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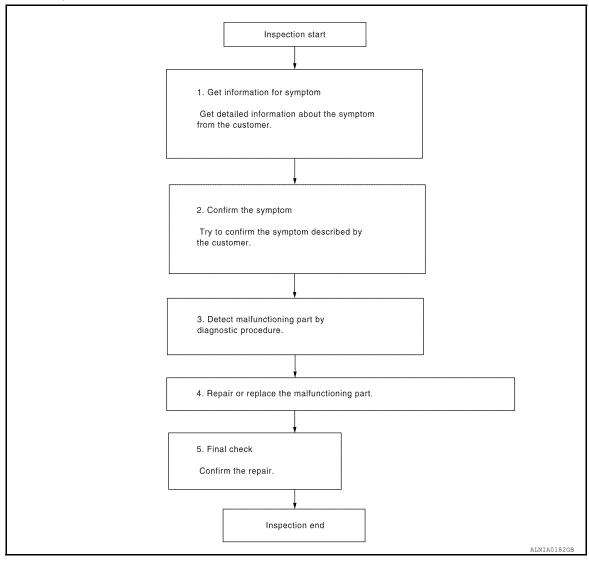
[BASE AUDIO] < BASIC INSPECTION >

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow INFOID:0000000007347574 В

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?

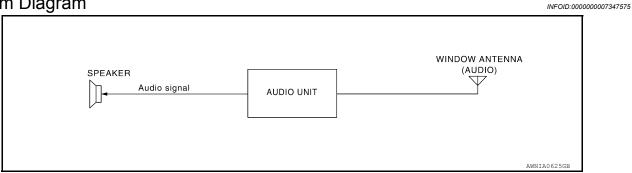
YES >> Inspection End.

NO >> GO TO 2

SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram



System Description

INFOID:0000000007347576

AUDIO SYSTEM

The audio system consists of the following components

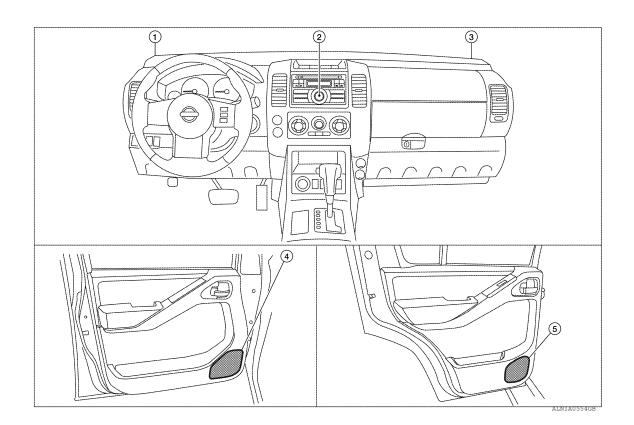
- Audio unit
- Window antenna (audio)
- · Front door speakers
- · Front tweeters
- Rear door speakers

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

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

Component Parts Location

INFOID:0000000007347577



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AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[BASE AUDIO]

1. Front tweeter LH M109

4. Front door speaker LH D12 RH D112 2. Audio unit M38, M60

5. Rear door speaker LH D209 RH D309 3. Front tweeter RH M111

Component Description

INFOID:0000000007347578

Part name	Description
Audio unit	Controls audio system functions
Front door speakers	Outputs audio signal from audio unitOutputs high, mid and low range sounds
Front tweeters	Outputs audio signal from audio unit Outputs high range sounds
Rear door speakers	Outputs audio signal from audio unitOutputs high, mid and low range sounds

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000007347579

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Regarding Wiring Diagram information, refer to AV-22, "Wiring Diagram".

1.CHECK FUSES

Check that the following fuses are not blown.

Unit	Terminals	Signal name	Fuse No.
Audio unit	19	Battery power	29
Addio driit	7	Ignition switch ACC or ON	4

Are the fuses OK?

YES >> GO TO 2

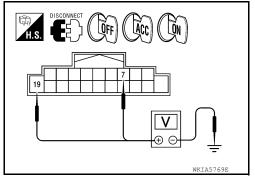
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2. POWER SUPPLY CIRCUIT CHECK

Disconnect audio unit connector M38.

2. Check voltage between the audio unit connector M38 and ground.

(+)	(-)	OFF	ACC	ON
Connector	Terminal	(-)	OH	ACC	ON
M38	19	Ground	Battery voltage	Battery voltage	Battery voltage
IVISO	7	Ground	0V	Battery voltage	Battery voltage



Are the voltage results as specified?

YES >> GO TO 3

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

Repair harness or connector.

3. GROUND CIRCUIT CHECK

Inspect audio unit case ground.

Does case ground pass inspection?

YES >> Inspection End.

NO >> Repair audio unit case ground.

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FRONT DOOR SPEAKER

Description

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

Diagnosis Procedure

INFOID:0000000007347581

Regarding Wiring Diagram information, refer to AV-22, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

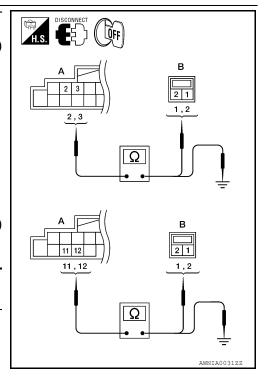
2. HARNESS CHECK

- Disconnect audio unit connector M38 (A) and suspect speaker connector (B).
- 2. Check continuity between audio unit harness connector M38 (A) terminal and suspect speaker harness connector (B) terminal.

