosis mode is complete when the voice prompt says "All diagnostic functions completed".



Work Flow

Failure Message	Action		
"Internal failure"	Replace Bluetooth® control unit. Refer to AV-287, "Removal and Installation".		
"Bluetooth® antenna open"	 Inspect harness connection. 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)	 Inspect harness between Bluetoot[®]h control unit and microphone. Replace microphone. Refer to <u>AV-112</u>, "Removal and Installation". 		

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

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DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:000000009820777

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

DTC DETECTION LOGIC

DTC	Display contents of CON- SULT	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.
- 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".

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U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

U1010 CONTROL UNIT (CAN)

Description INFOID:000000009820780

Initial diagnosis of AV control unit.

DTC Logic

DTC DETECTION LOGIC

DTC	Display contents of CON- SULT	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

< DTC/CIRCUIT DIAGNOSIS >

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U1200 AV CONTROL UNIT

Description INFOID:000000009820783

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

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".

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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

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

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

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.

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U1243 DISPLAY UNIT

Description INFOID:000000009820788

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

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.
- Check continuity between display unit harness connector M93

 (A) terminals 11, 22 and AV control unit harness connector M44
 (B) terminals 56, 44.

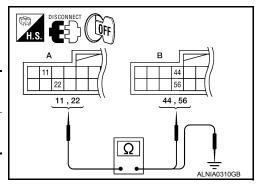
А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M93	11	M44	56	Yes
IVI93	22	10144	44	165

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

		T	
	A	_	Continuity
Connector	Terminal		
M93	11	Ground	No
IVIO	22	Giodila	INO

Are continuity results as specified?

YES >> GO TO 3.



U1243 DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

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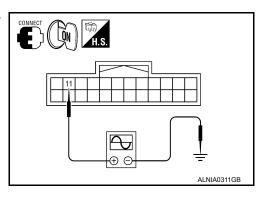
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NO >> Repair harness or connector.

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 signa	Reference signal
Connector	Terminal	(-)	Neterence signal
M93	11	Ground	(V) 6 4 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1



Are voltage readings as specified?

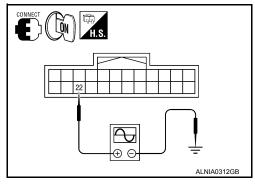
YES >> GO TO 4.

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

4. CHECK COMMUNICATION SIGNAL

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

(+) Connector Terminal		(-)	Reference signal	
M93	22	Ground	(V) 6 4 2 0 • • • 1ms	



Are voltage readings as specified?

YES >> Inspection End.

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

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U1256 HAND FREE CONN

Description INFOID:000000009820791

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

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

U1300 AV COMM CIRCUIT

Description INFOID:000000000820792

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.

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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

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

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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.
	19	Battery power	31
AV control unit	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

Disconnect AV control unit connectors M42 and M46.

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

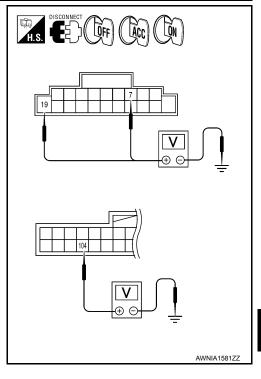
(+)		(-)	OFF	ACC	ON
Connector	Terminal	(-)	OH	ACC	ON
M42	7	Ground	0V	Battery voltage	Battery voltage
	19	Ground	Battery voltage	Battery voltage	Battery voltage
M46	104	Ground	0V	0V	Battery voltage

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

Turn ignition switch OFF.

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

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

Are the continuity results as specified?

YES >> Inspection End.

NO >> Repair AV control unit ground.

AV-35 Revision: August 2013 2014 Armada NAM

DISPLAY UNIT

DISPLAY UNIT: Diagnosis Procedure

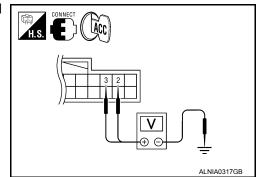
INFOID:0000000009820796

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

1. CHECK POWER SUPPLY CIRCUIT

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

(+)		()	Value (Approx.)	
Connector	Terminal	(-)	Value (Approx.)	
M93	2	Ground	9V	
Maa	3	Glound	90	



Does specified voltage exist?

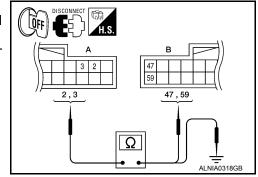
YES >> GO TO 3.

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).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M93	2	M44	59	Yes
3		IVI TT	47	165



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

А			Continuity	
Connector	Terminal	_	Continuity	
M93	2	Ground	No	
IVI93	3		INO	

Are continuity results as specified?

YES >> Check AV control unit power and ground supply. Refer to <u>AV-35, "AV CONTROL UNIT : Diagnosis Procedure".</u>

NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Turn ignition switch OFF.

Disconnect display unit connector.

Check continuity between display unit harness connector and

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

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

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	(-)	011	7,00	ON
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

Turn ignition switch OFF.

Check continuity between A/C and AV switch assembly harness connector M98 and ground.

Connector	Terminal	_	Continuity
M98	1	Ground	Yes

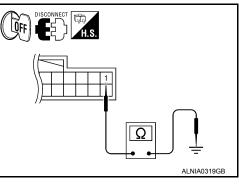
Are the continuity results as specified?

YES >> Inspection End.

NO >> Repair harness or ground.

BLUETOOTH® CONTROL UNIT

ALNIA0319GB INFOID:0000000009820797



[BASE AUDIO]

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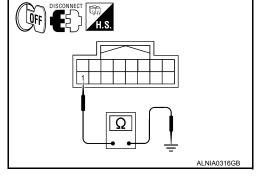
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[BASE AUDIO]

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?

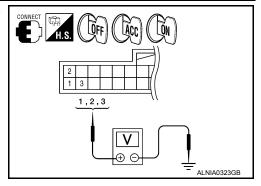
YES >> GO TO 2.

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



Is battery voltage present as specified?

YES >> GO TO 3.

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

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
	4		
B142	20	Ground	Yes
. <u> </u>	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)

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

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Turn ignition switch ON.

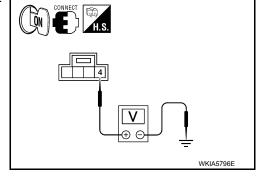
Check voltage between microphone harness connector R109 terminal 4 and ground.

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

Is approximately 5V present?

YES >> GO TO 4.

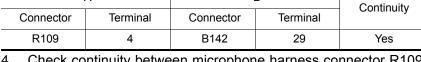
NO >> GO TO 2.



2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

- Turn ignition switch OFF.
- 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.

Α		В		Continuity
Connector	Terminal	Connector Terminal		Continuity
R109	4	B142	29	Yes



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

Α		_	Continuity	
Connector	Terminal		Continuity	
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.
- Check voltage between Bluetooth control unit harness connector B142 terminal 29 and ground.

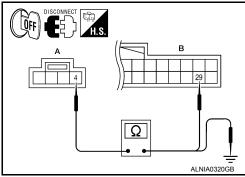
(-	(+)		Value (Approx.)	
Connector	Terminal	(-)	value (Approx.)	
B142	29	Ground	5V	

Is approximately 5V present?

YES >> Inspection End.

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

4.CHECK GROUND CIRCUIT



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AV-39 Revision: August 2013 2014 Armada NAM

POWER SUPPLY AND GROUND CIRCUIT

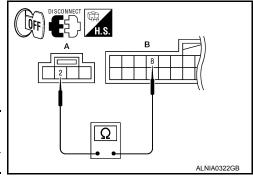
< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

- 1. Turn ignition switch OFF.
- 2. Disconnect microphone harness connector R109 and Bluetooth control unit harness connector B142.
- Check continuity between microphone harness connector R109

 (A) terminal 2 and Bluetooth control unit harness connector B142 (B) terminal 8.

,	Α		В	
Connector	Terminal	Connector	Terminal	Continuity
R109	2	B142	8	Yes



Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

RGB (R: RED) SIGNAL CIRCUIT

Description

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

Diagnosis Procedure

INFOID:0000000009820801

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

${\bf 1.} {\sf CHECK} \; {\sf CONTINUITY} \; {\sf RGB} \; ({\sf R:} \; {\sf RED}) \; {\sf SIGNAL} \; {\sf CIRCUIT}$

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M44.
- Check continuity between display unit harness connector M93

 (A) terminal 17 and AV control unit harness connector M44 (B) terminal 40.

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

Check continuity between display unit harness connector M93

 (A) terminal 17 and ground.

DISCONNECT H.S.	
A 177	B 40 40
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	A		Continuity	
Connector	Terminal			
M93	17	Ground	No	

Are the continuity results as specified?

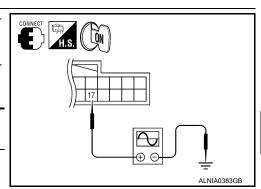
YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK RGB (R: RED) SIGNAL

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

(+)		(-) Condition		Reference signal	
Connector	Terminal	(-)	Ooridition	receive signal	
M93	17	Ground	Receive audio sig- nal	(V) 0. 4 0 -0. 4 → 40μs SKIB2238J	



Are the voltage readings as specified?

YES >> Replace display unit. Refer to <u>AV-108, "Removal and Installation"</u>.

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

Revision: August 2013 AV-41 2014 Armada NAM

RGB (G: GREEN) SIGNAL CIRCUIT

Description INFOID:000000009820802

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

Diagnosis Procedure

INFOID:0000000009820803

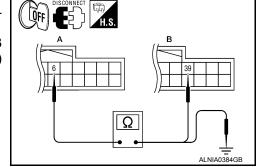
Regarding Wiring Diagram information, refer to AV-75, "Wiring Diagram".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M44.
- Check continuity between display unit harness connector M93

 (A) terminal 6 and AV control unit harness connector M44 (B) terminal 39.

	A	В		Continuity
Connector	Terminal	Connector Terminal		Continuity
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?

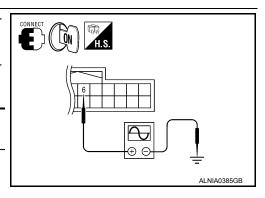
YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK RGB (G: GREEN) SIGNAL

- 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	Poforonce signal	
Connector	Terminal	(-)	Condition	Reference signal	
M93	6	Ground	Receive audio sig- nal	(V) 0. 4 0 -0. 4 -0. 4 -0. 4 -0. 4 -0. 4 -0. 8 -0. 8 -	



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:000000009820804

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

Diagnosis Procedure

INFOID:0000000009820805

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

${\bf 1.} {\sf CHECK} \; {\sf CONTINUITY} \; {\sf RGB} \; ({\sf B: BLUE}) \; {\sf SIGNAL} \; {\sf CIRCUIT}$

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M44.
- Check continuity between display unit harness connector M93

 (A) terminal 18 and AV control unit harness connector M44 (B) terminal 38.

Α			В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	18	M44	38	Yes

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

	DISCONNECT H.S.
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	A	_	Continuity	
Connector	Terminal			
M93	18	Ground	No	

Are continuity results as specified?

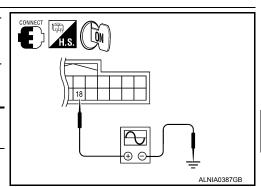
YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK RGB (B: BLUE) SIGNAL

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

(+)		(-)	Condition	Peference signal	
Connector	Terminal	(-)	Condition	Reference signal	
M93	18	Ground	Receive audio sig- nal	(V) 0. 4 0	



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".

Revision: August 2013 AV-43 2014 Armada NAM

RGB SYNCHRONIZING SIGNAL CIRCUIT

Description INFOID:000000009820806

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

Diagnosis Procedure

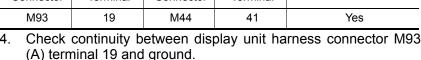
INFOID:0000000009820807

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

1. CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- 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.

Α			В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	19	M44	41	Yes



DISCONNECT H.S. A B 41 19
Ω

	A		Continuity
Connector	Terminal	_	Continuity

Ground

No

Are continuity results as specified?

YES >> GO TO 2.

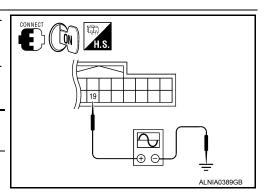
M93

NO >> Repair harness or connector.

2.CHECK RGB SYNCHRONIZING SIGNAL

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

(+)		(-) Condition	Reference signal	
Connector	Terminal	(-)	Condition	reference signal
M93	19	Ground	Receive audio sig- nal	(V) + + 20 μs 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

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

Diagnosis Procedure

INFOID:0000000009820809

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

1. CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M44.
- Check continuity between display unit harness connector M93

 (A) terminal 9 and AV control unit harness connector M44 (B) terminal 43.

А			В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	9	M44	43	Yes

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

	A		Continuity
Connector	Terminal	_	Continuity
M93	9	Ground	No

Are continuity results as specified?

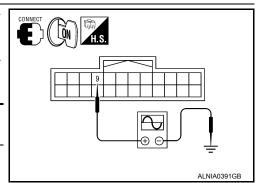
YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK RGB SYNCHRONIZING SIGNAL

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

(+)		(-)	Condition	Reference signal
Connector	Terminal	(-)	Condition	reference signal
M93	9	Ground	Receive audio sig- nal	(V) 6 4 2 0 → + 200 \(\mu\) S PKIB4948.J



Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-108, "Removal and Installation".

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

DISCONNECT H.S.

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HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description INFOID:000000009820810

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

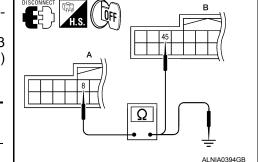
INFOID:0000000009820811

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

$1. {\sf CHECK} \ {\sf CONTINUITY} \ {\sf HORIZONTAL} \ {\sf SYNCHRONIZING} \ ({\sf HP}) \ {\sf SIGNAL} \ {\sf CIRCUIT}$

- 1. Turn ignition switch OFF.
- 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		В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	8	M44	45	Yes



Check continuity between display unit harness connector M93

 (A) terminal 8 and ground.

	A	_	Continuity
Connector	Terminal	_	Continuity
M93	8	Ground	No

Are continuity results as specified?

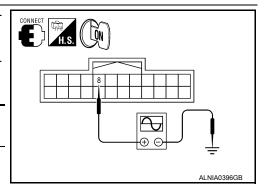
YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

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

(+)		(-)	Condition	Reference signal
Connector	Terminal	(-)	Condition	ixeletetice signal
M93	8	Ground	Receive audio sig- nal	(V) + + 20µs SKIB3601E



Are voltage readings as specified?

YES >> Replace AV control unit. Refer to <u>AV-105. "Removal and Installation"</u>.

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

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description INFOID:000000009820812

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

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

$1. {\sf CHECK\ CONTINUITY\ VERTICAL\ SINCHRONIZING\ (VP)\ SIGNAL\ CIRCUIT}$

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M44.
- Check continuity between display unit harness connector M93

 (A) terminal 20 and AV control unit harness connector M44 (B) terminal 57.

Α			В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	20	M44	57	Yes

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

	A		Continuity
Connector Terminal		_	Continuity
M93	20	Ground	No

Are continuity results as specified?

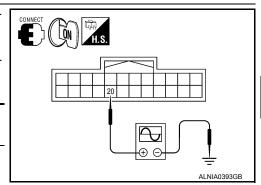
YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK VERTICAL SINCHRONIZING (VP) SIGNAL

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

(+)		(-)	Condition	Reference signal
Connector	Terminal	(-)	Condition	reference signal
M93	20	Ground	Receive audio sig- nal	(V) 4 0 ++4ms SKIB3598E



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Are voltage readings as specified?

YES >> Replace AV control unit. Refer to <u>AV-105. "Removal and Installation"</u>.

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

Revision: August 2013 AV-47 2014 Armada NAM

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INFOID:0000000009820815

FRONT DOOR SPEAKER

Description INFOID:000000009820814

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

Diagnosis Procedure

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.

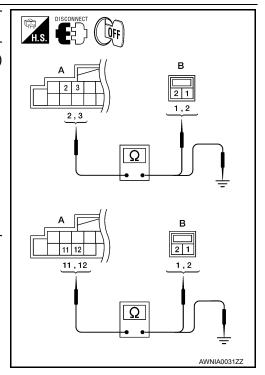
2. HARNESS CHECK

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

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2	D12	1	
M42		DIZ	2	Yes
IVI42	11	D112	1	165
	12	DIIZ	2	

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

	Α		Continuity
Connector	Terminal		Continuity
	2		
M42	3	Ground	No
IVI42	11	Giouna	
	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

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

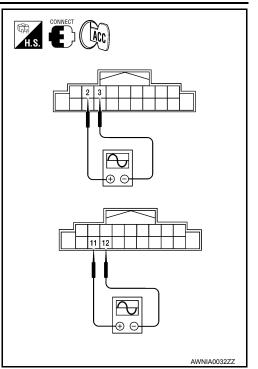
- Connect AV control unit connector M42 and front speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M42 terminals with CONSULT or oscilloscope.

(+)		(-)	Condition	Reference signal
Connector	Terminal	Terminal	Condition	reference signal
	2	3		
M42	11	12	Receive audio sig- nal	1 0 -1 1 ms SKIA0177E

Is the audio signal voltage as specified?

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

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



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FRONT TWEETER

Description INFOID:000000009820816

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.

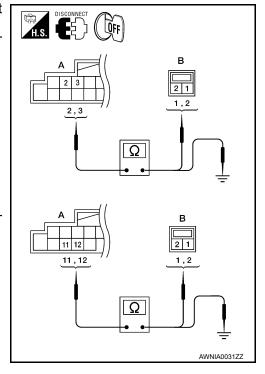
2. HARNESS CHECK

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

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2	M109	1	
M42	3	WITUS	2	Yes
IVI42	11	M111	1	165
	12	IVIIII	2	

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

	Α		Continuity
Connector	Terminal	_	Continuity
	2		No
M42	3	Ground	
10142	11	Giouna	
	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

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

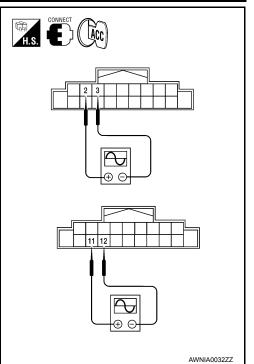
- Connect AV control unit connector M42 and front tweeter connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M42 terminals with CONSULT or oscilloscope.

(+	(+)		Condition	Reference signal
Connector	Terminal	Terminal	Condition	reference signal
	2	3		
M42	11	12	Receive au- dio signal	(V) 1 0 -1 1 ms SKIA0177E

Is the audio signal voltage as specified?

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

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



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REAR DOOR SPEAKER

Description INFOID:000000009820818

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.

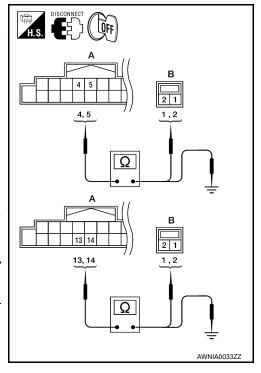
2. HARNESS CHECK

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

Α		В		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M42	4	D209	1		
	5	D209	2	Yes	
10142	13	D309	1	165	
	14	D309	2		

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

	Α		Continuity	
Connector	Terminal		Continuity	
	4			
M42	5	Ground	No	
IVIAZ	13	Giodila		
	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

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

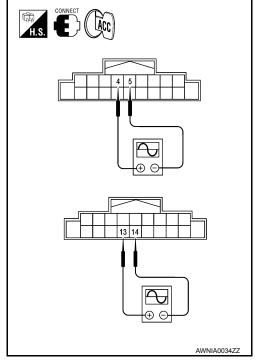
- 1. Connect AV control unit connector and rear speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M42 terminals with CONSULT or oscilloscope.

(+)		(-)	Condition	Reference signal
Connector	Terminal	Terminal	Condition	relevence digital
	4	5		
M42	13	14	Receive audio sig- nal	1 0 -1 SKIA0177E

Is the audio signal voltage as specified?

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

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



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REAR TWEETER

Description INFOID:000000009820820

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.

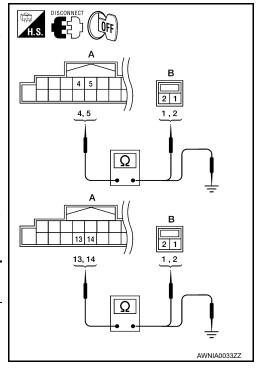
2. HARNESS CHECK

- 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).

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M42 5 13 14	4	D208	1	
	5	D200	2	Yes
	13	D308	1	165
	14	D300	2	

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

	Α		Continuity	
Connector	Terminal		Continuity	
	4		No	
M42	5	Ground		
IVI+Z	13	Ground		
	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

REAR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

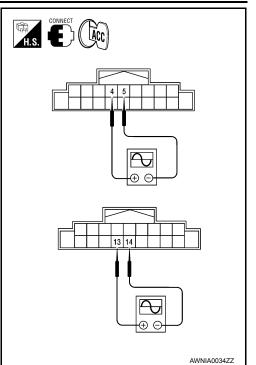
- 1. Connect AV control unit connector and rear tweeter connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M42 terminals with CONSULT or oscilloscope.

(+)		(-)	Condition	Reference signal
Connector	Terminal	Terminal	Condition	received signal
	4	5		
M42	13	14	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E

Is the audio signal voltage as specified?

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

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



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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

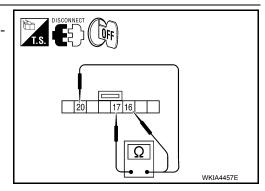
INFOID:0000000009820823

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

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

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

Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
		Volume (down)	Depress - 🗘 switch.	1
16	17	Volume (up)	Depress 4 switch.	121
		Phone end	Depress - switch.	321
		Source	Depress SOURCE switch.	1
20	17	Seek (up)	Depress △ switch.	121
	17	Seek (down)	Depress ∇ switch.	321
		Phone/Send	Depress √ witch.	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.
- 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		Continuity
	6		24	
M42	15	M30	31	Yes
	16		25	

Check continuity between AV control unit connector M42 and ground.

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

	AV control unit		Continuity
Connector	Terminal		Continuity
	6		
M42	15	Ground	No
	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.

	Combinat	Continuity		
Connector	nnector Terminal Connector Terminal			Continuity
	24		20	
M30	31	M102	17	Yes
	25		16	

Does the spiral cable check OK?

YES >> Inspection End.

NO >> Replace spiral cable. Refer to <u>SR-7</u>, "Removal and Installation".

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MICROPHONE SIGNAL CIRCUIT

Description INFOID:000000009820824

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

Diagnosis Procedure

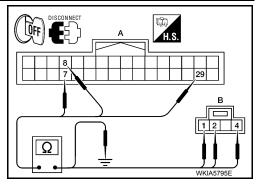
INFOID:0000000009820825

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).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	7		1	
B142	8	R109	2	Yes
	29		4	



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

	Α		Continuity
Connector	Terminal		Continuity
	7		No
B142	8	Ground	
	29		

Are the continuity test results as specified?

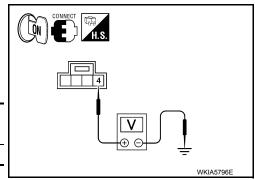
YES >> GO TO 2.

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		(-)	voltage (approx.)	
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".

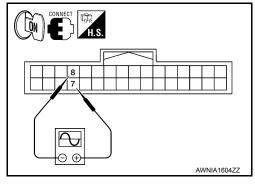
3.CHECK MICROPHONE SIGNAL

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

Connector	(+)	(-)	Reference signal	
Connector	Terminal	Terminal	Neierence signal	
B142	7	8	While speaking into MIC (V) 2. 5 2. 0 1. 5 1. 0 0. 5 0 PKIB5037J	



Are voltage readings as specified?

YES >> Replace Bluetooth[®] control unit. Refer to <u>AV-287, "Removal and Installation"</u>.

NO >> Replace microphone. Refer to AV-286, "Removal and Installation".

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[BASE AUDIO]

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

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

AV cor	ntrol unit		Continuity	
Connector Terminal		_	Continuity	
M48	121	Ground	No	
IVI40	123	Ground	NO	

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

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

FRONT AUXILIARY INPUT JACK AUDIO SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009820827

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

1. CHECK AUX SOUND SIGNAL CIRCUIT CONTINUITY 1

- Turn ignition switch OFF.
- 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	Continuity
M206	1	B305	4	Yes
IVIZOO	3	B303	5	165

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

Front auxilia	ry input jacks	Ground	Continuity	
Connector Terminal		Giodila	Continuity	
M205	1		No	
WZUS	3	_	INO	

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2.CHECK AUX SOUND SIGNAL CIRCUIT CONTINUITY 2

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

AV co	AV control unit		Headrest display unit (passenger seat)		
Connector	Terminal	Connector	Terminal	Continuity	
M46	95	B305	14	Voo	
IVI40	96	B3U3	15	Yes	

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

AV cor	ntrol unit	Ground	Continuity	
Connector	Terminal	Giodila		
M46	95		No	
IVI40	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.

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FRONT AUXILIARY INPUT JACK AUDIO SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

Front auxilia	Front auxiliary input jacks		Headrest display unit (passenger seat)			
Connector	Terminal	Connector	Terminal	Continuity		
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 cor	ntrol unit	Headrest display u	Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
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		
96	97	AUX mode selected	(V) 1 0 -1 + 2ms 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".

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ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

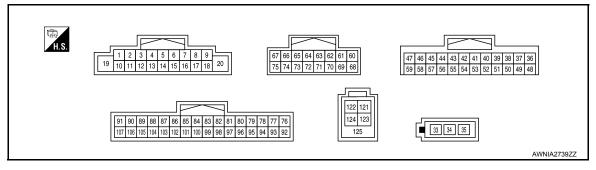
Reference Value

VALUES ON THE DIAGNOSIS TOOL

CONSULT data monitor item

Display Item	Dis- play	Vehicle status	Remarks	
VHCL SPD SIG	ON	Vehicle speed >0 km/h (0 MPH)	Changes in indication may be delayed. This is nor-	
VHCL 3FD 3IG	OFF	Vehicle speed =0 km/h (0 MPH)	mal.	
PKB SIG	ON	Parking brake is applied.	Changes in indication may be delayed. This is nor-	
PND SIG	OFF	Parking brake is released.	mal.	
ILLUM SIG	ON	Block the light beam from the auto light optical sensor when the light SW is ON .		
ILLUM SIG	OFF	Expose the auto light optical sensor to light when the light SW is OFF or ON.		
IGN SIG	ON	Ignition switch ON		
IGN SIG	OFF	Ignition switch in ACC position	_	
	ON	Selector lever in R position	Changes in indication may be delayed. This is nor-	
REV SIG	OFF	Selector lever in any position other than R	mal.	

TERMINAL LAYOUT



PHYSICAL VALUES

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	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
2 (L/W)	3 (L/R)	Sound signal front door speaker and front tweeter LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E
4 (SB)	5 (B/Y)	Sound signal rear door speaker and rear tweeter LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 *** 2ms SKIB3609E
		nd Steering switch signal A		ON	Press and hold SOURCE switch.	0V
					Press and hold Δ switch.	1.0V
6 (Y)	Ground		Input		Press and hold ∇ switch.	2.0V
()	()				Press and hold w 🗸 🌈 switch.	3.0V
					Except for above.	5.0V
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage
9	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	0V
(R/L)	Ordana	- Indimination digital	mpat	011	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	(V) 1 0 -1 + 2ms SKIB3609E
13 (O/L)	14 (R/L)	Sound signal rear door speaker and rear tweeter RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E
15	Ground	Steering switch signal GND	_	Ignition switch ON	_	0V

AV CONTROL UNIT

[BASE AUDIO]

	minal e color)	Description		Condition		Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
					Press and hold - 以 switch	0V
16 (BR)	Ground	Steering switch signal B	Input	Ignition switch ON	Press and hold 4+ switch	1.0V
					Press and hold A 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	(V) 0. 4 0 -0. 4 -0. 4 -0. 8 SKIB2251J
37 (BR)	Ground	AUX image ground	_	Ignition switch ON	_	0V
38 (R)	Ground	RGB signal (B: blue)	Output	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0. 4 0 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
39 (B)	Ground	RGB signal (G: green)	Output	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0. 4 0 -0. 4 -0. 4 -0. 4 -0. 4 -0. 4 -0. 4 -0. 4 -0. 4
40 (W)	Ground	RGB signal (R: red)	Output	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0. 4 0 -0. 4 • • 40μs SKIB2238J

< ECU DIAGNOSIS INFORMATION >

	minal	OIO INI ORWATION >				<u>-</u>
	color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output			(Approx.)
41 (W)	Ground	RGB synchronizing signal	Output	Ignition switch ON	_	(V) 4 0 → 20 µs SKIB3603E
42	_	RGB synchronizing ground	_	Ignition switch ON	_	0V
43 (O)	Ground	RGB area (YS) signal	Output	Ignition switch ON	RGB image AUX image	5V (V) 6 4 2 0 + + 200μs PKIB4948J
44 (LG)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness	(V) 6 4 2 0 • • • 1ms
45 (W/L)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	_	(V) 4 0 → • 20µs 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	(V) 6 4 2 0 1 ms

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

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	minal color)	Description			Condition	Reference value	
+	_	Signal name	Input/ Output	Condition		(Approx.)	
57 (O/L)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch On	_	(V) 4 0 ***4ms 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	(V) 0.4 -0.4 +40µs SKIB2251J	
73	_	Shield	_	_	_	_	
74 (B)	Ground	AUX image signal ground	_	Ignition s	switch ON	0 V	
80 (G)	79 (R)	Bluetooth [®] voice signal	Input	Ignition switch ON	During voice guide output with with switch pressed.	(V) 1 0 -1 + 2ms 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	_		_	_	

< ECU DIAGNOSIS INFORMATION >

Terminal (Wire color)		Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
95 (R)	97 (B)	AUX audio signal RH	Input	Ignition switch ON	When AUX mode is selected	(V) 1 0 -1 + 2ms SKIB3609E
96 (W)	97 (B)	AUX audio signal LH	Input	Ignition switch ON	When AUX mode is selected	(V) 1 0 -1 + 2ms SKIB3609E
100	_	Shield	_		_	_
103	Ground	CD eject signal	Input		Pressing the eject switch	0V
(SB)	Ordana	ob ojoot olgilal	mpat		Except for above	3.3V
104 (G/R)	Ground	Ignition signal	Input	Ignition switch ON	_	Battery voltage
105	O	Devene sincel	lant	Ignition	R position	Battery voltage
(G/W)	Ground	Reverse signal	Input	switch ON	Other than R position	0V
106	Cround	Dayleing broke signal	lmm: if	Ignition	Parking brake ON	0V
(G)	Ground	Parking brake signal	Input	switch ON	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)	(V) 4 2 0 ********************************
121 (W)	_	V BUS signal	_	_	_	_
122 (G)	_	USB ground	_	_	_	_
123 (L)	_	USB D+ signal	_	_	_	_
124 (R)	_	USB D- signal	_	_	_	
125	_	Shield	_	_	_	

DTC Index

Self-diagnosis results display item

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO]

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"

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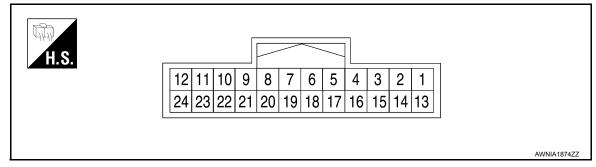
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DISPLAY UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value	
+	_	Signal name	Input/ Output		Condition	(Approx.)	
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/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNO- SIS screen.	0. 4 0 -0. 4 -40μs SKIB2236J	
7	_	Shield	_	_	_	_	
8 (W/L)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	_	(V) 4 0 → 20µs SKIB3601E	

DISPLAY UNIT

[BASE AUDIO]

	minal e color)	Description	Description		Condition	Reference value (Approx.)	
+	_	Signal name	Input/ Output	Condition			
					At RGB image displayed	5V	
9 (O)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At rear view camera image displayed	(V) 6 4 2 0 *********************************	
11 (V)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness	(V) 6 4 2 0 1 ms 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	(V) 0.4 0 -0.4 + 40µs SKIB2251J	
16 (G)	_	AUX image synchronizing signal	Input	_	_	_	
17 (W)	Ground	RGB signal (R: red)	Input	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0. 4 0 -0. 4 -0. 4 SKIB2238J	
18 (R)	Ground	RGB signal (B: blue)	Input	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting"Color Spectrum Bar" on DISPLAY DIAGNO- SIS screen.	(V) 0.4 0 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.	

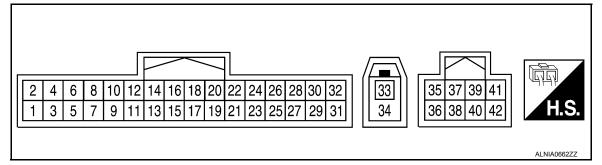
DISPLAY UNIT

< ECU I	<pre></pre>								
	minal color)	Description		Condition		Reference value			
+	_	Signal name	Input/ Output	Contaition		(Approx.)			
19 (W)	Ground	RGB synchronizing signal	Input	Ignition switch ON	<u>-</u> -	(V) 4 0 → 20 µs SKIB3603E			
20 (O/L)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch On	_	(V) 4 0 → 44ms SKIB3598E			
21	_	Shield	_	_	_	_			
22 (LG)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness	(V) 6 4 2 0 1ms PKIB5039J			
23	_	Shield	_	_	_	_			

BLUETOOTH® CONTROL UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	ninal color)	Descriptio	n		Condition	Reference value
+	_	Signal name	Input/ output		Condition	(Approx.)
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	(V) 1 0 -1 + 2ms SKIB3609E
20 (B)	Ground	Ground	-	_	-	0V
23 (B)	Ground	Ground	_	_	_	0V
28 (W/R)	Ground	Vehicle speed sig- nal (8-pulse)	Input	lgnition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	(V) 15 10 5 0 + 20ms PKIA1935E

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BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO]

	ninal color)	Description	n		Condition	Reference value
+	_	Signal name	Input/ output		Condition	(Approx.)
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

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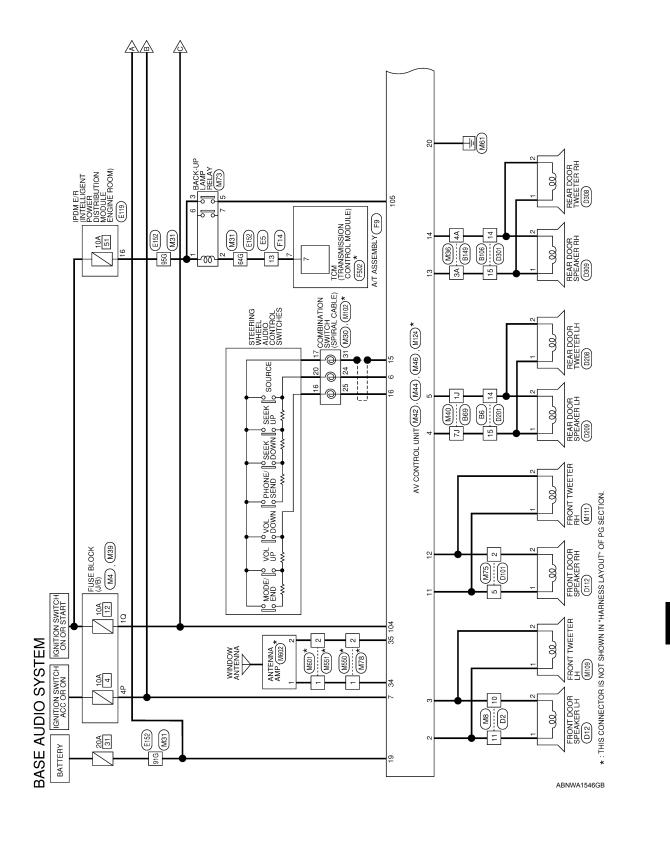
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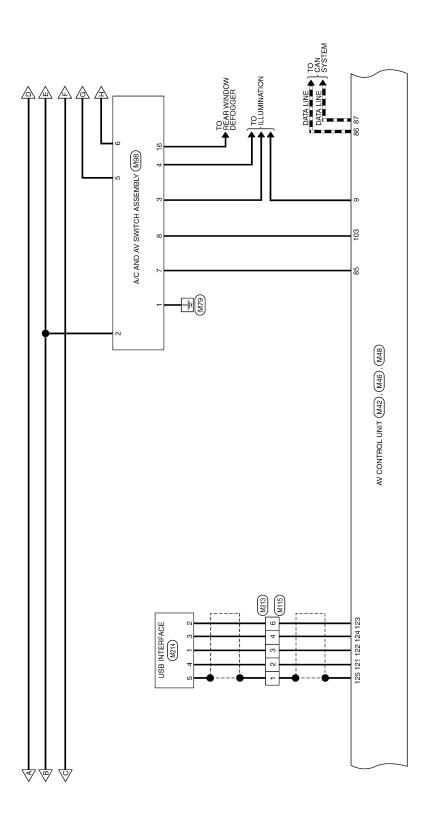
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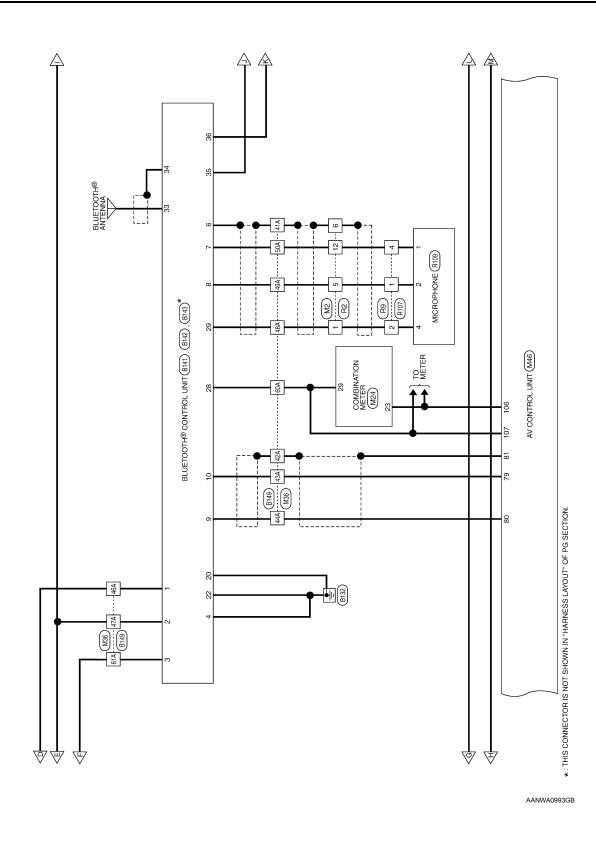
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Revision: August 2013 AV-77 2014 Armada NAM

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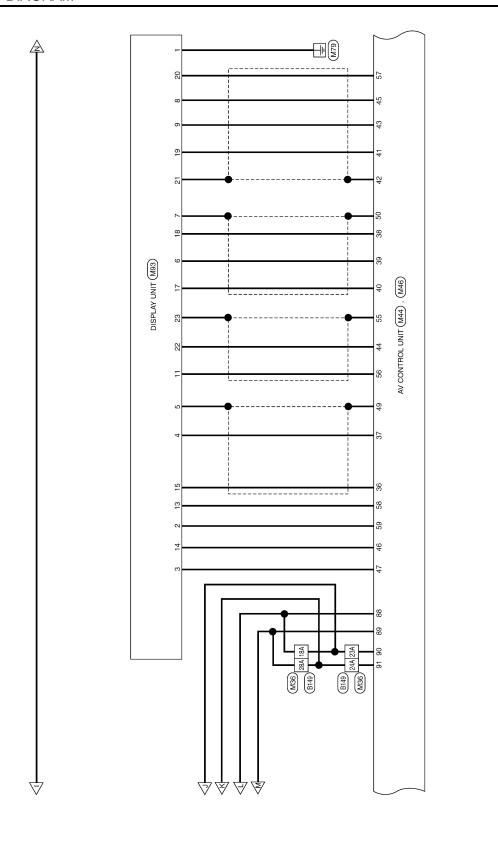
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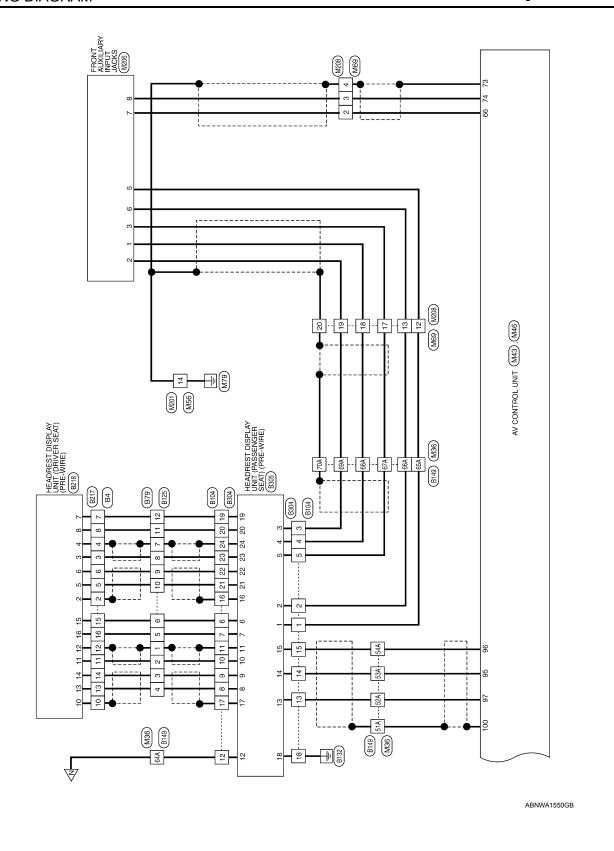
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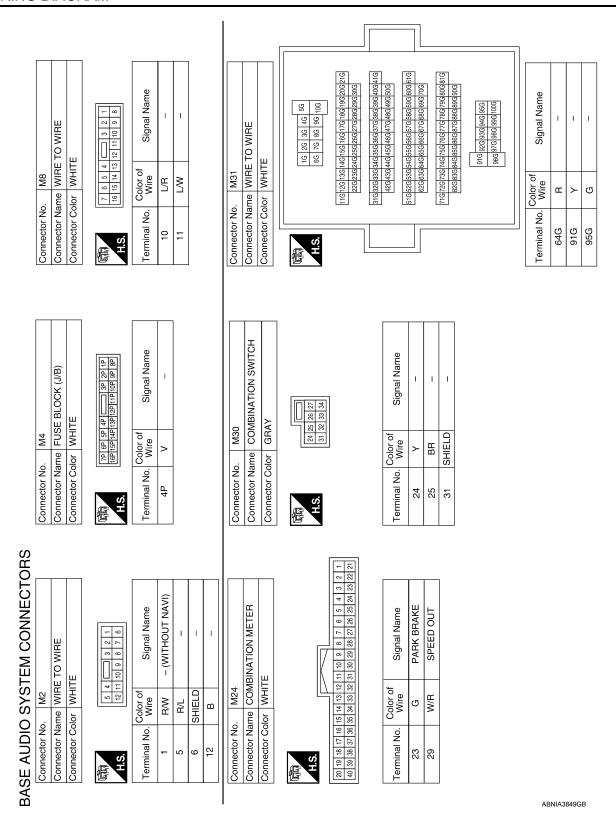
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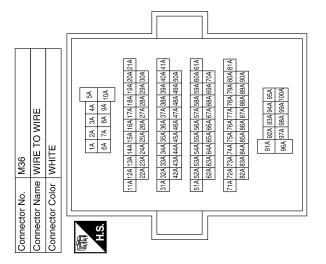
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2014 Armada NAM



Signal Name	ı	I	ı	ı	I	ı	ı	I	I	I	I
Color of Wire	Ж	×	M/R	G/R	>	9	Ь	Μ	В	В	SHIELD
Terminal No.	53A	24A	60A	61A	64A	65A	66A	87A	68A	98A	¥02

Terminal No.	Color of Wire	Signal Name
3A	O/L	1
4A	R/L	I
18A	M/L	ı
23A	N/	1
24A	B/P	ı
28A	P/B	ı
41A	SHIELD	ı
42A	знієгр	1
43A	Я	1
44A	9	I
46A	λ	1
47A	۸	1
48A	B/W	I
49A	R/L	1
50A	В	1
51A	SHIELD	1
52A	В	ı



Connector No.	. M39	6
Connector Name		FUSE BLOCK (J/B)
Connector Color		WHITE
南 H.S.	88	80 72 60 50 40
Terminal No.	Color of Wire	Signal Name
ā	G/R	ı

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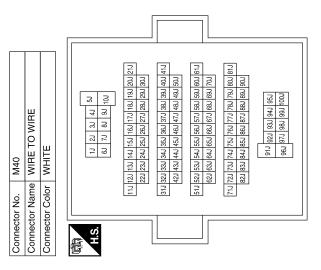
Signal Name

Color of Wire

Terminal No.