	A	В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2	D12	1	
M38	3	DIZ	2	Yes
	11	D112	1	165
	12	DIIZ	2	

3. Check continuity between audio unit harness connector M38 (A) terminal and ground.

	Α		Continuity
Connector	Terminal		Continuity
	2		
M38	3	Ground	No
IVIJO	11	Glound	NO
	12		



Are continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3.FRONT SPEAKER SIGNAL CHECK

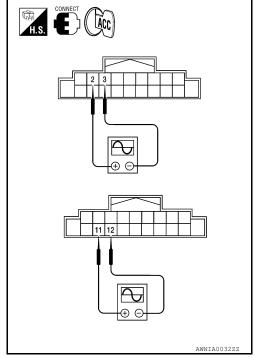
- 1. Connect audio unit connector and front speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio unit harness connector terminals with CONSULT or oscilloscope.

Connector	Terr	ninal	Condition	Reference
Connector	(+)	(-)	Condition	signal
'	2	3		
M38	11	12	Receive audio signal	(V) 1 0 -1 1 ms

Is the audio signal voltage as specified?

YES >> Replace speaker. Refer to <u>AV-37, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-34, "Removal and Installation"</u>.



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FRONT TWEETER

Description

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

Diagnosis Procedure

INFOID:0000000007347583

Regarding Wiring Diagram information, refer to AV-22, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

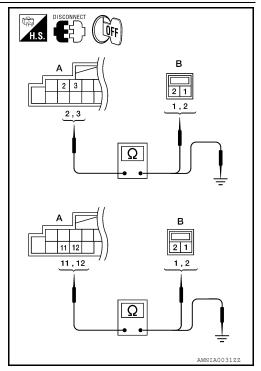
2. HARNESS CHECK

- 1. Disconnect audio unit connector M38 (A) and suspect front tweeter connector (B).
- 2. Check continuity between audio unit harness connector M38 (A) and suspect front tweeter harness connector (B).

	A	I	В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2	M109	1	
M38	3	WITUS	2	Yes
IVISO	11	M111	1	165
	12	IVIIII	2	

3. Check continuity between audio unit harness connector M38 (A) and ground.

	Α		Continuity
Connector	Terminal	_	Continuity
	2		
M38	3	Ground	No
IVISO	11	Giouna	INO
	12		



Are the continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3.TWEETER SIGNAL CHECK

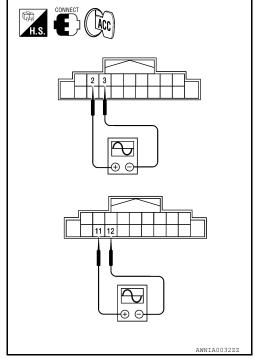
- 1. Connect audio unit connector and front tweeter connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio unit harness connector terminals with CONSULT or oscilloscope.

Connector	Term	ninals	Condition	Reference signal
Connector	(+)	(-)	Condition	reference signal
	2	3		
M38	11	12	Receive audio signal	(V) 1 0 -1 1 ms

Is the audio signal voltage as specified?

YES >> Replace tweeter. Refer to <u>AV-36, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-34, "Removal and Installation"</u>.



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INFOID:0000000007347585

REAR DOOR SPEAKER

Description INFOID:000000007347584

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

Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-22, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

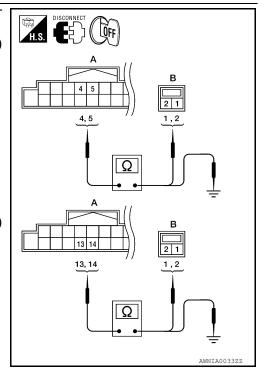
2. HARNESS CHECK

- Disconnect audio unit connector M38 (A) and suspect speaker connector.
- Check continuity between audio unit harness connector M38 (A) and suspect speaker harness connector (B).

	A	I	В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	4	D207	1	
M38	5	D201	2	Yes
IVISO	13	D307	1	165
	14	D307	2	

3. Check continuity between audio unit harness connector M38 (A) and ground.

Α		Continuity
Terminal	_	Continuity
4		
5	Cround	No
13	Giouna	INO
14		
	Terminal 4 5 13	Terminal 4 5 Ground



Are the continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3. REAR SPEAKER SIGNAL CHECK

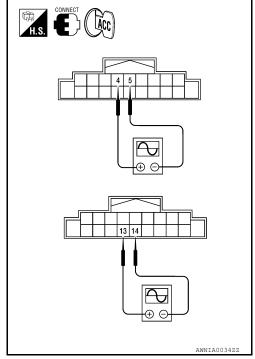
- 1. Connect audio unit connector and rear door speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio unit harness connector terminals with CONSULT or oscilloscope.

Connector	Terr	ninal	Condition	Reference signal
Connector	(+)	(-)	Condition	reference signal
	4	5		
M38	13	14	Receive audio signal	(V) 1 0 -1 1 ms SKIA0177E

Is the audio signal voltage as specified?

YES >> Replace rear speaker. Refer to AV-38, "Removal and Installation".

NO >> Replace audio unit. Refer to <u>AV-34, "Removal and Installation"</u>.



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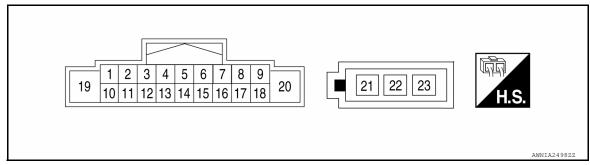
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ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal color)	Item	Signal input/ output		Condition	Reference value
2 (BR)	3 (L)	Audio signal front LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 1 ms
4 (G)	5 (B)	Audio signal rear LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 1 ms SKIA0177E
7 (G/B)	Ground	ACC signal	Input	Ignition switch ON	Ignition switch ACC or ON	Battery voltage
8 (GR)		Illumination control	_	_	_	_
9 (R)	Ground	Illumination power	Input	Ignition switch ON	Lighting switch ON	Battery voltage
11 (LG)	12 (R)	Audio signal front RH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 1 ms skiao177E

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO]

	ninal color)	Item	Signal input/		Condition	Reference value
+	_		output			
13 (GR)	14 (O)	Audio signal rear RH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 1 ms SKIA0177E
19 (Y)	Ground	Battery power	Input	_	_	Battery voltage
22	_	Antenna main	_	_	_	_
23	_	Antenna power	Output	Ignition switch ON	With AM/FM radio se- lected	Battery voltage

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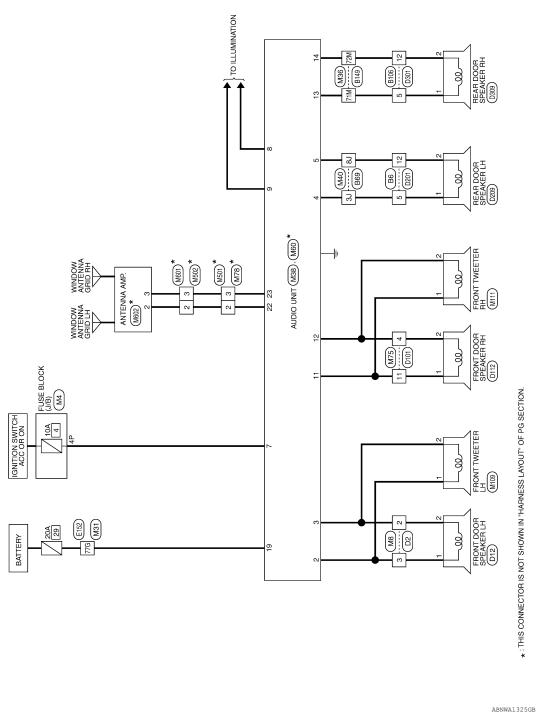
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WIRING DIAGRAM

BASE AUDIO SYSTEM

Wiring Diagram INFOID:0000000007347587



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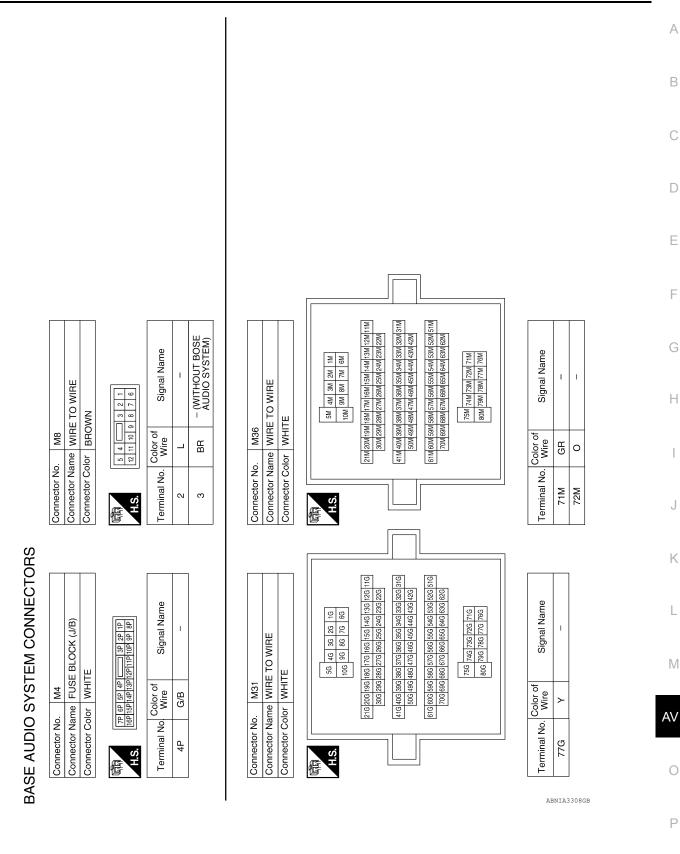
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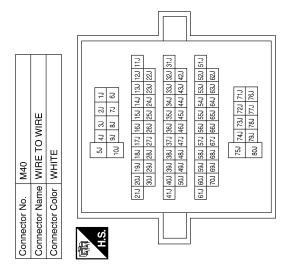
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Signal Name	- (WITHOUT BOSE AUDIO SYSTEM)	- (WITHOUT BOSE AUDIO SYSTEM)	
Color of Wire	g	В	
Terminal No. Wire	33	8.1	

Connector No.		M78
Connector Na	ame M	Connector Name WIRE TO WIRE
Connector Color GRAY	olor G	RAY
崎 H.S.	Ľ <u>∎</u> Ӈ	1233
Terminal No.	Color of Wire	of Signal Name
2	I	1
3	ı	1