Signal Name	FR RH SP-	RR RH SP+	RR RH SP-	STRG SW GND	STRG SW B	I	ı	+B	GND
Color of Wire	L/B	O/L	B/L	SHIELD	BB	_	_	\	В
Terminal No.	12	13	14	15	16	17	18	19	20

1	-		Signal Name	FR DR LH SP-	RR DR LH SP+	RR DR LH SP-	STRG SW A	ACC	ı	ILL	ı
B/≺	as		Color of Wire	L/R	SB	B/Y	٨	^	_	R/L	ı
7	۲2		Terminal No.	င	4	2	9	2	8	6	10



Connector No. M42	Connector Name AV CONTROL UNIT (WITH BASE AUDIO SYSTEM)	Connector Color WHITE	H.S. [19] 10 11 12 13 14 15 16 17 18 20	Terminal No. Wire Signal Name	1	. CO
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FR RH SP+

M/B

=

Signal Name	ı	ı	ı	I	SHIELD	IT DISP	VP	INV GND	INV VCC
Color of Wire	ı	ı	ı	ı	SHIELD	^	O/L	В	BR/Y
Terminal No.	51	52	53	54	22	99	22	28	69

Signal Name	I	COM1 IN+	ı	I	ı	1	1	I	COMP1 IN SHIELD	COM1 IN-	ı
Color of Wire	I	8	1	1	1	1	1	_	SHIELD	В	1
erminal No.	65	99	29	89	69	70	71	72	73	74	75

M43	AV CONTROL UNIT (WITH BASE AUDIO SYSTEM)	WHITE	67 66 65 64 63 62 61 60 75 74 73 72 71 70 68 68	olor of Nire Signal Name	1	1	1	1	1
		_	67 66 75 74	Color of Wire	1	ı	ı	ı	1
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	09	61	62	63	64

Signal Name	5	æ	RGB SYNC	RGB SYNC GND	γS	DISP IT	문	SIG GND	SIG VCC	I	COMP OUT SHIELD	RGB GND
Color of Wire	В	≯	>	SHIELD	0	FG	M/L	9/0	B/O	1	SHIELD	SHIELD
Terminal No.	39	40	41	42	43	44	45	46	47	48	49	50

Connector No.	2			M44	4									
Connector Name AV CONTROL UNIT (WITH BASE AUDIO SYSTEM)	Na Na	ŭ.	4)	B≨l	OB	6∴	世号	[윤일		≅S	l⊑"	<u>≅</u> €	Ŧ	
Connector Color WHITE	ပိ	lor		W	¦⊨ ∣	Щ								
									١.					
				ī	$ \rangle$	١	V	Π	\Box					
¥	47	47 46 45 44 43 42 41 40 39 38 37 36	45	4	53	42	#	9	33	38	37	98		
į.	29	58 57 56 55	22	26	22	24	23	잃	21	51 50 49		8		
•														

Signal Name	COMP OUT+	COMP OUT-	В	
Color of Wire	Y	BR	В	
Terminal No.	98	37	38	

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SHIELD

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Signal Name	I	I	AUDIO BUS SHIELD	ı	1	CD EJECT	IGN	REVERSE SIG	PKB SIG	SPEED 8P
Color of Wire	1	-	SHIELD	1	-	SB	G/R	G/W	ŋ	W/R
Terminal No.	86	66	100	101	102	103	104	105	106	107

Signal Name	ı	ı	SW GND	CAN-H	CAN-L	M-CAN1-H	M-CAN1-L	M-CAN2-H	M-CAN2-L	I	I		AUX AUDIO RH+	AUX AUDIO LH+	AUX GND
Color of Wire	ı	ı	В	_	۵	M/L	P/B	M	B/P	1	ı	ı	Œ	>	В
Terminal No.	83	84	85	98	87	88	68	06	91	92	93	94	92	96	97

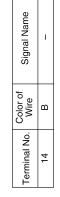
	Connector No. M46 Connector Name AV COI Connector Color WHITE State	No. M46 Name AV CONTROL UNIT (WITH BASE AUDIO SYSTEM) Color WHITE 11 90 80 80 87 86 85 84 80 87 96 95 94 93 92 92 90 90 97 96 95 94 93 92 90 90 90 97 96 95 94 93 92 90 90 90 90 90 90 90 90 90 90 90 90 90
9/	1	ı
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17 86 85 84 83 82 81 80 79 78	107106105104103102101100 99 98 97 96 95 94	Signal Name	I	ı	ı	TEL VOICE (TO IT)+	TEL VOICE (TO IT)-	VOICE SHIELD	I
91 90 89 88 87	106 105 104 1	Color of Wire	-	ı	ı	Ж	g	SHIELD	-
16	H.S.	Terminal No.	92	77	78	79	80	81	82

Connector No. Connector Color		M69 WIRE TO WIRE BROWN 7 6 6 6 4 3 2 1 1 11 10 11 11 15 15 14 13 12 11 10
Ferminal No.	Color of Wire	Signal Name
2	M	ı
3	В	ı
4	SHIELD	1
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			2 9	15 16	1
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.	WIRE TO WIRE	WHITE	က	10	
M56	₩	Ţ	2	6	
2	>	<u> </u>	-	8	
<u>o</u>	ame	olor			_





M48	AV CONTROL UNIT (WITH BASE AUDIO SYSTEM)	BLUE	122 121 124 123
Connector No.	Connector Name	Connector Color	崎 H.S.



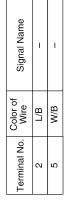
Signal Name	VBUS	USB GND	USB D+	USB D-	CONNECTOR SHIE GND
Color of Wire	8	ŋ	_	ш	SHIELD
Terminal No.	121	122	123	124	125

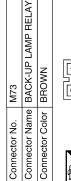
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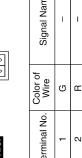
Connector No.	M78
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color	BROWN

[2]	Signal Name	-	-
-	Color of Wire	В	В
H.S.	Terminal No.	1	2









Signal Name	ı	I	_	I	I	_
Color of Wire	ŋ	æ	G	G/W	W/B	Y/R
Terminal No.	-	2	3	5	9	2

Signal Name	YS		IT DISP		INV GND	SIG GND	COMP IN+		ж	В	RGB SYNC	VP	RGB SYNC GND	DISP-IT	SHIELD	
			I		N	SIG	COM				RGB		RGB SY	SIG	SHI	
Color of Wire	0	ı	>	ı	В	G/O	>	ı	×	æ	>	O/L	SHIELD	ГG	SHIELD	-
Terminal No.	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

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	9	22
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	12	24

Signal Name	GND	INV VCC	SIG VCC	COMP IN-	COMP IN SHIELD	9	RGB GND	HP
Color of Wire	В	BR/Y	B/O	BR	SHIELD	В	SHIELD	M/L
Terminal No.	-	2	က	4	2	9	7	8

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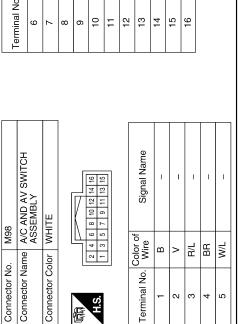
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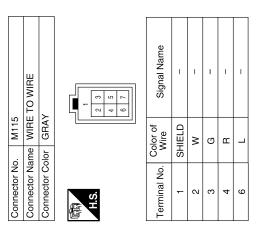
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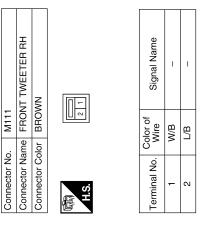
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								ı						_
)2	Coppector Name COMBINATION SWITCH		٩Y		141516171819021					Signal Name	1	1	ı	
. M10			or GH,		14 15 16				30,70	Wire	В	BR	M	
Connector No. M102	Connector Na		Connector Color GRAY		管	H.S.				Terminal No. Wire	16	17	20	
Signal Name		ı	1	1	1	1	1	I		I	1	1	1	
	e Me	P/B	В	SB	1	1	1	ı		1	-	ı	GR/R	
ç			1		1	1	1							







Connector No.		M109	
Connector Name		RON	FRONT TWEETER LH
Connector Color		BROWN	Z
师 H.S.		2	
Terminal No.	Color of Wire	e of	Signal Name
1	M/l	_	1
2	L/R	~	1

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FRONT AUXILIARY INPUT JACKS	2 3 4 5 6 7 8	of Signal Name	ı	ı	-	1	ı	ı	-	1	M214	USB INTERFACE	GRAY	1 2 3 4			of Signal Name	1	1	1	ı		
	_ _	Color of Wire	Œ	В	W	1	დ	۵	8	В		1	_	5			Color of Wire	C	د ا	Œ	>	SHIELD	
Connector Name	Connector Color	Terminal No.	-	7	3	4	2	9	7	8	Connector No.	Connector Name	Connector Color	用.S.			Terminal No.	-	. 2	က	4	5	
WIRE TO WIRE WHITE	12 I I I I I I I I I I I I I I I I I I I	Signal Name	1									WIRE TO WIRE]	Signal Name	ı	1	1	ı	ı	
	7 6 5 4 16 15 14 13	Color of Wire	В								M213		or GRAY		2 2] -	Color of Wire	SHIELD	>	ű	œ	_	
Connector Name Connector Color	原 H.S.	Terminal No.	14								Connector No.	Connector Name	Connector Color	原 H.S.		-	Terminal No.	-	2	က	4	9	
WITH (M)		0												50	o o								
AV CONTROL UNIT (WITH BASE AUDIO SYSTEM)	[8]	Signal Name	1	1	1							WIRE TO WIRE	Z	7 8 19 19	Signal Name	_	ı	1			ı	1	ı
	_	Color of Wire	1	В	В						. M208	Connector Name WIRE	Connector Color BROWN	1 2 3 4 5 E 6 10 11 12 13 14 15 16 17	Color of Wire	W	В	SHIELD	9	1	> 0	c @	SHIELD
Connector Name AV CO BASE /	♀			_	-						Connector No.	۱ <u>ĕ</u>	ΙŌ	لكا ا	Terminal No.					1			

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	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Е	18 17 16 15 14 13 12 11 10	Signal Name	REVERSE LAMP
E119		or WHITE	9 8 7 6	Color of Wire	G
Connector No.	Connector Name	Connector Color	所 H.S.	Terminal No.	16

	TO WIRE	ш	1 2 3 4 5 6 6 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	Signal Name	I
3	me WIRE	lor WHIT	2 3 4 5 13 14 15 16	Color of Wire	Н
	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No.	13

M602	ANTENNA AMP.	WHITE	
Connector No.	Connector Name ANTENNA AMP.	Connector Color WHITE	原 H.S.

Signal Name	l	1
Color of Wire	В	В
Terminal No.	ŀ	5

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		7			Α
F9			S	Signal Name	В
0. F9	olor GREEN	-		A Mire of the state of the stat	D
Connector No.	Connector Color			Terminal No.	Е
					F
Signal Name	I	I	ı	F502 TCM (TRANSMISSION CONTROL MODULE) GRAY Signal Name ire Signal Name D REV LAMP RLY	G
Color of Wire	<u>«</u>	>	9	F502 TCM (TF CONTRIP	Н
Terminal No. W	64G	91G	95G	ctor No	I
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Terminal No.	23	24	25	56	27	28	29	30	31	32

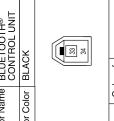
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Terminal No.	8	6	10	+	12	13	14	15	16	17	18	19	20	21	22

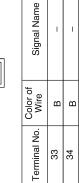




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Color of Wire	\	۸	G/R	B/W	1	SHIELD	В
Terminal No.	-	2	က	4	5	9	7







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Terminal No.	3A	4A	18A	23A	24A	28A	41A SF	42A SH	43A	44A	46A	47A		49A	50A	51A SF	52A
Connector No. B149 Connector Name WIRE TO WIRE	Connector Color WHITE			5A 4A 3A 2A 1A	1.5. 10A 9A 8A 7A 6A		21A 20A 19A 18A 17A 16A 15A 14A 13A 12A 11A	30A 29A 28A 27A 26A 25A 24A 23A 22A	41A 40A 39A 38A 37A 36A 35A 34A 33A 32A 31A	50A 49A 48A 47A 46A 45A 44A 43A 42A	614 604 594 584 574 564 544 534 524 514	70A 69A 68A 67A 66A 65A 64A 63A 62A	814 804 794 784 774 764 754 744 734 714	90A 89A 88A 87A 86A 85A 84A 83A 82A		95A 94A 93A 92A 91A	100A 99A 98A 97A 96A

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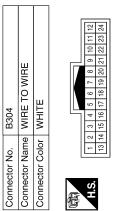
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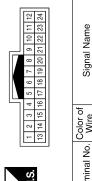
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Connector No.	B305
Connector Name	Connector Name HEADREST DISPLAY UNIT (PASSENGER SEAT) (PRE-WIRE)
Connector Color	

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





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

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



	WIRE TO WIRE	ш	7 6 5 4	Signal Name	- (WITHOUT NAVI)	- (WITHOUT NAVI)	ı
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Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	-	2	4

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Signal Name	- (WITHOUT NAVI)	1	1	-
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Terminal No.	-	2	9	12

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Connector No. D2 Connector No. D12 Connector Name WIRE TO WIRE Connector Name FRONT DOOR SPEAKER LH Connector Color WHITE Connector Color WHITE	2 3 THE 1 13 14 15 16 7 9 10 11 12 13 14 15 16	T.S.	Color of Signal Name Terminal No. Wire Signal Name	L/R - 1 L/W -	LW - 2 L/R -			
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Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	2	7.

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Connector No.	D301	
Connector Name		WIRE TO WIRE
Connector Color	olor WHITE	Ш
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Terminal No.	Color of Wire	Signal Name
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Connector No.	D208	
Connector Name		REAR DOOR TWEETER LH
Connector Color	lor BROWN	NM
所 H.S.		
Terminal No.	Color of Wire	Signal Name
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Connector No.	D309	
Connector Name		REAR DOOR SPEAKER RH (WITH BASE AUDIO SYSTEM)
Connector Color	lor WHITE	E
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Terminal No.	Color of Wire	Signal Name
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2	B/L	ı

	Connector Name REAR DOOR TWEETER RH	NA		Signal Name	ı	ı
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Connector No.	Connector Nam	Connector Color	赋利 H.S.	Terminal No.	1	2

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MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[BASE AUDIO]

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SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

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 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".
No sound comes out or the level of the sound is low.	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" (rear door speaker). AV-111, "Removal and Installation" (rear door speaker). 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".

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Symptoms	Check items	Probable malfunction location
	Noise comes out from all speakers.	Malfunction in AV control unit. Refer to AV-17, "AV CONTROL UNIT : Diagnosis Description".
Noise is mixed with audio.	Noise comes out only from a certain speaker (door speaker LH, door speaker RH, front tweeter LH, rear speaker LH, 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). - 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 <u>AV-63</u>, "<u>Reference Value</u>". Poor connector connection of antenna or antenna feeder. Refer to <u>AV-113</u>, "<u>Location of Antennas</u>".
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 TROU- BLE DIAGNOSIS" in the appropriate interi- or trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

- Make sure the customer's Bluetooth[®] related concern is understood.
- Verify the customer's concern.

NOTE:

The customer's phone may be required, depending upon their concern.

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.

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

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

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	
Hands-free phone cannot be established.	 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. 	Malfunction in Bluetooth® control unit. Replace Bluetooth® control unit. Refer to AV-119, "Removal and Installation".
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	3
Originating sound is not heard by	Sound operation function is normal.	
the other party with hands-free phone communication.	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-58, "Diagnosis Procedure".
	Steering switch's ♥ + , ♥ - , and - switch works, but ♥ food does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-112, "Removal and Installation".
The system cannot be operated.	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".

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[BASE AUDIO]

NORMAL OPERATING CONDITION

Description INFOID:000000009820834

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 lin	The occurrence of the noise is linked with the operation of the fuel pump.	
Noise only occurs when various	A cracking or snapping sound occurs with the operation of various switches.	Relay malfunction, audio unit malfunction
electrical components are operating.	The noise occurs when various motors are operating.	Motor case ground Motor
The noise occurs constantly, not just under certain conditions.		Rear defogger coil malfunctionOpen circuit in printed heaterPoor 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.	

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS > [BASE A		
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 > [BASE AUDIO]

PRECAUTION

PRECAUTIONS

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

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

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NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYS-TEM).
- 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.
- Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
- 4. Perform the necessary repair operation.

PRECAUTIONS

< PRECAUTION > [BASE AUDIO]

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

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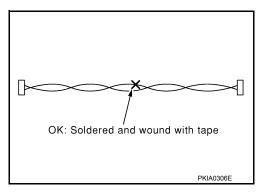
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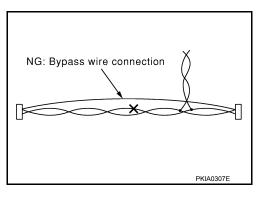
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AV COMMUNICATION SYSTEM

 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

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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
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

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Revision: August 2013 AV-103 2014 Armada NAM

PREPARATION

< PREPARATION > [BASE AUDIO]

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		Loosening nuts, screws and bolts
	PIIB1407E	

INFOID:0000000009820840

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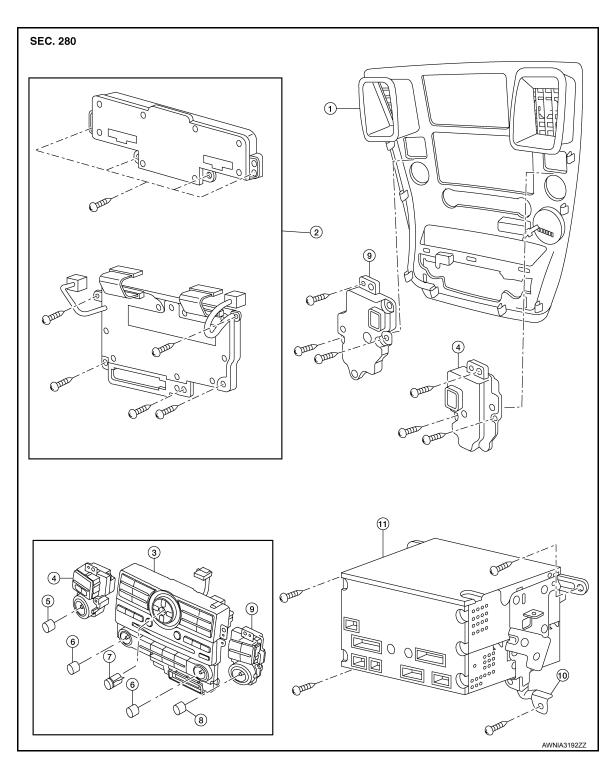
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REMOVAL AND INSTALLATION

AV CONTROL UNIT

Removal and Installation



- 1. Cluster lid C
- 4. Volume knob switch
- Enter button
- 10. AV control unit bracket
- 2. A/C and AV switch assembly (rear view) 3.
- 5. Volume knob
- 8. Tuner knob
- 11. AV control unit

- A/C and AV switch assembly (front view)
- 6. Temp knobs (LH/RH)
- 9. Tuner knob switch

AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

REMOVAL

- 1. Remove cluster lid C. Refer to IP-15, "Removal and Installation".
- 2. Remove the AV control unit screws.
- Remove the AV control unit.
- 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 >

[BASE AUDIO]

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.

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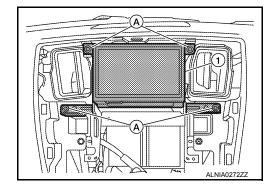
DISPLAY UNIT

Removal and Installation

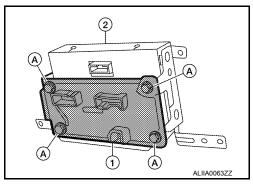
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REMOVAL

- 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 >

[BASE AUDIO]

FRONT TWEETER

Removal and Installation

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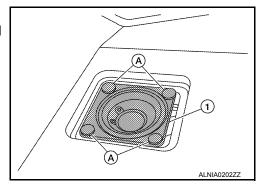
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REMOVAL

- 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.

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[BASE AUDIO]

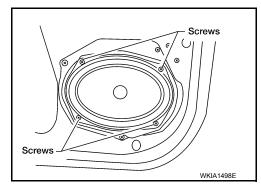
FRONT DOOR SPEAKER

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 >

[BASE AUDIO]

REAR DOOR SPEAKER

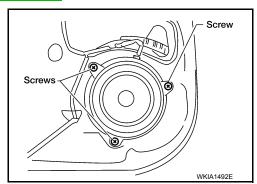
Removal and Installation

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.



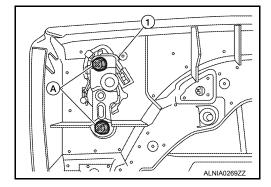
Installation

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.

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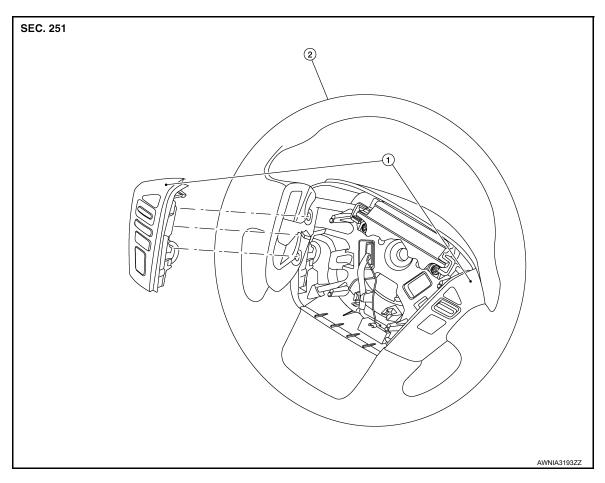
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STEERING SWITCH

Removal and Installation

INFOID:0000000009820846



1. Steering wheel audio control switches 2. Steering wheel

REMOVAL

- Remove the steering wheel. Refer to <u>ST-28, "Removal and Installation"</u>.
- 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.

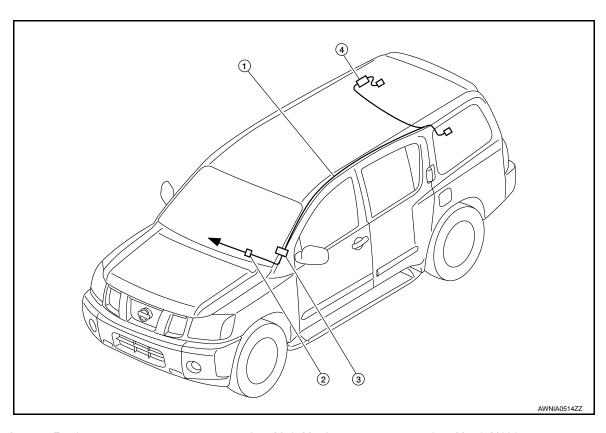
INSTALLATION

Installation is in the reverse order of removal.

INFOID:0000000009820847

AUDIO ANTENNA

Location of Antennas



- 1. Antenna Feeder
- 4. Antenna amp M602
- ← To AV control unit

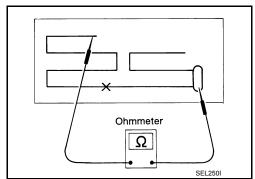
2. M78, M550

3. M551, M601

Window Antenna Repair

ELEMENT CHECK

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



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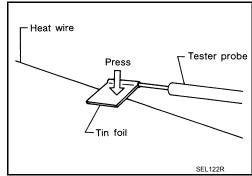
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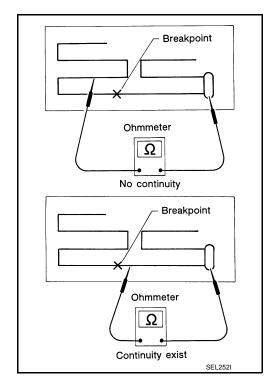
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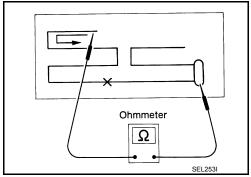
 When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



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 >

[BASE AUDIO]

FRONT AUXILIARY INPUT JACKS

Removal and Installation

INFOID:0000000009820849

Removal

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- 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.

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USB CONNECTOR

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

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.

[BASE AUDIO]

ANTENNA AMP.

Removal and Installation

INFOID:0000000009820851

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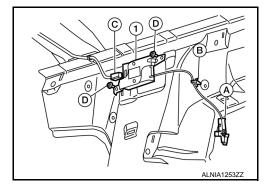
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REMOVAL

- 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.

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[BASE AUDIO]

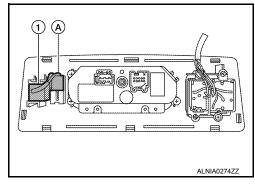
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MICROPHONE

Removal and Installation

REMOVAL

- 1. Remove the front roof console finisher. Refer to <u>INT-21.</u> "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 >

[BASE AUDIO]

BLUETOOTH CONTROL UNIT

Removal and Installation

INFOID:0000000009820853

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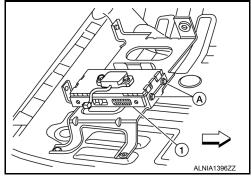
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REMOVAL

- 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.

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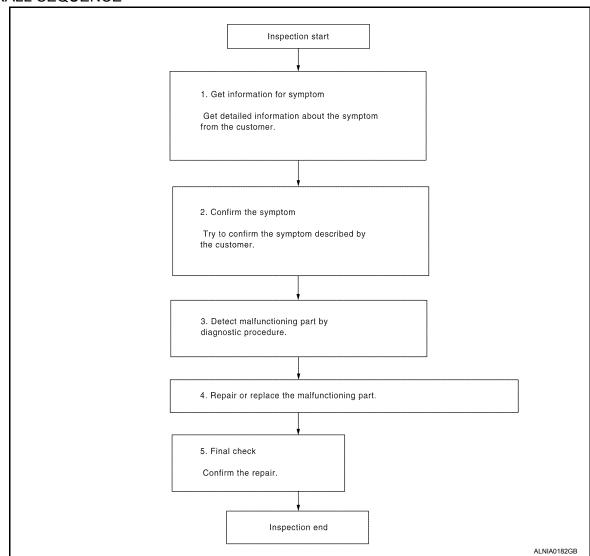
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

DIAGNOSIS AND REPAIR WORKFLOW

DIAGNOSIS AND REPAIR	
< BASIC INSPECTION >	[BOSE AUDIO WITHOUT NAVIGATION]
Is malfunctioning part detected?	
YES >> GO TO 4.	A
NO >> GO TO 2.	
4.REPAIR OR REPLACE THE MALFUNCTIONING PART	В
Repair or replace the malfunctioning part.	
2. Reconnect parts or connectors disconnected during Diagno	estic Procedure.
00 TO F	
>> GO TO 5.	
5. FINAL CHECK	
Refer to confirmed symptom in step 2, and make sure that the s	symptom is not detected.
Was the repair confirmed?	
YES >> Inspection End. NO >> GO TO 2.	E
NO >> 00 10 2.	
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INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BOSE AUDIO WITHOUT NAVIGATION]

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

NFOID:000000000982085

1. SAVING VEHICLE SPECIFICATION

P-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

(P)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)

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BOSE AUDIO WITHOUT NAVIGATION]

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:

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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.

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CAUTION:

 When replacing AV control unit, you must perform "Select Saved Data List" or "After Replace ECU" with CONSULT.

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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.

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When writing saved data>>GO TO 2.

When writing manually>>GO TO 3.

2.PERFORM "SAVED DATA LIST"

(P)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".

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>> Work End.

${f 3.}$ PERFORM "AFTER REPLACE ECU" OR "MANUAL CONFIGURATION"

- 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:

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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".

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>> GO TO 4.

4.OPERATION CHECK

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

INSPECTION AND ADJUSTMENT

[BOSE AUDIO WITHOUT NAVIGATION]

< BASIC INSPECTION >

>> 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

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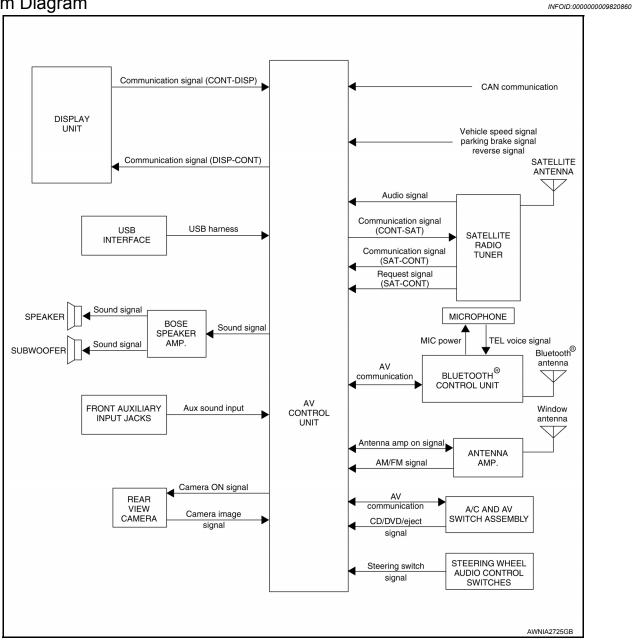
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SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram



System Description

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

INFOID:0000000009820861

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AUDIO SYSTEM

[BOSE AUDIO WITHOUT NAVIGATION]

< SYSTEM DESCRIPTION >

- · 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.

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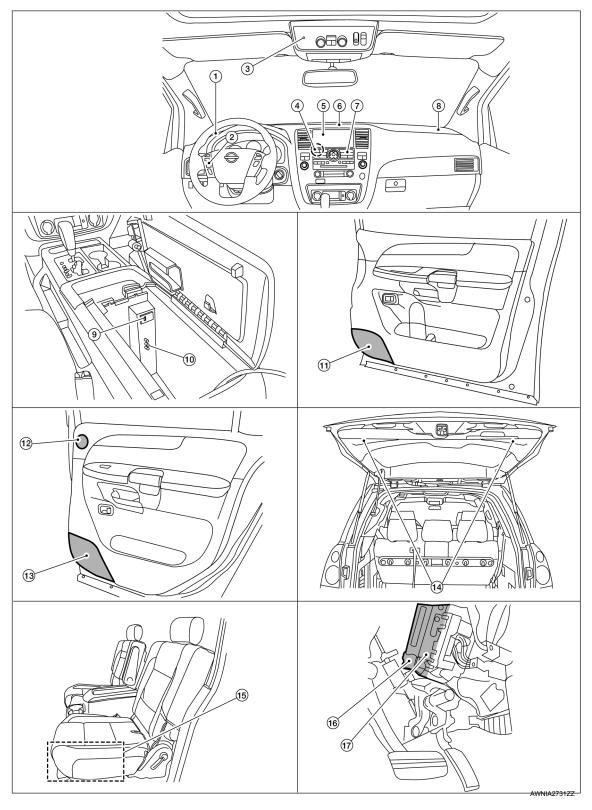
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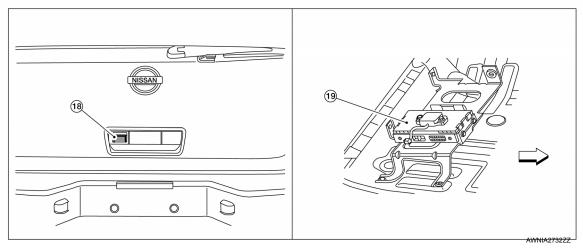
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Component Parts Location



2014 Armada NAM



⟨□:FRONT

- 1. Front tweeter LH M109
- AV control unit M72, M160, M164, M166, M169, M170, M171, M174
- 7. A/C and AV switch assembly M98
- 10. Front auxiliary input jacks M206
- 13. Rear door speaker LH D207 RH D307
- BOSE speaker amp M112, M113 (view behind instrument panel above accelerator pedal)
- Bluetooth[®] control unit B141, B142, B143 (view with passenger front seat removed)

- Steering wheel audio control switch- 3. es
- 5. Display unit M93
- 8. Front tweeter RH M111
- 11. Front door speaker LH D12 RH D112
- 14. Back door speaker LH D518 RH D716
- 17. Satellite radio tuner M45, M129

- . Microphone R109
- Center speaker M110
- USB interface M214
- 12. Rear door tweeter LH D208 RH D308
- 15. Subwoofer B72 (under driver's seat)
- 18. Rear view camera D504

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 operatedSteering 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

AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

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.	

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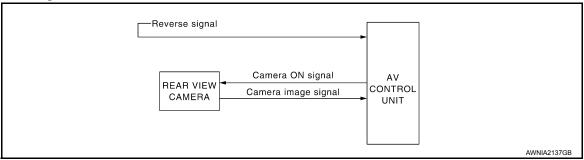
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REAR VIEW MONITOR SYSTEM

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.

REAR VIEW MONITOR SYSTEM

[BOSE AUDIO WITHOUT NAVIGATION]

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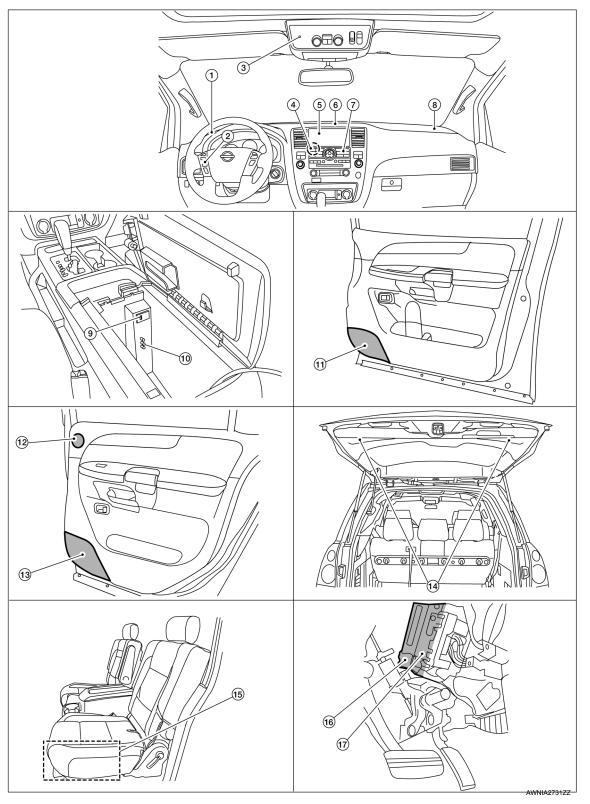
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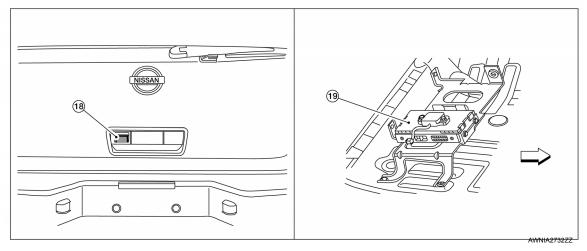
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< SYSTEM DESCRIPTION >

Component Parts Location



2014 Armada NAM



<**∵**:FRONT

- 1. Front tweeter LH M109
- AV control unit M72, M160, M164, M166, M169, M170, M171, M174
- 7. A/C and AV switch assembly M98
- 10. Front auxiliary input jacks M206
- 13. Rear door speaker LH D207 RH D307
- BOSE speaker amp M112, M113 (view behind instrument panel above accelerator pedal)
- Bluetooth[®] control unit B141, B142, B143 (view with passenger front seat removed)

- Steering wheel audio control switch- 3. es
- 5. Display unit M93
- 8. Front tweeter RH M111
- 11. Front door speaker LH D12 RH D112
- 14. Back door speaker LH D518 RH D716
- 17. Satellite radio tuner M45, M129

- Microphone R109
- Center speaker M110
- USB interface M214
- 12. Rear door tweeter LH D208 RH D308
- 15. Subwoofer B72 (under driver's seat)
- 18. Rear view camera D504

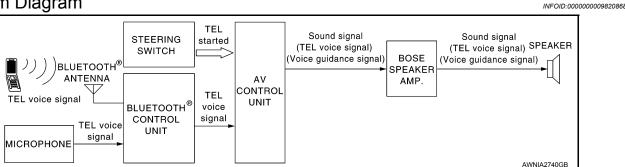
Component Description

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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



System Description

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.

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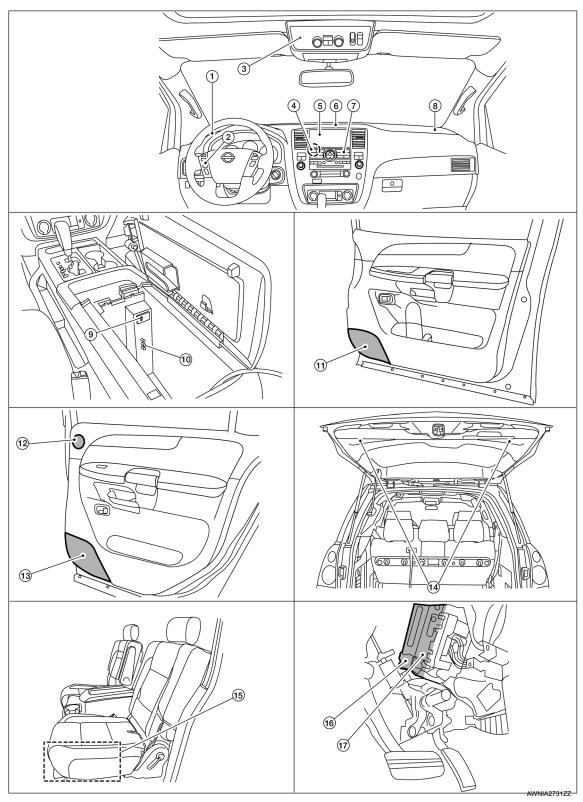
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2014 Armada NAM

Component Parts Location

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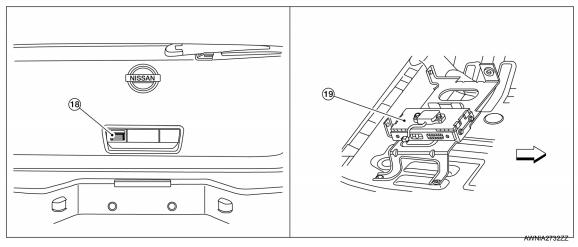
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<**∵**:FRONT

- 1. Front tweeter LH M109
- AV control unit M72, M160, M164, M166, M169, M170, M171, M174
- 7. A/C and AV switch assembly M98
- 10. Front auxiliary input jacks M206
- Rear door speaker LH D207 RH D307
- BOSE speaker amp M112, M113 (view behind instrument panel above accelerator pedal)
- Bluetooth® control unit B141, B142, B143 (view with passenger front seat removed)

- Steering wheel audio control switches
- 5. Display unit M93
- 8. Front tweeter RH M111
- 11. Front door speaker LH D12 RH D112
- 14. Back door speaker LH D518 RH D716
- 17. Satellite radio tuner M45, M129

- . Microphone R109
- Center speaker M110
- USB interface M214
- 12. Rear door tweeter LH D208 RH D308
- 15. Subwoofer B72 (under driver's seat)
- 18. Rear view camera D504

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		
Front tweeter	Receives telephone voice and voice guidance signals from the audio unit	
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	

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

DIAGNOSIS SYSTEM (AV CONTROL UNIT) AV CONTROL UNIT

AV CONTROL UNIT: Diagnosis Description

INFOID:0000000009820872

DESCRIPTION

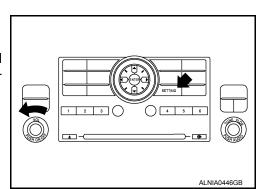
- Diagnosis function consists of the "Self-Diagnosis" mode performed automatically and the "Confirmation/ Adjustment" mode operated manually.
- "Self-Diagnosis" mode checks for connections between the units constituting this system, analyzes each individual unit at the same time, and displays the results 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. 	
		Color spectrum bar	Color tone of the screen can be checked by the display of a color bar.	
	Display diagnosis	Gradation bar	Shading of the screen can be checked by the display of a gray scale.	
		White display	White display can be checked.	
	CONFIRMATION/ ADJUSTMENT Speaker test Error history Camera cont. Vehicle CAN diagnosis AV COMM diagnosis Delete unit connection log		The following vehicle signals are analyzed: Vehicle speed signal, parking brake signal, illumination signal, ignition signal, and reverse signal.	
CONFIRMATION/			Connection can be checked by sending a test tone to each speaker.	
ADJUSTMENT			Diagnosis results previously stored in the memory are displayed in this mode.	
			Camera guidlines can be adjusted and the factory configuration can be displayed.	
			The transmitting/receiving of CAN communication can be monitored.	
			The transmitting/receiving of AV communication can be monitored.	
			Erase the error history and connection history of the unit.	
	Initialize settings		All audio settings are reset to default levels.	

OPERATION PROCEDURE

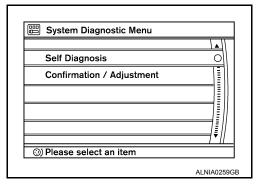
- 1. Start the engine.
- 2. Turn the audio system off.
- 3. While pressing the "SETTING" button, turn the volume control dial counterclockwise 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)



< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

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



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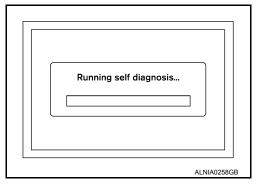
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SELF-DIAGNOSIS

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

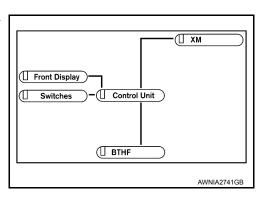
NOTE:

Self-diagnosis requires approximately 10 seconds to complete.



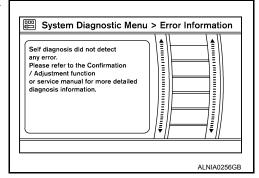
Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

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.



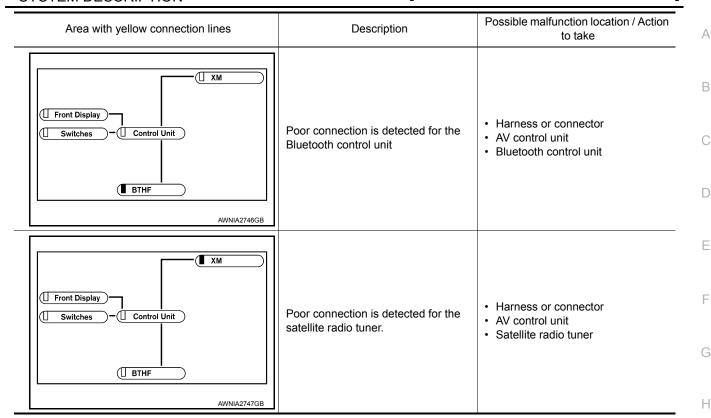
Self-Diagnosis Results

[BOSE AUDIO WITHOUT NAVIGATION]

Area with yellow connection lines	Description	Possible malfunction location / Action to take
Switches — Control Unit BTHF AWNIA2743GB	AV control unit malfunction is detected	Replace the AV control unit. Refer to AV-267, "Removal and Installation".
Front Display Switches Control Unit BTHF AWNIA2744GB	Poor connection is detected for the display unit	 Harness or connector AV control unit Display unit
Switches — Control Unit BTHF AWNIA2745GB	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"

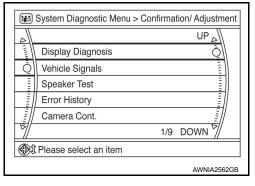
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[BOSE AUDIO WITHOUT NAVIGATION]



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.
- 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.