Signal Name	TAIL/ILL RLY	ı	FR SP RH (+)	FR SP RH (-)	RR SP RH (+)	RR SP RH (-)	1	ı	I	I	BAT	ı
Color of Wire	œ	1	PC	۳	GR	0	ı	1	-	-	У	_
Terminal No.	6	10	11	12	13	14	15	16	17	18	19	20

Connector No.). M75	2
Connector Name	ame WIF	WIRE TO WIRE
Connector Color WHITE	olor WH	ITE
唇	5 4	3 2 1
H.S.	12 11	10 9 8 7 6
Terminal No. Wire	Color of Wire	Signal Name
4	œ	I
11	PT	- (WITHOUT BOSE AUDIO SYSTEM)



Signal Name	ı	FR SP LH (+)	(-) HT AS H4	RR SP LH (+)	RR SP LH (-)	-	ACC	ILL CONT OUT
Color of Wire	1	BR	٦	В	В	1	G/B	GR
Terminal No. Wire	-	2	3	4	5	9	2	8

Connector No.	. M60	
Connector Name AUDIO UNIT	me AUI	NO UNIT
Connector Color	lor GRAY	λŧ
副 H.S.	[2]	ZZZ
Terminal No.	Color of Wire	Signal Name
21	-	I
22	1	ANT MAIN
23	1	ANT +B

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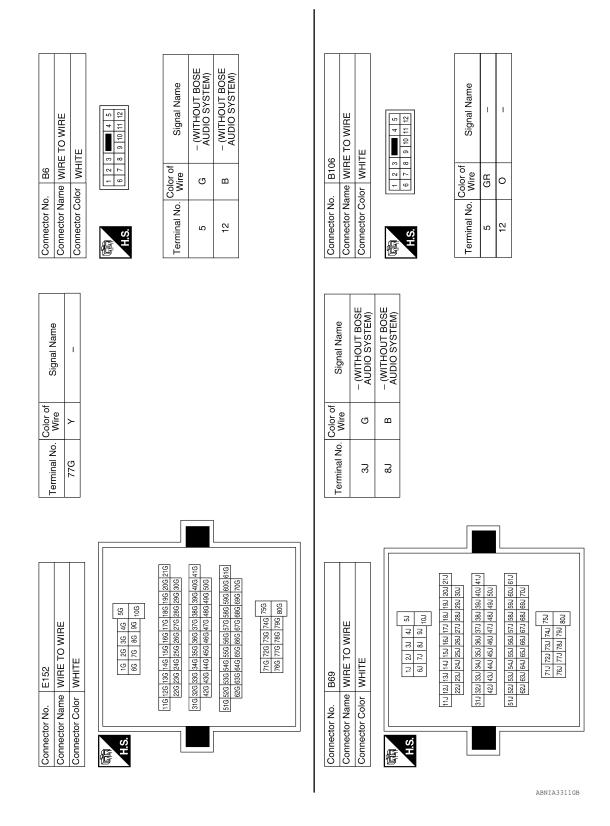
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Connector No. M109 Connector Name FRONT TWEETER LH Connector Color BROWN	Connector No. M111 Connector Name FRONT TWEETER RH Connector Color BROWN	Connector No. M501 Connector Name WIRE TO WIRE Connector Color GRAY
H.S.	H.S.	H.S.
Terminal No. Wire Signal Name 1 G	Terminal No. Wire Signal Name 1 W -	Terminal No. Wire Signal Name 2
Connector No. M502 Connector Name WIRE TO WIRE Connector Color GRAY	Connector Name WIRE TO WIRE Connector Color GRAY	Connector Name ANTENNA AMP. Connector Color GRAY
(所) H.S.	(中国) H.S.	(中) H.S.
Terminal No. Wire Signal Name	Terminal No. Wire Signal Name	Terminal No. Wire Signal Name

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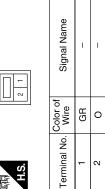
AV-25 August 2012 2012 Pathfinder



		Α
FRONT DOOR SPEAKER LH WHITE I'r of Signal Name W	O WIRE	В
	Connector No. D201	D
Connector No. Connector Color Terminal No. Color 1 LV 1 LV	Connector No. Connector Name Connector Color H.S. Terminal No. Col 5 Color	Е
		F
Signal Name	Connector No. D112 Connector Name FRONT DOOR SPEAKER RH Connector Color WHITE H.S. Color of Signal Name 1 W/B 2 UB 2 UB	G
D2 WIRE BRO O1 of O1 of O2 O3 O3 O4 O4 O4 O4 O4 O4	No. D112 Name FRONT Color WHITE W//B Vo. Wire	ı
Connector No. Connector Name Connector Color Terminal No. Col 3 L	Connector No. Connector Name Connector Color H.S. Terminal No. Wo. 1 w V.	J
		K
B149	WIRE	L
B149 State	D101 WIRE TO WHITE Or of fire //B	M
Connector No. Connector Name Connector Color H.S. Itimii Simis Simis A71M G 72M 72M	Connector No. D101	AV
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August 2012 AV-27 2012 Pathfinder

D309	Connector Name (WITHOUT BOSE AUDIO SYSTEM)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	



Signal Name

Terminal No. Wire

G GR

5 2







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Connector No.	D209
Connector Name	REAR DOOR SPEAKE (WITHOUT BOSE AUD SYSTEM)
Connector Color WHITE	WHITE







Signal Name	I	-
Color of Wire	GR	0
Terminal No.	-	2

ABNIA3313GB

SYMPTOM DIAGNOSIS

AUDIO SYSTEM AUDIO UNIT

AUDIO UNIT: Symptom Table

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Symptom	Possible cause	Reference page
Inoperative	Audio unit power supply and ground circuit Audio unit	• AV-13 • AV-34
All speakers do not sound	Speaker circuit shorted to ground Audio unit	• AV-22 • AV-34
One or several speakers do not sound	Front door speaker Front tweeter Rear door speaker	• <u>AV-14</u> • <u>AV-16</u> • <u>AV-18</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 DIAG- NOSIS" in the ap- propriate interior trim section.

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NORMAL OPERATING CONDITION

Description INFOID:0000000007347589

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

NOISE

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

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

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

NOTE:

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

Type of Noise and Possible Cause

Occurrence condition		Possible cause
Occurs only when engine is ON.	A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed.	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

[BASE AUDIO] < PRECAUTION >

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRF-TFNSIONER"

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 3 minutes before performing any service.

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYS-
- · 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

Connect both battery cables.

NOTE:

Supply power using jumper cables if battery is discharged.

- Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
- 3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
- 4. Perform the necessary repair operation.

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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.)

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

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 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, and wring the water out of the cloth to wipe the dirty area.
 - Then rub with a soft and dry cloth.
- Oily dirt: Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%), and wipe the dirty area.
 - Then dip a cloth into fresh water, and wring the water out of the cloth to wipe the detergent off. Then rub with a soft and dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol, or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

PREPARATION

PREPARATION

Special Service Tool

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name		Description
 (J-46534) Trim tool set	AWJIA0483ZZ	Removing trim components

Commercial Service Tools

INFOID:0000000007347593

INFOID:0000000007347592

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

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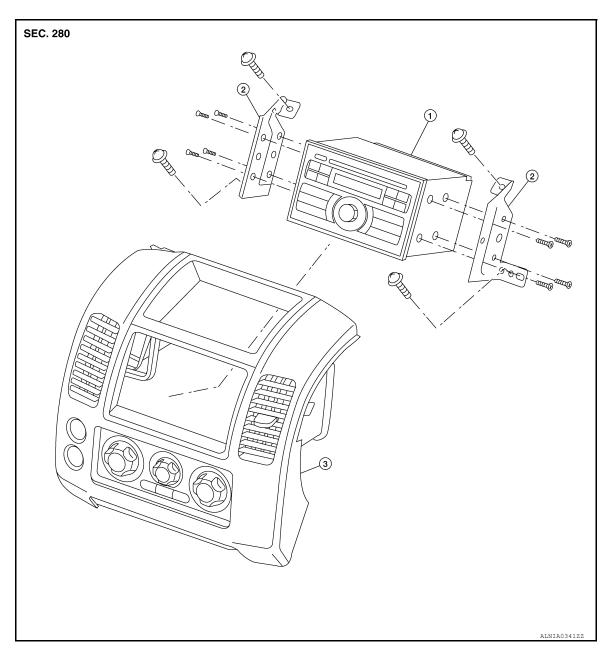
REMOVAL AND INSTALLATION

AUDIO UNIT

Removal and Installation

INFOID:0000000007347594

Removal and Installation



1. Audio unit

- 2. Audio unit brackets (LH) and (RH) 3. Cluster lid C

REMOVAL

- 1. Disconnect the battery negative terminal.
- 2. Remove the cluster lid C. Refer to IP-16, "Removal and Installation".
- 3. Remove the audio unit screws, using power tool.
- 4. Remove the audio unit and disconnect audio unit connectors.
- 5. Remove the audio unit brackets screws and remove the audio unit brackets.

INSTALLATION

Installation is in the reverse order of removal.

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FRONT TWEETER

Removal and Installation

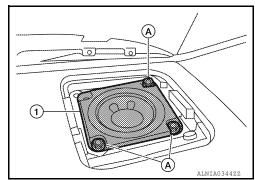
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REMOVAL

CAUTION:

Use a suitable tool to prevent damage to the front tweeter speaker grille trim and the instrument panel.

- 1. Remove the front tweeter grille.
- 2. Remove the front tweeter screws (A).
- 3. Pull out the front tweeter speaker (1) and disconnect front tweeter connector, then remove the front tweeter speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000007347596

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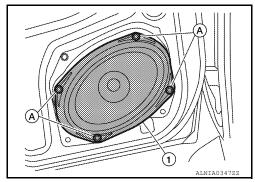
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REMOVAL

- 1. Remove the front door finisher. Refer to INT-15, "Removal and Installation".
- 2. Remove the front door speaker screws (A).
- 3. Pull out the front door speaker (1), and disconnect the front door speaker connector and remove the front door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

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[BASE AUDIO]

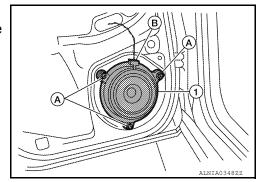
REAR DOOR SPEAKER

Removal and Installation

INFOID:0000000007347597

REMOVAL

- 1. Remove the rear door finisher. Refer to INT-15, "Removal and Installation".
- 2. Remove the rear door speaker screws (A).
- 3. Disconnect the rear door speaker connector (B) and remove rear door speaker (1).