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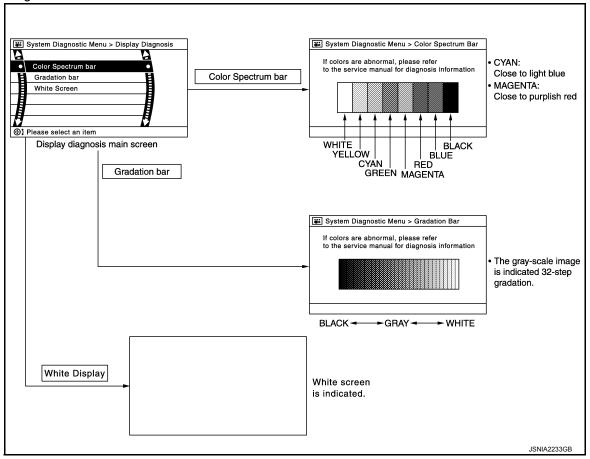
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< SYSTEM DESCRIPTION >

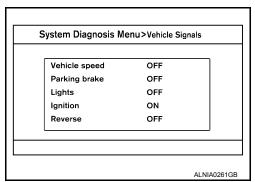
[BOSE AUDIO WITHOUT NAVIGATION]

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	
	ON	Vehicle speed > 0 km/h		
Vehicle speed	OFF	Vehicle speed = 0 km/h		
_		Ignition switch in ACC position	Changes in indication may be delayed by approximately 1.5 seconds. This is normal.	
Parking broke	ON	Parking brake is applied.		
Parking brake	OFF	Parking brake is released.		
Lighto	ON	Light switch ON	Plack the light beam from the cute light entirel concer	
Lights		Light switch OFF	Block the light beam from the auto light optical senso	
Ignition	ON	Ignition switch ON		
igilition	OFF	Ignition switch in ACC position	_	

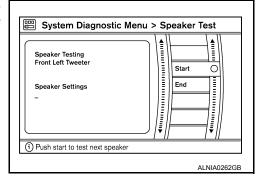
< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

Diagnosis item	Dis- play	Vehicle status	Remarks	
Reverse	ON	Selector lever in R position		
	OFF	Selector lever in any position other than R	Changes in indication may be delayed by approximately 1.5 seconds. This is normal.	
		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.



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.

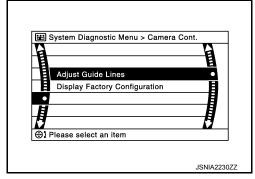
Count up method B

- 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 occur- rence 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.



System Diagnostic Menu >Error History

CAN_COMM_CIRCUIT 32

AV COMM CIRCUIT 0

Switches Connection Error 1

Delete log

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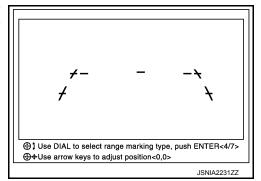
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Adjust Offset of Rear view Camera

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

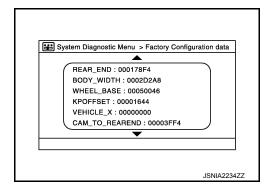
CAUTION:

After the adjustment, never perform other operations for one minute



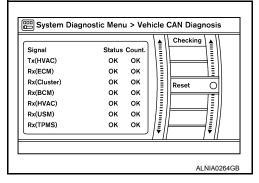
Factory Configuration Confirmation

Configuration stored in the AV control unit can be checked.



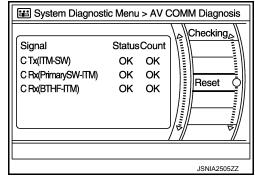
Vehicle CAN Diagnosis

- 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.

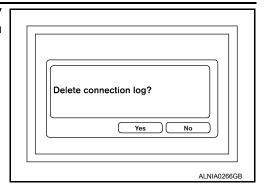


Delete Unit Connection Log

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

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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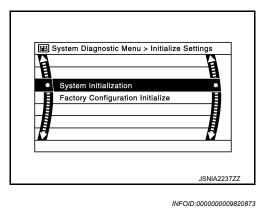
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Initialize Settings

Initializes the AV control unit memory.



AV CONTROL UNIT: CONSULT Function

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

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

Display item [unit]	ALL SIGNALS	SELECTION FROM MENU	Description
VHCL SPD SIG [ON/OFF]	Х	х	Displays "ON" when vehicle speed > 0 km/h. Displays "OFF" when vehicle speed = 0 km/h.
PKB SIG [ON/OFF]	Х	Х	Displays [ON/OFF] condition of parking brake switch.
ILLUM SIG [ON/OFF]	Х	Х	Displays [ON/OFF] condition of lighting switch.
IGN SIG [ON/OFF]	Х	Х	Displays [ON/OFF] condition of ignition switch.
REV SIG [ON/OFF]	Х	Х	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

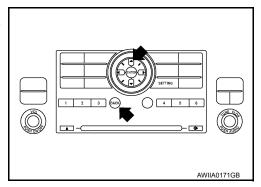
A/C and AV switch assembly self-diagnosis function

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.



Finishing self-diagnosis mode

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

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

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[BOSE AUDIO WITHOUT NAVIGATION]

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DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description

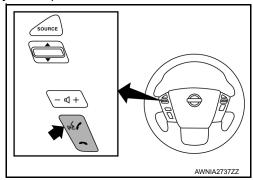
The Bluetooth[®] control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

BLUETOOTH® CONTROL UNIT INITIALIZATION CHECKS

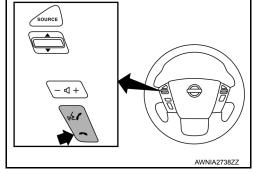
- · Internal control unit failure
- Bluetooth[®] antenna connection open or shorted
- · Steering wheel audio control switches (SEND/END) stuck closed
- Vehicle speed pulse count
- · Microphone connection test (with playback to operator)
- Bluetooth[®] inquiry check

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

Failure Message	Action	
"Internal failure"	Replace Bluetooth® control unit. Refer to AV-287, "Removal and Installation".	
"Bluetooth® antenna open"	Inspect harness connection.	
"Bluetooth® antenna shorted"	2. Replace Bluetooth [®] antenna. Refer to <u>AV-287, "Removal and Installation"</u> .	
"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"	Check steering wheel addition switches. Relet to AV-195, Description.	
"Microphone test" (failed interactive test)	 Inspect harness between Bluetooth[®] control unit and microphone. Replace microphone. Refer to AV-286, "Removal and Installation". 	

Revision: August 2013 AV-145 2014 Armada NAM

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:000000009820877

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

DTC DETECTION LOGIC

DTC	Display contents of CON- SULT	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)

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

U1010 CONTROL UNIT (CAN)

Description

Initial diagnosis of AV control unit.

DTC Logic

DTC DETECTION LOGIC

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

Diagnosis Procedure

1. REPLACE AV CONTROL UNIT

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

>> Inspection End.

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U1200 AV CONTROL UNIT

[BOSE AUDIO WITHOUT NAVIGATION]

U1200 AV CONTROL UNIT

Description INFOID:000000009820883

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

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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

U1216 AV CONTROL UNIT

Description INFOID:000000000820885

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

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".

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U1240 SWITCH CONN

[BOSE AUDIO WITHOUT NAVIGATION]

U1240 SWITCH CONN

Description INFOID:000000009820887

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.

[BOSE AUDIO WITHOUT NAVIGATION]

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

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:000000009820890

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 <u>AV-158</u>, "<u>DISPLAY UNIT</u>: <u>Diagnosis Procedure</u>". <u>Is inspection result OK?</u>

AV-151

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

2.CHECK CONTINUITY OF COMMUNICATION CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect display unit connector and AV control unit connector.
- Check continuity between display unit harness connector M93

 (A) terminals 11, 22 and AV control unit harness connector M171 (B) terminals 56, 44.

АВ		Continuity			
Connector	Terminal	Connector Terminal		Continuity	
M93	11	M171	56	Yes	
WISS	22	IVIIII	44	165	

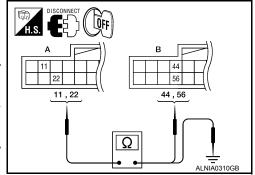
4. Check continuity between display unit harness connector M93 (A) terminals 11, 22 and ground.

А		_	Continuity
Connector	Terminal		Continuity
M93	11	Ground	No
IVI93	22	Giouria	INO

Are continuity results as specified?

YES >> GO TO 3.

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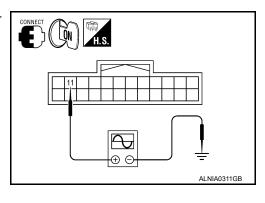
< DTC/CIRCUIT DIAGNOSIS >

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	(-)	Neierence signal	
M93	11	Ground	(V) 6 4 2 0 ***1ms	



Are voltage readings as specified?

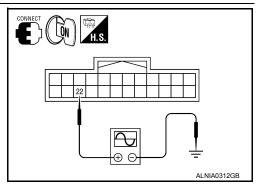
YES >> GO TO 4.

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.

Connector	+) Terminal	(-)	Reference signal
M93	22	Ground	(V) 6 4 2 0 +



Are voltage readings as specified?

YES >> Inspection End.

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

U1255 SATELLITE RADIO TUNER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

U1255 SATELLITE RADIO TUNER

Description INFOID:000000000820891

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

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 $\underline{\text{AV-}161}$, "SATELLITE RADIO TUNER: $\underline{\text{Diagnosis Procedure}}$ ".

Is inspection result OK?

YES >> Inspection End.

NO >> Repair malfunctioning parts.

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U1256 HAND FREE CONN

[BOSE AUDIO WITHOUT NAVIGATION]

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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

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.

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U1310 AV CONTROL UNIT

[BOSE AUDIO WITHOUT NAVIGATION]

U1310 AV CONTROL UNIT

Description INFOID:000000009820896

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

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".

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

POWER SUPPLY AND GROUND CIRCUIT AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009820898

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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.
	19	Battery power 31	
AV control unit	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.

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

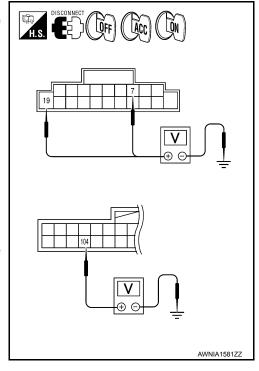
(+)		(-)	OFF	ACC	ON
Connector	Terminal	(-)	OH	ACC	ON
M160	7	Ground	0V	Battery voltage	Battery voltage
WITOO	19	Ground	Battery voltage	Battery voltage	Battery voltage
M166	104	Ground	0V	0V	Battery voltage

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

Turn ignition switch OFF.

Check continuity between AV control unit harness connectors M160 and M164 and ground.

(+)	(-)	Continuity	
Connector	Terminal	(-)		
M160	M160 20		Yes	
M164	68	Ground	163	

Are the continuity results as specified?

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[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

YES >> Inspection End.

NO >> Repair AV control unit ground.

DISPLAY UNIT

DISPLAY UNIT: Diagnosis Procedure

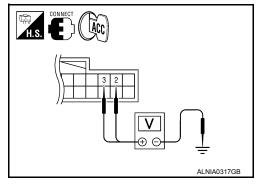
INFOID:0000000009820899

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	(-)	Value (Approx.)
M93	2	Ground	9V
Maa	3	Ground	90



Does specified voltage exist?

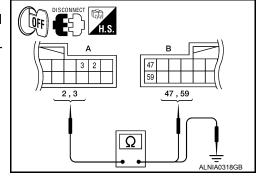
YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

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

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M93	2	M171	59	Yes
IVIO	3	IVIIII	47	165



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

	A		Continuity	
Connector	Terminal		Continuity	
M93	2	Ground	No	
10193	3		INU	

Are continuity results as specified?

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

3.CHECK GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

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- Turn ignition switch OFF.
- Disconnect display unit connector.
- Check continuity between display unit harness connector and

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

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

- 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	(-)	OH	700	
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

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

Connector	Terminal	_	Continuity
M98	1	Ground	Yes

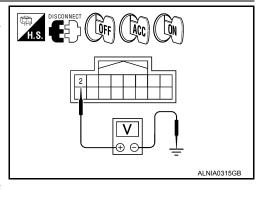
Are the continuity results as specified?

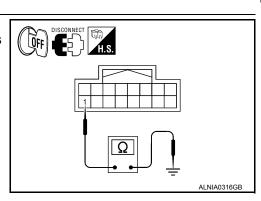
YES >> Inspection End.

NO >> Repair harness or ground.

BOSE SPEAKER AMP

Revision: August 2013





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BOSE SPEAKER AMP: Diagnosis Procedure

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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?

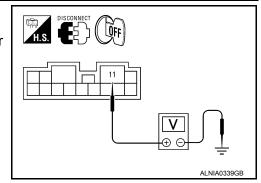
YES >> GO TO 2.

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

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

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

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INFOID:0000000009820902

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

SUBWOOFER

SUBWOOFER: Diagnosis Procedure

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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

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

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

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

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Is battery voltage present?

YES >> GO TO 3.

NO >> Check harness between subwoofer and fuse.

3. CHECK GROUND CIRCUIT

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

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

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Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER: Diagnosis Procedure

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 in-	32	Battery power	31
stalled)	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

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

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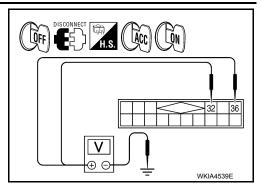
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[BOSE AUDIO WITHOUT NAVIGATION]

(+)	(-)	OFF	ACC	ON
Connector	Terminal	(-)	OH	700	ON
M45	32 Battery voltage			Battery voltage	Battery voltage
IVITO	36	Glound	0V	Battery voltage	Battery voltage



INFOID:0000000009820904

Are the voltage readings as specified?

YES >> GO TO 3.

NO >> • Check

>> • 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

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?

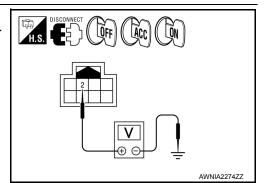
YES >> GO TO 2.

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	(-)	OH	ACC	J
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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

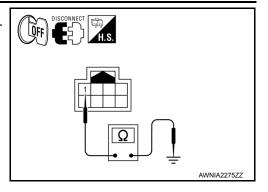
- 1. Turn ignition switch OFF.
- Check continuity between rear view camera harness connector D504 and ground.

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

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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?

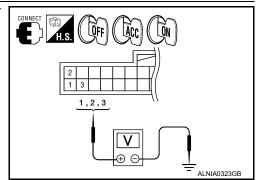
YES >> GO TO 2.

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	
Connector	Terminal	()	position	Value (Approx.)
	1		OFF	
B142	2	Ground	ACC	Battery voltage
	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
	4		
B142	20	Ground	Yes
	23		

Are continuity results as specified?

YES >> Inspection End.

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< DTC/CIRCUIT DIAGNOSIS >

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	(-)	value (Approx.)	
	R109	4	Ground	5V	

CONNECT H.S. H.S. WKIA5796E

Is approximately 5V present?

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

2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

- 1. Turn ignition switch OFF.
- Disconnect microphone and Bluetooth control unit harness connectors.
- Check continuity between microphone harness connector R109

 (A) terminal 4 and Bluetooth control unit harness connector B142 (B) terminal 29.

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
R109	4	B142	29	Yes

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

DISCONNECT H.S.		
A 4	В	29
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Α		_	Continuity	
Connector	Terminal		Continuity	
R109	4	Ground	No	

Are the continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

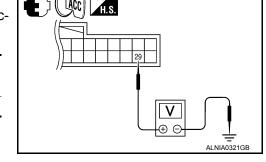
3.CHECK POWER SUPPLY CIRCUIT (BLUETOOTH CONTROL UNIT SIDE)

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

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

Is approximately 5V present?

YES >> Inspection End.



< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

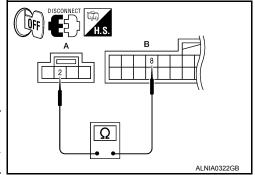
NO >> Replace Bluetooth control unit. Refer to AV-287, "Removal and Installation".

4. CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect microphone harness connector R109 and Bluetooth control unit harness connector B142.
- Check continuity between microphone harness connector R109

 (A) terminal 2 and Bluetooth control unit harness connector B142 (B) terminal 8.

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



Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

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RGB (R: RED) SIGNAL CIRCUIT

Description INFOID:000000009820907

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

Diagnosis Procedure

INFOID:0000000009820908

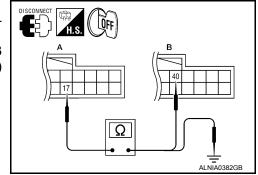
Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M171.
- Check continuity between display unit harness connector M93

 (A) terminal 17 and AV control unit harness connector M171 (B) terminal 40.

-	Ą		В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	17	M171	40	Yes



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?

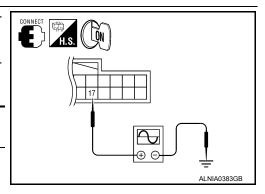
YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK RGB (R: RED) SIGNAL

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

(-	+)	(-)	Condition	Reference signal
Connector	Terminal	()	Condition	receive digital
M93	17	Ground	Receive audio sig- nal	(V) 0. 4 0 -0. 4 -40μs SKIB2238J



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

[BOSE AUDIO WITHOUT NAVIGATION] < DTC/CIRCUIT DIAGNOSIS >

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

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

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

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

	A	_	Continuity	
Connector	Terminal		Continuity	
M93	6	Ground	No	

Are the continuity results as specified?

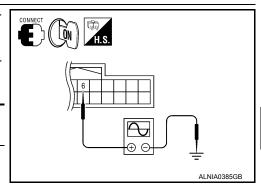
YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK RGB (G: GREEN) SIGNAL

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

(+)		(-)	Condition	Reference signal
Connector	Terminal	(-)	Condition	reference signal
M93	6	Ground	Receive audio sig- nal	(V) 0. 4 0 -0. 4 → 40µs SKIB2236J



Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-270, "Removal and Installation".

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

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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

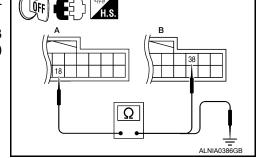
Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M171.
- Check continuity between display unit harness connector M93

 (A) terminal 18 and AV control unit harness connector M171 (B) terminal 38.

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



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

	A	_	Continuity	
Connector	Terminal		Continuity	
M93	18	Ground	No	

Are continuity results as specified?

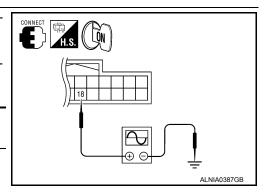
YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK RGB (B: BLUE) SIGNAL

- 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	(-)	Condition	receive signal
M93	18	Ground	Receive audio sig- nal	(V) 0. 4 0 -0. 4



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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

RGB SYNCHRONIZING SIGNAL CIRCUIT

Description INFOID:000000009820913

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

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

1. CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M171.
- Check continuity between display unit harness connector M93

 (A) terminal 19 and AV control unit harness connector M171 (B) terminal 41.

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

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

	Α		Continuity	
Connector	Terminal	_	Continuity	
M93	19	Ground	No	

Are continuity results as specified?

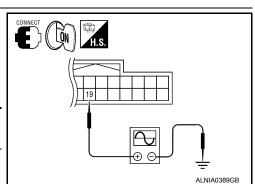
YES >> GO TO 2.

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.
- Check signal between display unit harness connector M93 terminal 19 and ground.

(+)		(-) Condition		Reference signal		
Connector	Terminal	(-)	Condition	Neierence signal		
M93	19	Ground	Receive audio sig- nal	(V) 4 0 ++20 \(\mu\)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".

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RGB AREA (YS) SIGNAL CIRCUIT

Description INFOID:000000009820915

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

Diagnosis Procedure

INFOID:0000000009820916

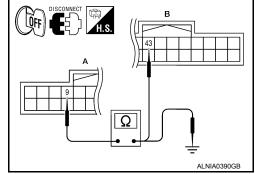
Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1. CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M171.
- Check continuity between display unit harness connector M93

 (A) terminal 9 and AV control unit harness connector M171 (B) terminal 43.

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



Check continuity between display unit harness connector M93

 (A) terminal 9 and ground.

	4	_	Continuity	
Connector	Terminal		Continuity	
M93	9	Ground	No	

Are continuity results as specified?

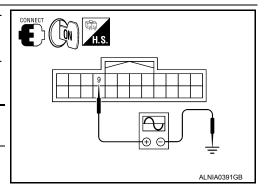
YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK RGB SYNCHRONIZING SIGNAL

- Connect display unit connector 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.

(+) Connector Terminal		(-)	Condition	Reference signal
M93	9	Ground	Receive audio sig- nal	(V) 4 2 0 + + 200 μ s PKIB4948J



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 [BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description INFOID:000000009820917

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

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

1. CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M171.
- Check continuity between display unit harness connector M93

 (A) terminal 8 and AV control unit harness connector M171 (B) terminal 45.

-	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M93	8	M171	45	Yes

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

,	А		Continuity	
Connector	Terminal	_	Continuity	
M93	8	Ground	No	

Are continuity results as specified?

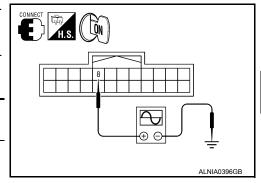
YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

- Connect display unit connector M93 and AV control unit connector M171.
- 2. Turn ignition switch ON.
- Check signal between display unit harness connector M93 terminal 8 and ground.

(+)		- (-) Condition		Reference signal		
Connector	Terminal	(-)	Condition	reference signal		
M93	8	Ground	Receive audio sig- nal	(V) + + 20µs SKIB3601E		



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INFOID:0000000009820918

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".

Revision: August 2013 AV-171 2014 Armada NAM

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT [BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description INFOID:000000009820919

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

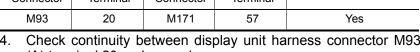
INFOID:0000000009820920

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

$1.\mathsf{check}$ continuity vertical sinchronizing (VP) signal circuit

- Turn ignition switch OFF.
- 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		В	Continuity
	Connector	Terminal	Connector	Terminal	Continuity
	M93	20	M171	57	Yes



	DISCONNECT OFF H.S.
1	A 57
	ALNIA0392GB

(A) terminal 20 and ground.	Ċ	•			

-	A		Continuity
Connector	Terminal	_	Continuity
M93	20	Ground	No

Are continuity results as specified?

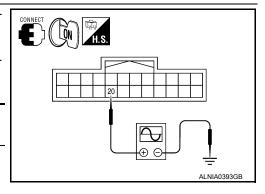
YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK VERTICAL SINCHRONIZING (VP) SIGNAL

- Connect display unit connector M93 and AV control unit connector M171.
- Turn ignition switch ON.
- Check signal between display unit harness connector M93 terminal 20 and ground.

(+)		(-) Condition		Reference signal	
Connector	Terminal	(-)	Condition	ixeletetice signal	
M93	20	Ground	Receive audio sig- nal	(V) 4 0 ++4ms 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".

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INFOID:0000000009820922

FRONT DOOR SPEAKER

Description INFOID:000000000820921

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

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.

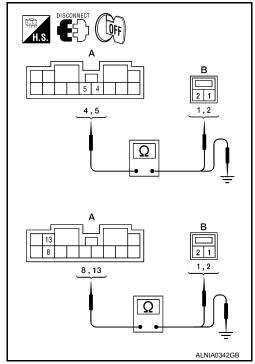
2. HARNESS CHECK

- 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).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	4	D12	1	
M112	5	DIZ	2	Yes
IVIIIZ	8	D112	1	res
	13	DIIZ	2	

Check continuity between BOSE speaker amp. harness connector M112 (A) and ground.

	Α		Continuity
Connector	Terminal	_	
	4		
M112	5	Ground	No
IVITIZ	8	Giouna	NO
	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.

Connec-	Terr	ninal	Condition	Reference
tor	(+)	(-)	Condition	signal
	4	5		
M112	8	13	Receive audio sig- nal	1 0 1 1 ms 3 3KA0 177E

Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to <u>AV-273, "Removal and Installation"</u>.

NO >> GO TO 4.

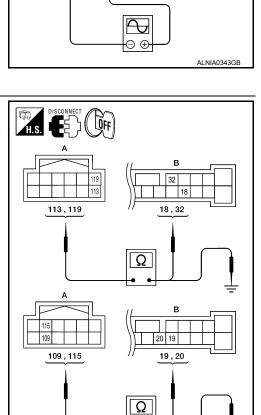
4. HARNESS CHECK

- 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).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	113		18	
M72	119	M113	32	Yes
	109	IVITIO	19	res
	115		20	

Check continuity between AV control unit harness connector M72 (A) and ground.

	Α		Continuity	
Connector	Connector Terminal		Continuity	
	113			
M72	119	Ground	No	
IVI7 Z	109	Ground		
_	115			



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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

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

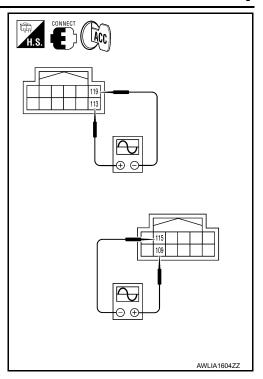
- 1. Connect AV control unit connector and BOSE speaker amp. connector.
- 2. Turn ignition switch ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M72 terminals with CONSULT or oscilloscope.

Connector	Terminals Condition		Reference	
Connector	(+)	(-)	signal	
	113	119		
M72	109	115	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-278</u>. "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-267, "Removal and Installation"</u>.



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FRONT TWEETER

Description INFOID:000000009820923

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.

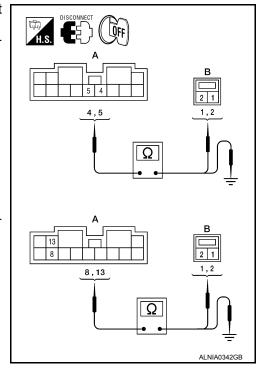
2. HARNESS CHECK

- 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		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	4	M109	1	
M112	5	WITOS	2	Yes
	8	Mada	1	165
	13	M111	2	

Check continuity between BOSE speaker amp. harness connector M112 (A) and ground.

	Α	_	Continuity	
Connector	Terminal	_	Continuity	
	4			
M112	5	Ground	No	
IVITIZ	8	Ground	No	
	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

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

(Acc)

- 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.

Connec-	Terr	minal	Condition	Reference	
tor	(+)	(-)	Condition	signal	
	4	5			
M112	8	13	Receive audio sig- nal	1 0 -1 1 ms 3KA0177E	

Is audio signal voltage as specified?

YES >> Replace suspect tweeter. Refer to <u>AV-271, "Removal and Installation"</u>.

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).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	113		18	
M72	119	M113	32	Yes
IVI7Z	109	IVITIO	19	
	115	i	20	

Check continuity between AV control unit harness connector M72 (A) and ground.

	Α		Continuity	
Connector	Terminal	_		
	113			
M72	119	Ground	No	
IVI / Z	109	Giouna		
	115			

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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

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FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

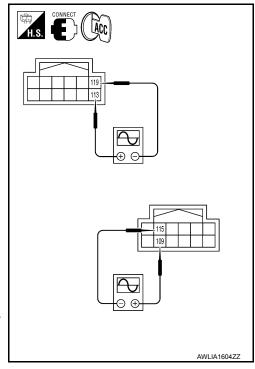
- Connect AV control unit connector and BOSE speaker amp. connector.
- 2. Turn ignition switch ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M72 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
	(+)	(-)	Condition	signal	
	113	119			
M72	109	115	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	

Are the audio signal voltage readings as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-278.</u> "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-267, "Removal and Installation"</u>.



CENTER SPEAKER

Description INFOID:000000000820925

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

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).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M113	15	M110	1	Yes
	28		2	

Check continuity between BOSE speaker amp. harness connector M113 (A) and ground.

	Α	_	Continuity	
Connector	Terminal		Continuity	
M113	15	Ground	No	
	28	Glound		

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

A B 28 15 1, 2

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INFOID:0000000009820926

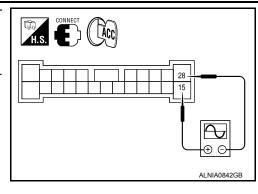
CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

- 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	
Connector	(+)	(-)	Condition	signal	
M113	15	28	Receive audio sig- nal	(V) 1 0 -1 1 ms : SKIA0177E	



Is the audio signal voltage reading as specified?

YES >> Replace center speaker. Refer to AV-272, "Removal and Installation".

NO >> GO TO 4.

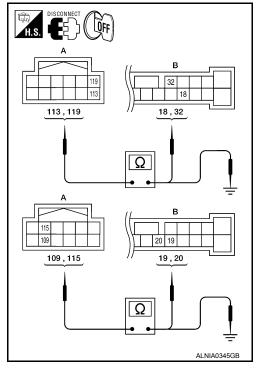
4. HARNESS CHECK

- 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).

А		В		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M72	113	M113	18	Yes	
	119		32		
	109		19		
	115		20		

3. Check continuity between AV control unit harness connector M72 (A) and ground.

	А		Continuity
Connector	Terminal	_	
M72	113		No
	119	Ground	
	109		
	115		



Are continuity test results as specified?

YES >> GO TO 5.

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

· Repair harness or connector.

5. CENTER SPEAKER SIGNAL CHECK

CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

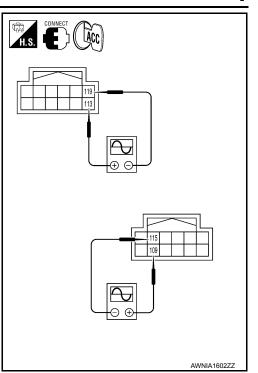
- 1. Connect AV control unit connector and BOSE speaker amp. connector.
- 2. Turn ignition switch ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M72 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	113	119			
M72	109	115	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	

Are the audio signal voltage readings as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-278</u>, <u>"Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to <u>AV-267, "Removal and Installation"</u>.



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REAR DOOR SPEAKER

Description INFOID:000000009820927

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.

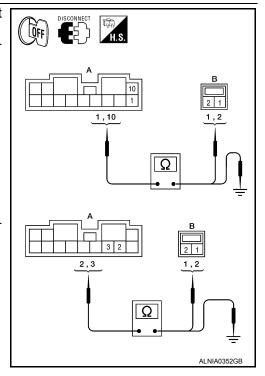
2. HARNESS CHECK

- 1. Disconnect BOSE speaker amp. connectors M112 and suspect speaker connector.
- Check continuity between BOSE speaker amp. harness connectors M112 (A) and suspect speaker harness connector (B).

		1		1
Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	1	D207	1	Yes
M112	10	DZUI	2	
	2	D307	1	
	3	D307	2	

Check continuity between BOSE speaker amp. harness connectors M112 (A) and ground.

Connector	Terminal	-	Continuity	
	1			
M112	10	Ground	No	
	2			
	3			



Are the continuity test results as specified?

YES >> GO TO 3. NO >> • Check c

>> • Check connector housings for disconnected or loose terminals.

· Repair harness or connector.

3. REAR DOOR SPEAKER SIGNAL CHECK

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

⊕ ⊝

- 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	
Connector	(+)	(-)	Condition	signal	
	1	10			
M112	2	3	Receive audio sig- nal	(V) 1 0 -1 1 ms	

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to <u>AV-274, "Removal and Installation"</u>.

NO >> GO TO 4.

4. HARNESS CHECK

- 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).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M72	112		21	
	118	M113	22	Yes
	108	IVITIO	23	165
	114		33	

Check continuity between AV control unit harness connector M72 (A) and ground.

	А	_	Continuity	
Connector	Terminal		Continuity	
	112			
M72	118	Ground	No	
IVI / Z	108	Giouna	NO	
	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

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REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

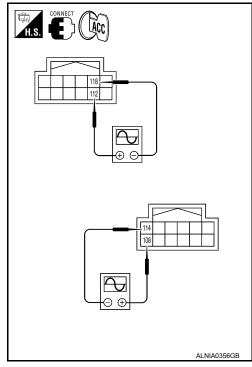
- 1. Connect AV control unit connector M72 and BOSE speaker amp. connector M113.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M72 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	112	118			
M72	108	114	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	

Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-278</u>. "<u>Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to <u>AV-267, "Removal and Installation"</u>.



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INFOID:0000000009820930

REAR TWEETER

Description

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

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.

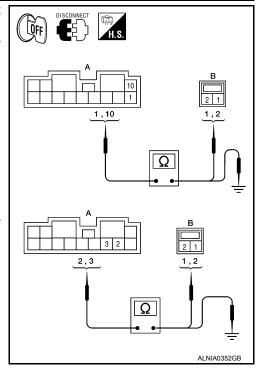
2. HARNESS CHECK

- 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	В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	1	D208	1	
M112	10	D200	2	Yes
	2	D200	1	res
	3	D308	2	

Check continuity between BOSE speaker amp. harness connectors M112 (A) and ground.

Connector	Terminal	-	Continuity	
	1			
M112	10	Ground	No	
	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

- 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	Term	ninals	Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	1	10			
M112	2	3	Receive audio sig- nal	(V) 1 0 -1 1 ms	

Are audio signal voltage readings as specified?

YES >> Replace suspect tweeter. Refer to <u>AV-274, "Removal and Installation"</u>.

NO >> GO TO 4.

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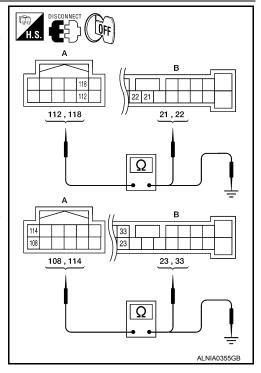
4. HARNESS CHECK

- 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		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	112		21	
M72	118	M113	22	Yes
	108	IVITIO	23	
	114		33	

Check continuity between AV control unit harness connector M72 (A) and ground.

	А		Continuity	
Connector	Terminal			
	112			
M72	118	Ground	No	
IVI7 Z	108	Giodila	INO	
	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

REAR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

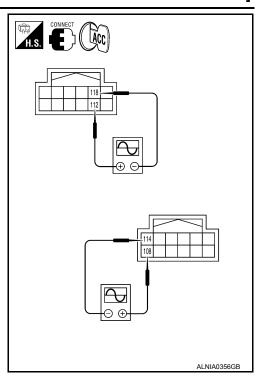
- 1. Connect AV control unit connector M72 and BOSE speaker amp. connector M113.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M72 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	112	118			
M72	108	114	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	

Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-278</u>, <u>"Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to <u>AV-267, "Removal and Installation"</u>.



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INFOID:0000000009820932

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

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.

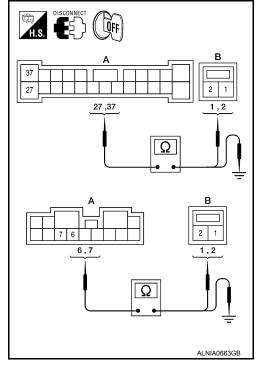
2. HARNESS CHECK

- Disconnect BOSE speaker amp. connectors and suspect speaker connector.
- Check continuity between BOSE speaker amp. harness connectors M112 and M113 (A) and suspect speaker harness connector (B).

	A	1	В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M112	6	D518	1	
IVIIIZ	7	D310	2	Yes
M112	37	D716	1	165
M113	D716		2	

Check continuity between BOSE speaker amp. harness connectors M112 and M113 (A) and ground.

Connector	Terminal	-	Continuity	
M112	6			
WITZ	7	Ground	No	
M113	37	Ground		
WIII3	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

BACK DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

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- 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	Term	ninals	Condition	Reference
Connector	(+)	(-)	Condition	signal
M112	7	6		
M113	37	27	Receive audio sig- nal	(V) 1 0 -1 1 ms s

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to <u>AV-275, "Removal and Installation"</u>.

NO >> GO TO 4.

37 27 7 6 4 O

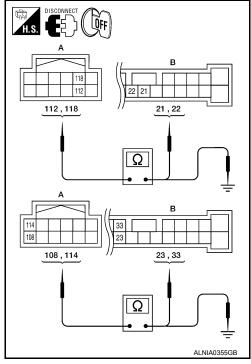
4. HARNESS CHECK

- 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).

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	112		21	
M72	118	N4442	22	Yes
IVI 7 Z	108	M113	23	res
	114		33	

4. Check continuity between AV control unit harness connector M72 (A) and ground.

	A		Continuity
Connector	Terminal	_	Continuity
	112	Crownd	No
M72	118		
IVI 7 Z	108	Ground	No
	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

BACK DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

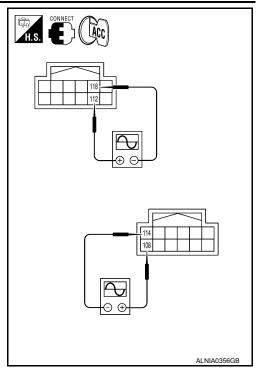
- 1. Connect AV control unit connector M72 and BOSE speaker amp. connector M113.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M72 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	112	118			
M72	108	114	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	

Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-278</u>. "<u>Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to <u>AV-267, "Removal and Installation"</u>.



[BOSE AUDIO WITHOUT NAVIGATION]

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INFOID:0000000009820934

SUBWOOFER

Description

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

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 <u>AV-160, "SUBWOOFER: Diagnosis Procedure"</u>.

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.
- Check continuity between BOSE speaker amp. harness connector tor M112 (A) and M113 (B) and subwoofer harness connector B72 (C).

Connector	Terminal	Connector	Terminal	Continuity
A: M112	9		2	Yes
A. WHIZ	14	C: B72	1	
B: M113	25		4	

Check continuity between BOSE speaker amp. harness connector M112 (A) and M113 (B) and ground.

Connector	Terminal	_	Continuity
A: M112	9		
A. WITT2	14	Ground	No
B: M113	25		

Are the continuity test results as specified?

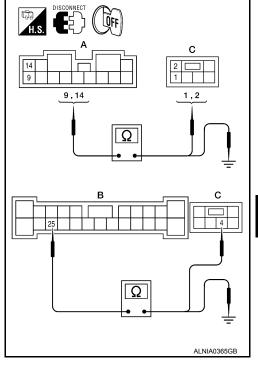
YES >> GO TO 4.

NO

>> • Check connector housings for disconnected or loose terminals.

Repair harness or connector.

4.SUBWOOFER AMP ON SIGNAL CHECK



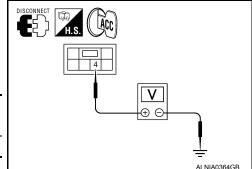
SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

- 1. Connect BOSE speaker amp. connector M112 and M113.
- Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check voltage between subwoofer connector B72 terminal 4 and ground.

((+)	(-)	Voltage	
Connector	Terminal	(-)	voltage	
B72	4	Ground	Battery voltage	



Are the voltage readings as specified?

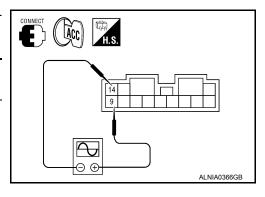
YES >> GO TO 5.

NO >> Replace BOSE speaker amp. Refer to AV-278, "Removal and Installation".

$5. \mathsf{SUBWOOFER}$ 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
Connector	(+)	(-)	Condition	signal
M112	9	14	Receive audio signal	(V) 1 0 -1 1 ms



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.

SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

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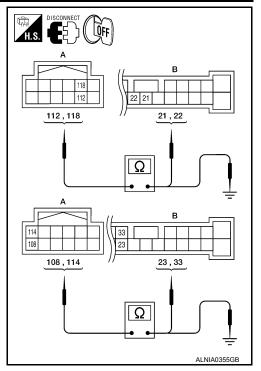
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- 2. Disconnect AV control unit connector M72 and BOSE speaker amp. connector M113.
- 3. Check continuity between AV control unit harness connector M72 (A) and BOSE speaker amp. harness connector M113 (B).

A		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	112		21	
M72	118	M113	22	Yes
IVI / Z	108	IVITIO	23	163
	114		33	

4. Check continuity between AV control unit harness connector M72 (A) and ground.

	Α		Continuity	
Connector	Terminal	_	Continuity	
	112		No	
M72	118	Ground		
IVI7 Z	108	Giouna		
	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

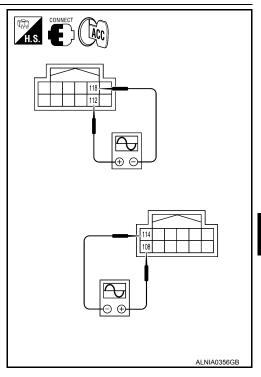
- Connect AV control unit connector M72 and BOSE speaker amp. connector M113.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M72 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference
Connector	(+)	(-)	Condition	signal
	112	118		
M72	108	114	Receive audio sig- nal	(V) 1 0 -1 1 ms

Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-278.</u> "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

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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	(-)	AUU	
M113	31	Ground	Battery voltage	

Is battery voltage present?

YES >> Inspection End.

NO >> GO TO 2.

$2. {\sf CHECK\ AMP\ ON\ SIGNAL\ (AV\ CONTROL\ UNIT)}$

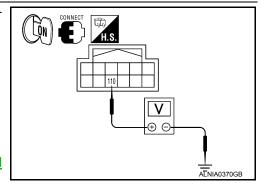
Check voltage between AV control unit harness connector M72 terminal 110 and ground.

(+)		(-)	ACC	
Connector	Terminal	(-)	AUU	
M72	110	Ground	Battery voltage	

Is battery voltage present?

YES >> Repair harness or connector.

NO >> Replace AV control unit. Refer to <u>AV-267</u>, "<u>Removal and Installation</u>".



STEERING SWITCH

Description INFOID:000000000820937

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.

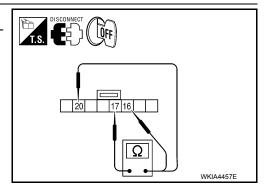
Diagnosis Procedure

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

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

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

Terminal Signal name		Signal name	Condition	Resistance (Ω) (Approx.)
		Volume (down)	Depress - ☐ switch.	1
16	16 17	Volume (up)	Depress 4 + switch.	121
		Phone end	Depress - switch.	321
		Source	Depress SOURCE switch.	1
20	17	Seek (up)	Depress Δ switch.	121
20 17	17	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				
Connector	Terminal	Connector Terminal		Continuity
	6		24	
M42	15	M30	31	Yes
	16		25	

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

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INFOID:0000000009820938

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

AV control unit			Continuity	
Connector	Terminal	_	Continuity	
	6			
M42	15	Ground	No	
	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.

	Combina	Continuity			
Connector	Terminal	ninal Connector Terminal		Continuity	
	24		20		
M30	31	M102	17	Yes	
	25		16		

Does the spiral cable check OK?

YES >> Inspection End.

NO >> Replace spiral cable. Refer to <u>SR-7</u>, "Removal and Installation".

COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

COMMUNICATION SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER: Description

INFOID:0000000009820939

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Communication signals are exchanged between the AV control unit and satellite radio tuner using the communication circuits.

SATELLITE RADIO TUNER: Diagnosis Procedure

INFOID:0000000009820940

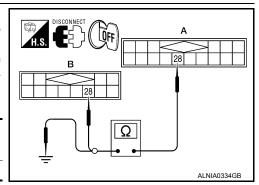
Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

1. CHECK HARNESS - 1

1. Turn ignition switch OFF.

- 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		В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M45	28	M170	28	Yes



4. Check continuity between satellite radio tuner (factory installed) harness connector M45 (A) terminal 28 and ground.

Α			Continuity	
Connector	Terminal		Continuity	
M45	28	Ground	No	

Are continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

2. CHECK HARNESS - 2

 Check continuity between satellite radio tuner (factory installed) harness connector M45 (A) terminal 29 and AV control unit harness connector M170 (B) terminal 29.