INSTALLATION

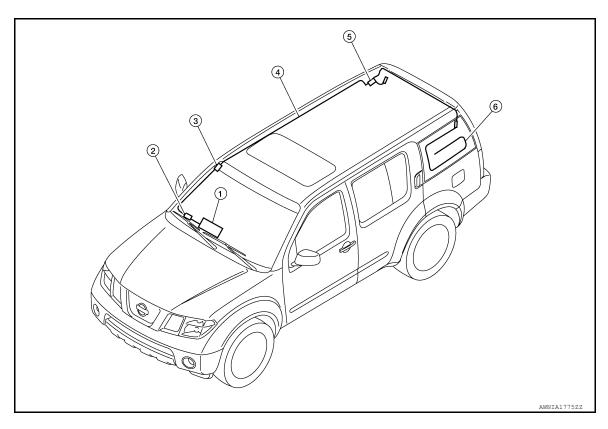
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[BASE AUDIO]

INFOID:0000000007347598

AUDIO ANTENNA

Location of Antenna



- 1. Audio unit M38, M60

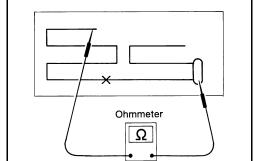
 - Antenna feeder
- Harness connector M78, M501
- Antenna amp. M602

- 3. Harness connector M502, M601
- 6. Window antenna grid

Window Antenna Repair

ELEMENT CHECK

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



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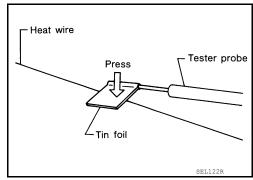
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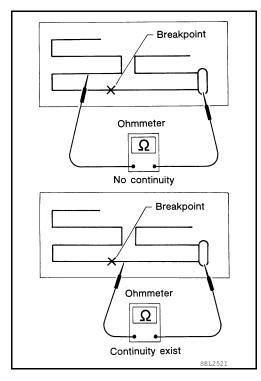
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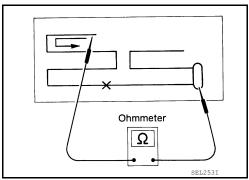
 When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



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-45, "Filament Repair".

[BASE AUDIO]

ANTENNA AMP.

Removal and Installation

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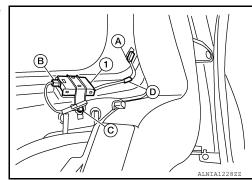
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REMOVAL

- 1. Remove the luggage side upper and lower RH finishers. Refer to INT-25, "Removal and Installation".
- 2. Detach the antenna amp. harness clip (D), disconnect the antenna amp. connector (A), harness connector (B), then remove the antenna amp. screw (C) and remove the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

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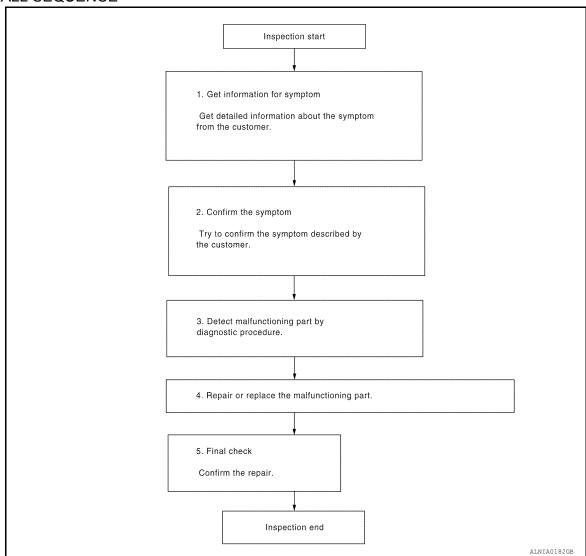
< BASIC INSPECTION > [MID AUDIO]

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.

DIAGNOSIS AND REPAIR WORKFLOW	IMID ALIDIOI
BASIC INSPECTION >	[MID AUDIO]
s malfunctioning part detected? YES >> GO TO 4	
NO >> GO TO 2	
$oldsymbol{1}$. REPAIR OR REPLACE THE MALFUNCTIONING PART	
Repair or replace the malfunctioning part. Reconnect parts or connectors disconnected during Diagnostic Procedure.	
>> GO TO 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.	
YES >> Inspection End. NO >> GO TO 2	

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SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram

INFOID:0000000007347602 CAN communication Vehicle speed signal parking brake signal reverse signal Communication signal (CONT-DISP) DISPLAY UNIT Communication signal (DISP-CONT) Window antenna Antenna amp on signal ANTENNA AMP. AM/FM signal AV CONTROL UNIT Sound signal SPEAKER communication A/C AND AV Aux sound input **AUXILARY** SWITCH ASSEMBLY CD/DVD/eject INPUT JACK signal Steering switch STEERING SWITCH signal Camera ON signal REAR VIEW CAMERA Camera image signal

System Description

INFOID:0000000007347603

The audio system consists of the following components

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

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 and rear door speakers.