Α		В		Continuity
Connector	Terminal	Connector Terminal		Continuity
M45	29	M170	29	Yes

 Check continuity between satellite radio tuner (factory installed) harness connector M45 (A) terminal 29 and ground.

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Α			Continuity	
Connector	Terminal		Continuity	
M45	29	Ground	No	

Are continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

Revision: August 2013 AV-197 2014 Armada NAM

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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.

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M45	30	M170	30	Yes

2. Check continuity between satellite radio tuner (factory installed) harness connector M45 (A) terminal 30 and ground.

A A I I I I I I I I I I I I I I I I I I]
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А			Continuity	
Connector	Terminal		Continuity	
M45	30	Ground	No	

Are continuity results as specified?

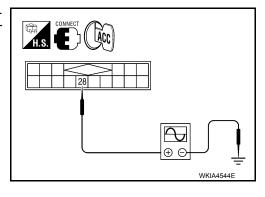
YES >> GO TO 4.

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
- Check signal between satellite radio tuner (factory installed) harness connector M45 terminal 28 and ground with CONSULT or oscilloscope.

(+)		(-)	Reference signal	
Connector	Terminal	(-)	Reference signal	
M45	28	Ground	(V) 15 10 5 0	



Are voltage readings as specified?

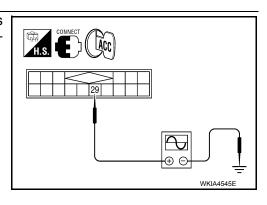
YES >> GO TO 5.

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	(-)	reference signal	
M45	29	Ground	(V) 15 10 5 0 + 20ms SKIB3824E	



COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS > [BOSE AUDIO WITHOUT NAVIGATION]

Are the voltage readings as specified?

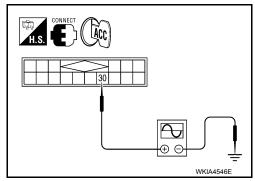
YES >> GO TO 6.

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.

(+)		()	Deference signal	
Connector	Terminal	(-)	Reference signal	
M45	30	Ground	(V) 15 10 5 0 ++10ms SKIB3826E	



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".

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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

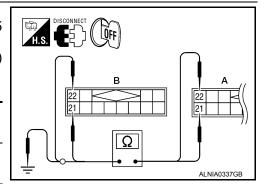
Regarding Wiring Diagram information, refer to AV-227, "Wiring Diagram".

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		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M45	21	M170	21	Yes
10143	22	IVITO	22	ies



4. Check continuity between satellite radio tuner (factory installed) connector M45 (A) and ground.

	А		Continuity
Connector	Terminal	_	Continuity
M45	21	Ground	No
17143	22	Giouna	140

Are continuity results as specified?

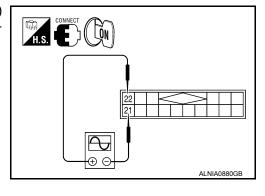
YES >> GO TO 2.

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.
- Check signal between satellite radio tuner (factory installed) connector M45 terminals 21 and 22 with CONSULT or oscilloscope.

(+)		(+) (-)	
Connector	Terr	minal	
M45	22	21	(V) 1 0 -1 + 2ms SKIB3609E



Are voltage readings as specified?

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

SOUND SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

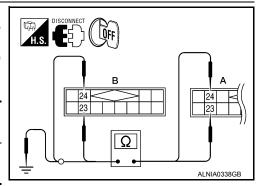
NO >> Replace satellite radio tuner. Refer to AV-285, "Removal and Installation".

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).

Α	A B		Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M45	23	M170	23	Yes
14143	24	IVITO	24	163



4. Check continuity between satellite radio tuner (factory installed) connector M45 (A) and ground.

	А		Continuity
Connector	Terminal		Continuity
M45	23	Ground	No
IVI45	24	Giodila	INO

Are continuity results as specified?

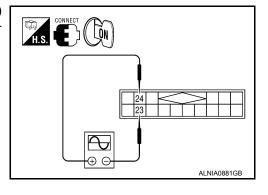
YES >> GO TO 2.

NO >> Repair harness or connector.

2. CHECK RIGHT CHANNEL AUDIO SIGNAL

- 1. Connect satellite radio tuner (factory installed) and AV control unit.
- Turn ignition switch ON.
- Check signal between satellite radio tuner (factory installed) connector M45 terminals 23 and 24 with CONSULT or oscilloscope.

(-	+)	(-)	Reference signal
Connector	Terr	minal	
M45	24	23	(V) 1 0 -1 + 2ms SKIB3609E



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".

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MICROPHONE SIGNAL CIRCUIT

Description INFOID:000000009820943

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

Diagnosis Procedure

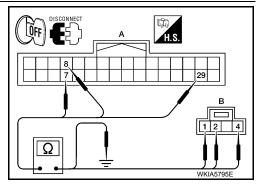
INFOID:000000009820944

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.
- Check continuity between Bluetooth[®] control unit harness connector B142 (A) and microphone harness connector R109 (B).

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



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

	Α		Continuity
Connector	Terminal	_	Continuity
	7		
B142	8	Ground	No
	29		

Are the continuity test results as specified?

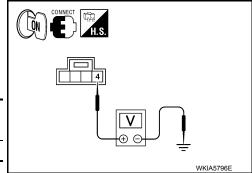
YES >> GO TO 2.

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	(-)	voltage (approx.)
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

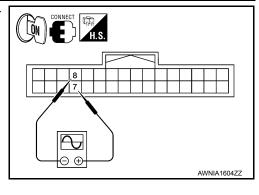
MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

Check signal between Bluetooth $^{\rm I\!B}$ control unit harness connector B142 terminals 7 and 8 with CONSULT or and oscilloscope.

Connector	(+)	(-)	Reference signal
Connector	Terminal	Terminal	Neierence signal
B142	7	8	While speaking into MIC (V) 2.5 2.0 1.5 1.0 0.5 0 PKIB5037J



Are voltage readings as specified?

YES >> Replace Bluetooth[®] control unit. Refer to <u>AV-287, "Removal and Installation"</u>.

NO >> Replace microphone. Refer to AV-286, "Removal and Installation".

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REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Description INFOID:000000009820948

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	Value (Approx.)
Connector	Terminal	(-)	position	value (Approx.)
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

- Turn ignition switch OFF.
- 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

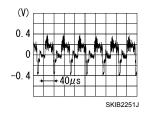
- Connect AV control unit connector M164 and rear view camera connector D504.
- 2. Turn ignition switch ON.
- 3. Shift transmission into reverse.
- 4. Check signal between AV control unit harness connector M164 terminals 64 and 65.

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

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".

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USB CONNECTOR

[BOSE AUDIO WITHOUT NAVIGATION]

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 cor	ntrol unit	USB interface		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	121	M214	4	
	122		1	
M169	123		2	Yes
	124		3	
	125		5	

4. Check continuity between AV control unit connector M169 and ground.

AV cor	ntrol unit		Continuity
Connector	Terminal	<u>—</u>	
M169	121	Ground	No
109	123	Ground	140

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 [BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

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 auxilia	ary input jacks	Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M206	1	B305	4	Yes
101200	3	B303	5	165

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

Front auxiliary input jacks		Ground	Continuity	
Connector	Terminal	Giodila	Continuity	
M206	1		No	
IVIZOO	3	_	NO	

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2.CHECK AUX SOUND SIGNAL CIRCUIT CONTINUITY 2

- Disconnect AV control unit connector M166.
- Check continuity between AV control unit connector M166 terminals 95, 96 and headrest display unit (passenger seat) connector B305 terminals 14, 15.

AV co	ntrol unit	Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M166	95	B305	14	Voo
IVI 100	96	D3U3	15	Yes

Check continuity between AV control unit connector M166 terminals 95, 96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Giodila	Continuity
M166	95		No
IVI I OO	96	_	INU

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.

Revision: August 2013 AV-207 2014 Armada NAM

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FRONT AUXILIARY INPUT JACK AUDIO SIGNAL CIRCUIT [BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

Front auxilia	ry input jacks	Headrest display u	nit (passenger seat)	Continuity	
Connector	Terminal	Connector	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 cor	ntrol unit	Headrest display u	nit (passenger seat)	Continuity
Connector	Terminal	Connector	Continuity	
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				
96	97	AUX mode selected	(V) 1 0 -1 + 2ms 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 >

[BOSE AUDIO WITHOUT NAVIGATION]

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ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

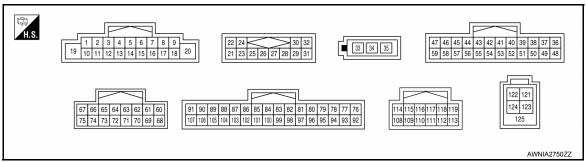
Reference Value

VALUES ON THE DIAGNOSIS TOOL

CONSULT data monitor item

Display Item	Dis- play	Vehicle status	Remarks	
VHCL SPD SIG	ON	Vehicle speed >0 km/h (0 MPH)	Changes in indication may be delayed. This is nor-	
VIIOL OF DISIO	OFF	Vehicle speed =0 km/h (0 MPH)	mal.	
PKB SIG	ON	Parking brake is applied.	Changes in indication may be delayed. This is nor-	
FND SIG	OFF	Parking brake is released.	mal.	
ILLUM SIG	ON	Block the light beam from the auto light optical sensor when the light SW is ON .		
ILLUM SIG	OFF	Expose the auto light optical sensor to light when the light SW is OFF or ON.	_	
IGN SIG	ON	Ignition switch ON		
IGN SIG	OFF	Ignition switch in ACC position	_	
	ON	Selector lever in R position	Changes in indication may be delayed. This is nor	
REV SIG	OFF	Selector lever in any position other than R	Changes in indication may be delayed. This is normal.	

TERMINAL LAYOUT



PHYSICAL VALUES

	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Conducti	(Approx.)
					Press and hold SOURCE switch.	0V
				Ignition switch	Press and hold Δ switch.	1.0V
6 (Y)	Ground	Steering switch signal A	Input		Press and hold ∇ switch.	2.0V
				ON	Press and hold w∕≤ (switch.	3.0V
					Except for above.	5.0V
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage

Revision: August 2013 AV-209 2014 Armada NAM

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Condition		(Approx.)
9	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	0V
(R/L)	Ground	marimation signal	прис	011	Lighting switch is ON.	12V
15	Ground	Steering switch signal GND	1	Ignition switch ON	_	0V
					Press and hold = 🎵 switch	0V
16 (BR)	Ground	Steering switch signal B	Input	Ignition switch ON	Press and hold □ + switch	1.0V
					Press and hold A switch	2.0V
					Except for above	5.0V
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage
20 (B)	Ground	Ground	1	Ignition switch ON	_	0V
22 (W)	21 (B)	Satellite radio sound signal LH	Input	Ignition switch ON	When satellite radio mode is selected	(V) 1 0 -1 + 2ms SKIB3609E
24 (Y)	23 (BR)	Satellite radio sound signal RH	Input	Ignition switch ON	When satellite radio mode is selected	(V) 1 0 -1 + 2ms 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	(V) 10 0 -10 + 10ms SKIA9299J

	minal e color)	Description			Condition	Reference value	/
+	_	Signal name	Input/ Output		Condition	(Арргох.)	
29 (R)	Ground	Communication signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 → 1ms SKIA9300J	(
30 (B)	Ground	Communication signal (CONT→SAT)	Output	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 + 1ms 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	(V) 0. 4 0 -0. 4 → 40μs SKIB2251J	
37 (BR)	Ground	AUX image ground	_	Ignition switch ON	_	0V	
38 (R)	Ground	RGB signal (B: blue)	Output	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0. 4 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ľ
39 (B)	Ground	RGB signal (G: green)	Output	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0. 4 0 -0. 4 -0. 4 SKIB2236J	A

	minal color)	Description			0 111	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
40 (W)	Ground	RGB signal (R: red)	Output	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0. 4 0 -0. 4 → 40μs SKIB2238J
41 (W)	Ground	RGB synchronizing signal	Output	Ignition switch ON	_	(V) 4 0 → 20μs SKIB3603E
42	_	RGB synchronizing ground	_	Ignition switch ON	_	0V
					RGB image	5V
43 (O)	Ground	RGB area (YS) signal	Output	Ignition switch ON	AUX image	(V) 6 4 2 0 ••• 200 μ s PKiB4948J
44 (LG)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness	(V) 4 2 0 + 1ms PKIB5039J
45 (W/L)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	_	(V) 4 0 → 20µs 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	_	_	_	_

	minal e color)	Description			Conditi	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
56 (V)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness	(V) 6 4 2 0 1ms PKIB5039J
57 (O/L)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch On	_	(V) 4 0 ++4ms
58 (B)	Ground	Inverter ground	_	Ignition switch ON	_	SKIB3598E
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	(V) 0. 4 0 -0. 4 -40µs SKIB2251J
66 (W)	Ground	DVD player video signal (+)	Input	Ignition switch ON	With DVD player operating	(V) 0. 4 0 -0. 4 -0. 4 SKIB2251J
68 (B)	Ground	Ground	_	Ignition switch ON	_	0V
72	_	Shield		_	_	_
73	_	Shield	_	_	_	_
74 (B)	Ground	DVD player video ground	_	Ignition switch ON	_	ov

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
80 (G)	79 (R)	TEL voice audio signal	Input	Ignition switch ON	Start confirmation/adjust- ment mode, and then Voice Microphone Test by select- ing "Voice Microphone Test" on Hands-free Micro- phone screen.	(V) 1 0 -1 2ms 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	(V) 1 0 -1 + 2ms SKIB3609E
96 (W)	97 (B)	AUX audio signal LH	Input	Ignition switch ON	When AUX mode is selected	(V) 1 0 -1 2ms SKIB3609E
100	_	Shield	_	_	_	
103 (SB)	Ground	CD eject signal	Input	_	Pressing the eject switch Except for above	0V 3.3V
104 (G/R)	Ground	Ignition signal	Input	Ignition switch ON	<u> </u>	Battery voltage
105 (G/W)	Ground	Reverse signal	Input	Ignition switch ON	R position Other than R position	Battery voltage 0V

[BOSE AUDIO WITHOUT NAVIGATION]

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	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
106	Ground	Parking brake signal	Input	Ignition switch	Parking brake ON	0V
(G)	Oround	T arking brake signal	Прис	ON	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)	(V) 6 4 2 0 *********************************
108 (W)	114 (B)	Rear RH pre-amp. sound signal	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E
109 (BR)	115 (B/R)	Front RH pre-amp. sound signal	Output	Ignition switch ON	Audio output	(V) 1 0 -1 → 2ms 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	(V) 1 0 -1 + 2ms SKIB3609E
113 (LG)	119 (V)	Front LH pre-amp. sound signal	Output	Ignition switch ON	Audio output	(V) 1 0 -1 → 2ms SKIB3609E
121 (W)	_	V BUS signal	_	_	_	_
122 (G)	_	USB ground	_	_	_	_
123 (L)	_	USB D+ signal	_	_	_	_

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

	minal color)	Description		Condition		Reference value
+	_	Signal name	Input/ Output			(Approx.)
124 (R)	_	USB D- signal	_	_	_	_
125	_	Shield	_	_	_	_

DTC Index

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

[BOSE AUDIO WITHOUT NAVIGATION]

DISPLAY UNIT

Reference Value

INFOID:0000000009820951

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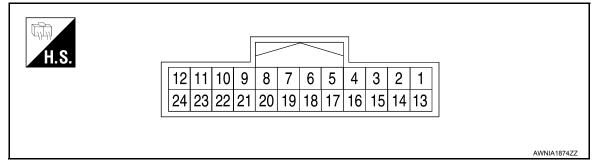
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TERMINAL LAYOUT



PHYSICAL VALUES

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
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/adjust- ment mode, and then dis- play color bar by selecting"Color Spectrum Bar" on DISPLAY DIAGNO- SIS screen.	(V) 0. 4 0 -0. 4 SKIB2236J
7	_	Shield	_	_	_	_
8 (W/L)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	_	(V) 4 0 → • 20µs SKIB3601E

DISPLAY UNIT

[BOSE AUDIO WITHOUT NAVIGATION]

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
9 (O)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At RGB image displayed At rear view camera image displayed	5V (V) 6 4 2 0 + +200μs
11 (V)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness	(V) 6 4 2 0 PKIB4948J
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	(V) 0. 4 0 -0. 4 → 40µs SKIB2251J
17 (W)	Ground	RGB signal (R: red)	Input	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0. 4 0 -0. 4 → 40μs SKIB2238J
18 (R)	Ground	RGB signal (B: blue)	Input	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNO- SIS screen.	(V) 0. 4 0

DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

	minal color)	Description			Condition	Reference value	А
+	_	Signal name	Input/ Output		Condition	(Approx.)	
19 (W)	Ground	RGB synchronizing signal	Input	Ignition switch ON	_	(V) 4 0 → 20 µs SKIB3603E	B C
20 (O/L)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch On	_	(V) 4 0 → 4ms SKIB3598E	E
21	_	Shield	_	_	_	_	G
22 (LG)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness	(V) 6 4 2 0 + 1ms	Н
23	_	Shield	_	_	_	_	

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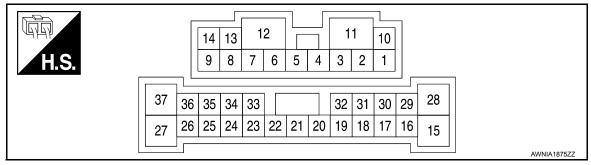
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BOSE SPEAKER AMP

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
1 (SB)	10 (B/Y)	Audio signal rear door speaker and tweeter LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E
2 (O/L)	3 (R/L)	Audio signal rear door speaker and tweeter RH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E
4 (L/W)	5 (L/R)	Audio signal front door speaker and tweeter LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E
6 (G)	7 (R)	Audio signal back door speaker LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E

BOSE SPEAKER AMP

[BOSE AUDIO WITHOUT NAVIGATION]

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Арргох.)
8 (W/B)	13 (L/B)	Audio signal front door speaker and tweeter RH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E
9 (W)	14 (B)	Audio signal subwoofer	Output	Ignition switch ON	Audio output	(V) 1 0 -1 → 2ms 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 speak- er	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E
18 (LG)	32 (V)	Audio signal front LH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 → 2ms SKiB3609E
19 (BR)	20 (B/R)	Audio signal front RH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 → 2ms SKIB3609E
21 (L)	22 (B/W)	Audio signal rear LH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 + 2ms SKIB3609E

BOSE SPEAKER AMP

[BOSE AUDIO WITHOUT NAVIGATION]

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
23 (W)	33 (B)	Audio signal rear RH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 + 2ms 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	(V) 1 0 -1 + 2ms SKIB3609E

SATELLITE RADIO TUNER

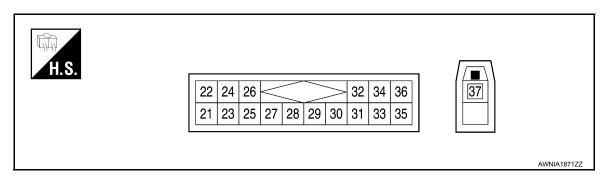
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SATELLITE RADIO TUNER

Reference Value



PHYSICAL VALUES

Ter	minal	Description				Deference value
+	_	Signal name	Input/ Output		Condition	Reference value (Approx.)
22 (W)	21 (B)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected	(V) 1 0 -1 + 2ms SKIB3609E
24 (Y)	23 (BR)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	(V) 1 0 -1 → +2ms SKIB3609E
25	_	Shield			_	_
26	_	Shield	_	_	_	_
28 (W)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 → +10ms SKIA9299J
29 (R)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 *** 1ms

SATELLITE RADIO TUNER

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

Ter	minal	Description				Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
30 (B)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 + 1ms 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

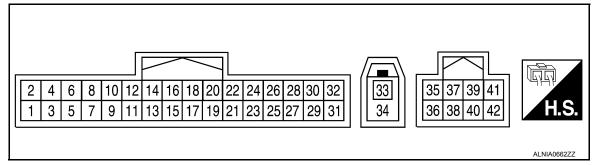
< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

BLUETOOTH CONTROL UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	ninal color)	Description	n		Condition	Reference value
+	_	Signal name	Input/ output		Condition	(Approx.)
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	(V) 1 0 -1 → • 2ms SKIB3609E
20 (B)	Ground	Ground	_	_	-	0V
23 (B)	Ground	Ground	_	_	_	0V
28 (W/R)	Ground	Vehicle speed sig- nal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	(V) 15 10 5 0 + + 20ms

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BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

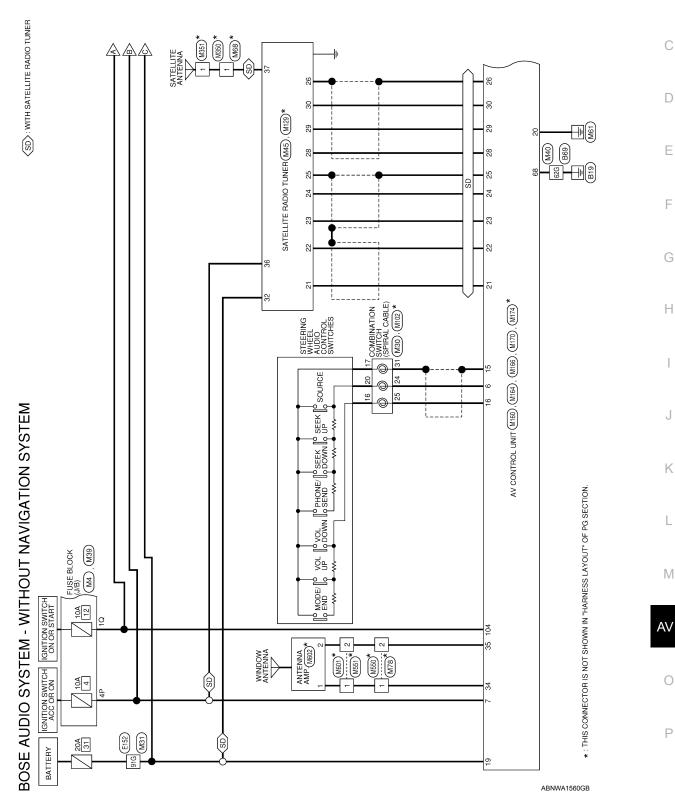
	ninal color)	Descriptio	n		Condition	Reference value
+	_	Signal name	Input/ output		Condition	(Approx.)
29 (R/W)	Ground	Microphone power	Output	Ignition switch ON	-	5V
33 (B)	_	Bluetooth antenna	_	_	_	_
34 (B)	_	Bluetooth antenna	_	_	_	_
35 (W/L)	_	M-CAN1-H	_	_	-	_
36 (Y/L)	_	M-CAN1-L	_	_	_	_

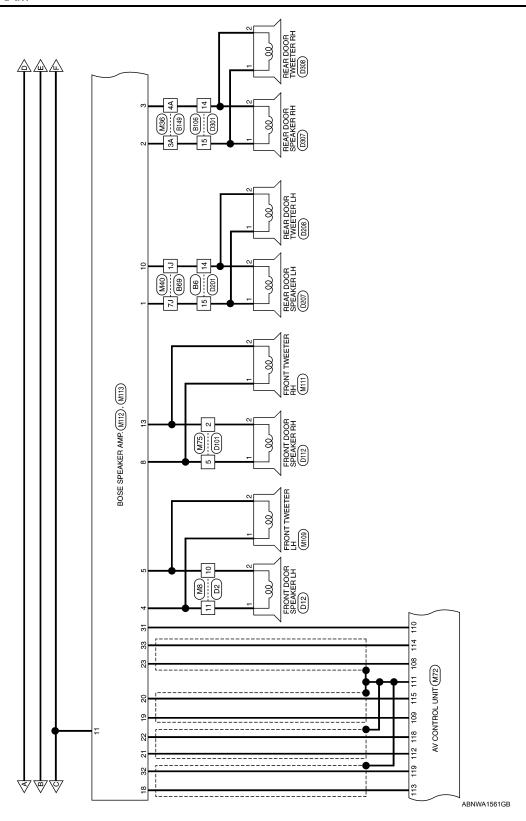
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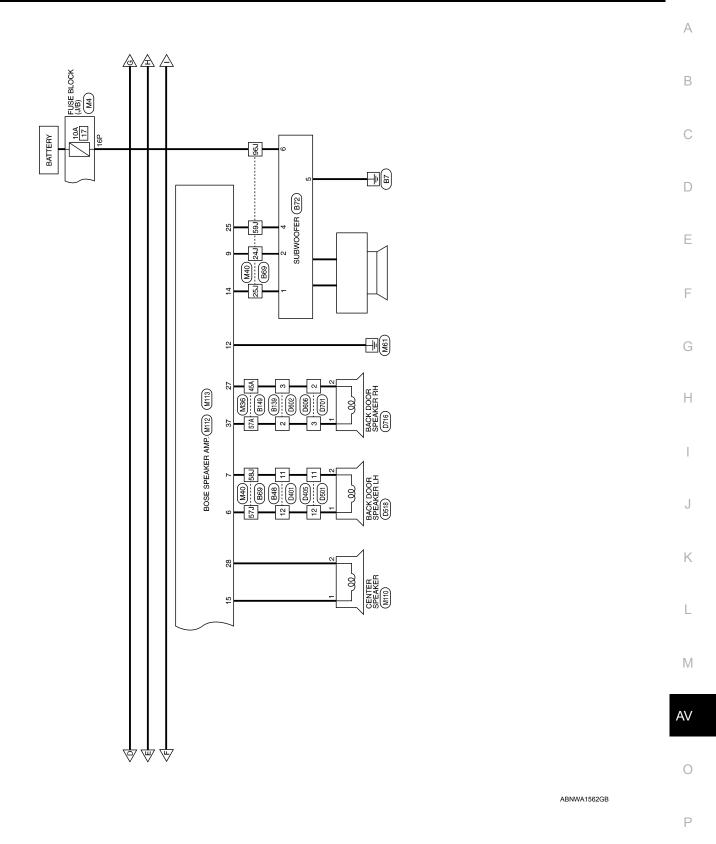
WIRING DIAGRAM

BOSE AUDIO SYSTEM - WITHOUT NAVIGATION SYSTEM

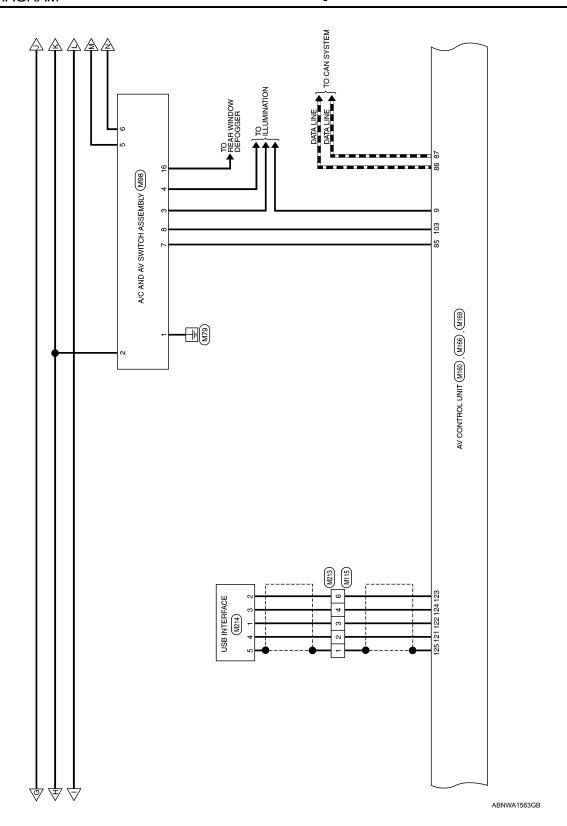
Wiring Diagram

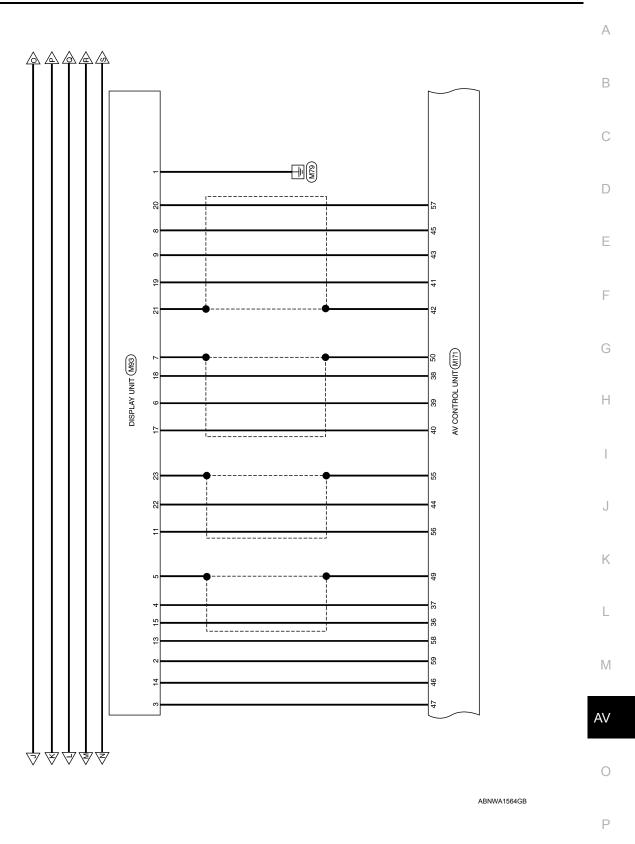




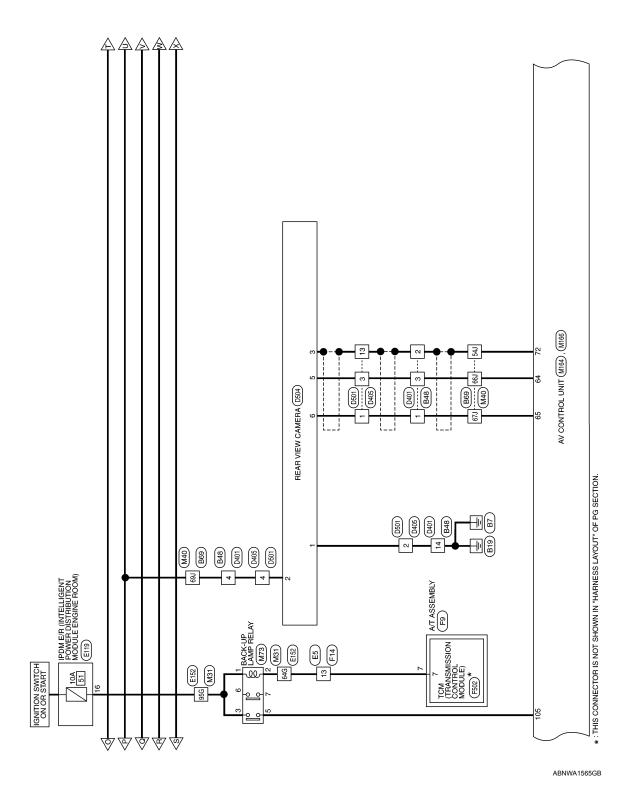


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Revision: August 2013 AV-231 2014 Armada NAM



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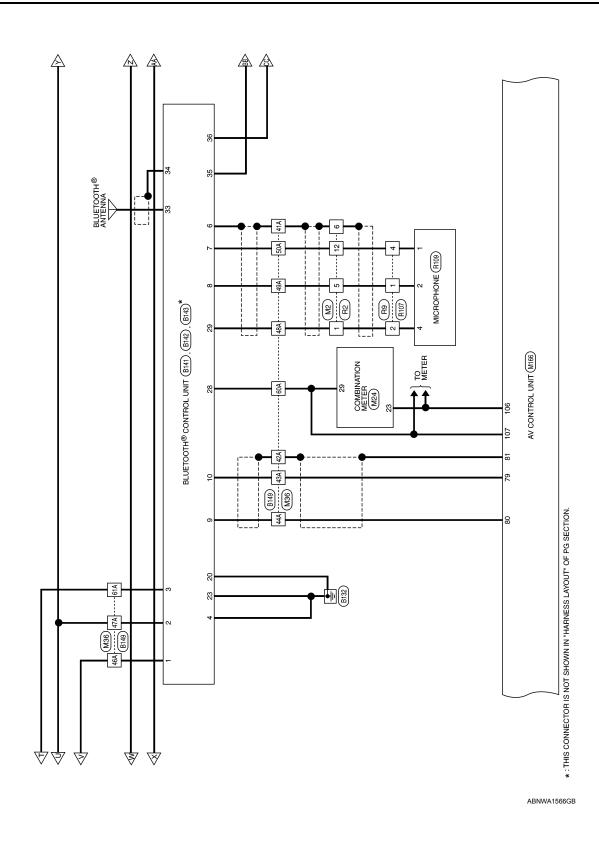
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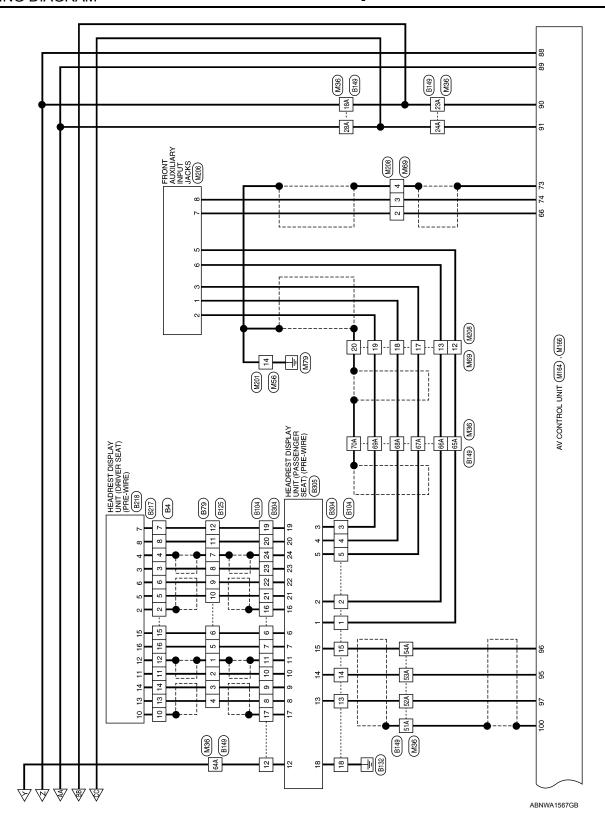
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	RE	8 - 0	Signal Name - -			В
	M8 e WIRE TO WII	7 6 5 4 3 12 11 10	Color of Wire Sig			C
	Connector No. M8 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No. C			Е
M E						F
ON SYST	(3/B)	3P 2P 1P 10P 9P 8P	Signal Name	N SWITCH	Signal Name	G
IAVIGATI	M4 FUSE BLOCK WHITE	7P 6P 5P 4P ()	Color of Wire Sig	M30 COMBINATIC GRAY 24 25 28 27 31 22 33 34	Color of Wire Sign Y A BR SHIELD	Н
BOSE AUDIO SYSTEM CONNECTORS - WITHOUT NAVIGATION SYSTEM	Connector No. M4 Connector Name FUSE BLOCK (J/B) Connector Color WHITE	H.S.	Terminal No. Col	Connector No. M30 Connector Name COMBINATION SWITCH Connector Color GRAY A.S. RATE RATE RATE RATE RATE RATE RATE RATE	Cok W W W W W W W W W	J
TORS - M			<u> </u>		<u> </u>	K
CONNEC		Q -	Signal Name (WITHOUT NAVI)	24 4 3	Signal Name PARK BRAKE SPEED OUT	L
SYSTEM	M2 WIRE TO WIR WHITE	11 10 9 8 7		M24 COMBINATION WHITE 1 1 1 1 1 1 1 1 1		M
: AUDIO 8	Connector No. M2 Connector Name WIRE TO WIRE Connector Color WHITE	(S)	Color of Wire 1 BW 5 B/L 6 SHIELD 12 B	ctor No.	Terminal No. Wire 23 G 29 W/R	AV
BOSE	Con	H.S.	Tem	Conne Conne H.S.	ABNIA3881GB	0
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Connector No. M36 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color WHITE 11 12 13 14 54 54 54 54 54 54 54	Connector No. M36
Connector Nom Connector Nam Connector Color Connector Color SA 3A 4A 18A 18A 23A 23A	Connector Nom Connector Nam Connector Color A 4 4 18 23 4 23 4 23 4 23 4 23 4

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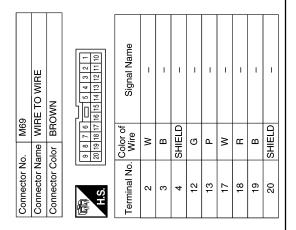
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< WIRING DIAGRAM >

Connector No. M39 Connector Name FLISE BLOCK (J/R)	Connector No.		M40		Connector No.		M45	
	Connector Name		HIM O		Connector Color	-	TE	
(新年) (30 (10 (10 (10 (10 (10 (10 (10 (10 (10 (1	R.S.		1.1 2.1 3.1 4.1 5.1 6.1 7.1 8.1 9.0 10.0		雨 H.S.	22 24 26 <	22 24 28	
Terminal No. Color of Signal Name		113 123 133 1	22) 23J 24J 25J 26J 27J 28J 29J 30J		Terminal No.	Color of Wire	Signal Name	
1Q G/R –		000	100 100 100 100 100 100 100 100 100 100		21	В	SAT LH- OUT	
		421 431 4	42.1 43.1 44.1 45.1 46.1 47.1 48.1 49.1 50.1		22	>	SAT LH+ OUT	
		K4 K9 K3 K	1		23	BB ;	SAT RH- OUT	
		621 631 6	62,1 63,1 64,1 65,1 66,1 67,1 68,1 69,1 70,1		25	Y HE	SAI RH+ OUI	
		71,0 72,0 73,0	713 723 733 743 753 763 773 783 893 803 813		26	SHIELD	DATA GND	
		823 833 8	82J 83J 84J 85J 86J 87J 88J 89J 90J		27	1	ı	
			911 021 021 051		28	>	REQ1 (SAT-HU)	
		•	95.1 98.1 99.1 100.1		59	В	TXD (SAT-HU)	
		_			30	В	RXD (HU-SAT)	
				ก	31	ı	1	
		olor of			32	>	BATT	
	Terminal No.	Wire	Signal Name		33	-	1	
	Ç	B/Y	ı		34	-	1	
	7.7	SB	ı		32	-	ı	
	24J	>	1		36	>	ACC	
	25J	В	ı					
	54J	SHIELD	1					
	£27J	9	I					
	581	œ	1					
	59J	M/G	ı					
	62)	В	1					
	P99	В	ı					
	f29	M	ı					
	69	^	ı					
	P96	В	ı					

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< WIRING DIAGRAM >



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	BACK-UP LAMP RELAY	NN		Signal Name	ı	ı	1	ı	-	
M73		BROWN	2 0	Color of Wire	ڻ ق	<u>~</u>	ڻ ق	G/W	M/B	1,5
١.	me	호		0						
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	-	2	ဗ	2	9	

Connector No.	o. M68	88
Connector Name		WIRE TO WIRE
Connector Color		BROWN
原 H.S.		
Terminal No.	Color of Wire	Signal Name
-	^	ı

Signal Name	RR RH PRE+	FR RH PRE+	AMP ON	SHIELD	RR LH PRE+	FR LH PRE+	RR RH PRE-	FR RH PRE-	ı	I	RR LH PRE-	FR LH PRE-
Color of Wire	8	BR	GR/L	SHIELD	٦	LG	В	B/R	1	1	B/W	^
Terminal No.	108	109	110	111	112	113	114	115	116	117	118	119

Connector No.	o. M56	9
Connector Name	ame WII	WIRE TO WIRE
Connector Color WHITE	olor WF	#TE
原 H.S.	1 8 9 10	2 3 mm 4 5 6 7 9 10 11 12 13 14 15 16
Terminal No.	Color of Wire	Signal Name
14	α.	ı

Connector No.	M72
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)
Connector Color WHITE	WHITE
H.S.	114 115 116 117 118 119 108 109 109 111 112 113

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< WIRING	DIAGR	AM >
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1 2	of Signal Name	1	1	Signal Name			, SY	$\ \ $	IT DISP 2 4 6 8 10 12 14 16 14 15 14 16 14 13 15 7 9 11 13 15 15 17 9 11 13 15 15 15 15 15 15 15 15 15 15 15 15 15		INV GND Color of Signal Name	<u> </u>		4	rv.			RGB SYNC GND 8	DISP-IT 9	SHIELD 10 -	- =	12 –	13	14 –	15 -	16 GB/R	
E L	Terminal No. Wire	-	2 B	Color of Color of	7 SHIELD	8 W/L	6	10	11 \	12	13 B	14 G/O	15 Y	17 W	18 R	W 61	20 O/L	S		23 SHIELD	24 –						
(斯 4 3 <u>一 2 1</u> 10 9 8 7 6 5	S S	2 L/B –	5 W/B -	M93	Connector Name DISPLAY UNIT (WITHOUT NAVI)	Connector Color WHITE			H.S. 12 11 10 9 8 7 6 5 4 3 2 1	[2]	Terminal No Misson Signal Name	Wire	OND S OND S	D/a	OHIELD -		5 B										

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			1			
	CENTER SPEAKER	NN		Signal Name	I	_
M110		or BRO		Color of Wire	>	Œ
Connector No.	Connector Name	Connector Color BROWN	是 R.S.	Terminal No.	-	2

	FRONT TWEETER LH	NN		Signal Name	ı	-	
M109		BROWN	<u></u> □ 2	Color of Wire	×	L/R	
<u>.</u>	Jam	olo		_			
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	-	2	

Connector No.		M102	2
Connector Name		S	COMBINATION SWITCH
Connector Color		GRAY	\
是 H.S.	4	15 16	14 15 16 17 18 19 20 21
Terminal No.	Color of Wire	Jo.	Signal Name
16	В		1
11	BR	~	-
20	8		1

Connector No.). M112	12
Connector Name		BOSE SPEAKER AMP.
Connector Color	Ш	BROWN
	14 13 1.	11 10
H.S.	9 8 7	6 5 4 3 2 1
Terminal No.	Color of Wire	Signal Name
1	SB	TUO +HJ AG AA
2	O/L	TUO +HR RG RR
3	B/L	TUO -HA AO AA
4	N/	FR DR LH+ OUT
2	Ľ	FR DR LH- OUT
9	g	PWR BK DR LH+
7	В	-нт ва рв гн-
8	M/B	FR DR RH+ OUT
6	Μ	WOOFER+ OUT
10	В/У	RR DR LH- OUT
11	У	BATT
12	В	GNÐ
13	ΓB	FR DR RH- OUT
14	В	WOOFER- OUT

	FRONI IWEETER RH	NN		Signal Name	_	_
		or BHOWN		Color of Wire	M/B	I/B
Connector No.	Connector Name	Connector Color	明.S.	Terminal No.	-	2

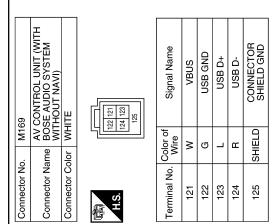
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< WIRING DIAGRAM >

Connector No. WITE TO WIRE	_	_				4 5 7		Color of	Wire Olyna hane	SHIELD –		1	1			-	Color of Signal Name Signal Name	V ACC	1	R/L ILL	1	1	1	1	ı	ऊ	BR STRG SW B	1	ı	Y B+	B GND				
Connect	Connector Color		E		Ċ.			Todimin		-	7	က	4	9			Terminal No.	7	80	6	10	11	12	13	14	15	16	17	18	19	20				
					Ι			Γ								 			T																
Signal Name	RR RH+ (IN)	I	AMP CTRL	ı	PWR BK DR RH-	CENTER-	1	ı	AMP ON	FR LH- (IN)	RR RH+ (IN)	1	ı	I	PWR BK DR RH+		THAT TOOLING	BOSE AUDIO SYSTEM	OUT NAVI)			3 4 5 6 7 8 9	15 16 17			Signal Name	ı	ı	I	1	1	STRG SW A			
Wire	>	1	5/M	1	æ	æ	1	1	GR/L	>	В	1	1	1	M/R		M160		\rightarrow	or WHIIE	L		10 11 12		Color of	Wire	ı	ı	1	-	1	X			
Terminal No.	23	24	25	26	27	28	59	30	31	32	33	34	35	36	37		Connector No.	Connector Name		Connector Color	a		Si E			l erminal No.	-	2	က	4	2	9			
<u> </u>																	ŭ _	Ŏ	- (<u> </u>	<u> </u>				<u> </u>	<u> </u>									
		7				Г		<u> </u>	T		T		ī						7								_								
BOSE SPEAKER AMP.	N		竹	36 35 34 33 3 2 31 30 29 20 26 25 24 23 22 21 20 19 18 17 16 47	12 12 12 12 12 12 12 12 12 12 12 12 12 1		Signal Name	CENTER+	1	ı	FR LH+ (IN)	FR RH+ (IN)	FR RH- (IN)	RR LH+ (IN)	RR LH- (IN)		M129 SATELLITE BADIO TLINEB		i		87]			Signal Name	Olginal Ivaline	1								
		_		36 35 34 33	7 57 57 57	Jolor of	Wire	>	1	1	P	BB	B/B	_	B/W	1	9	_	_			_			Color of	Wire	B								
Connector Name	Connector Color			3 6 U	/2		Terminal No.	15	16	17	18	19	20	21	22		Connector No.	Connector Color		E	H.S.				ON legimat	ם בו	37								
		_			_	_													_			-								Al	BNIA:	3887G	iВ		

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Signal Name	COMP2 IN+	COMP1 IN+	ı	CAMERA DETECT	1	ı	I	COMP2 IN SHIELD	COMP IN SHIELD	COMP1 IN-	I
Color of Wire	8	Α	ı	В	1	ı	_	SHIELD	SHIELD	В	-
Terminal No.	65	99	29	89	69	70	71	72	73	74	75

Signal Name	M-CAN1-H	M-CAN1-L	M-CAN2-H	M-CAN2-L	ı	1	1	AUX AUDIO RH+	AUX AUDIO LH+	AUX GND	1	ı	AUDIO BUS SHIELD	ı	1	CD EJECT	IGN	REVERSE SIG	PKB SIG	SPEED 8P
Color of Wire	M/L	P/B	M	B/P	1	1	ı	æ	≥	В	1	ı	SHIELD	ı	ı	SB	G/R	G/W	g	W/R
Terminal No.	88	68	06	91	92	93	94	92	96	26	86	66	100	101	102	103	104	105	106	107

M164	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)	WHITE	67 66 65 64 68 62 61 60 75 74 73 72 71 70 69 68	Signal Name	_	I	I	_	COMP2 IN-
			67 66 75 74	Color of Wire	1	ı	ı	ı	В
Connector No.	Connector Name	Connector Color	斯 H.S.	Terminal No.	09	61	62	63	64

			92													
99	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)	WHITE	86 85 84 83 82 81 80 79 78 77 78 77 78 78 78	Signal Name	ı	1	-	TEL VOICE (TO IT)+	TEL VOICE (TO IT)-	AOICE SHIELD	=	ı	_	GN9 MS	CAN-H	CAN-L
, M166		-	90 89 88 87 106 105 104 103	Color of Wire	ı	ı	ı	ш	თ	SHIELD	ı	ı	ı	В	Т	۵
Connector No.	Connector Name	Connector Color	(S)	Terminal No.	9/	22	78	62	80	81	82	83	84	98	98	87

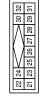
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Signal Name	ı	ı	I	I	SHIELD	IT DISP	۸۸	INV GND	INV VCC
Color of Wire	-	ı	1	ı	SHIELD	^	O/L	В	BR/Y
Terminal No. Wire	51	52	53	54	55	99	25	28	59

Signal Name	N BUS LH-	N BUS LH+	N BUS RH-	N BUS RH+	N BUS SHIELD	DATA GND	-	REQ1 (TO HU)	RX (TO HU)	TX (FROM HU)	I	_
Color of Wire	В	M	BR	٨	SHIELD	SHIELD	-	W	В	В	ı	1
Ferminal No.	21	22	23	24	25	56	27	28	29	30	31	32

Signal Name	5	Ж	RGB SYNC	RGB SYNC GND	γS	DISP IT	유	SIG GND	SIG VCC	-	COMP OUT SHIELD	RGB GND
Color of Wire	В	8	8	SHIELD	0	ГG	M/L	0/5	B/O	_	SHIELD	SHIELD
Terminal No.	39	40	41	42	43	44	45	46	47	48	49	20

M170	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	





Connector No.	. M171	
Connector Name	AV (me BOS WITI	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)
Connector Color WHITE	lor WHI	TE
H.S.	47 46 45 44 59 58 57 56	47 46 45 44 43 42 41 40 39 38 37 38 89 57 86 59 56 54 55 52 51 50 49 48
Terminal No.	Color of Wire	Signal Name
36	Å	COMP OUT+
37	НB	COMP OUT -
38	н	В

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Revision: August 2013 AV-243 2014 Armada NAM

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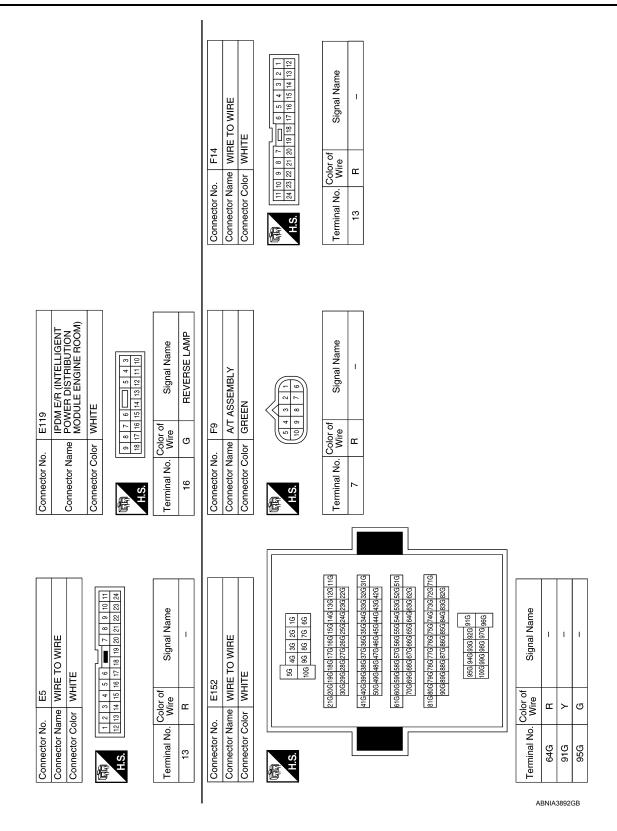
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Connector Name FRONT AUXILIARY INPUT JACKS Connector Color WHITE	Terminal No. Color of Signal Name 1 R 2 B 3 W	S P - - - - - - -	H.S.	of Signa	2 - 2	8 8	W 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
AE TO WIRE IITE 4	Signal Name	3 E TO WIRE	2 8 3 7 7 8 9 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Signa	1 1	1	ı	1
Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No. Color of Wire 14 B	Connector No. M213 Connector Name WIRE TO WIRE Connector Color GRAY	H.S.	al No.	2 W	<u>დ</u>	4 0 R -	0
Connector No. M174 Connector Name BOSE AUDIO SYSTEM WITHOUT NAVI) Connector Color GRAY	Color of Signal Name	Connector No. M208 Connector Name WIRE TO WIRE Connector Color BROWN	13 14 15 16 17 1	M B B I I I I I I I I I I I I I I I I I			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	

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O WIRE	z		Signal Name	1 1		INA AMP.		[] [] [] [] [] [] [] [] [] []	Signal Name	ı	1	
\rightarrow	olor BROWN	N	Color of Wire	ω ω	o. M602	Connector Name ANTENNA AMP. Connector Color WHITE	_		Color of Wire	В	В	
Connector Nam	Connector Color	是 H.S.	Terminal No.	2	Connector No.	Connector Name		H.S.	Terminal No.	-	2	
Connector Name SATELLITE ANTENNA			Signal Name	1) WIRE			Signal Name	ı	ı	
me SATELLI	lor BROWN		Color of Wire	В	. M601	me WIRE TC	_	3 2 1	Color of Wire	В	В	
Connector Nan	Connector Color	H.S.	Terminal No.	-	Connector No.	Connector Name WIRE TO WIRE Connector Color GRAY		H.S.	Terminal No.	-	2	
							7					
) WIRE			Signal Name	ı) WIRE			Signal Name	ı	ı	
-	or BROWN		Color of Wire	Δ	M551	Connector Name WIRE TO WIRE Connector Color GRAY	_	- 2 m	Color of Wire	В	В	
Connector Narr	Connector Color	H.S.	Terminal No.	-	Connector No.	Connector Name		H.S.	Terminal No.	-	2	

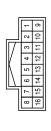
Revision: August 2013 AV-245 2014 Armada NAM



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Signal Name	I	1	ı	ı	ı	I	1	ı
Color of Wire	В	SHIELD	Μ	SHIELD	თ	н	В	L
Terminal No. Wire	8	10	11	12	13	14	15	16

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



Signal Name

Color of Wire SHIELD

Terminal No.

SHIELD

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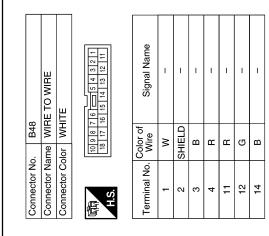
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	TCM (TRANSMISSION CONTROL MODULE)	>	10 9 8 7 6 5 4 3 2 1	Signal Name	REV LAMP RLY
F502		or GRAY	7 8 6 01	Color of Wire	0
Connector No.	Connector Name	Connector Color	所 H.S.	Terminal No.	7



	B6
ne	WIRE TO WIRE
ě	WHITE
일찍	18 77 16 15 14 13 2 11



Signal Name	ı	ı	
Color of Wire	Β/Y	SB	
Terminal No.	14	15	

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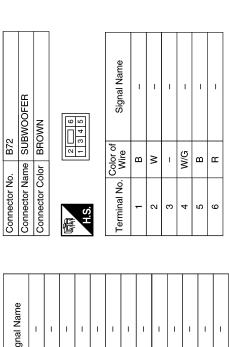
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Signal Name	_	_	ı	_	_	ı	_	_	ı
Color of Wire	თ	T	В	SHIELD	Μ	Œ	១	н	g
Terminal No.	4	2	9	7	8	6	10	11	12

Signal Name	ı	ı	ı	ı	ı	I	I	-	I	I	ı	ſ	_
Color of Wire	В/	SB	8	В	SHIELD	g	н	M/G	В	В	8	а	В
Terminal No.	7	7.1	24J	25J	54J	57J	58J	29J	62J	66J	f29	ſ69	ſ96

[
Connector No. B69 Connector Name WIRE TO WIRE Connector Color WHITE Su 44 30 20 10 Tu 90 80 70 60 E1/2 20 200 150 150 140 130 120 110 E1/2 200 250 250 250 250 250 250 250 250 25	41,1 40,1 80,1 30,1 80,1 80,1 80,1 80,1 80,1 80,1 80,1 8

Connector No.	o. B79	•
Connector Name		WIRE TO WIRE
Connector Color	_	BROWN
υ <u>΄</u>	12 11 10 9 24 23 22 21	8 7 6 5 4 3 2 1 20 19 18 17 16 15 14 13
Terminal No. Color of Wire	Color of Wire	Signal Name
-	SHIELD	ı
2	Ν	1
3	ш	I

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< WIRING DIAGRAM >

Connector No. B104 Connector Name WIRE TO WIRE	lo. B104 lame WIRE	t E TO WIRE		Terminal No.	ပို >	Signal Name	пе	Connector No.	e e	B106 WIRE TO WIRE	RE	
Connector Color	Solor WHITE	1		6	ш	1		Connec		WHITE		
	_			10	M	I			_			7
E				11	SHIELD	ı		恒	10 9 8	7 6 7 5	4 3 2 1	
SH	12 11 10 9	8 7 6 5 4 3 2 1		12	>	I		SH	18 17	18 17 16 15 14 13 12 1	3 12 11	
2	24 23 22 21	21 20 19 18 17 16 15 14 13		13	Ф	ı						
				14	œ	ı						
	to rolo			15	8	I						
Terminal No.	Wire	Signal Name		16	SHIELD	ı		Terminal No.	Color of Wire		Signal Name	
-	_o	1		17	SHIELD	ı		7	_	1		
2	۵	ı		18	Ф	1		4 1			ı	
က	В	ı		19	ŋ	ı		2			ı	
4	æ	ı		20	Œ	ı						
2	*	ı		21	ŋ	ı						
9	В	1		22	Œ	ı						
7	_	1		23	8	1						
∞	G	ı		24	SHIELD	1						
Connector No.		B125 WIRE TO WIRE		Terminal No.	Color of Wire	Signal Name	ne	Connector No.		B139 WIRE TO WIRE	RF	
Connector N	_	E IO WIRE		ıc	-	ı		Connec	_		ם ב	
Connector Color	Olor WHITE	Щ.		9 6	1 6	ı		Connec	Connector Color W	WHITE		_
A	L			2 /	Z HE	ı						
	1 2 3 4			- &) 	ı		THE RESERVE TO THE RE	8 2 8	8 9 10 11 12 13 14 15	15 16	
H.35	13 14 15 16	13 14 15 16 17 18 19 20 21 22 23 24		6	æ	1		Ų.]	
				10	ŋ	1						-
Terminal No.	Color of	Signal Name		11	В	ı		Terminal No.	I No. Color of Wire		Signal Name	
-	SHIELD	1		12	5	1		2	_		ı	_
2	8	1						e	_			
ო	<u>к</u>	1										7
4	G	1										
	A											
0	V	L M	K	J	I	G H	F	Е	D	С	В	Α

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Signal Name	1	ı	CONT 4	ı	ı	1	ı	SPEED SIGNAL	MIC POWER	ı	1	ı
Color of Wire	1	ı	В	ı	ı	ı	ı	W/R	₩.	ı	ı	ı
Terminal No. Wire	21	22	23	24	25	26	27	28	29	30	31	32

	ı —							
Signal Name	M-CAN1-H	M-CAN1-L	ı	ı	I	I	ı	Ι
Color of Wire	M/L	J//L	ı	ı	ı	ı	ı	Ι
Terminal No.	35	36	37	38	39	40	41	42

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





Signal Name	AUDIO OUT+	AUDIO OUT-	_	ı	ı	ı	ı	-	ı	ı	-	CONT 1
Color of Wire	В	н	_	ı	_	_	1	_	_	1	_	В
Terminal No.	6	10	11	12	13	14	15	16	17	18	19	20

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

30 32 29 31									
12 14 16 18 20 22 24 26 28 11 13 15 17 19 21 23 25 27	Signal Name	BATT	ACC	NÐI	GNĐ	_	MIC SHIELD	WIC IN+	INI JIM
4 6 8 10 3 5 7 9	Color of Wire	>	>	G/R	B/W	_	SHIELD	В	1/0
<u>رة</u>	Ferminal No. Color of Wire	-	2	3	4	5	9	7	0

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BOSE AUDIO SYSTEM - WITHOUT NAVIGATION SYSTEM

BOSE AUDIO STSTEM - V	VITTOUT NAVIGATION STOTEM
< WIRING DIAGRAM >	[BOSE AUDIO WITHOUT NAVIGATION]

		А
	Signal Name	В
	Color of Wire Wire W W W W W W W W W W W W W W W W W W W	С
	50A 50A 51A 52A 52A 53A 54A 57A 60A 60A 67A 66A 67A 67A 68A 69A 69A	D
		Е
		F
	Signal Name	G
	Color of Wire O/L W/L W/L W/L W/L W/L W/L W/L W/L W/L W	Н
	23A 4A 4A 18A 23A 24A 24A 24A 42A 42A 43A 44A 45A 46A 46A 47A 48A 49A	I
		J
		K
Signal Name	WIRE TO WIRE	L
S T T T T T T T T T T T T T T T T T T T	8149 WHITE SA 4A 3A 2A 1A 10A 9A 8A 7A 6A 21A 20A 13A 1AA 1AA 30A 28A 32A 2A 1AA 30A 28A 32A 32A 3AA 30A 28A 32A 3AA 3AA 4AA 4AA 3AA 3AA 3AA 3AA 3AA 3A	M
	No. Name No. Be state of the st	AV
Connector No. Connector Color H.S. Terminal No. W 33 B 34 E	Connector Name Connector Color H.S.	0
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AV-251 Revision: August 2013 2014 Armada NAM

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







Signal Name								
Color of Wire								
Terminal No. Wire	8	10	11	12	13	14	15	16

B217	WIRE TO WIRE	11	3 4 5 6 7 8 11 12 13 14 15 16	f Signal Name						
		lor W	9 10	Color of Wire						
Connector No.	Connector Name	Connector Color WHITE	原 H.S.	Terminal No.	2	က	4	5	9	7

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

	WIRE TO WIRE	111		6 7 8 9 10 11 12 18 19 20 21 22 23 24	18 19 20 21 22 23	Signal Name									
. B304		lor WHIT	Ш	2 3 4 5 14 15 16 17		Color of Wire									
Connector No.	Connector Name	Connector Color WHITE	E E	H.S.		Terminal No.	1	2	3	4	5	9	7	8	6

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BOSE AUDIO SYSTEM - WITHOUT NAVIGATION SYSTEM [BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

tor No. R2	Connector No.	R9			Connector No.). R107		
<u>e</u> ,	Connector Name WIRE TO WIRE	ame WIRE	TO WIRE		Connector Name WIRE TO WIRE	ime WIRE T	E TO WIRE	
1			ш	_			ш	7
1 2 3 10 4 5 6 7 8 9 10 11 12	可 H.S.	3 2 1 8 7 6 5 4	2 2 1 4 4		明S.H.S.	4 5 6 7	6 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	
		4 1				1		Г
I No. Wire Signal Name	Terminal No.	Color of Wire	Signal Name		Terminal No.	Color of Wire	Signal Name	
R/W – (WITHOUT NAVI)	1	B/L	- (WITHOUT NAVI)		-	R/L	1	
R/L –	2	B/W	- (WITHOUT NAVI)		2	B/W	I	
SHIELD -	4	В	1		4	В	1	
tor No. R109	Connector No.	o. D2			Connector No.). D12		
-	Connector Name		WIRE TO WIRE	T 1	Connector Na	me FROM	Connector Name FRONT DOOR SPEAKER LH	玉
tor Color WHITE	Connector Color	olor WHITE			Connector Color	MAILE	ш	\neg
1 2 3 4	E C	1 2 3 8 9 10 11	1 2 3		是 H.S.		2	
						Ш		
Color of Signal Name Signal Name	Terminal No.	Color of Wire	Signal Name		Terminal No.	Color of Wire	Signal Name	
B – (WITHOUT NAVI)	10	L/R	1		-	N/l	ı	
B/L – (WITHOUT NAVI)	11	M	1		2	5	ı	
K L M	J	Н	G	F	D E		В	Α

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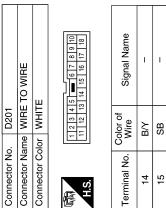
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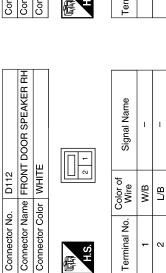
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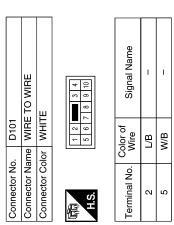
Revision: August 2013 AV-253 2014 Armada NAM

BOSE AUDIO SYSTEM - WITHOUT NAVIGATION SYSTEM [BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >







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	WIRE TO WIRE	ш	6 7 8 9 10	Signal Name	1	I
. D301	me WIRE	lor WHITE	11 12 3 4 5	Color of Wire	R/L	O/L
Connector No.	Connector Name	Connector Color	雨 H.S.	Terminal No.	14	15

Connector No.). D208	
Connector Name		REAR DOOR TWEETER LH
Connector Color	olor BROWN	N
南 H.S.		1
Terminal No.	Color of Wire	Signal Name
-	SB	I
٥	β/Y	ı

	I		ı			_	
	REAR DOOR SPEAKER LH (WITH BOSE AUDIO SYSTEM)	NN			Signal Name	ı	-
D207		or BROWN		2	Color of Wire	SB	В/Υ
Connector No.	Connector Name	Connector Color		H.S.	Terminal No.	-	2

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Revision: August 2013 AV-254 2014 Armada NAM

BOSE AUDIO SYSTEM - WITHOUT NAVIGATION SYSTEM [BOSE AUDIO WITHOUT NAVIGATION]

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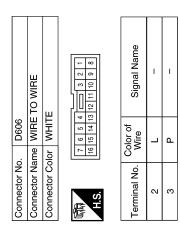
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< WIRING DIAGRAM >

Connector No. D401 Connector Name WIRE TO WIRE Connector Color WHITE Till 2 4 5 6 7 8 9 10 Till 2 13 14 15 16 17 18	Terminal No. Wire Signal Name 1 W 2 SHIELD 3 B 11 R 12 G 14 B	Connector No. D504 Connector Name REAR VIEW CAMERA Connector Color WHITE	Terminal No. Wire Signal Name 1 B
Connector No. D308 Connector Name REAR DOOR TWEETER RH Connector Color BROWN	Terminal No. Color of Signal Name 1 O/L - 2 R/L -	Connector No. D501 Connector Name WIRE TO WIRE Connector Color WHITE Image: A state of the stat	Terminal No. Wire Signal Name 1 W
Connector No. D307 Connector Name (WITH BOSE AUDIO SYSTEM) Connector Color BROWN	Terminal No. Color of Wire Signal Name 1 O/L - 2 R/L -	Connector No. D405 Connector Name WIRE TO WIRE Connector Color WHITE Image: All the color of the	Terminal No. Wire Signal Name 1 W - 2 B - 3 B - 4 R - 11 R - 12 G - 13 SHIELD -

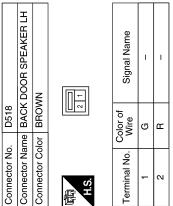
Revision: August 2013 AV-255 2014 Armada NAM

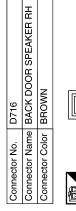
BOSE AUDIO SYSTEM - WITHOUT NAVIGATION SYSTEM [BOSE AUDIO WITHOUT NAVIGATION] < WIRING DIAGRAM >

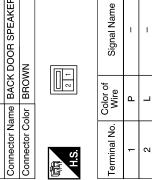


nnector No.	D602
nnector Name	nnector Name WIRE TO WIRE
nnector Color WHITE	WHITE
7 1.S.	7 6 5 4 5 1 5 1 1 10 9 8

	WIRE TO WIRE	ш	12 11 10 9 8 8	Signal Name	ı	1
D602	e e	or WHITI	7 6 5 4 16 15 14 13	Color of Wire	Ь	7
Connector No.	Connector Name	Connector Color WHITE	雨 H.S.	Terminal No.	2	က







Connector No.). D701	
Connector Name WIRE TO WIRE	ame WIRE	TO WIRE
Connector Color WHITE	olor WHIT	Е
H.S.	8 9 10 11	2 3 mm 4 5 6 7 9 10 11 12 13 14 15 16
Terminal No.	Color of Wire	Signal Name
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AV-256 Revision: August 2013 2014 Armada NAM

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

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".

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[BOSE AUDIO WITHOUT NAVIGATION]

Symptoms	Check items	Probable malfunction location
	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".
No sound comes out or the level of the sound is low.	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 tweeter RH, toor 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-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" (rear door speaker). AV-182, "Diagnosis Procedure" (rear door speaker). AV-185, "Diagnosis Procedure" (back door speaker). AV-188, "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" (rear door speaker). AV-274, "Removal and Installation" (rear door speaker). AV-274, "Removal and Installation" (rear door speaker). AV-275, "Removal and Installation" (rear 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".

[BOSE AUDIO WITHOUT NAVIGATION]

Symptoms	Check items	Probable malfunction location
	Noise comes out from all speakers.	 Malfunction in AV control unit. Refer to <u>AV-136, "AV CONTROL UNIT : Diagnosis Description"</u>. Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to <u>AV-278, "Removal and Installation"</u>.
Noise is mixed with audio.	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front tweeter RH, center speaker, rear door speaker LH, rear door speaker RH, rear door tweeter RH, back door speaker LH, 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-179. "Diagnosis Procedure" (center speaker) AV-182. "Diagnosis Procedure" (rear door tweeter) 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-176, "Diagnosis Procedure" (center speaker) AV-185. "Diagnosis Procedure" (rear door speaker) AV-185. "Diagnosis Procedure" (rear door speaker) AV-185. "Diagnosis Procedure" (back door speaker) AV-188. "Diagnosis Procedure" (subwoofer) AV-188. "Diagnosis Procedure" (subwoofer) AV-191. "Diagnosis Procedure" (subwoofer) AV-191. "Diagnosis Procedure" (center speaker) AV-271. "Removal and Installation" (front door speaker) AV-271. "Removal and Installation" (front door speaker) AV-271. "Removal and Installation" (center speaker) AV-272. "Removal and Installation" (center speaker) AV-274. "Removal and Installation" (center speaker) AV-275. "Removal and Installation" (subwoofer) AV-275. "Removal and Installation" (back door speaker) AV-275. "Removal and Installation" (subwoofer) AV-275. "Removal and Installation" (subwoofer) AV-275. "Removal and Installation" (subwoofer) AV-276. "Re
	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".

[BOSE AUDIO WITHOUT NAVIGATION]

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 <u>AV-209</u>, "<u>Reference Value</u>". Poor connector connection of antenna or antenna feeder. Refer to <u>AV-279</u>, "<u>Location of Antennas</u>".
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 <u>AV-143, "AV CONTROL UNIT : CONSULT Function"</u>. Poor continuity in antenna feeder. Poor connector connection of antenna or antenna feeder. Refer to <u>AV-279, "Location of Antennas"</u>.
	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 <u>AV-279</u>, "<u>Location of Antennas</u>".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

- Make sure the customer's Bluetooth[®] related concern is understood.
- 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/".
- 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.

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

Symptoms	Check items	Probable malfunction location	
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.		
Hands-free phone cannot be established.	 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. 	Malfunction in Bluetooth [®] control unit. Replace Bluetooth [®] control unit. Refer to AV-287. "Removal and Installation".	
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	Sound operation function is normal.		
the other party with hands-free phone communication.	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 □+ , □- , and switch works, but 反 does not work. 	Steering switch malfunction. Replace steering switch. Refer to AV-277, "Removal and Installation".	
	Steering switch's vs. (+, v1-, 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".	

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NORMAL OPERATING CONDITION

NORMAL OPERATING CONDITION

Description INFOID:000000009820957

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 malfunctionOpen circuit in printed heaterPoor 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.	

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

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

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PRECAUTION

PRECAUTIONS

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

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 SYS-TEM).
- 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.
- Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
- 4. Perform the necessary repair operation.

PRECAUTIONS

< PRECAUTION >

[BOSE AUDIO WITHOUT NAVIGATION]

- 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.)
- Perform a self-diagnosis check of all control units using CONSULT.

Precaution for Harness Repair

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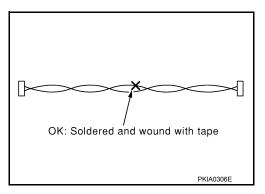
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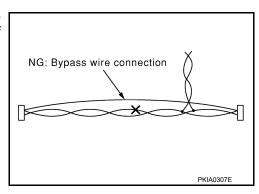
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AV COMMUNICATION SYSTEM

 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:000000009820960

- 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
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

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Revision: August 2013 AV-265 2014 Armada NAM

PREPARATION

< PREPARATION >

[BOSE AUDIO WITHOUT NAVIGATION]

PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000010159190

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

Commercial Service Tools

INFOID:0000000009820962

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

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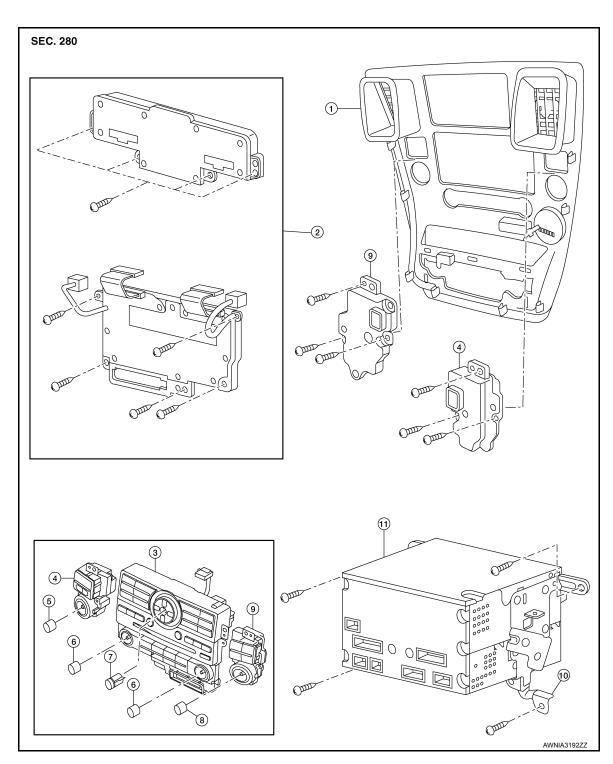
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REMOVAL AND INSTALLATION

AV CONTROL UNIT

Removal and Installation



- Cluster lid C
- 4. Volume knob switch
- 7. Enter button
- 10. AV control unit bracket
- 2. A/C and AV switch assembly (rear view) 3.
- 5. Volume knob
- 8. Tuner knob
- 11. AV control unit

- A/C and AV switch assembly (front view)
- 6. Temp knobs (LH/RH)
- 9. Tuner knob switch

AV CONTROL UNIT

[BOSE AUDIO WITHOUT NAVIGATION]

< REMOVAL AND INSTALLATION >

REMOVAL

CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to AV-123, "CONFIGURATION (AV CONTROL UNIT): Description".

- Remove cluster lid C. Refer to <u>IP-15</u>, "Removal and Installation".
- 2. Remove the AV control unit screws.
- 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 <u>AV-123, "CONFIGURA-TION (AV CONTROL UNIT)</u>: <u>Description"</u>.

AV AND A/C SWITCH ASSEMBLY

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

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.

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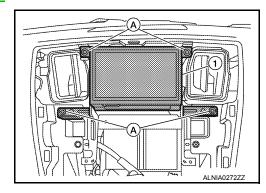
DISPLAY UNIT

Removal and Installation

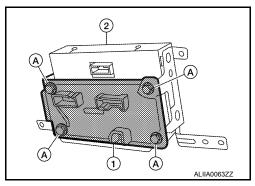
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REMOVAL

- 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

FRONT TWEETER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

FRONT TWEETER

Removal and Installation

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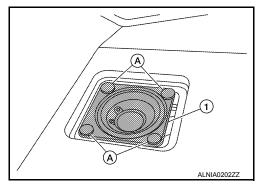
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REMOVAL

- 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.

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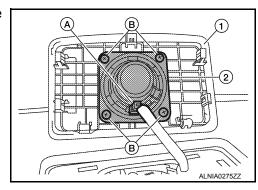
CENTER SPEAKER

Removal and Installation

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REMOVAL

- 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

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

FRONT DOOR SPEAKER

Removal and Installation

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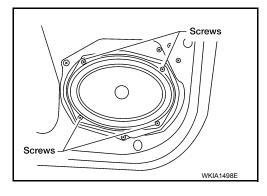
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REMOVAL

- 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.

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REAR DOOR SPEAKER

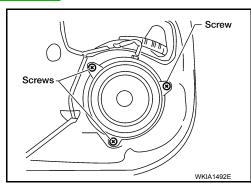
Removal and Installation

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.



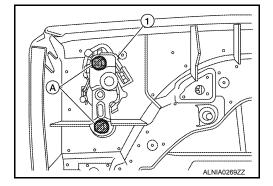
Installation

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

BACK DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

BACK DOOR SPEAKER

Removal and Installation

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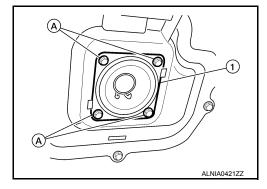
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REMOVAL

- 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.

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[BOSE AUDIO WITHOUT NAVIGATION]

WOOFER

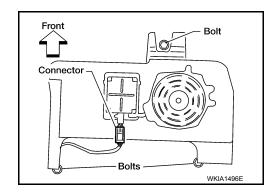
Removal and Installation

INFOID:0000000009820971

SUBWOOFER (BOSE SYSTEM)

Removal

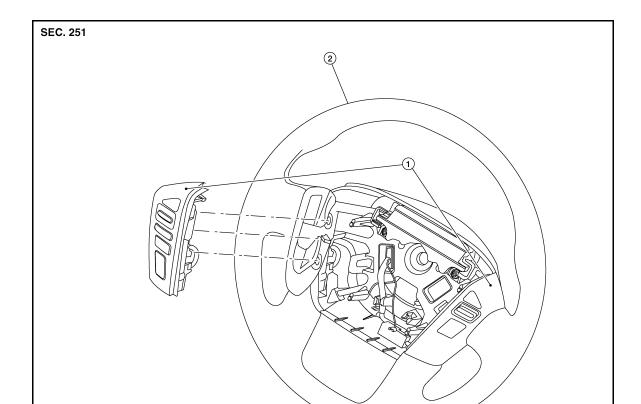
- 1. Remove the front seat assembly (LH). Refer to SE-63, "Removal and Installation Front Seat Assembly".
- 2. Disconnect the harness connector from the subwoofer.
- 3. Remove the subwoofer bolts.
- 4. Remove the subwoofer.



Installation

STEERING SWITCH

Removal and Installation



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.

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[BOSE AUDIO WITHOUT NAVIGATION]

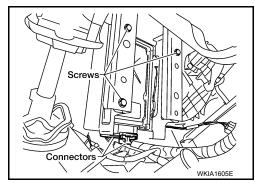
BOSE AMP.

Removal and Installation

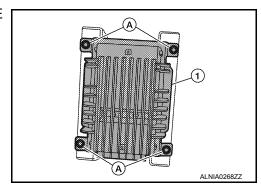
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REMOVAL

- 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.



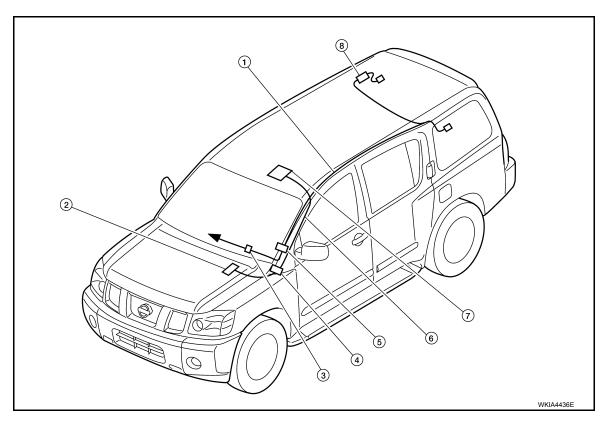
4. Remove the BOSE amp. screws (A) and separate the BOSE amp. (1) from the bracket.



INSTALLATION

AUDIO ANTENNA

Location of Antennas



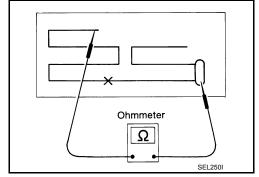
- 1. Antenna Feeder
- 4. M68, M350
- Satellite antenna (if equipped, factory installed) 8. M351
- ← To AV control unit

- 2. Satellite radio tuner M129
- 5. M551, M601
- Antenna amp M602
- 3. M78, M550
- 6. Satellite antenna feeder

Window Antenna Repair

ELEMENT CHECK

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



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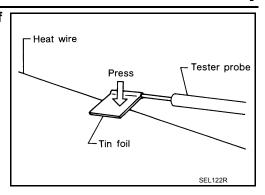
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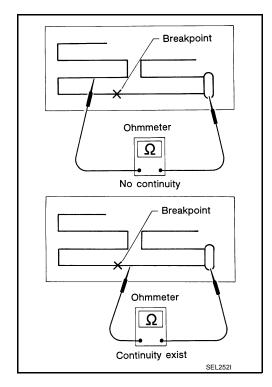
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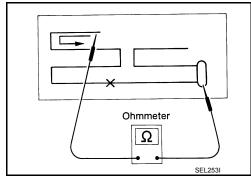
• When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



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 >

[BOSE AUDIO WITHOUT NAVIGATION]

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.

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USB CONNECTOR

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

USB CONNECTOR

Removal and Installation

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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

ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

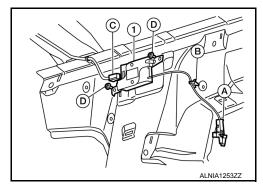
ANTENNA AMP.

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.

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SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

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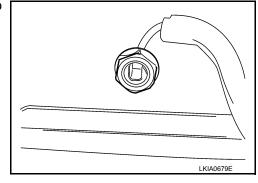
SATELLITE RADIO ANTENNA

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

SATELLITE RADIO TUNER

< REMOVAL AND INSTALLATION >

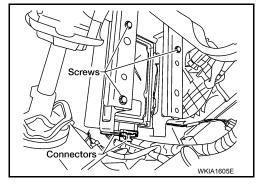
[BOSE AUDIO WITHOUT NAVIGATION]

SATELLITE RADIO TUNER

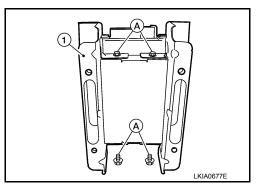
Removal and Installation

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.

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[BOSE AUDIO WITHOUT NAVIGATION]

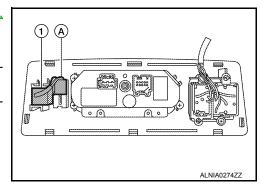
MICROPHONE

Removal and Installation

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REMOVAL

- 1. Remove the front roof console finisher. Refer to <u>INT-21</u>, <u>"Removal and Installation"</u>.
- 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

BLUETOOTH CONTROL UNIT

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

BLUETOOTH CONTROL UNIT

Removal and Installation

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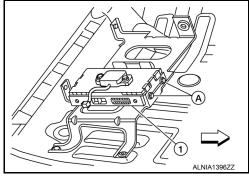
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REMOVAL

- 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.

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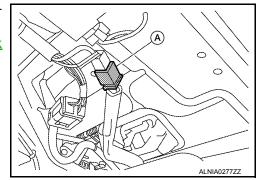
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REAR VIEW CAMERA

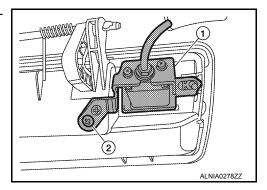
Removal and Installation

REMOVAL

- 1. Remove the back door lower finisher. Refer to INT-26, "Removal and Installation".
- Disconnect the harness connector (A) from the rear view camera.
- 3. Remove the back door handle. Refer to <u>DLK-399</u>, "<u>Door Lock Assembly</u>".



4. Remove the rear view camera screw (2) and the rear view camera (1).



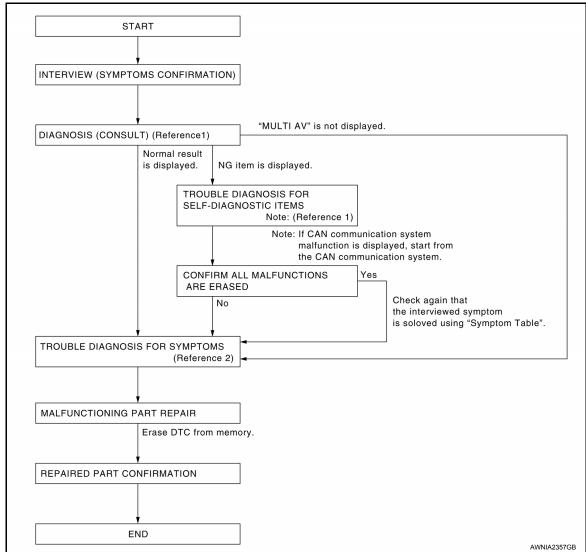
INSTALLATION

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)

- Connect CONSULT and perform "SELF-DIAGNOSIS" for "MULTI AV".
 - Skip to step 4 of the diagnosis procedure if "MULTI AV" is not displayed.
- Check if any DTC No. is displayed in the self-diagnosis results.

AV-289 Revision: August 2013 2014 Armada NAM

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[BOSE AUDIO WITH NAVIGATION]

Is any DTC No. displayed?

YES >> GO TO 3.

NO >> GO TO 4.

${f 3.}$ CHECK SELF-DIAGNOSIS RESULTS (CONSULT)

- 1. Check the DTC No. indicated in the self-diagnosis results.
- Perform the relevant diagnosis referring to the DTC No. list. Refer to <u>AV-394, "DTC Index"</u>.

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 <u>AV-429, "Symptom Table"</u>.

>> 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

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

Is any DTC No. displayed?

YES >> GO TO 3.

NO >> GO TO 7.

7. FINAL CHECK

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

Are any symptoms present?

YES >> GO TO 4.

NO >> Inspection End.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BOSE AUDIO WITH NAVIGATION]

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.

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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.

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>> GO TO 2.

2.REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to AV-448, "Removal and Installation".

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>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

(P)CONSULT

1. Enter "Re/Programming, Configuration".

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- 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".

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>> 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)

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INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BOSE AUDIO WITH NAVIGATION]

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

(P)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"

(P)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.