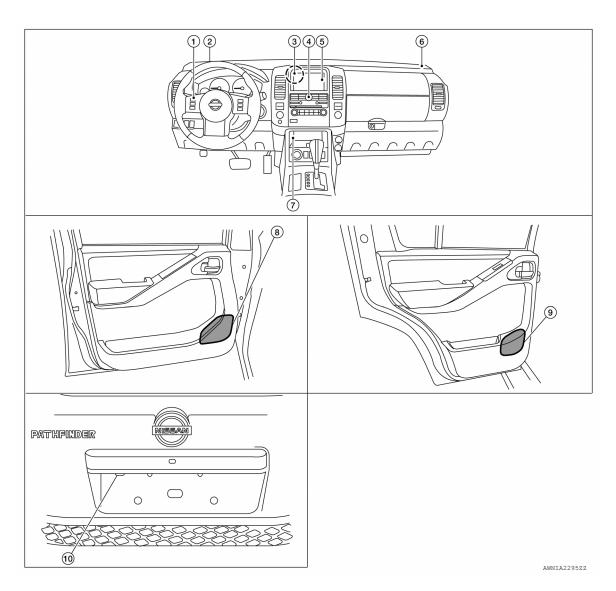
Refer to Owner's Manual for audio system operating instructions.

SPEED SENSITIVE VOLUME SYSTEM

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

Component Parts Location

INFOID:0000000007347604



1. Steering wheel audio control switches 2.

Front tweeter LH M109

6. Front tweeter RH M111

4. A/C and AV switch assembly M98

Display unit M93

 AV control unit M131, M132, M133, M134, M135

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AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[MID AUDIO]

7. Aux. jack M85

3. Front door speaker LH D12 RH D112 9. Rear door speaker LH D209 RH D309

10. Rear view camera D551

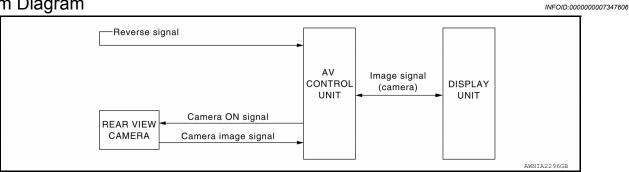
Component Description

INFOID:0000000007347605

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
Front door speakers	Outputs audio signal from AV control unitOutputs high, mid and low range sounds
Front tweeters	Outputs audio signal from AV control unitOutputs high range sounds
Rear door speakers	Outputs audio signal from AV control unitOutputs 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

REAR VIEW MONITOR SYSTEM

System Diagram



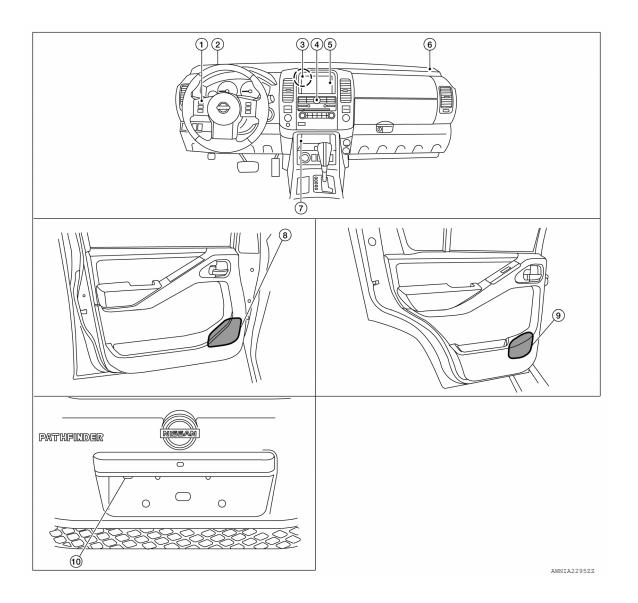
System Description

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

Component Parts Location

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INFOID:0000000007347607



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REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[MID AUDIO]

- 1. Steering wheel audio control switches 2.
- Front tweeter LH M109
- AV control unit M131, M132, M133, M134, M135

- 4. A/C and AV switch assembly M98
- 5. Display unit M93

6. Front tweeter RH M111

7. Aux. jack M85

- 8. Front door speaker LH D12 RH D112
- 9. Rear door speaker LH D209 RH D309

10. Rear view camera D551

Component Description

INFOID:0000000007347609

Part name	Description
AV control unit	 Receives reverse signal from back-up lamp relay Sends camera ON signal to rear view camera Receives image signal from rear view camera Sends camera image signal to display unit
Rear view camera	 Receives camera ON signal from AV control unit Sends image signal to the AV control unit
Display unit	Receives camera image signal from AV control unit

< SYSTEM DESCRIPTION >

[MID AUDIO]

DIAGNOSIS SYSTEM (AV CONTROL UNIT) AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Description

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DESCRIPTION

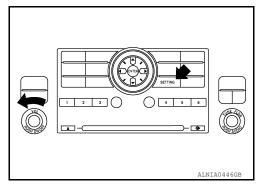
- Diagnosis function consists of the "Self-Diagnosis" mode performed automatically and the "Confirmation/ Adjustment" mode operated manually.
- "Self-Diagnosis" mode checks for connections between the units constituting this system, analyzes each individual unit at the same time, and displays the results 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 and switches. 	F
	Display diagnosis	Color spectrum bar	Color tone of the screen can be checked by the display of a color bar.	G
	Display diagnosis	Gradation bar	Shading of the screen can be checked by the display of a gray scale.	
	Vehicle signals		The following vehicle signals are analyzed: Vehicle speed signal, parking brake signal, light signal, ignition switch signal, and reverse signal.	Н
CONFIRMATION/	Speaker test Climate control		Connection can be checked by sending a test tone to each speaker.	
ADJUSTMENT			Start automatic air conditioner self-diagnosis	
	Error history		Diagnosis results previously stored in the memory are displayed in this mode.	1
	Vehicle CAN diagnosis		The transmitting/receiving of CAN communication can be monitored.	J
	AV COMM diagnosis		The transmitting/receiving of AV communication can be monitored.	
	Delete connection log		Erase the error history and connection history of the unit.	
	Initialize settings		All audio settings are reset to default levels.	K