${f 3.}$ PERFORM "AFTER REPLACE ECU" OR "MANUAL CONFIGURATION"

(P)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.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BOSE AUDIO WITH NAVIGATION]

>> 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				

 \Leftrightarrow : Items which confirm vehicle specifications

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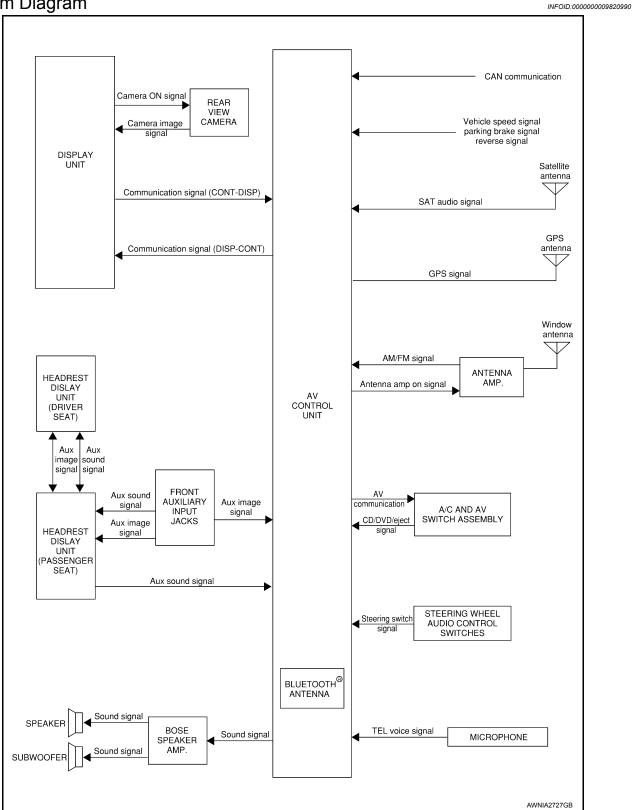
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SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram



System Description

INFOID:0000000009820991

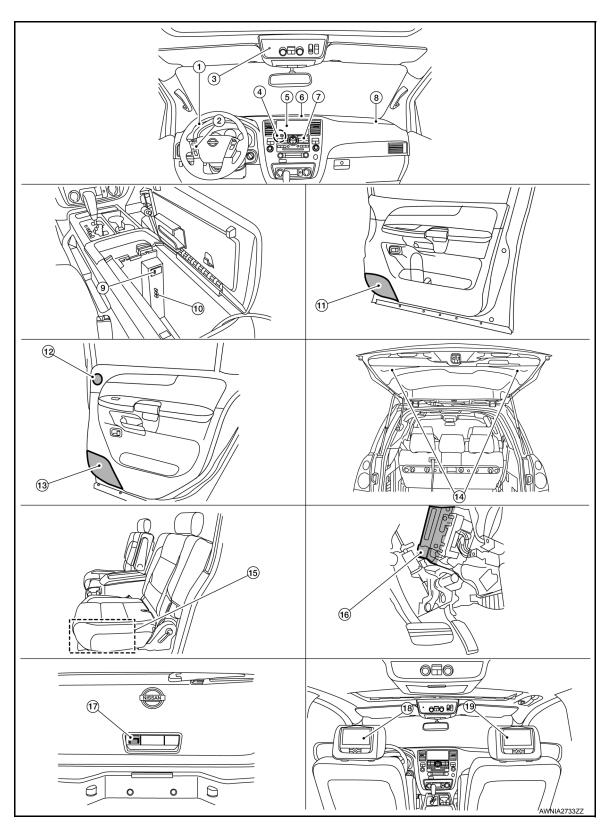
AUDIO SYSTEM

AUDIO 3131EW		
< SYSTEM DESCRIPTION >	[BOSE AUDIO WITH NAVIGATION]	
The audio system consists of the following components		
AV control unit Display unit		Α
Display unitBOSE speaker amp.		
Window antenna		Ь
Steering wheel audio control switches		В
A/C and AV switch assemblyFront door speakers		
Front tweeters		С
Center speaker		
Rear door speakers		
Rear door tweetersBack door speakers		D
Subwoofer		
When the audio system is on, radio signals are received by the wi sends audio signals to the BOSE speaker amp. The BOSE speaker sending them to the front door speakers, front tweeters, center spea ers, back door speakers and the subwoofer.	r amp. amplifies the audio signals before	Е
Refer to Owner's Manual for audio system operating instructions.		F
SATELLITE RADIO SYSTEM		
The satellite radio system consists of the following components		
Satellite antenna AV control unit		G
 AV control unit When the satellite radio system is on, radio signals are supplied antenna. The AV control unit then sends audio signals to the BOSE seefer to Owner's Manual for satellite radio system operating instructions. 	speaker amp.	Н
SPEED SENSITIVE VOLUME SYSTEM		
Volume level of this system goes up and down automatically in prolevel can be selected by the customer. Refer to Owner's Manual for our		
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Component Parts Location

INFOID:0000000009820992



- 1. Front tweeter LH M109
- 4. AV control unit M97, M125, M161, M162, M163, M165, M167
- 7. A/C and AV switch assembly M98
- 2. Steering wheel audio control switches
- 5. Display unit M168
- 8. Front tweeter RH M111
- 3. Microphone R109
- 6. Center speaker M110
- 9. USB interface M214

AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

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

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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 operatedSteering 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.				

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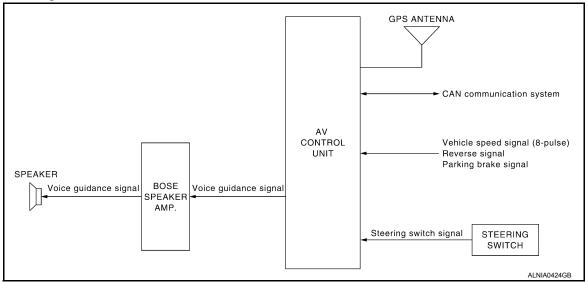
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Revision: August 2013 AV-297 2014 Armada NAM

NAVIGATION SYSTEM

System Diagram

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System Description

INFOID:0000000009820995

NOTE:

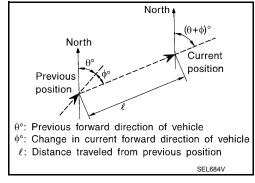
Refer to NAVI System Owner's Manual for system operation.

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.

Туре	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.

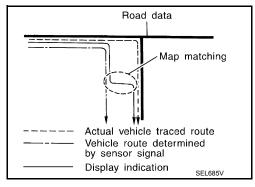
If there is an error in distance and/or direction, the alternative routes will be shown in different order of priority, and the wrong road can be avoided.

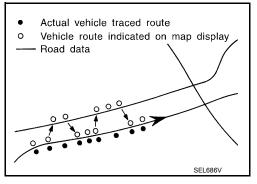
If two roads are running in parallel, they are of the same priority. Therefore, the current-location mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.

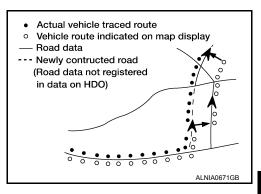
- Map-matching does not function correctly when the road on which the vehicle is driving is new and not recorded on the HDD, or when the road pattern stored in the map data and the actual road pattern are different due to repair.
 - When driving on a road not present in the map, the map-matching function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

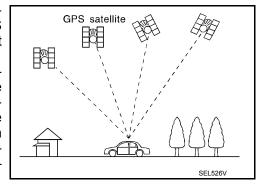
GPS (GLOBAL POSITIONING SYSTEM)

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).









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2014 Armada NAM

NAVIGATION SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

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

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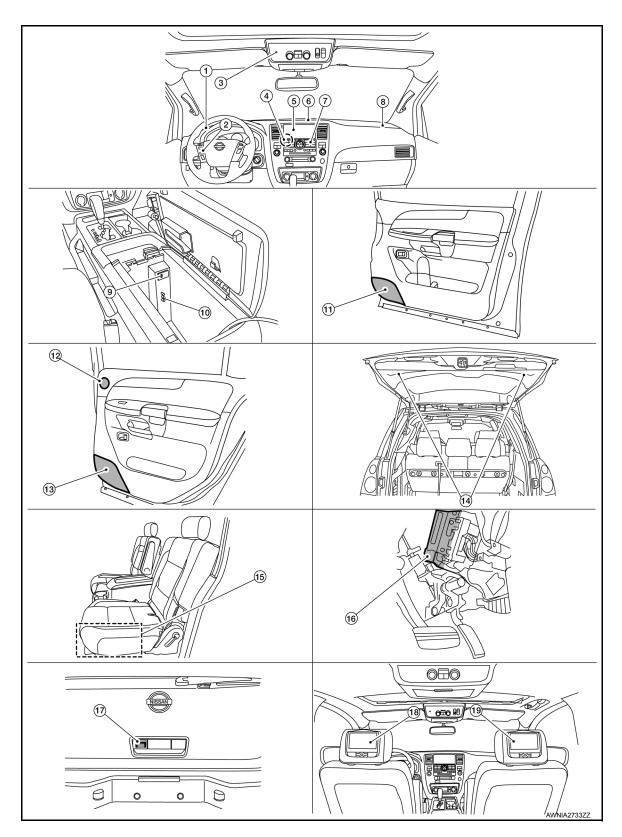
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- 1. Front tweeter LH M109
- 4. AV control unit M97, M125, M161, M162, M163, M165, M167
- 7. A/C and AV switch assembly M98
- 2. Steering wheel audio control switches 3.
- 5. Display unit M168
- 8. Front tweeter RH M111
- 3. Microphone R109
- 6. Center speaker M110
- 9. USB interface M214

NAVIGATION SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

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: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

[BOSE AUDIO WITH NAVIGATION]

REAR VIEW MONITOR SYSTEM

System Diagram

PREVERSE SIGNAL

AV COMMUNICATION

Camera ON Signal

Camera image signal

REAR VIEW

CAMERA

AWNIA2278GB

System Description

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.

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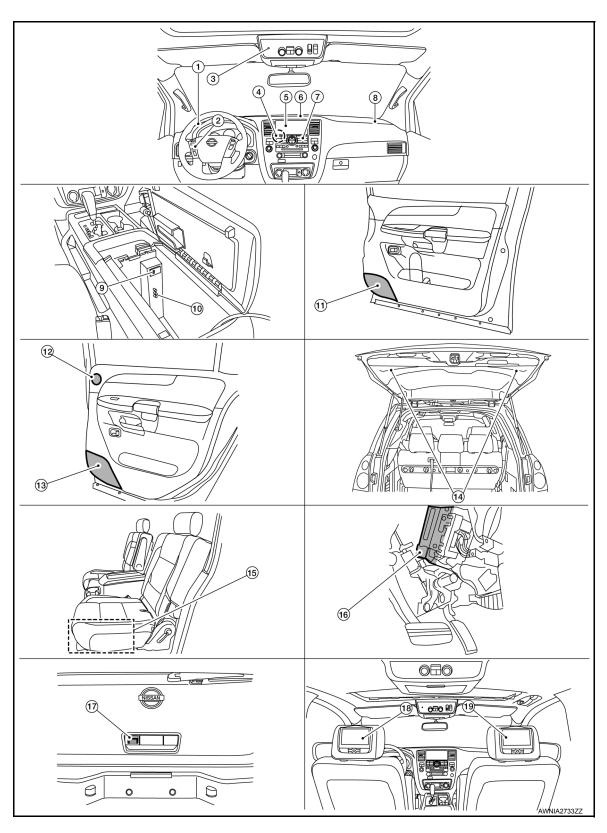
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Component Parts Location

INFOID:0000000009821000



- 1. Front tweeter LH M109
- 4. AV control unit M97, M125, M161, M162, M163, M165, M167
- 7. A/C and AV switch assembly M98
- 2. Steering wheel audio control switches 3.
- 5. Display unit M168
- 8. Front tweeter RH M111
- 3. Microphone R109
- 6. Center speaker M110
- 9. USB interface M214

REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

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				

Part name	Description			
AV control unit	Receives reverse signal from back-up lamp relayCamera 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			

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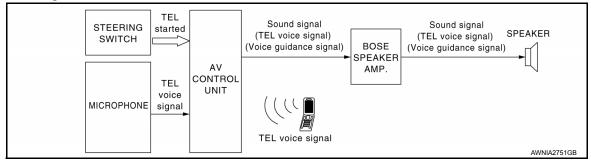
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HANDS-FREE PHONE SYSTEM

System Diagram

INFOID:0000000009821002



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 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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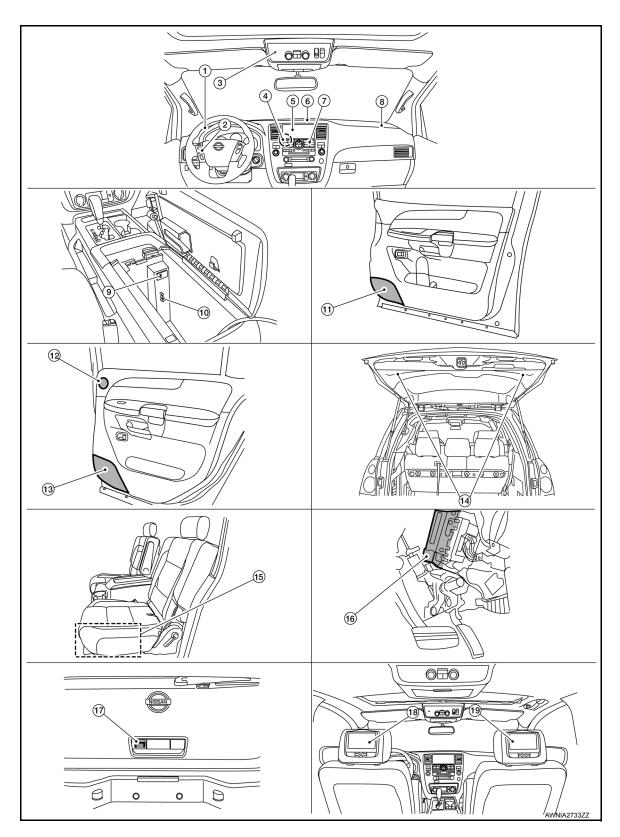
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- 1. Front tweeter LH M109
- 4. AV control unit M97, M125, M161, M162, M163, M165, M167
- 7. A/C and AV switch assembly M98
- 2. Steering wheel audio control switches 3.
- 5. Display unit M168
- 8. Front tweeter RH M111
- 3. Microphone R109
- 6. Center speaker M110
- 9. USB interface M214

HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

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: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			
Front tweeter	Receives telephone voice and voice guidance signals from the AV control unit through the BOSE speaker amp.		
Center speaker	anough the Deed speaker simp.		
Steering wheel audio control switches	Start a voice recognition sessionAnswer and end telephone callsAdjust the volume level		
Microphone	Sends voice signals to AV control unit		

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

DIAGNOSIS SYSTEM (AV CONTROL UNIT) AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Description

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DESCRIPTION

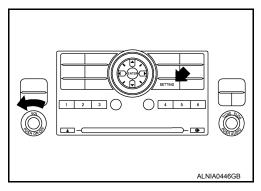
- Diagnosis function consists of the "Self-Diagnosis" mode performed automatically and the "Confirmation/ Adjustment" mode operated manually.
- "Self-Diagnosis" mode checks for connections between the units constituting this system, analyzes each individual unit at the same time, and displays the results 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

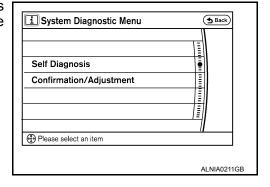
Mode			Description
Self-diagnosis			 AV control unit diagnosis. Analyzes connection between the AV control unit, front display, switches, DVD deck, GPS antenna and SAT antenna.
	_	Color spectrum bar	Color tone of the screen can be checked by the display of a color bar.
		Gradation bar	Shading of the screen can be checked by the display of a gray scale.
	Display diagnosis	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.
		Steering angle adjustment	Confirm/adjust the steering angle when there is a difference between the displayed vehicle mark turning angle and actual.
	Navigation	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.
CONFIRMATION/	Error history		Diagnosis results previously stored in the memory are displayed in this mode.
ADJUSTMENT	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 applica- tion 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.



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

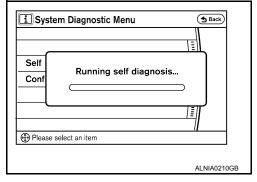


SELF-DIAGNOSIS

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

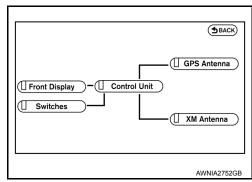
NOTE:

Self-diagnosis requires approximately 10 seconds to complete.



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.

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

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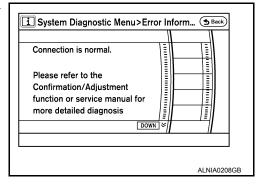
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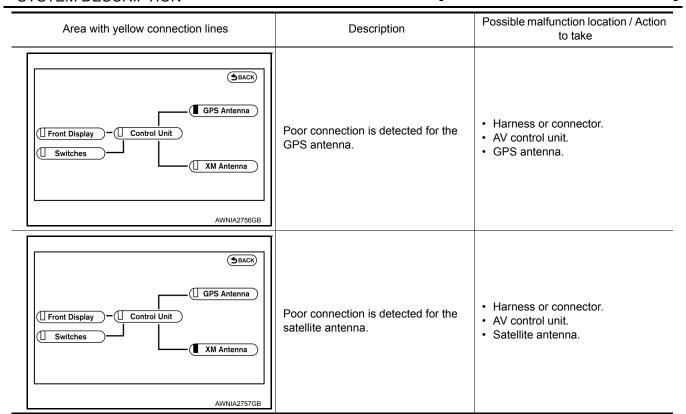
Select a component on the "Self-Diagnosis" screen and comments for the diagnosis results will be shown.



Self-Diagnosis Results

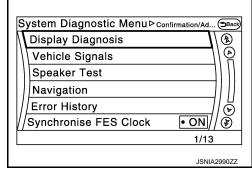
Area with yellow connection lines	Description	Possible malfunction location / Action to take
GPS Antenna GPS Antenna Switches XM Antenna AWNIA2753GB	AV control unit malfunction is detected.	Replace the AV control unit. Refer to AV-448. "Removal and Installation".
GPS Antenna GPS Antenna WNIA2754GB	Poor connection is detected for the display unit.	 Harness or connector. AV control unit. Display unit.
GPS Antenna GPS Antenna WNIA2755GB	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".

[BOSE AUDIO WITH NAVIGATION]



CONFIRMATION/ADJUSTMENT MODE

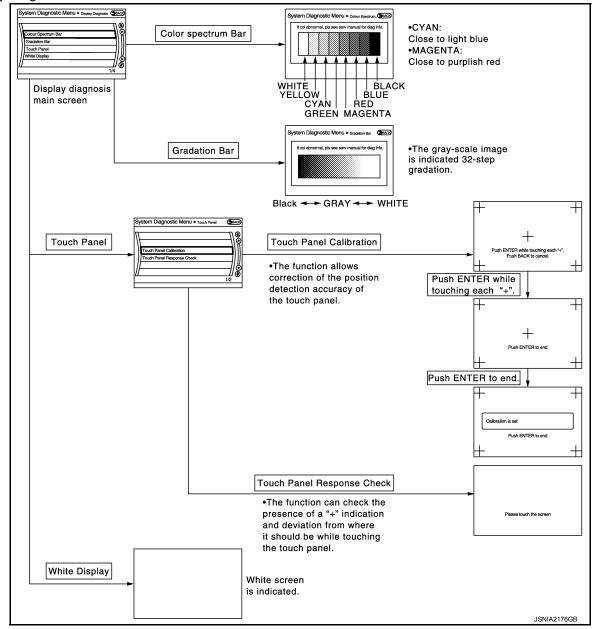
- Start the diagnosis function and select "Confirmation/Adjustment". The confirmation/adjustment mode indicates where each item can be checked or adjusted.
- Select each item on the "Confirmation/Adjustment" mode screen to display the relevant trouble diagnosis screen. Touch "BACK" on the display or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



< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

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

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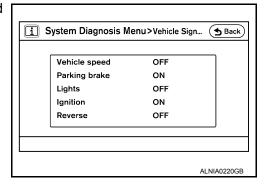
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[BOSE AUDIO WITH NAVIGATION]

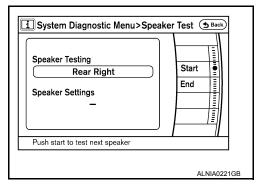
A comparison check can be made of each actual vehicle signal and the signals recognized by the system.



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

Speaker Test

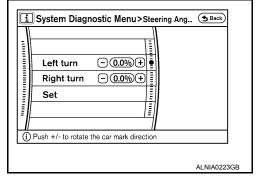
Select "Speaker Test" to display the speaker diagnosis screen. Press "Start" to generate a test tone in speakers. Touch "End" to stop the test tones.



Navigation

STEERING ANGLE ADJUSTMENT

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

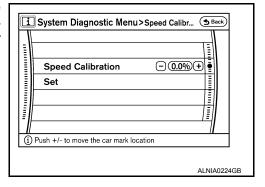


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[BOSE AUDIO WITH NAVIGATION]

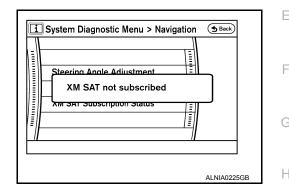
SPEED CALIBRATION

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 occur- rence 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

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[BOSE AUDIO WITH NAVIGATION]

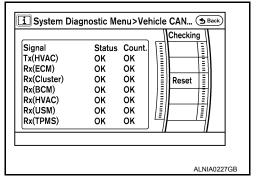
Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT	CAN communication malfunction is detected.	Perform diagnosis with CONSULT, and then repair the malfunctioning parts according to the diagnosis results. Refer to AV-318, "AV CONTROL UNIT: CONSULT Function".
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	
FLASH-ROM Error Of Control Unit		
Connection Of Gyro		
XM SERIAL COMM Error		
CAN Controller Memory Error		Deplete the AV control unit Defer to AV
Bluetooth® Module Connection Error		Replace the AV control unit. Refer to AV-448. "Removal and Installation".
HDD CONN Error		
HDD READ Error		
HDD WRITE Error	AV control unit malfunction is detected.	
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		An intermittent error caused by strong radio
GPS ROM Error		interference may be detected unless any symptoms (GPS reception error, etc.) occur.
GPS RAM Error	GPS malfunction is detected.	
GPS RTC Error		Replace the AV control unit if the malfunction occurs constantly. Refer to AV-448, "Removal and Installation".
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

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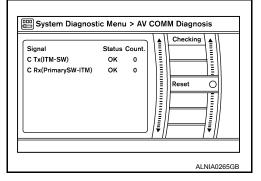
[BOSE AUDIO WITH NAVIGATION]

- 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.



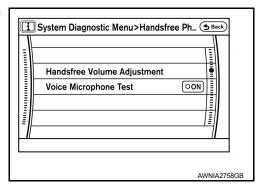
AV COMM Diagnosis

- · 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.



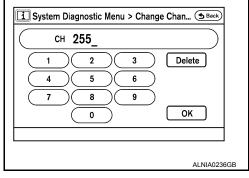
Hands-free Phone

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.



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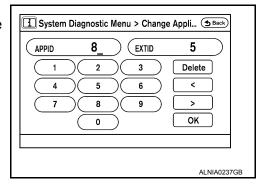
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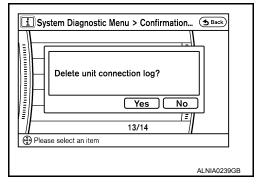
[BOSE AUDIO WITH NAVIGATION]

- Change Application ID
- Any application ID's required to receive traffic information from the satellite radio system can be set.

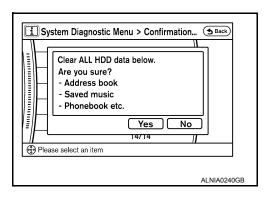


Delete Unit Connection Log

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

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

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	
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected	
Control Unit FLASH-ROM [U1200]		
Gyro NO CONN [U1201]		
CAN CONT [U1216]		
BLUETOOTH CONN [U1217]		
HDD CONN [U1218]		Replace the AV control unit
HDD READ [U1219]		
XM SERIAL COMM [U1220]	AV control unit malfunction is detected	
HDD WRITE [U121A]	dominion and management to detected	
HDD COMM [U121B]		
HDD ACCESS [U121C]		
DSP CONN [U121D]		
OSP COMM [U121E]		
NTERNAL COMM [U121F]		AV control unit power supply and ground circuit
GPS COMM [U1204]		An intermittent error caused by strong radio
GPS ROM [U1205]	000 11 11 11 11 11	interference may be detected unless any symptoms (GPS reception error, etc.) oc-
GPS RAM [U1206]	GPS malfunction is detected	cur.
GPS RTC [U1207]		Replace the AV control unit if the malfunction occurs constantly.
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

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Display item [unit]	ALL SIGNALS	SELECTION FROM MENU	Description
VHCL SPD SIG [ON/OFF]	х	х	Displays "ON" when vehicle speed > 0 km/h. Displays "OFF" when vehicle speed = 0 km/h.
PKB SIG [ON/OFF]	Х	Х	Displays [ON/OFF] condition of parking brake switch.
ILLUM SIG [ON/OFF]	Х	Х	Displays [ON/OFF] condition of lighting switch.
IGN SIG [ON/OFF]	Х	Х	Displays [ON/OFF] condition of ignition switch.
REV SIG [ON/OFF]	Х	Х	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

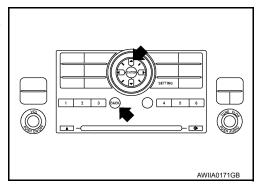
A/C and AV switch assembly self-diagnosis function

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.



Finishing self-diagnosis mode

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

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

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

DTC DETECTION LOGIC

DTC	Display contents of CON- SULT	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

1.PERFORM SELF DIAGNOSTIC

- 1. Turn ignition switch ON and wait for 2 seconds or more.
- 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".

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U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

U1010 CONTROL UNIT (CAN)

Description INFOID:000000009821012

Initial diagnosis of AV control unit.

DTC Logic

DTC DETECTION LOGIC

DTC	Display contents of CON-SULT 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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

U1200 AV CONTROL UNIT

Description INFOID:000000009821015

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

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".

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U1201 AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U1201 AV CONTROL UNIT

Description INFOID:000000009821017

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

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

[BOSE AUDIO WITH NAVIGATION]

U1204 GPS COMM

Description INFOID:000000000821019

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

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".

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[BOSE AUDIO WITH NAVIGATION]

U1205 GPS ROM

Description INFOID:000000009821021

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

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

[BOSE AUDIO WITH NAVIGATION]

U1206 GPS RAM

Description INFOID:000000000821023

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

DTC DETECTION LOGIC

DTC	CONSULT display	Detection condition	Action to take	Н
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".	ı

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[BOSE AUDIO WITH NAVIGATION]

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

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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

U1216 AV CONTROL UNIT

Description INFOID:000000009821027

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

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".

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U1217 AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U1217 AV CONTROL UNIT

Description INFOID:000000009821029

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

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

[BOSE AUDIO WITH NAVIGATION]

U1218 AV CONTROL UNIT

Description INFOID:000000000821031

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

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".

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U1219 AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U1219 AV CONTROL UNIT

Description INFOID:000000009821033

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

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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

U121A AV CONTROL UNIT

Description INFOID:000000009821035

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

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".

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U121B AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U121B AV CONTROL UNIT

Description INFOID:000000009821037

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

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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

U121C AV CONTROL UNIT

Description INFOID:000000009821039

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

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".

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U121D AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U121D AV CONTROL UNIT

Description INFOID:000000009821041

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

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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

U121E AV CONTROL UNIT

Description INFOID:000000009821043

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

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".

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U121F AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

U121F AV CONTROL UNIT

Description INFOID:000000009821045

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

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 <u>AV-346, "AV CONTROL UNIT : Diagnosis Procedure"</u>.

Is inspection result OK?

YES >> Inspection End.

NO >> Repair malfunctioning parts.

U1220 AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U1220 AV CONTROL UNIT

Description INFOID:000000000821048

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

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".

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U1243 DISPLAY UNIT

Description INFOID:000000009821050

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

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 <u>AV-347, "DISPLAY UNIT : Diagnosis Procedure"</u>. <u>Is inspection result OK?</u>

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

2.check continuity communication circuit

- Turn ignition switch OFF.
- Disconnect display unit connector M168 and AV control unit connector M165.
- 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	Continuity
M168	10	M165	Yes	
	9	WITOS	77	res

Check continuity between display unit harness connector M168 and ground.

Display unit			Continuity	
Connector	Terminal	_	Continuity	
M168	10	Ground	No	
	9	Giodila	INO	

Are continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

U1243 DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

3. CHECK COMMUNICATION SIGNAL

- 1. Connect display unit connector M168 and AV control unit connector M165.
- 2. Turn ignition switch ON.
- Check signal between display unit harness connector M168 terminal 10 and ground.

Connector	Terminals		Reference Signal
	(+)	(-)	Reference Signal
M168	10	Ground	(V) 6 4 2 0 +-1ms 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		Deference Signal	Н
	(+)	(-)	Reference Signal	
M168	9	Ground	(V) 6 4 2 0	J
			PKIB5039J	1/

Are voltage readings as specified?

YES >> Inspection End.

NO

>> Replace display unit. Refer to AV-451, "Removal and Installation".

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INFOID:0000000009821055

U1244 GPS ANTENNA

Description INFOID:000000009821053

Part Name	Description
GPS ANTENNA	GPS signal is detected and transmitted to the AV control unit.

DTC Logic

DTC DETECTION LOGIC

DTC	CONSULT display	Detection condition
U1244	GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.

Diagnosis Procedure

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

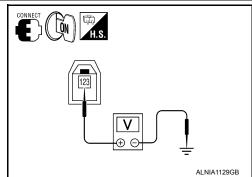
- 1. Turn ignition switch ON.
- 2. Check voltage between AV control unit connector M97 terminal 123 and ground.

(+) Connector Terminal		(-)	Voltage (approx.)
		(-)	voltage (approx.)
M97 123		Ground	5V

Is the voltage reading as specified?

YES >> Replace GPS antenna. Refer to <u>AV-467, "Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".



U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

U1258 SATELLITE RADIO ANTENNA

Description INFOID:000000000821056

Part name	Description
SATELLITE RADIO ANTENNA	Satellite radio signal is received and sent to audio control unit.

DTC Logic

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

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

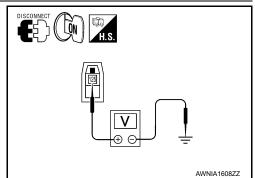
- Disconnect AV control unit connector M125.
- 2. Turn ignition switch ON.
- 3. Check voltage between AV control unit connector M125 terminal 125 and ground.

((+)		Voltage (approx.)
Connector	Connector Terminal		
M125	M125 125		5V

Is voltage approximately 5 volts?

YES >> Replace satellite radio antenna. Refer to <u>AV-466</u>, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-448, "Removal and Installation".



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U1300 AV COMM CIRCUIT

[BOSE AUDIO WITH NAVIGATION]

U1300 AV COMM CIRCUIT

Description INFOID:000000009821059

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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

U1310 AV CONTROL UNIT

Description INFOID:000000000821060

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

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".

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[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

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.
	19	Battery power	31
AV control unit	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			ACC	
M161	7	Ground	0V	Battery voltage	Battery voltage
IVITOT	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

>> • Check connector housings for disconnected or loose terminals.

· Repair harness or connector.

3. GROUND CIRCUIT CHECK

1. Ignition OFF.

NO

- Disconnect AV control unit connector M163.
- 3. Check continuity between AV control unit harness connectors M161, M163 and M165 and ground.

Connector	(+)	(-)	Continuity	
Comictor	Terminal	(-)		
M161	20			
M165	54			
M163	93			
	95	Ground	Yes	
	99			
	100			
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Are the continuity results as specified?

YES >> Inspection End.

NO >> Repair AV control unit ground.

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

DISPLAY UNIT

DISPLAY UNIT: Diagnosis Procedure

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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
Display Offic	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

- Turn ignition switch to ACC
- 2. Check voltage between display unit harness connector M168 and ground.

(+)		()	Value (Approx.)
Connector	Terminal	(-)	Value (Approx.)
M168	11	Ground	Pattonyvoltago
IVI 108	23	Ground	Battery voltage

Does specified voltage exist?

YES >> GO TO 3.

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

· Repair harness or connector.

3. CHECK GROUND CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect display unit connector.
- Check continuity between display unit harness connector M168 and ground.

	(+)		Continuity
Connector	Terminal	(-)	Continuity
M168	12	Ground	Yes

AV-347

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

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1.CHECK FUSE

Revision: August 2013

Check that the A/C and AV switch assembly fuse is not blown.

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INFOID:00000000009821064

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[BOSE AUDIO WITH NAVIGATION]

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

Is the fuse OK?

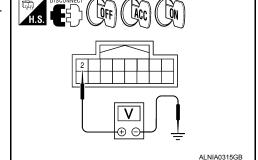
YES >> GO TO 2.

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.
- Check voltage between the A/C and AV switch assembly connector M98 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal	(-)	OH	700	ON
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	(-)	Continuity
M98	1	Ground	Yes

DISCONNECT H.S. ALNIA0316GB

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.

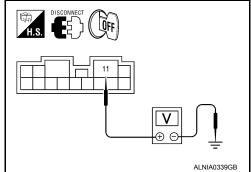
2.CHECK POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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

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



Is battery voltage present?

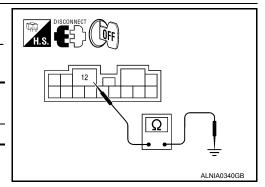
YES >> GO TO 3.

NO >> Check harness between BOSE speaker amp. and fuse.

3. CHECK GROUND CIRCUIT

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

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



Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

SUBWOOFER

SUBWOOFER: Diagnosis Procedure

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

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

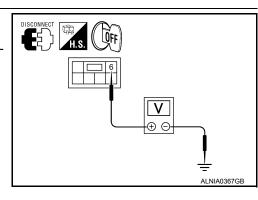
(+)		(-)	Voltage (approx.)
Connector	Terminal	(-)	voltage (approx.)
B72	6	Ground	Battery voltage

Is battery voltage present?

YES >> GO TO 3.

Revision: August 2013

NO >> Check harness between subwoofer and fuse.



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[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Check continuity between subwoofer harness connector B72 terminal 5 and ground.

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

DISCONNECT H.S. OFF

INFOID:0000000009821067

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

REAR VIEW CAMERA

REAR VIEW CAMERA: Diagnosis Procedure

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

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

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

AWNIA2274ZZ

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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

1. Turn ignition switch OFF.

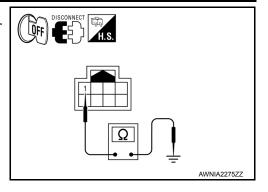
Check continuity between rear view camera harness connector D504 and ground.

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	(-)	value (Approx.)	
B306	12	Ground	Battery voltage	

Does specified voltage exist?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

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.

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< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

INFOID:0000000009821069

1. CHECK POWER SUPPLY CIRCUIT

Check voltage between headrest display unit (driver seat) connector B219 and ground.

(+)		(-)	Value (Approx.)	
Connector	Terminal	(7)	value (Approx.)	
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	Headrest display unit (driver seat)		Headrest display unit (passenger seat)	
Connector	Terminal	Connector Terminal		Continuity
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	_	Continuity
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	Headrest display unit (driver seat)		Headrest display unit (passenger seat)	
Connector	Terminal	Connector Terminal		Continuity
B219	16	B306	7	Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

MICROPHONE

MICROPHONE: Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

1. CHECK POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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

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

CONNECT H.S. H.S. WKIA5796E

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.

Micro	Microphone		AV control unit	
Connector	Terminal	Connector	Terminal	Continuity
R109	4	M165	60	Yes

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

Micro	phone	_	Continuity	
Connector	Terminal		Continuity	
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

- 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.

Micro	Microphone		AV control unit	
Connector	Terminal	Connector Terminal		Continuity
R109	2	M165	75	Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

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FRONT DOOR SPEAKER

Description INFOID:000000009821070

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.

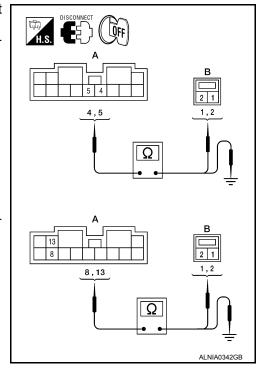
2. HARNESS CHECK

- Disconnect BOSE speaker amp. connector M112 and suspect speaker connector.
- Check continuity between BOSE speaker amp. harness connector M112 (A) and suspect speaker harness connector (B).

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	4	D12	1	
M112	5	D12	2	Yes
	8	D112	1	165
	13	שווע	2	

Check continuity between BOSE speaker amp. harness connector M112 (A) and ground.

	Α	_	Continuity	
Connector	Terminal	_	Continuity	
	4			
M112	5	Ground	No	
IVITIZ	8	Ground		
	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

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

(Acc)

- 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.

Connec-	Terr	ninal	Condition	Reference
tor	(+)	(-)	Condition	signal
	4	5		
M112	8	13	Receive audio sig- nal	1 0 1 1 ms 3 3KlA0 177E

Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to <u>AV-455, "Removal and Installation"</u>.

NO >> GO TO 4.

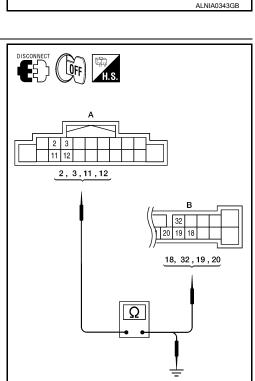
4. HARNESS CHECK

- 1. Disconnect AV control unit connector M161 and BOSE speaker amp. connector M113.
- Check continuity between AV control unit harness connector M161 (A) and BOSE speaker amp. harness connector M113 (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2		18	
M161	3	N4440	32	Yes
IVITOT	11	M113	19	
	12		20	

Check continuity between AV control unit harness connector M161 (A) and ground.

	А	_	Continuity	
Connector	Terminal		Continuity	
	2	Ground	No	
M161	3			
WITOT	11			
	12			



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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

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FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

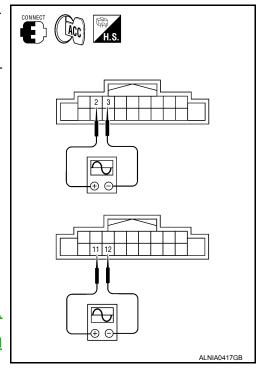
- 1. Connect AV control unit connector and BOSE speaker amp. connector.
- 2. Turn ignition switch ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M161 terminals with CONSULT or oscilloscope.

Connector	Tern	ninals	Condition	Reference
Connector	(+) (-)		Condition	signal
	2	3		
M161	11	12	Receive audio sig- nal	1 0 -1 1 ms SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-460.</u> "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-448, "Removal and Installation"</u>.



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INFOID:0000000009821073

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

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.

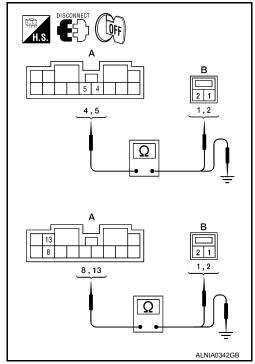
2. HARNESS CHECK

- 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).

	Α		В	
Connector	Terminal	Connector	Terminal	Continuity
	4	M109	1	
M112	5	101109	2	Voo
	8	M111	1	Yes
	13	IVIIII	2	

Check continuity between BOSE speaker amp. harness connector M112 (A) and ground.

	Α		Continuity
Connector	Terminal	_	Continuity
	4		No
M112	5	Ground	
IVITIZ	8	Giouna	NO
	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

[BOSE AUDIO WITH NAVIGATION]

(Acc)

- 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	
Oomicotoi	(+)	(-)	Condition	signal	
	4	5			
M112	8	13	Receive audio signal	1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	

Is audio signal voltage as specified?

YES >> Replace suspect tweeter. Refer to <u>AV-453</u>, "Removal and Installation".

NO >> GO TO 4.

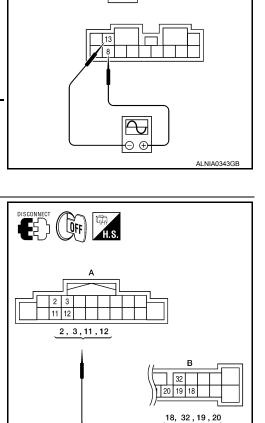
4. HARNESS CHECK

- 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).

Α		В		Continuity
Connector	Terminal	Connector Termin		Continuity
	2		18	
M161	3	M113	32	Yes
	11		19	
	12		20	

Check continuity between AV control unit harness connector M161 (A) and ground.

	Α		Continuity
Connector	Terminal	_	
M161	2		No
	3	Ground	
	11		
	12		



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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

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

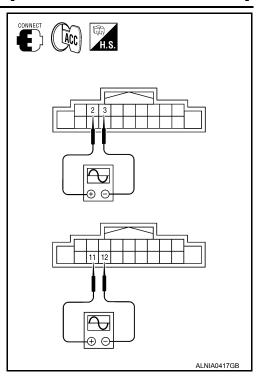
- 1. Connect AV control unit connector and BOSE speaker amp. connector.
- 2. Turn ignition switch ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M161 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
	(+)	(-)	Condition	signal	
	2	3			
M161	11	12	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	

Are the audio signal voltage readings as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-460</u>, <u>"Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to <u>AV-448, "Removal and Installation"</u>.



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CENTER SPEAKER

Description INFOID:000000009821074

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.

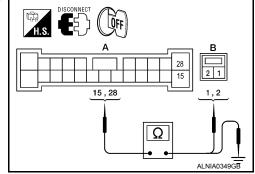
NO >> Repair the terminal and connector.

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).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M113	15	M110	1	Yes
	28		2	

Check continuity between BOSE speaker amp. harness connector M113 (A) and ground.



	Α	_	Continuity
Connector	Terminal	_	
M113	15	Ground	No
	28	Glound	

Are continuity test results as specified?

YES >> GO TO 3.

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

Repair harness or connector.

3.CENTER SPEAKER SIGNAL CHECK

CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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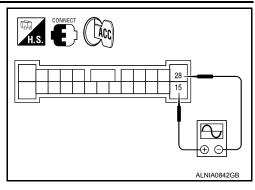
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- 1. Connect BOSE speaker amp. connector M113 and center speaker connector M110.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between BOSE speaker amp. harness connector M113 terminals with CONSULT or oscilloscope.

Connector	Term	ninals	Condition	Reference	
	(+)	(-)	Condition	signal	
M113	15	28	Receive audio sig- nal	(V) 1 0 -1 1 ms	



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

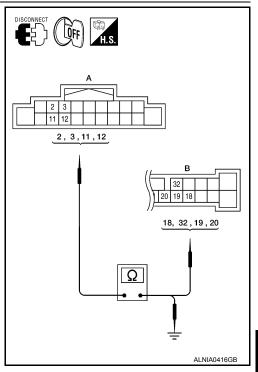
1. Disconnect AV control unit connector M161 and BOSE speaker amp. connector M113.

Check continuity between AV control unit harness connector M161 (A) and BOSE speaker amp. harness connector M113 (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2	M113	18	Yes
M161	3		32	
WHOT	11	WITIS	19	
	12		20	

3. Check continuity between AV control unit harness connector M161 (A) and ground.

	А		Continuity	
Connector	Terminal	_	Continuity	
	2	Ground	No	
M161	3			
IVITOT	11			
	12			



Are continuity test results as specified?

YES >> GO TO 5.

Revision: August 2013

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

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· Repair harness or connector.

5. FRONT SPEAKER SIGNAL CHECK

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CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

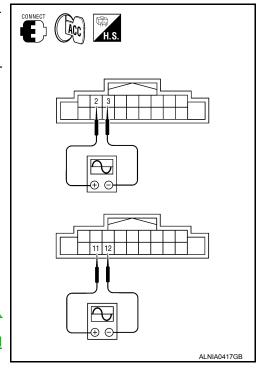
- 1. Connect AV control unit connector and BOSE speaker amp. connector.
- 2. Turn ignition switch ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M161 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	2	3			
M161	11	12	Receive audio sig- nal	1 0 -1 1 ms SKIA0177E	

Are the audio signal voltage readings as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-460.</u> "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-448, "Removal and Installation"</u>.



REAR DOOR SPEAKER

Description INFOID:000000009821076

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

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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.

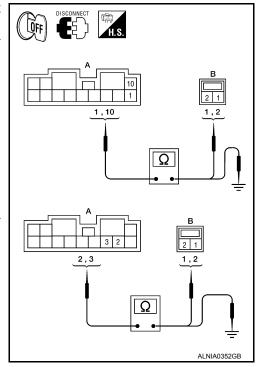
2. HARNESS CHECK

- 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).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	1	D207	1	
M112	10	DZUT	2	Yes
	2	D307	1	165
	3	D307	2	

Check continuity between BOSE speaker amp. harness connectors M112 (A) and ground.

Connector	Terminal	-	Continuity	
	1			
M112	10	Ground	No	
	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

Revision: August 2013 AV-363 2014 Armada NAM

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

ALNIA0843GB

- 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	
Connector	(+)	(-)	Condition	signal	
	1	10			
M112	2	3	Receive audio sig- nal	(V) 1 0 -1 1 ms	

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to <u>AV-456, "Removal and Installation"</u>.

NO >> GO TO 4.

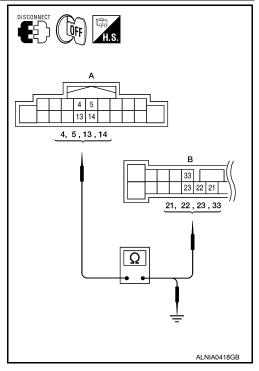
4. HARNESS CHECK

- 1. Disconnect AV control unit connector M161 and BOSE speaker amp. connector M113.
- Check continuity between AV control unit harness connector M161 (A) and BOSE speaker amp. harness connector M113 (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	4		21	Yes
M161	5	M113	22	
	13	IVITIO	23	
	14		33	

3. Check continuity between AV control unit harness connector M161 (A) and ground.

	А		Continuity	
Connector	Terminal			
	4	Ground	No	
M161	5			
WHOT	13			
•	14			



Are the continuity test results as specified?

YES >> GO TO 5.

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

· Repair harness or connector.

5. REAR DOOR SPEAKER SIGNAL CHECK

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

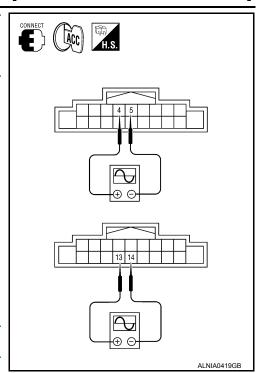
- 1. Connect AV control unit connector M161 and BOSE speaker amp. connector M113.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M161 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	4	5			
M161	13	14	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	

Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-460</u>, <u>"Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to <u>AV-448, "Removal and Installation"</u>.



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REAR TWEETER

Description INFOID:000000009821078

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.

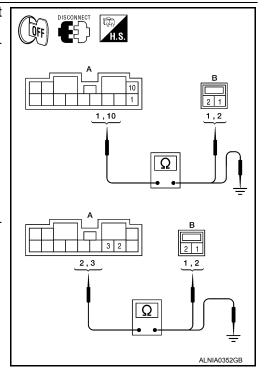
2. HARNESS CHECK

- 1. Disconnect BOSE speaker amp. connectors M112 and suspect tweeter connector.
- Check continuity between BOSE speaker amp. harness connectors M112 (A) and suspect tweeter harness connector (B).

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	1	D208	1	Yes
M112	10	D206	2	
	2	D308	1	
	3	D306	2	

Check continuity between BOSE speaker amp. harness connectors M112 (A) and ground.

Connector	Terminal	-	Continuity	
	1			
M112	10	Ground	No	
	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

REAR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

⊕ ⊝

- 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	
Connector	(+)	(-)	Condition	signal	
	1	10			
M112	2	3	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	

Are audio signal voltage readings as specified?

YES >> Replace suspect tweeter. Refer to <u>AV-456</u>, "Removal and Installation".

NO >> GO TO 4.

4. HARNESS CHECK

- 1. Disconnect AV control unit connector M161 and BOSE speaker amp. connector M113.
- Check continuity between AV control unit harness connector M161 (A) and BOSE speaker amp. harness connector M113 (B).

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	4		21	Yes
M161	5	M113	22	
IVITOT	13	IVITIO	23	
	14		33	

3. Check continuity between AV control unit harness connector M161 (A) and ground.

	А		Continuity	
Connector	Terminal		Continuity	
	4		No	
M161	5	Ground		
IVITOT	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

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REAR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

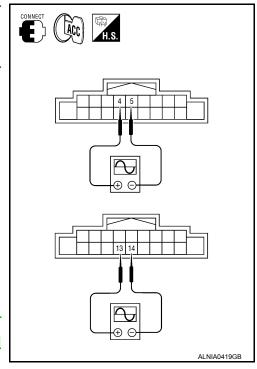
- 1. Connect AV control unit connector M161 and BOSE speaker amp. connector M113.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M161 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	4	5			
M161	13	14	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	

Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-460.</u> "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-448, "Removal and Installation"</u>.



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INFOID:0000000009821081

BACK DOOR SPEAKER

Description

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

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.

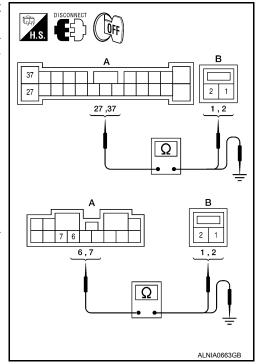
2. HARNESS CHECK

- 1. Disconnect BOSE speaker amp. connectors and suspect speaker connector.
- Check continuity between BOSE speaker amp. harness connectors M112 and M113 (A) and suspect speaker harness connector (B).

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M112	6	D518	1	Yes
IVITIZ	7	D310	2	
M113	37	D716	1	
	27		2	

Check continuity between BOSE speaker amp. harness connectors M112 and M113 (A) and ground.

Connector	Terminal	-	Continuity	
M112	6			
WITZ	7	Ground	No	
M113	27	Glound		
IVITIS	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

BACK DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

- 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	
Connector	(+)	(-)	Condition	signal	
M112	7	6			
M113	37	27	Receive audio sig- nal	(V) 1 0 -1 1 ms skia0177E	

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to <u>AV-457, "Removal and Installation"</u>.

NO >> GO TO 4.

27 7 6 0

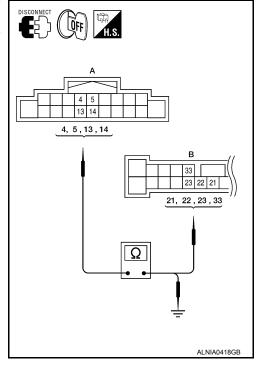
4. HARNESS CHECK

- 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).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	4		21	Yes
M161	5	M113	22	
IVITOT	13	IVITIO	23	
	14		33	

3. Check continuity between AV control unit harness connector M161 (A) and ground.

	А		Continuity	
Connector	Terminal	_	Continuity	
	4	Ground	No	
M161	5			
WHOT	13	Ground	INO	
	14			



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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

BACK DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

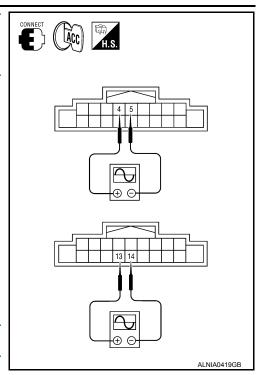
- 1. Connect AV control unit connector M161 and BOSE speaker amp. connector M113.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M161 terminals with CONSULT or oscilloscope.

Connector	Term	ninals	Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	4	5			
M161	13	14	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	

Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-460.</u> "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-448, "Removal and Installation"</u>.



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SUBWOOFER

Description INFOID:000000009821082

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 <u>AV-349</u>, "SUBWOOFER: Diagnosis Procedure". <u>Did the power and ground supply check OK?</u>

YES >> GO TO 3.

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

· Repair harness or connector.

3. HARNESS CHECK

- 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		2	
A. WITIZ	14	C: B72	1	Yes
B: M113	25		4	

Check continuity between BOSE speaker amp. harness connector M112 (A) and M113 (B) and ground.

Connector	Terminal	-	Continuity
A: M112	9		
A. WITIZ	14	Ground	No
B: M113	25		

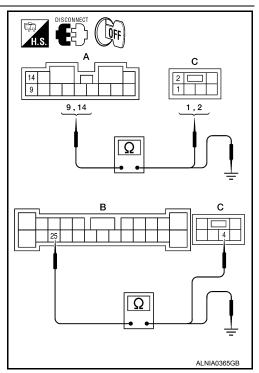
Are the continuity test results as specified?

YES >> GO TO 4.

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

Repair harness or connector.

4.SUBWOOFER AMP ON SIGNAL CHECK



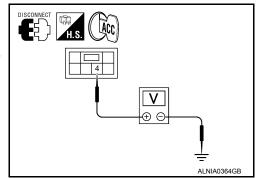
SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

- Connect BOSE speaker amp. connector M112.
- Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check voltage between subwoofer connector B72 terminal 4 and ground.

	(+)	(-)	ACC
Connector	Terminal	(-)	700
B72	4	Ground	Battery voltage



Are the voltage test results as specified?

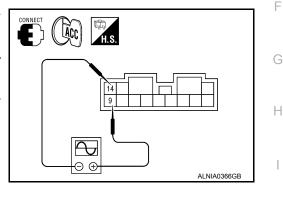
YES >> GO TO 5.

NO >> Replace BOSE speaker amp. Refer to AV-460, "Removal and Installation".

5. SUBWOOFER AUDIO SIGNAL CHECK

- Connect BOSE speaker amp. connector M112 and subwoofer connector B72.
- Turn ignition switch to ACC. 2.
- 3. Push "POWER" switch.
- 4. Check the signal between BOSE speaker amp. harness connector M112 terminals with CONSULT or oscilloscope.

Connector	Tern	ninals	Condition	Reference
Connector	(+)	(-)	Condition	signal
M112	9	14	Receive audio signal	(V) 1 0 -1 1 ms



Is the audio signal voltage as specified?

YES >> Replace subwoofer. Refer to AV-458, "Removal and Installation".

NO >> GO TO 6.

6. HARNESS CHECK

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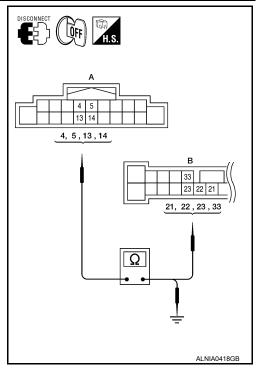
[BOSE AUDIO WITH NAVIGATION]

- 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).

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	4		21	
M161	5	M113	22	Yes
	13		23	165
	14		33	

3. Check continuity between AV control unit harness connector M161 (A) and ground.

	Α		Continuity
Connector Terminal		_	Continuity
	4		No
M161	5	Ground	
WHOT	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

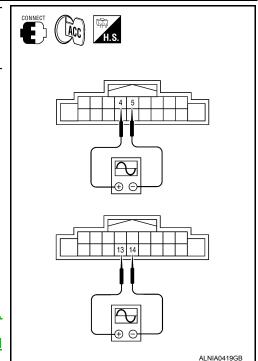
- Connect AV control unit connector M161 and BOSE speaker amp. connector M113.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M161 terminals with CONSULT or oscilloscope.

Connector	Tern	ninals	Condition	Reference
Connector	(+)	(-)	Condition	signal
	4	5		
M161	13	14	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-460.</u> "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-448</u>, "<u>Removal and</u> Installation".



RGB DIGITAL IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

RGB DIGITAL IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000009821084

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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 cor	ntrol unit	Display unit		Continuity
Connector	Terminals	Connector Terminals		Continuity
M420	134	M424	28	Vac
M130	135	M131	27	Yes

4. Check continuity between AV control unit connector M130 and ground.

AV control unit		Ground	Continuity	
Connector	Terminals	Ground	Continuity	
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

- 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			Mallana
(+)	(–)	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".

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COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO FRONT DIS-PLAY UNIT)

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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

- 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	Continuity	
M165	56	M168	18	Yes	
WITOS	55	WITOO	19	165	

4. Check continuity between AV control unit connector M165 and ground.

AV con	AV control unit		Continuity
Connector	Terminal	Ground	Continuity
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.	(V) 0. 4 0 -0. 4 -0. 4 -0. 4 -0. 4 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:000000000821086

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

Regarding Wiring Diagram information, refer to AV-401, "Wiring Diagram".

$1.\mathsf{CHECK}\,\mathsf{AMP}\,\mathsf{ON}\,\mathsf{SIGNAL}\,(\mathsf{BOSE}\,\mathsf{SPEAKER}\,\mathsf{AMP})$

- 1. Turn audio system ON.
- 2. Check voltage between BOSE speaker amp. harness connector M113 terminal 31 and ground.

(+)		(-)	ACC
Connector	Terminal	(-)	AOO
M113	31	Ground	Battery voltage

Is battery voltage present?

YES >> Inspection End.

NO >> GO TO 2.

$2. {\sf CHECK\ AMP\ ON\ SIGNAL\ (AV\ CONTROL\ UNIT)}$

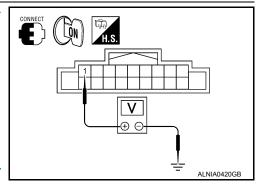
Check voltage between AV control unit harness connector M161 terminal 1 and ground.

(+)		(-)	ACC
Connector	Terminal	(-)	7,00
M161	1	Ground	Battery voltage

Is battery voltage present?

YES >> Repair harness or connector.

NO >> Replace AV control unit. Refer to <u>AV-448</u>, "<u>Removal and Installation</u>".



CONNECT III.

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INFOID:0000000009821087

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STEERING SWITCH

Description INFOID:000000009821088

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

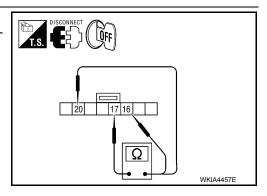
INFOID:0000000009821089

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.

Terr	minal	Signal name	Condition	Resistance (Ω) (Approx.)
		Volume (down)	Depress - 🗘 switch.	1
16	17	Volume (up)	Depress 4 switch.	121
		Phone	Depress 🗸 switch.	321
		Back	Depress 5 switch.	723
		Source	Depress SOURCE switch.	1
		Seek (up)	Depress △ switch.	121
20 17	Seek (down)	Depress ∇ switch.	321	
		Phone/Send	Depress w≤ 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.
- Disconnect AV control unit connector M161 and combination switch connector M30.
- Check continuity between AV control unit harness connector M161 and combination switch harness connector M30.

AV con	trol unit Combination switch		Combination switch	
Connector	Terminal	Connector Terminal		Continuity
	6		24	
M161	15	M30	31	Yes
	16		25	

4. Check continuity between AV control unit connector M161 and ground.

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

	AV control unit		Continuity
Connector	Connector Terminal		Continuity
	6		
M161	15	Ground	No
	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	Continuity
	24		20	
M30	31	M102	17	Yes
	25		16	

Does the spiral cable check OK?

YES >> Inspection End.

NO >> Replace spiral cable. Refer to <u>SR-7</u>, "Removal and Installation".

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MICROPHONE SIGNAL CIRCUIT

Description INFOID:000000009821090

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.
- Check continuity between AV control unit harness connector M165 and microphone harness connector R109.

AV cor	ntrol unit	Microphone		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	59		1	
M165	75	R109	2	Yes
	60		4	

4. Check continuity between AV control unit harness connector M165 and ground.

AV control unit			Continuity
Connector	Terminal	_	Continuity
	59		
M165	60	Ground	No
	75		

Are the continuity test results as specified?

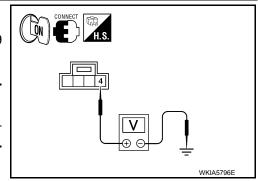
YES >> GO TO 2.

NO >> Repair harness or connector.

2. CHECK MICROPHONE POWER SUPPLY

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

(+)		(-)	Voltage (approx)	
Connector	Terminal	(-)	voltage (approx)	
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.

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Connector	(+) Terminal	(-)	Reference signal
M165	75	59	While speaking into MIC (V) 2.5 2.0 1.5 1.0 0.5 0 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".

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REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Description INFOID:000000009821092

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	(-)	Transmission position	value (Applox.)
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

- Turn ignition switch OFF.
- 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

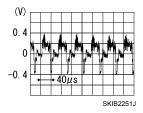
- 1. Connect display unit connector and rear view camera connector.
- 2. Turn ignition switch ON.
- Shift transmission into reverse.
- 4. Check signal between display unit harness connector M168 terminals 8 and 7.

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

8 - 7



Is inspection result OK?

YES >> Replace display unit. Refer to AV-451, "Removal and Installation".

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NO >> Replace rear view camera. Refer to AV-469, "Removal and Installation".

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USB CONNECTOR

[BOSE AUDIO WITH NAVIGATION]

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 cor	AV control unit USB interface		Continuity	
Connector	Terminal	Connector	Terminal	Continuity
	127	M214	4	
	128		1	
M173	129		3	Yes
	130		2	
	131		5	

4. Check continuity between AV control unit connector M173 and ground.

AV control unit			Continuity	
Connector	Connector Terminal		Continuity	
M173	127	Ground	No	
WITTS	129	Ground	NO	

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 [BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

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

- Turn ignition switch OFF.
- 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 auxilia	ary input jacks	Headrest display unit (passenger seat)		y input jacks Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	Continuity		
M206	1	B306	4	Yes		
101200	3	B300	5	165		

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

Front auxilia	ary input jacks	- Ground Continuity	
Connector	Terminal		
M206	1	No	
101200	3		140

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2.CHECK AUX SOUND SIGNAL CIRCUIT CONTINUITY 2

- 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 co	ntrol unit	Headrest display unit (passenger seat)				Continuity
Connector	Terminal	Connector	Terminal	Continuity		
M177	38	B306	14	Yes		
IVI I / /	24	D300	15	res		

Check continuity between AV control unit connector M177 terminals 38, 24 and ground.

AV cor	AV control unit		Continuity
Connector	Terminal	Ground Continuity	
M177	38		No
IVI I / /	241	_	INO

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.

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FRONT AUXILIARY INPUT JACK AUDIO SIGNAL CIRCUIT IIT DIAGNOSIS > [BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

Front auxiliary input jacks		Headrest display unit (passenger seat)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
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		Continuity
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		
24	39	AUX mode selected	(V) 1 0 -1 + 2ms 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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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	Continuity
B306	10	B219	11	Yes
В300	23	D219	3	165

4. Check continuity between headrest display unit (passenger seat) connector B306 and ground.

Headrest display t	st display unit (passenger seat) Ground		Continuity
Connector	Terminal	Ground Continuity	
B306	10		No
D300	23	_	INO

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 u	nit (passenger seat)	Headrest display unit (driver seat)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B306	19	B219	7	Yes
B300	20	D219	8	105

Check continuity between headrest display unit (passenger seat) connector B306 and ground.

Headrest display unit (passenger seat)		Ground	Continuity
Connector	Terminal	Ground Continuity	
B306	19		No
5300	20		140

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.check audio signal circuits continuity

 Check continuity between headrest display unit (passenger seat) connector B306 and headrest display unit (driver seat) connector B219.

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HEADREST DISPLAY UNIT

[BOSE AUDIO WITH NAVIGATION]

Headrest display u	Headrest display unit (passenger seat) Headrest display unit (driver seat)		Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
		8		13	
B306	9	B219	14	Yes	
21 22	21		5	- res	
	22		6		

2. Check continuity between headrest display unit (passenger seat) connector B306 and ground.

Headrest display u	nit (passenger seat)	Ground	Continuity	
Connector Terminal		Ground	Continuity	
B306	8			
	9		No	
	21	_	INU	
	22			

Is inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

[BOSE AUDIO WITH NAVIGATION]

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ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

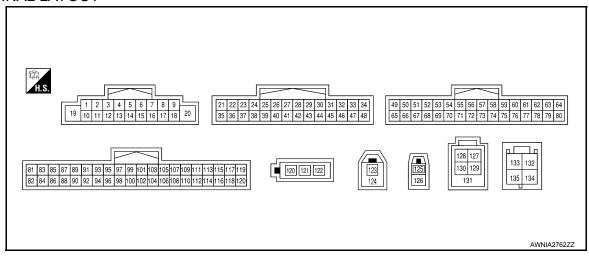
Reference Value

VALUES ON THE DIAGNOSIS TOOL

CONSULT data monitor item

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

TERMINAL LAYOUT



PHYSICAL VALUES

2014 Armada NAM

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[BOSE AUDIO WITH NAVIGATION]

	ninal color)	Description			0 111	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
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	(V) 1 0 -1 + 2ms SKIB3609E
4 (L)	5 (B/W)	Pre-amp. audio signal rear LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + + 2ms SKIB3609E
		Steering switch signal A		Ignition switch ON	Press and hold SOURCE switch.	0V
	Ground		Input		Press and hold Δ switch.	1.0V
6					Press and hold ∇ switch.	2.0V
(Y)					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	(V) 1 0 -1 + 2ms SKIB3609E
13 (W)	14 (B)	Audio signal rear RH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E
15	Ground	Steering switch signal ground	_	Ignition switch ON	_	0V

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

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	minal e color)	Description			0 1111	Reference value
+		Signal name	Input/ Output		Condition	(Approx.)
					Press and hold = 🎵 switch	0V
16	Ground	Steering switch signal B	Input	Ignition switch	Press and hold 4+ switch	1.0V
(BR)		ů ů		ON	Press and hold 🜈 switch	2.0V
					Press and hold 5 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.	(V) 1 0 -1 + 2ms SKIB3609E
37	_	Shield	_	_	_	<u> </u>
38 (R)	39 (B)	AUX sound signal RH	Input	Ignition switch ON	When front AUX mode is selected.	(V) 1 0 -1 + 2ms SKIB3609E
53				Ignition	Parking brake is applied.	0 V
(G)	Ground	Parking brake signal	Input	switch ON	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.	(V) 0. 4 0 -0. 4 -8 SKIB2251J
59	_	Shield	_	_	_	
60 (W)	Ground	Microphone VCC	Output	Ignition switch ON	_	5.0 V

[BOSE AUDIO WITH NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
61 (V)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness.	(V) 6 4 2 0 1ms 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	O	Reverse signal	lan. it	Ignition	Selector lever is in R position.	Battery voltage
(G/W)	Ground	Reverse signal	Input	switch ON	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).
71	_	Shield	_	_	_	_
72 (B)	Ground	Ground	Input	Ignition switch ON	_	0V
75 (B)	59	Microphone signal	Input	Ignition switch ON	Give a voice.	(V) 2. 5 2. 0 1. 5 1. 0 0. 5 0
76	_	Shield	_	_	_	_

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

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	minal e color)	Description			Condition	Reference value	
+	_	Signal name	Input/ Output	Condition		(Approx.)	
77 (LG)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	(V) 6 4 2 0 ++1ms 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.	(V) 0. 4 0 -0. 4 +40µs 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	(V) 0. 4 0 -0. 4 + 40μs SKIB2251J	
97	Ground	Disk eject signal	Input	Ignition switch	Pressing the eject switch.	0 V	
(SB)	0.000			ON	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	

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Condition		(Approx.)
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

Self-diagnosis results display item

Error item	Refer to
CAN COMM CIRCUIT [U1000]	AV-321
CONTROL UNIT (CAN) [U1010]	<u>AV-322</u>
Control Unit FLASH-ROM [U1200]	<u>AV-323</u>
Gyro NO CONN [U1201]	<u>AV-324</u>
GPS COMM [U1204]	<u>AV-325</u>
GPS ROM [U1205]	<u>AV-326</u>
GPS RAM [U1206]	<u>AV-327</u>
GPS RTC [U1207]	<u>AV-328</u>
CAN CONT [U1216]	<u>AV-329</u>
BLUETOOTH CONN [U1217]	<u>AV-330</u>
HDD CONN [U1218]	AV-331
HDD READ [U1219]	AV-332
HDD WRITE [U121A]	<u>AV-333</u>

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

Error item	Refer to
HDD COMM [U121B]	<u>AV-334</u>
HDD ACCESS [U121C]	<u>AV-335</u>
DSP CONN [U121D]	AV-336
DSP COMM [U121E]	<u>AV-337</u>
INTERNAL COMM [U121F]	<u>AV-338</u>
XM SERIAL COMM [U1220]	<u>AV-339</u>
FRONT DISP CONN [U1243]	<u>AV-340</u>
GPS ANTENNA CONN [U1244]	<u>AV-342</u>
XM ANTENNA CONN [U1258]	<u>AV-343</u>
AV COMM CIRCUIT [U1300]	<u>AV-344</u>
CONTROL UNIT (AV) [U1310]	<u>AV-345</u>

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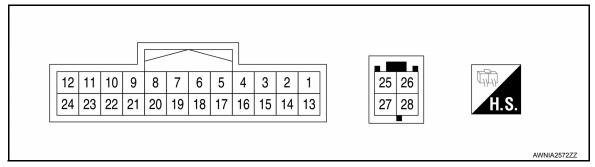
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DISPLAY UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal color)	Description			Condition	Reference value	
+	_	Signal name	Input/ Output	Condition		(Approx.)	
6	_	Shield	_	_	_	_	
8 (Y)	7 (BR)	Camera image signal	Input	Ignition switch ON	At camera image is displayed.	(V) 0. 4 0 -0. 4 → 40µs SKIB2251J	
9 (LG)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	(V) 6 4 2 0 +-1ms	
10 (V)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	(V) 6 4 2 0 1ms PKIB5039J	
11 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage	
12 (B)	Ground	Ground	_	Ignition switch ON	_	0 V	

DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
18 (W)	Ground	Composite image signal	Input	Ignition switch ON	At DVD image is displayed.	(V) 0. 4 0 -0. 4 + 40µs 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	-	(V) 4 0 ++20µs 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	_	_	_

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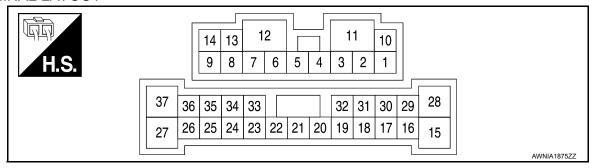
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BOSE SPEAKER AMP

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
1 (SB)	10 (B/Y)	Audio signal rear door speaker and tweeter LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E
2 (O/L)	3 (R/L)	Audio signal rear door speaker and tweeter RH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E
4 (L/W)	5 (L/R)	Audio signal front door speaker and tweeter LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E
6 (G)	7 (R)	Audio signal back door speaker LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E

BOSE SPEAKER AMP

[BOSE AUDIO WITH NAVIGATION]

L00 l	סווס	ISIS INFORMATION >			<u> </u>	BEE WITH NAVIGATION]
	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
8 (W/B)	13 (L/B)	Audio signal front door speaker and tweeter RH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 2ms SKIB3609E
9 (W)	14 (B)	Audio signal subwoofer	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms 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 speak- er	Output	Ignition switch ON	Audio output	(V) 1 0 -1 → 2ms SKIB3609E
18 (LG)	32 (V)	Audio signal front LH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 ** 2ms SKIB3609E
19 (BR)	20 (B/R)	Audio signal front RH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 → 2ms SKIB3609E
21 (L)	22 (B/W)	Audio signal rear LH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 + 2ms SKIB3609E

BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

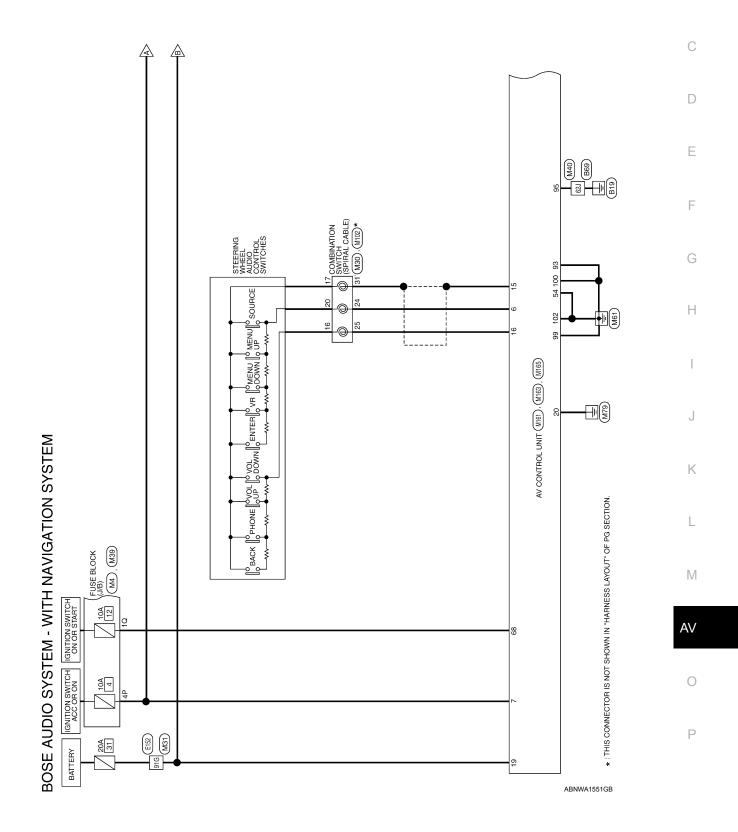
	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
23 (W)	33 (B)	Audio signal rear RH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 + 2ms SKIB3609E
25 (W/G)	Ground	Subwoofer amp. ON signal	Output	Ignition switch ACC	_	12V
31 (GR/L)	Ground	Amp. ON signal	Input	Ignition switch ACC	_	12V
37 (W/R)	27 (R)	Audio signal back door speaker RH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 + + 2ms SKIB3609E

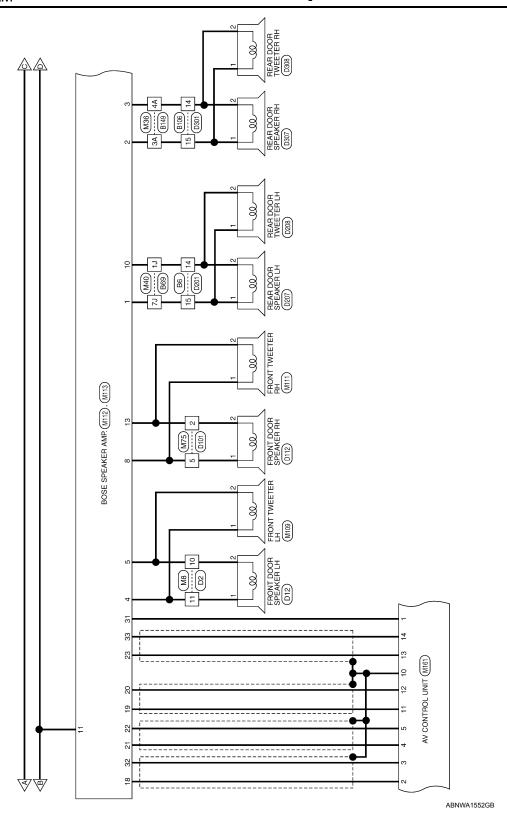
Α

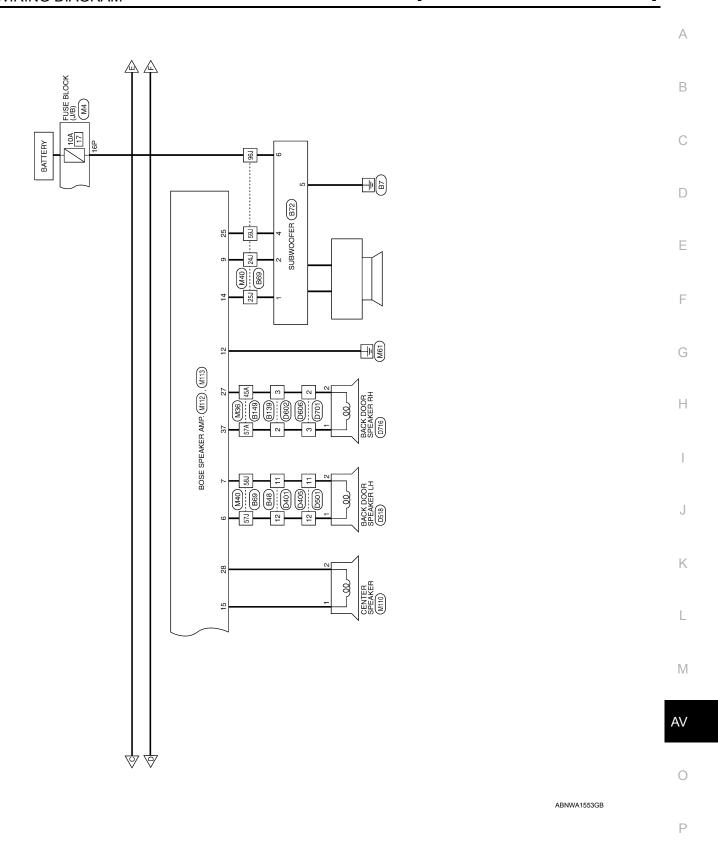
WIRING DIAGRAM

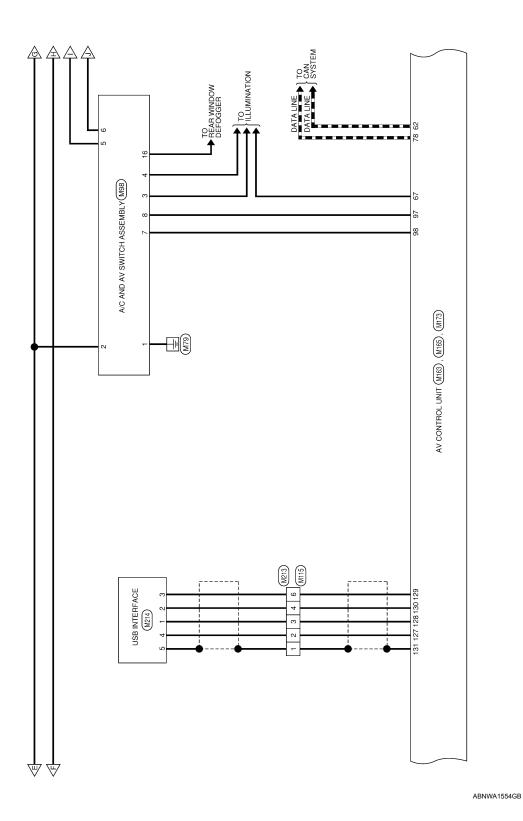
BOSE AUDIO SYSTEM - WITH NAVIGATION SYSTEM

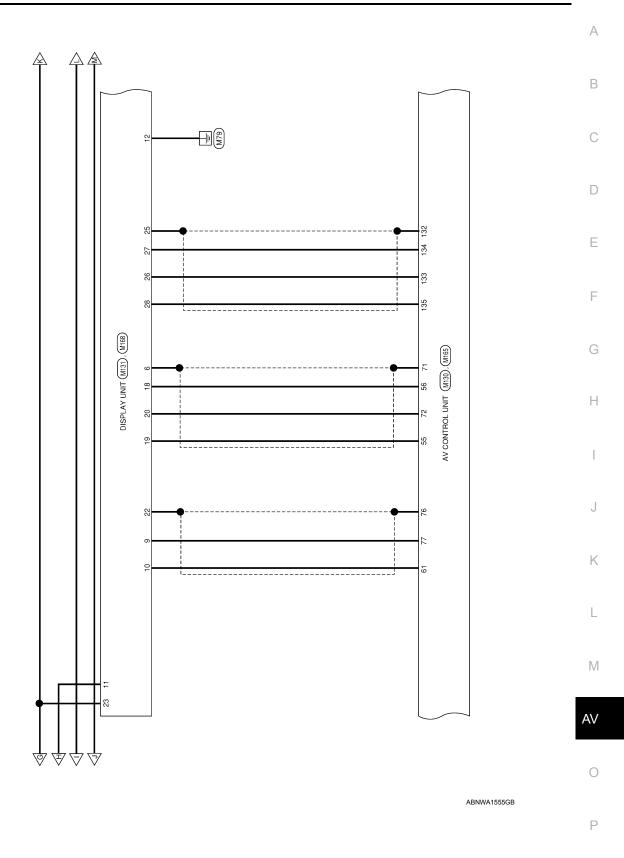
Wiring Diagram



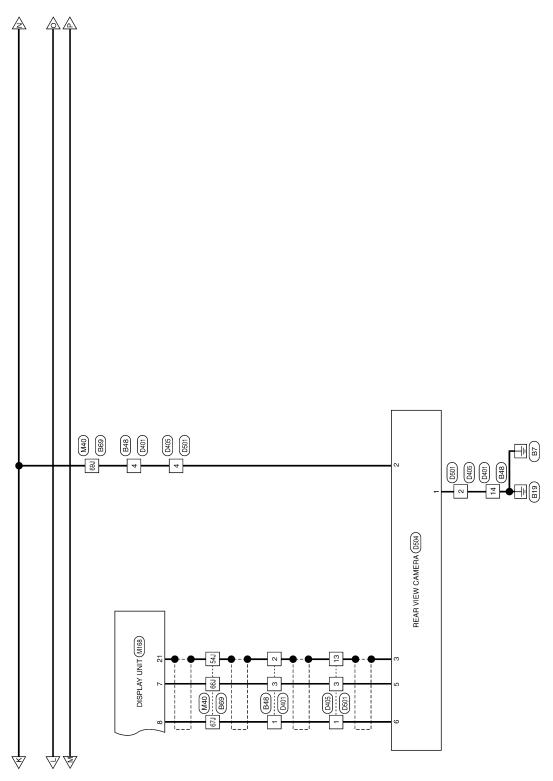




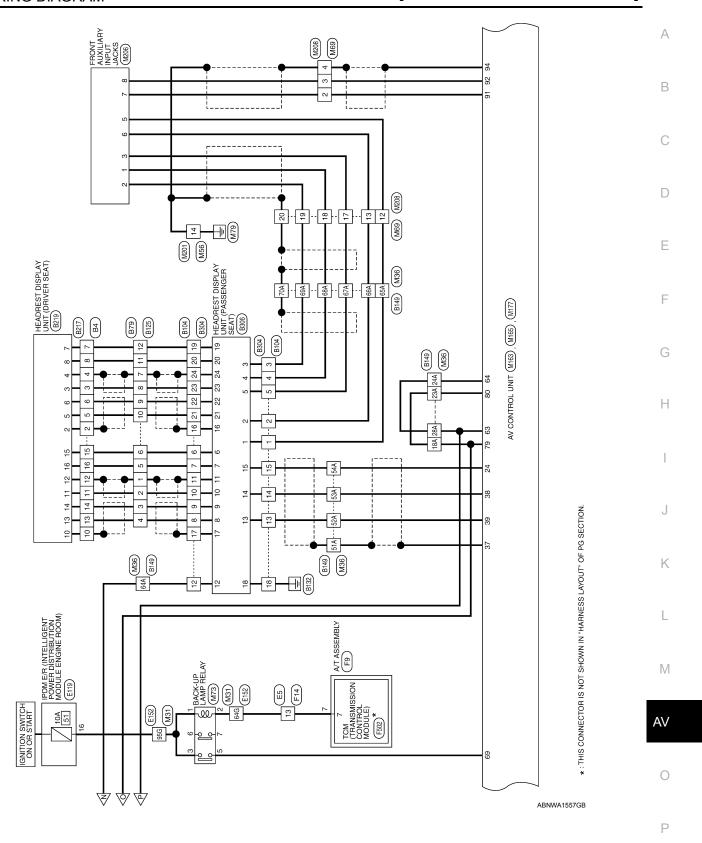


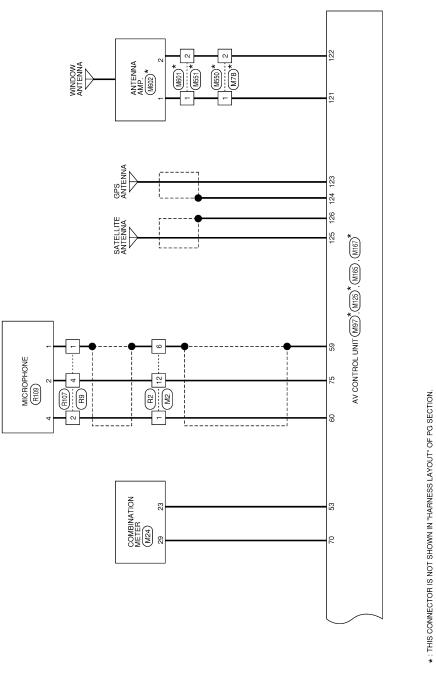


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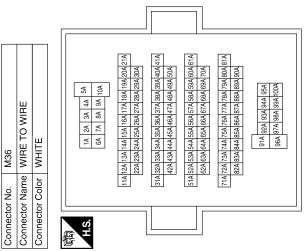
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Signal Name Connector Name WIRE TO WIRE Connector Color | WHITE Color of Wire Connector No. M8 Ŋ ĽB Terminal No. 10 F BOSE AUDIO SYSTEM CONNECTORS - WITH NAVIGATION SYSTEM Signal Name Connector No. M4 Connector Name FUSE BLOCK (J/B) Connector Color WHITE Color of Wire Œ Terminal No. 16P 4Ь - (WITH NAVI) Signal Name Connector No. M2 Connector Name WIRE TO WIRE Connector Color WHITE SHIELD Color of Wire ≥ Terminal No. 9

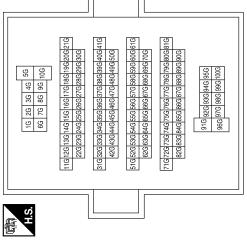
	WITCH			lame		
M30	COMBINATION 8	GRAY	24 25 26 27 31 32 33 34	r of Signal Name	ı	-
Connector No.	Connector Name COMBINATION SWITCH	Connector Color GRAY	H.S.	Terminal No. Wire	24 Y	25 BR
			23 22 1			
	Connector Name COMBINATION METER	E	8 7 6 5 4 28 27 26 25 24	Signal Name	PARK BRAKE	SPEED OUT
M24	e COME	r WHITE	5 14 13 12 8 3 3 3 3 5 5 6 9 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Color of Wire	g	W/R
Connector No. M24	Connector Nan	Connector Color WHITE	H.S. 20 19 18 17 16 15 14 13 12 11 10 9 4 33 32 31 30 28	Terminal No.	23	29

Signal Name	I	ı	_	I	ı	I	ı
Color of Wire	^	ŋ	Ь	Μ	œ	В	SHIELD
Terminal No. Wire	64A	65A	66A	67A	68A	69A	70A



Signal Name	I	I	ı	I	I	ı	I	I	I	Ι	ı	ı
Color of Wire	O/L	B/L	M/L	ΓW	B/P	P/B	ш	SHIELD	В	В	8	W/R
Terminal No.	3A	4A	18A	23A	24A	28A	45A	51A	52A	53A	24A	57A





Signal Name	ı	-	I	
Color of Wire	В	Y	В	
Terminal No.	64G	91G	95G	

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BOSE AUDIO SYSTEM - WITH NAVIGATION SYSTEM

< WIRING DIAGRAM >

[BOSE AUDIO WITH NAVIGATION]

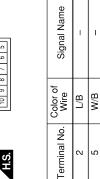
Connector No. M40	Name WIRE TO WIRE Name WIRE TO WIRE Name WIRE TO WIRE Name	Vo. Color of Signal Name	SB	- M		7		T.			В	M	- >	е.				Color of	>	- Н	1 I		SHIELD -	-							
Connector No. Connector No. Connector No. Connector No. Connector No. Connector Color Terminal No. A SH 12 A SH 12	WHITE WHITE WHITE WHITE WHITE WHITE WHITE WHITE To of Signal Name Signal N	Terminal N	F 12	240	25J	540	57,1	581	291		P99	P29	F69	696				<u> </u>		13	- 2	61	20								
Connector No. Connector No. Connector No. Connector No. Connector No. Connector Color Terminal No. A. S.H. S. A. S.H. S. B. A. S.H. A. S.	WHITE WHITE WHITE WHITE WHITE WHO Signal Name WITE WITE Onnector No. Connector Color No. Connector No. Connector Color No. Connector Color No. Connector Color No. Connector Color No. Connector No. Color Signal Name Signal Na) WIRE			공	J 7J 8J 9J 10J	1100 101 181 121 131 131	1551 361 371 381 391 301		35J 36J 37J 38J 39J 40J 41J	1 451 46J 47J 48J 49J 50J	J 55J 56J 57J 58J 59J 60J 61J	J 65J 66J 67J 68J 69J 70J	75J 76J 77J 78J 78J 80J 81J		1J 92J 93J 94J 95J 5J 97J 98J 99J 100J) WIRE			5 4 3 2 1 15 14 13 12 11 10		Signal Name	1	1	ı	1			
	M39 FUSE BLOCK (J/B) WHITE WATE WASE WIRE TO WIRE WHITE To ri of Signal Nam Signal	M40 VIRE TO	WHILE		<u> </u>	٣	401 401 44	2012013014	227 237 24	32) 33) 34	420 430 44	52J 53J 54	62) 63) 64	23 733 74		<u> </u>	٦	69W	WIRE TO	BROWN		3 7 6 <u> </u>		of					-		
	WHITE Signal Na WHITE WHITE WHITE WHITE Signal Na Wine Signal Na White Signal Na White Signal Na White Signal Na Signa	Connector Name			H.S.		-	<u>=</u>]		31		513		112							_	V									

Revision: August 2013 AV-411 2014 Armada NAM

	Connector No.	M78		
	Connector Name WIRE TO WIRE	ne WIRE	TO WIRE	
	Connector Color	or BROWN	N	
	H.S.	-	[2]	
lame	Terminal No. Wire	Color of Wire	Signal Name	
	-	В	1	
	2	В	ı	

Signal Name	-	ı	ı	_	_	ı	Ι	_	ı	ı	_	_	ı
Color of Wire	BR	M/L	P/B	В	SB	ı	ı	_	1	1	1	_	GR/R
Terminal No. Wire	4	5	9	2	8	6	10	11	12	13	14	15	91

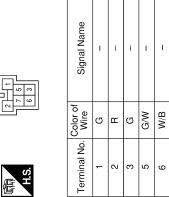
Connector No.	M75
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color	WHITE



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

Signal Name	ı	I	I
Color of Wire	В	^	R/L
Terminal No.	1	2	8

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



o. M97	ame BOSE AUDIO SYSTEM WITH NAVI)	olor –	
Connector No.	Connector Name	Connector Color	

BOSE AUDIO SYSTEM WITH NAVI)			Signal Name	GPS ANT	GPS SHIELD
		123	Color of Wire	В	В
Connector Name	Connector Color	南南 H.S.	Terminal No.	123	124

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Y/R

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BOSE AUDIO SYSTEM - WITH NAVIGATION SYSTEM

< WIRING DIAGRAM >

[BOSE AUDIO WITH NAVIGATION]

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Connector No.	M102	Connector No.	M109		Connector No.	. No. M110	0
nector Name	Connector Name COMBINATION SWITCH	Connector Nar	ne FRONT	Connector Name FRONT TWEETER LH	Connector	Name CEN	Connector Name CENTER SPEAKER
Connector Color GRAY	GRAY	Connector Color	or BROWN		Connector	Connector Color BROWN	WN
H.S.	15 16 17 18 19 20 21	H.S.	2		H.S.		2 1
Terminal No. Wire	lor of Signal Name	Terminal No. Wire	Color of Wire	Signal Name	Terminal N	Terminal No. Wire	Signal Name
16	ı	-	N/	1	-	>	ı
17 E	BR -	2	L/R	ı	2	œ	ı
20						-	

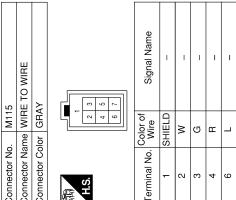
Signal Name	FR DR LH- OUT	PWR BK DR LH+	PWR BK DR LH-	FR DR RH+ OUT	WOOFER+ OUT	RR DR LH- OUT	BATT	GND	FR DR RH- OUT	WOOFER- OUT
Color of Wire	L/R	В	В	M/B	M	В/У	\	В	I/B	В
Terminal No.	2	9	2	8	6	10	11	12	13	14

BOSE SPEAKER AMP. BROWN 12	FR DR LH+ OUT
N Wiring	<u> </u>
Connector No. Connector Name Connector Color H.S. H.S. 1 S	4

Color of Wire Signal Name	Connector No. Connector Name Connector Color		M111 FRONT TWEETER RH BROWN
Color of Wire W/B	H.S.	[2	
	Terminal No.	Solor of Wire	Signal Name
	-	W/B	I
	2	L/B	I

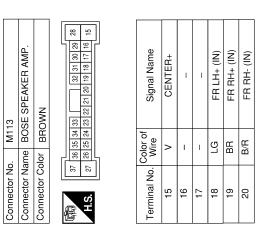
ABNIA3865GB

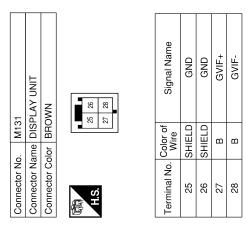
AV-413 Revision: August 2013 2014 Armada NAM



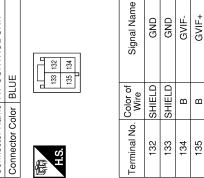
TO WIRE			Signal Name	ı	ı	ı	ı	ı
me WIRE	or GRAY	2 4 9 E C C C	Color of Wire	SHIELD	*	g	æ	7
Connector No. M115 Connector Name WIRE TO WIRE	Connector Color	H.S.	Terminal No.	-	2	က	4	9

Signal Name	RR LH+ (IN)	RR LH- (IN)	RR RH+ (IN)	-	AMP CTRL	1	PWR BK DR RH-	CENTER-	_	ı	AMP ON	FR LH- (IN)	RR RH+ (IN)	1	_	PWR BK DR RH+
Color of Wire	_	B/W	8	ı	M/G	1	ж	В	-	ı	GR/L	۸	В	-	-	W/R
erminal No. Wire	21	22	23	24	25	26	27	28	29	30	31	32	33	34	36	37









	SYSTEM				VI)	WI) Signal Name XM ANTENNA
AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITH NAVI)	,	-	E	Color of Signs	B XM AI	B SHIELD
	Connector Name	Connector Color	H.S.	Terminal No.	125	126

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GVIF+

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BOSE AUDIO SYSTEM - WITH NAVIGATION SYSTEM

< WIRING DIAGRAM > [BOSE AUDIO WITH NAVIGATION]

Signal Name	SHIELD	FR RH PRE+	FR RH PRE-	RR RH PRE+	RR RH PRE-	STRG SW GND	STRG SW B	ı	_	4	GND
Color of Wire	SHIELD	BR	B/R	>	В	SHIELD	BR	ı	ı	>	В
Terminal No.	10	11	12	13	14	15	16	17	18	19	20

Signal Name	I	I	ı	ı	_	I	I	_	ı	I	I	ı	ı	1
Color of Wire	-	-	-	ı	_	-	-	_	-	-	-	-	-	1
Terminal No. Color of Wire	107	108	109	110	111	112	113	114	115	116	117	118	119	120

Signal Name	FR LH PRE-	RR LH PRE+	RR LH PRE-	STRG SW A	ACC	ı	1
Color of Wire	^	Т	B/W	>	>	_	_
Terminal No. Wire	3	4	5	9	2	8	6

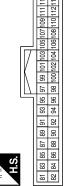
Signal Name	1	ı	AUX VIDEO+	AUX VIDEO-	GND	VIDEO SHIELD	CAMERA	ı	DVD EJECT	EJECT GND	EQ MODE	GND	ı	GND	1	I	_	1
Color of Wire	ı	ı	8	В	В	SHIELD	В	1	SB	В	В	В	I	В	I	ı	_	1
Terminal No.	88	06	91	95	93	94	92	96	26	86	66	100	101	102	103	104	105	106

Connector No.	M161
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITH NAVI)
Connector Color WHITE	WHITE



Signal Name	AMP ON	FR LH PRE+	
Color of Wire	GR/L	ГG	
Terminal No.	-	2	

M163	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITH NAVI)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	



l									
	Signal Name	I	I	ı	I	I	I	ı	I
	Color of Wire	ı	1	ı	ı	1	1	1	-
	Terminal No. Wire	81	82	83	84	85	98	87	88

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of Signal Name	/ REVERSE SIG	3 SPEED	LD NAVI COMP1 SHIELD	GND	1	ı	MIC SIG	LD DISP SHIELD	DISP IT	CAN-H	- M-CAN1-H	/ M-CAN2 H
Color c Wire	G/W	W/R	SHIELD	В	1	1	В	SHIELD	LG	٦	M/L	\mathbb{N}
Terminal No. Wire	69	70	7.1	72	73	74	75	9/	77	78	79	80

Signal Name	NAVI COMP 1-	NAVI COMP 1+	ı	_	MIC GND	MIC VCC	IT DISP	CAN-L	M-CAN1-L	M-CAN2-L	1	ı	MR OUTPUT	IGN	
Color of Wire	ш	8	1	1	SHIELD	8	^	۵	P/B	B/P	ı	ı	B/L	G/R	
Terminal No.	55	56	57	28	59	09	61	62	63	64	92	99	29	89	

Connector No.	ž	١.		M165	165	l.,										
Connector Name	Ž	Ě	O)	€ ⊠≥			AV CONTROL UNIT (W BOSE AUDIO SYSTEM WITH NAVI)	l윤물은	200	l5% -		≲≧	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITH NAVI)	ı		
Connector Color WHITE	õ	ᅙ		≥	l≒	巴									_	
															ì	
偃						ä	$ \rangle$	M	V	17						
Ų.	49	49 50 51 52 53 54	21	25	53	54	22	99	22	28	29	99	55 56 57 58 59 60 61 62 63	62	63	64
Ċ L	8	66 67 68 69 70 71 72 73 74 75 76 77 78 79	67	88	69	2	7	72	73	74	75	9/	12	78	79	88

Signal Name	-	I	-	I	PKB SIG	GND
Color of Wire	1	I	1	ı	ŋ	В
Terminal No. Wire	49	90	51	52	53	54

Signal Name	FR DISP IT	IT FRONT DISP	BATT	GND	1	ı	ı	I	ı	FR COMP+	FR COMP-	FR SYNC	COMP IN SHIELD	SHIELD	ACC	1
Color of Wire	FG	>	\	В	1	-	_	ı	ı	8	Œ	В	SHIELD	SHIELD	۸	ı
Terminal No.	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

	DISPLAY UNIT (WITH NAVI)				-	13	1
	Ŧ				2	14	
	⋈				က	15	
				لــا	4	16	
	Ξ			117	9	1	
	\Box			IV.	9	8	
	Α	l		IN.	7	9	
ထ္က	Ы	WHITE		Ш	8	24 23 22 21 20 19 18 17 16 15 14 13	
M168	SI	¥		٦	6	21	
2	Э	۸			12 11 10 9	22	
	пe	or			Ξ	23	
ġ.	lan	ŏ			12	24	
tor No.	tor Name	tor Color					_

12 11 10	

Signal Name	-	ı	I	-	ı	FR COMP SHIELD	RR CAMERA-COMP	RR CAMERA-COMP I
Color of Wire	-	ı	ı	-	ı	SHIELD	BR	\
Terminal No. Wire	1	2	3	4	5	9	7	8

ne BOSE AUDIO SY WITH NAVI)	or GRAY	120 121 122
Connector Name	Connector Color	S H

Connector No. M167







Signal	'	1	1
Color of Wire	I	В	В
Terminal No.	120	121	122

ABNIA3868GB

BOSE AUDIO SYSTEM - WITH NAVIGATION SYSTEM

< WIRING DIAGRAM >

[BOSE AUDIO WITH NAVIGATION]

Connector Name SOSE ALLDIO SYSTEM 20 - -			\ \ \ \	HIMIT WITH			WIRe	
Connector Color WITTENAVI) Connector Color WITTENAVI) Signal Name Connector Color WITTENAVI) Connector Name Connector Name				E AUDIO SYSTEM		30	ı	ı
Sample Connector Color WHITE Sample Sa	_		M	1 NAVI)		31	1	1
Same		Connector	. Color MHI	ш		32	ı	1
The color of Signal Name Connector No. Mine No.		ą.	L			33	1	ı
Sample Color of Signal Name Color of Name Colo			21 22 24 25	/ g		34	ı	I
Terminal No. Color of Signal Name Si			35 36 37 38 39	43 44		35	1	ı
Terminal No. Color of Signal Name Si	131					36	1	İ
127 W Wire Signal Name Terminal No. Color of Signal Name 21 39 B 128 G USB GND 22 44 139 SHIELD CONNECTOR SHIELD Connector No. MZOI MIRE TO WIRE Connector No. Wire Signal Name Terminal No. Wire Signal Name Terminal No. Wire Signal Name Terminal No. Color of Termi							SHIELD	AUX SHIELD
128 W VBUS 128 G USB GND 129 L USB D+ 129 L USB D+ 131 SHIELD CONNECTOR SHIELD 131 SHIELD CO	Color of Wire	Terminal N		Signal Name			æ	AUX AUDIO RH
128 G USB GND 22 -	Î ×	15	1	ı		39	В	AUX AUDIO-
130 R USB D+ 24 W AUX AUDIO LH 42 -	g	22	ı	1		40	ı	ı
SHIELD CONNECTOR SHIELD 24 W AUX AUDIOLH 42 -	_	23	ı	1		41	_	_
SHIELD CONNECTOR SHIELD 25 -	æ	24	>	AUX AUDIO LH		42	ı	I
ST STREED GND 26 -	CONNECTOR SHI		ı	ı		43	ı	l
Name Mile	SHIELD		1	1		44	-	-
Connector No. M201		7.6	ı			45	1	ı
Magnation No. Magnation No		i 88	ı	1		46	1	1
Connector No. M201		8				47	1	1
Connector No. M20f Nector Name FRONT AUXILIARY Signal Name S		67	ı	I		48	1	ı
Connector Name WIRE TO WIRE		Connector			L H		Color of	
INPUT JACKS G Connector Color WHITE G P F F F F F F F F F	Connector Name WIRE TO WIRE	Connector	Name FRO	NT AUXILIARY		IIII NO.	Wire	Sigriai Naille
Connector Color WHITE Color Co	Connector Color WHITE		INPL	IT JACKS		2	σ	ı
Te is it it is it is it it is i		Connector	Color WHI			9	Ь	I
Terminal No. Wire Signal Name Terminal No. Wire 2 B	0 0 0				1	7	8	ı
Color of Signal Name Terminal No. Wire B Terminal No. Wire B Terminal No. 4 - 4	16 15 14 13 12 11 10 9					8	В	1
Color of Signal Name Wire B - 1 R R R R R R R R R R R R R R R R R R		H.S.		4 5 6 7				
B	Color of Wire	Terminal N	do. Color of Wire	Signal Name				
2 B 3 W L		_	æ	1				
W 1		2	В	1				
- 4		က	>	ı				
		4	ı	ı				

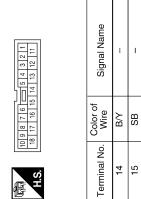
Revision: August 2013 AV-417 2014 Armada NAM

ABNIA3870GB

< WIRING DIAGRAM >

E119 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) WHITE	Signal Name REVERSE LAMP	F9 AT ASSEMBLY GREEN GREEN	В
	No. Wire G		D
Connector No Connector Color Market 17. 18 17.	Terminal No.	Connector No. Connector Color H.S. Terminal No. WW	Е
			F
RE 7 8 9 10 11 20 21 22 23 24	Signal Name -	Signal Name	G
No. E5 Name WIRE TO WIRE Color WHITE 1 2 3 4 5 6			Н
3 c or 14 3	al No. Wire	Oolor of A Wire of A Wire of A B A B A B A B A B A B A B A B A B A	I
Connector No. Connector Col	Terminal No.	Terminal No. 91G 91G 95G 95G	J
		239 250 129 119 129	K
M602 ANTENNA AMP. WHITE	Signal Name	10 10 10 10 10 10 10 10	L
	o. Wire B	WHIR WHR E152	AV
Connector Name Connector Color H.S.	Terminal No.	Connector No. Connector Color H.S.	0
		ABNIA3871GB	Р

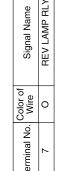






Connector No. F14
Connector Name WIRE TO WIRE

Connector Color WHITE

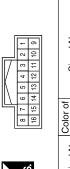


Signal Name	REV LAMP RL	
Color of Wire	0	
Terminal No.	7	

Signal Name	1	
Color of Wire	ш	
Terminal No. Wire	13	

Signal Name	I	I	-	I	I	-	I
Color of Wire	SHIELD	Μ	SHIELD	g	н	В	Г
Terminal No. Wire	10	11	12	13	14	15	16

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



Signal Name	I	1	1	I	1	1	I
Color of Wire	SHIELD	>	SHIELD	В	ш	g	В
Terminal No. Wire	2	က	4	5	9	7	8

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BOSE AUDIO SYSTEM - WITH NAVIGATION SYSTEM

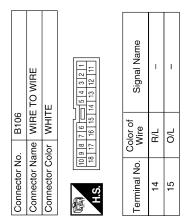
< WIRING DIAGRAM >

[BOSE AUDIO WITH NAVIGATION]

Signal Name	I	1	1	1 1	ı	1	1	ı	I	ı	_					Signal Name		ı	1	1	1 1								
o. Wire	В/У	SB	M	SHIELD	G	5 Œ	M/G	В	В	>	Я	æ				Color of	SHIFLD) >	Я	ۍ <u>۵</u>	ב פ	5							
Terminal No.	L1	7.1	24J	25J	57J	581	597	627	66J	P29	ſ69	96				Tormimal No	2	. ∞	6	10	- 5	1							
		7										[F]						\neg											1
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9	_			ਲ 9	2	21 200 190	307 280	41.) 40.) 39.)	500 490	61 90 281	70J 69J	81J 80J 79J	92	001		Jo. B79		JOIOT BHOWIN		12 11 10 9 8 7 6 5 24 23 22 21 20 19 18 17		Color of Wire	SHIELD	*	œ	σ		В	
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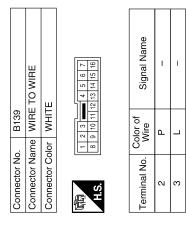
Revision: August 2013 AV-421 2014 Armada NAM

< WIRING DIAGRAM >



Signal Name	ı	ı	ı	ı	ı	I	ı	ı	ı	ı	ı	_	ı	ı	_	ı
Color of Wire	ш	>	SHIELD	>	В	ч	Μ	SHIELD	SHIELD	В	ŋ	В	G	œ	M	SHIELD
Ferminal No.	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

94	WIRE TO WIRE	WHITE		8 7 6 5 4 3 2 1 20 19 18 17 16 15 14 13		Signal Name	_	-	ı	_	_	1	_	- 1	
. B104				11 10 9 22 21		Color of Wire	В	Ь	В	Я	Μ	В	٦	g	
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Signal Name	ı	ı	_	I	ı	-	ı
Color of Wire	В	SHIELD	Μ	Œ	ŋ	Я	g
Terminal No. Wire	9	7	8	6	10	11	12

67	WIRE TO WIRE	ITE	5 6 7 8 9 10 11 12 17 18 19 20 21 22 23 24	Signal Name	_	ı	ı	_	1
		lor WHITE	13 14 15 16	Color of Wire	SHIELD	Μ	В	Э	Т
Connector No.	Connector Name	Connector Color	H.S.	Terminal No. Wire	1	2	3	4	2

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< WIRING DIAGRAM >

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2	3A	4A	18A	23A	24A	28A	45A		52A	53A	54A	57A	64A	65A	66A	67A	Terminal No.		80	10	Ξ	12	13	4	15	16					
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Connector Name	Connector Color				S.												Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE		佢	H.S.			Terminal No.	2	က	4	5	9	
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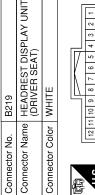
Terminal No.	Color of Wire	Signal Name
1	Μ	REAR 1 HP LH-
2	ŋ	REAR 1 HP LRH-
3	SHIELD	REAR 1 HP SHIELD
4	>	REAR 1 COMP -
5	ı	ı
9	BR	CONT GND
2	ГG	AUX REQ. OUT
8	1	ı
6	bЛ	M-CAN 2 L
10	SB	M-CAN 2 H
11	ı	1
12	В	GND
13	В	REAR 1 HP LH+
14	ш	REAR 1 HP RH+
15	анегр	REAR 1 COMP SHIELD
16	0	REAR 1 COMP+
17	SB	AV GND
18	_	_
19	SB	ACC DET. IN
50	SHIELD	SHIELD M-CAN
21	LG	M-CAN 1 L
22	SB	M-CAN 1 H
23	-	_
24	>	BAT







Signal Name	ı	1	_	-	ı	ı	-	I	_	_	I	_	1	I	_	1	_	-
Color of Wire	8	G	SHIELD	Υ	BR	ГG	ЫLG	SB	В	В	SHIELD	0	SB	SB	SHIELD	FIG	SB	Υ
Terminal No.	-	2	က	4	9	7	6	10	13	14	15	16	17	19	20	21	22	24







Terminal No.	Color of Wire	Signal Name
1	Μ	REAR 1 HP LH-
2	В	REAR 1 HP LRH-
3	SHIELD	REAR 1 HP SHIELD
4	Ь	REAR 1 COMP -
5	ı	1
9	SB	CONT GND
7	٦	AUX REQ. OUT
80	1	1
6	ГВ	M-CAN 2 L
10	SB	M-CAN 2 H
11	1	ı
12	В	GND
13	В	REAR 1 HP LH+
14	œ	REAR 1 HP RH+
15	SHIELD	REAR 1 COMP SHIELD
16	Т	REAR 1 COMP+
17	Ь	AV GND
18	1	_
19	BR	ACC DET. IN
20	-	_
21	LG	M-CAN 1 L
22	SB	M-CAN 1 H
23	1	_
24	SB	BAT

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< WIRING DIAGRAM >

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) WIRE		[R] 80	Signal Name	1	ı	1										E
5. R107 ame WIRE TO WIRE	olor WHITE	4 5 7 8 3	O	B/L	B/W	Δ										(
Connector No.	Connector Color	呵 H.S.	Terminal No.	-	2	4										E
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											ſ		T T			ŀ
O WIRE		■ 4 5 0 11 12 12 12 12 12 12 12 12 12 12 12 12	Signal Name	– (WITH NAVI)	1	1			HONE	4		Signal Name	– (WITH NAVI)	– (WITH NAVI)	1	L
o. R2 ame WIRE TO WIRE	olor WHITE	1 2 3	87	M	SHIELD	Δ			Jame MICHOPHONE	2		Color of Wire	B/L	B %		A
Connector No.	Connector Color	所 H.S.	Terminal No.	-	9	27		Connector No.	Connector Name	原 H.S.		Terminal No.	-	0 4	•	(
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	REAR DOOR TWEETER LH	NN		Signal Name	ı	1
D208		or BROWN	2	Color of Wire	SB	В/Υ
Connector No.	Connector Name	Connector Color	明 H.S.	Terminal No.	-	2

Connector No.). D112	
Connector Na	me FRON	Connector Name FRONT DOOR SPEAKER RH
Connector Color	lor WHITE	Ш
南南 H.S.	[[[]	
Terminal No.	Color of Wire	Signal Name
-	M/B	ı
2	L/B	I

Connector No.). D101		
Connector Name	ame WIRE	WIRE TO WIRE	
Connector Color	olor WHITE	Į.	
原 H.S.	2 9 2	8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	
Terminal No.	Color of Wire	Signal Name	
2	T/B	ı	
5	M/B	1	

	FRONT DOOR SPEAKER LH	Е		Signal Name	I	ı
D12	ne FRON	or WHIT		Color of Wire	ΓW	ا ا
Connector No.	Connector Name	Connector Color WHITE	是 H.S.	Terminal No.	-	0

	REAR DOOR SPEAKER LH (WITH BOSE AUDIO SYSTEM)	N		Signal Name	ı	ı
D207		or BROWN	5	Color of Wire	SB	В/
Connector No.	Connector Name	Connector Color	崎高 H.S.	Terminal No.	-	2

	WIRE TO WIRE	Ш		Signal Name	I	I
. D201	me WIRE	lor WHIT	1 2 3 4 5 1	Color of Wire	В/У	SB
Connector No.	Connector Name	Connector Color WHITE	H.S.	Terminal No.	14	15

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BOSE AUDIO SYSTEM - WITH NAVIGATION SYSTEM

< WIRING DIAGRAM >

[BOSE AUDIO WITH NAVIGATION]

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Connector Name REAR DOOR TWEETER RH Connector Color BROWN A.S.	Terminal No. Color of Signal Name 1 O/L – 2 R/L –	Connector No. D501 Connector Name WIRE TO WIRE Connector Color WHITE 1 2 3 4 5 6 7 8 9 10 1 1 1 1 1 1 1 1 1	Terminal No. Color of Wire Signal Name 1 W - 2 B - 3 B - 4 R - 11 R - 12 G - 13 SHIELD -
REAR DOOR SPEAKER RH (WITH BOSE AUDIO SYSTEM) BROWN	Signal Name	me WIRE TO WIRE lor WHITE 10 9 7 6 15 14 13 12 11	Signal Name
Connector Name Connector Color E C	Terminal No. Color of Wire 1 O/L 2 R/L	Connector No. D Connector Name W Connector Color W H.S.	Color of Terminal No. Wire 1 W Wire 2 B B B B H H R H H R H H H H H H H H H H
MRE TO WIRE or WHITE 12 3 4 5	Signal Name -	D401 The WIRE TO WIRE The WHITE Signal Name	
Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No. Wire 14 R/L 15 O/L	Connector No. D401 Connector Name WIRE TO WIRE Connector Color WHITE	Color of Color of Wire W W Color of W Color of W W W W W W W W W

Revision: August 2013 AV-427 2014 Armada NAM

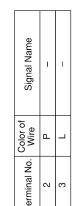
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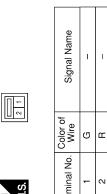
Connector Color BROWN

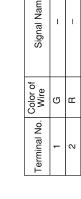
D518

Connector No.



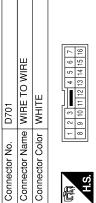






4	REAR VIEW CAMERA	ITE		7 8	Signal Name	ı	I	ı	1	1	1	_	ı
D504		or WHITE	_	2 6	Color of Wire	В	Œ	SHIELD	-	В	M	_	1
Connector No.	Connector Name	Connector Color	语 SH		Terminal No.	-	2	က	4	5	9	2	8

	BACK DOOR SPEAKER RH	NM		Signal Name	I	
D716	<u>e</u>	lor BROWN		Color of Wire	Д	_
Connector No	Connector Name	Connector Color	H.S.	Terminal No.	-	c





Signal Name	1	1	
Color of Wire	_	Ь	
Terminal No.	2	က	

4	16 15 14 13 12 11 10 9 8		Signal Name	ı	1
7 6 5	16 15 14 1		Color of Wire	Г	۵
	SH	1	Terminal No.	2	c

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< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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".

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[BOSE AUDIO WITH NAVIGATION]

Symptoms	Check items	Probable malfunction location
	No sound from all speakers.	 Speaker circuit shorted to ground. Refer to <u>AV-401</u>, "Wiring <u>Diagram</u>". Bose amp. ON signal circuit malfunction. Refer to <u>AV-377</u>, "<u>Diagnosis Procedure</u>". Bose speaker amp. power supply and ground circuits malfunction. Refer to <u>AV-348</u>, "<u>BOSE SPEAKER AMP</u>: <u>Diagnosis Procedure</u>".
No sound comes out or the level of the sound is low.	Only a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, rear door 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-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-363, "Diagnosis Procedure" (front tweeter). AV-363, "Diagnosis Procedure" (rear door speaker). AV-363, "Diagnosis Procedure" (rear door speaker). AV-366, "Diagnosis Procedure" (back door speaker). AV-369, "Diagnosis Procedure" (subwoofer). Malfunction in speaker. Refer to: - AV-453, "Removal and Installation" (front door speaker). AV-453, "Removal and Installation" (front tweeter). AV-454, "Removal and Installation" (rear door speaker). AV-456, "Removal and Installation" (rear door speaker). AV-457, "Removal and Installation" (rear door speaker). AV-458, "Removal and Installation" (subwoofer). AV-458, "Removal and Installation" (subwoofer). Malfunction in Bose speaker amp. 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".

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Symptoms	Check items	Probable malfunction location
	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 is mixed with audio.	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front tweeter RH, center speaker, rear door speaker LH, rear door speaker RH, 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-360, "Diagnosis Procedure" (center speaker) AV-366, "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-357, "Diagnosis Procedure" (front door speaker) AV-357, "Diagnosis Procedure" (front weeter) AV-357, "Diagnosis Procedure" (center speaker) AV-360, "Diagnosis Procedure" (rear door speaker) AV-360, "Diagnosis Procedure" (rear door speaker) AV-366, "Diagnosis Procedure" (rear door speaker) AV-366, "Diagnosis Procedure" (subwoofer). Malfunction in speaker Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-455, "Removal and Installation" (front tweeter) AV-455, "Removal and Installation" (center speaker) AV-456, "Removal and Installation" (rear door speaker) AV-456, "Removal and Installation" (rear door speaker) AV-456, "Removal and Installation" (subwoofer). Malfunction in AV control unit. Refer to AV-456, "Removal and Installation" (subwoofer). 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".

[BOSE AUDIO WITH NAVIGATION]

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 <u>AV-389</u>, "<u>Reference Value</u>". Poor connector connection of antenna or antenna feeder. Refer to <u>AV-461</u>, "<u>Location of Antennas</u>".
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 <u>AV-461</u>, "<u>Location of Antennas</u>".
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/".
- 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.

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Symptoms	Check items	Probable malfunction location	Д
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.		В
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. 	Malfunction in AV control unit. Replace AV control unit. Refer to AV-448, "Removal and Installation".	С
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	Sound operation function is normal.		Е
the other party with hands-free phone communication.	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-380, "Diagnosis Procedure".	
	 The voice recognition can be controlled. Steering switch's □+ , □- , and 	Steering switch malfunction. Replace steering switch. Refer to AV-459, "Removal	G
The system cannot be operated.	switch works, but w does not work.	and Installation".	
	Steering switch's ູ√∠, Д+ , Д− , and ✓ switches do not work.	Steering switch signal circuit malfunction. Refer to AV-378, "Diagnosis Procedure".	Н
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-378, "Diagnosis Procedure".	I

RELATED TO NAVIGATION

Symptoms	Check items	Probable malfunction location
	Navigation malfunction.	Malfunction in hard disk drive (HDD). Malfunction in AV control unit. Refer to AV-309, "AV CONTROL UNIT : Diagnosis Description".
Navigation system is inoperative.	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	Use the touch button in front display to switch vid-	Video is shown.	Operate with the remote to see if videos can be switched.
screen.	eo images on the head- rest display unit.	Video is not shown.	Replace headrest display unit.

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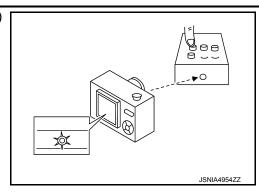
MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Symptom	Chec	ck item	Possible malfunction location/Action to take
Headrest display unit in	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.
Headrest display unit in- operative with the re- mote.	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 be- comes 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.



< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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NORMAL OPERATING CONDITION

Description INFOID:000000009821103

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 lin	ked 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 malfunctionOpen circuit in printed heaterPoor 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 DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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.	Volume control is set to OFF, MIN or MAX.	Adjust the audio guide volume.
Audio guide volume is too low or too high.	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	GPS satellite signal is intercepted because the vehicle is in or behind a building.	Move the vehicle out to an open space.
gray.	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 DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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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	d 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

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[BOSE AUDIO WITH NAVIGATION]

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 research 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) near- by and reset the destination and passing points onto it. Take care of the traveling direc- tion 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:

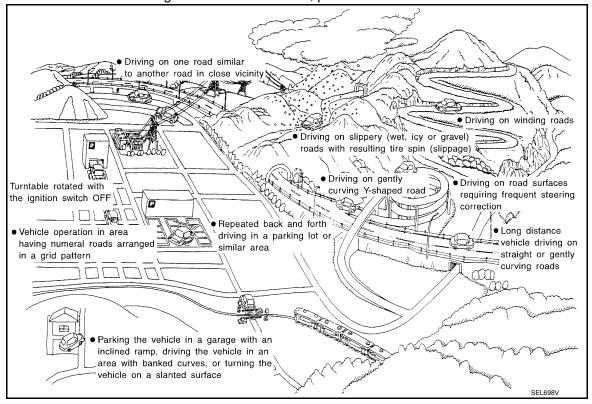
Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

Examples of Current-Location Mark Displacement

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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.



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[BOSE AUDIO WITH NAVIGATION]

Cause (con	dition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)	
	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.		
	Spiral roads			
Road configuration	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.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.	
	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	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.		

[BOSE AUDIO WITH NAVIGATION]

Cause (cor	ndition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
Place	In a parking lot Parking lot SELTOSV	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 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 New road 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)	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.)

[BOSE AUDIO WITH NAVIGATION]

Cause (condition) -: While driving ooo: Display		Driving condition	Remarks (correction, etc.)
	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.
Precautions for driving	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 Within 1 mm (0.04 in) 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 correc- tion.
	Direction when location is corrected Direction calibration adjustment 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

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

-	· Because calculation of the current location cannot be done when traveling with the ignition off, for example 1.	ample
	when traveling by ferry or when being towed, the location before travel is displayed. If the precise location	cation
	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.

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PRECAUTION

PRECAUTIONS

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

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

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NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYS-TEM).
- 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.
- Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
- 4. Perform the necessary repair operation.

PRECAUTIONS

< PRECAUTION >

[BOSE AUDIO WITH NAVIGATION]

- 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.)
- Perform a self-diagnosis check of all control units using CONSULT.

Precaution for Trouble Diagnosis

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AV COMMUNICATION SYSTEM

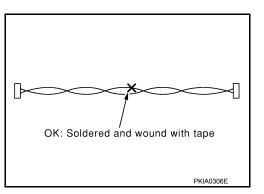
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- · Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

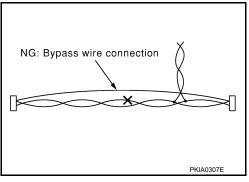
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AV COMMUNICATION SYSTEM

 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

- 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
- 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.

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AV-445 2014 Armada NAM Revision: August 2013

PRECAUTIONS

- For genuine leather seats, use a genuine leather seat cleaner.

PREPARATION

[BOSE AUDIO WITH NAVIGATION] < PREPARATION > **PREPARATION** Α **PREPARATION Special Service Tools** INFOID:0000000010159191 В The actual shape of the tools may differ from those illustrated here. Tool number Description C (TechMate No.) Tool name Removing trim components D (J-46534) Trim Tool Set Е AWJIA0483ZZ **Commercial Service Tools** INFOID:0000000009821110

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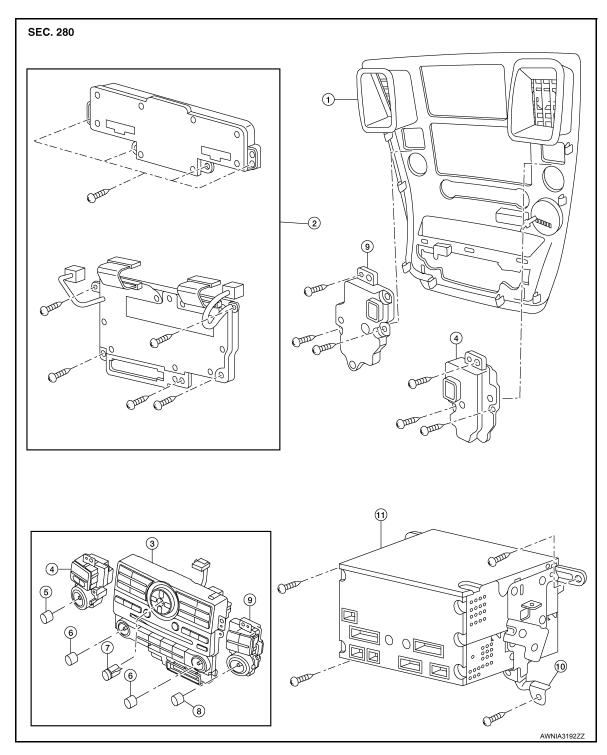
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REMOVAL AND INSTALLATION

AV CONTROL UNIT

Removal and Installation

INFOID:0000000010159195



- 1. Cluster lid C
- 4. Volume knob switch
- Enter button
- 10. AV control unit bracket
- 2. A/C and AV switch assembly (rear view) 3.
- 5. Volume knob
- Tuner knob
- 11. AV control unit

- A/C and AV switch assembly (front view)
- 6. Temp knobs (LH/RH)
- 9. Tuner knob switch

AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

REMOVAL

CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to AV-123, "CONFIGURATION (AV CONTROL UNIT): Description".

- Remove cluster lid C. Refer to <u>IP-15, "Removal and Installation"</u>.
- 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).

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 <u>AV-123, "CONFIGURA-TION (AV CONTROL UNIT): Description"</u>.

Installation is in the reverse order of removal.

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AV AND A/C SWITCH ASSEMBLY

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

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

[BOSE AUDIO WITH NAVIGATION]

DISPLAY UNIT

Removal and Installation

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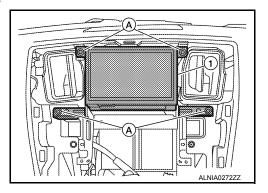
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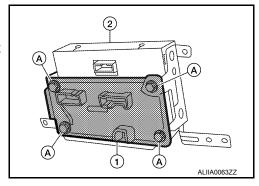
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REMOVAL

- 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.

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HEADREST DISPLAY UNIT

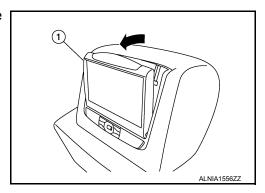
Removal and Installation

INFOID:0000000010159244

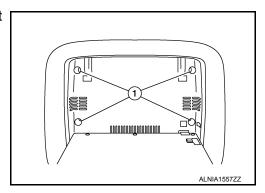
REMOVAL

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

FRONT TWEETER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

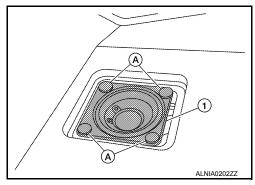
FRONT TWEETER

Removal and Installation

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.

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[BOSE AUDIO WITH NAVIGATION]

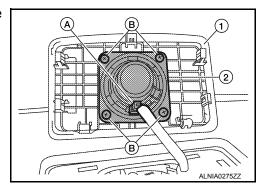
CENTER SPEAKER

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

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000009821116

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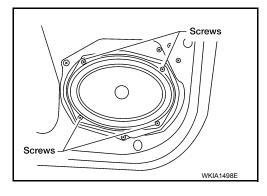
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REMOVAL

- 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.

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REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

REAR DOOR SPEAKER

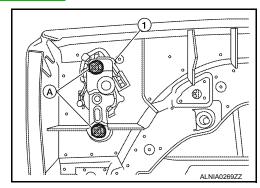
Removal and Installation

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

BACK DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

BACK DOOR SPEAKER

Removal and Installation

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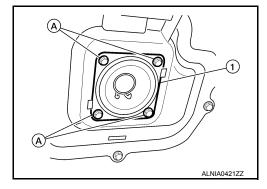
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REMOVAL

- 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.

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[BOSE AUDIO WITH NAVIGATION]

WOOFER

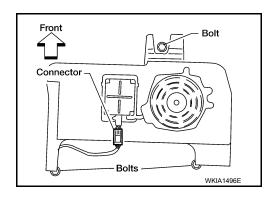
Removal and Installation

INFOID:0000000009821119

SUBWOOFER (BOSE SYSTEM)

Removal

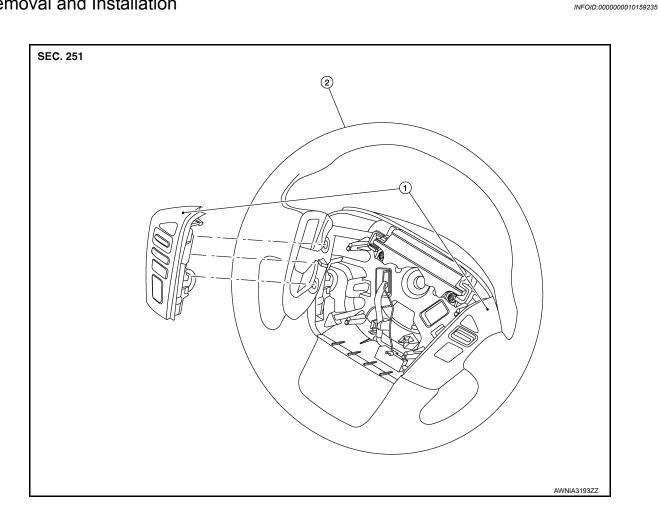
- 1. Remove the front seat assembly (LH). Refer to SE-63, "Removal and Installation Front Seat Assembly".
- 2. Disconnect the harness connector from the subwoofer.
- 3. Remove the subwoofer bolts.
- 4. Remove the subwoofer.



Installation

STEERING SWITCH

Removal and Installation



1. Steering wheel audio control switches 2. Steering wheel

REMOVAL

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

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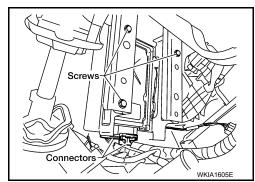
BOSE AMP.

Removal and Installation

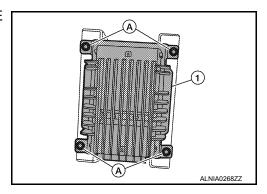
INFOID:0000000009821121

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.



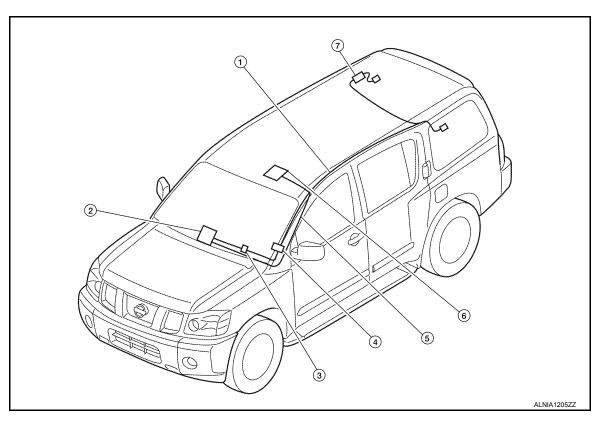
4. Remove the BOSE amp. screws (A) and separate the BOSE amp. (1) from the bracket.



INSTALLATION

AUDIO ANTENNA

Location of Antennas



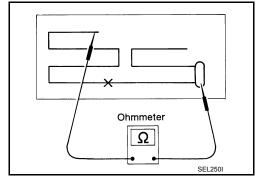
- 1. Antenna Feeder
- 4. M551, M601
- 7. Antenna amp M602

- 2. AV control unit M125, M167
- 5. Satellite antenna feeder
- 3. M78, M550
- 5. Satellite antenna

Window Antenna Repair

ELEMENT CHECK

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



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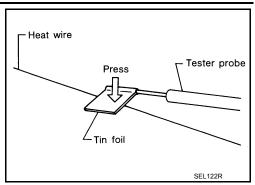
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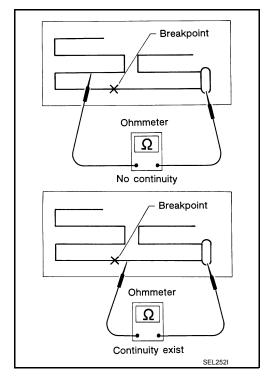
AV

[BOSE AUDIO WITH NAVIGATION]

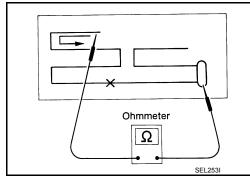
 When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



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 >

[BOSE AUDIO WITH NAVIGATION]

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.

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USB CONNECTOR

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

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

ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

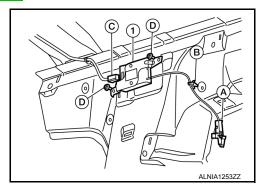
ANTENNA AMP.

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.

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SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

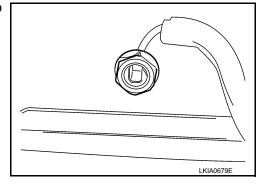
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SATELLITE RADIO ANTENNA

Removal and Installation

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

GPS ANTENNA

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

GPS ANTENNA

Removal and Installation

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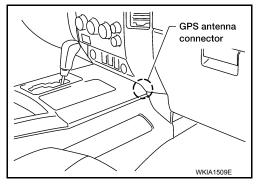
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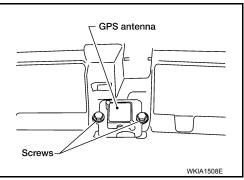
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REMOVAL

- 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.

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[BOSE AUDIO WITH NAVIGATION]

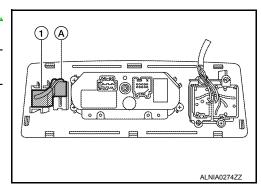
MICROPHONE

Removal and Installation

INFOID:0000000009821129

REMOVAL

- 1. Remove the front roof console finisher. Refer to <u>INT-21</u>, <u>"Removal and Installation"</u>.
- 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

REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000009821130

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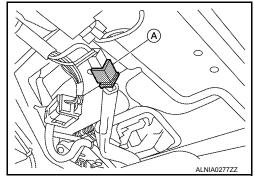
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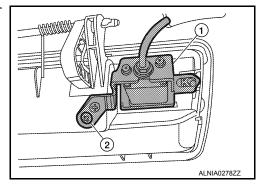
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REMOVAL

- 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 <u>DLK-399, "Door Lock Assembly"</u>.



4. Remove the rear view camera screw (2) and remove the rear view camera (1).



INSTALLATION

Installation is in the reverse order of removal.

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