OPERATION PROCEDURE

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



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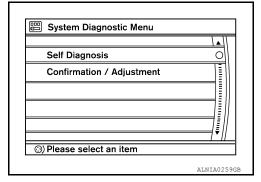
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< SYSTEM DESCRIPTION >

[MID AUDIO]

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

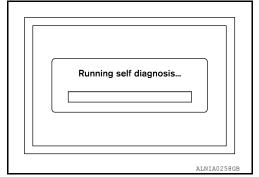


SELF-DIAGNOSIS

- 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.

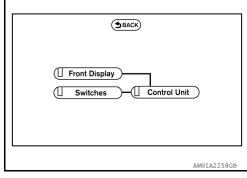
NOTE:

Self-diagnosis requires approximately 10 seconds to complete.



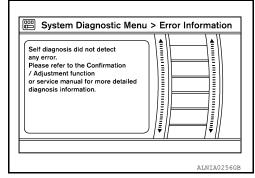
Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

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

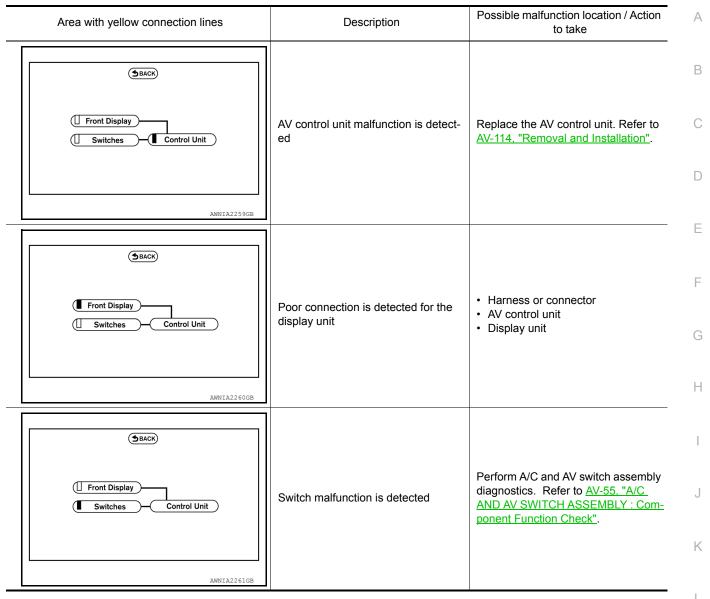


Note:

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



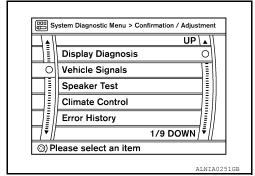
Self-Diagnosis Results



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.

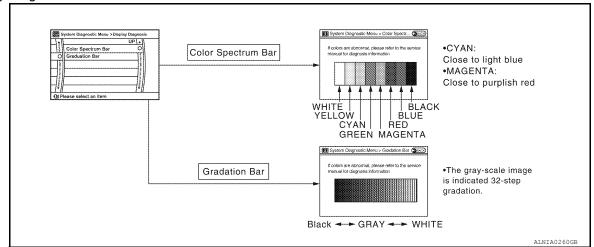


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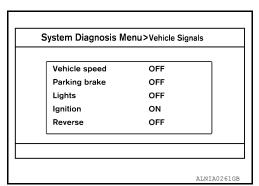
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Display Diagnosis



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 edgeride. This is normal.
Parking brake	OFF	Parking brake is released.	
Lighto	ON	Light switch ON	Plack the light beam from the oute light entired concer
Lights	OFF	Light switch OFF	Block the light beam from the auto light optical sensor.
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	

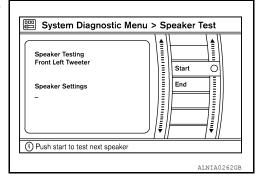
Speaker Test

< SYSTEM DESCRIPTION >

[MID AUDIO]

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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" isselected 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.

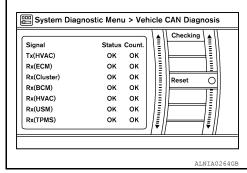
Count up method B

- The counter increases by 1 if an error occurs when IGN switch is ON. The counter will not decrease even ifthe 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.

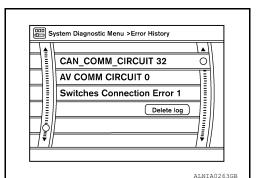
Display method of occur- rence frequency	Error history diplay item	
Count up method A	CAN communication line, control unit (CAN), AV communication line, control unit (AV communication)	
Count up method B	Other than above	

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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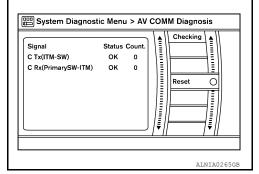
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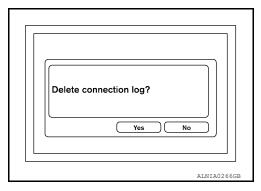
[MID AUDIO]

- · 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.

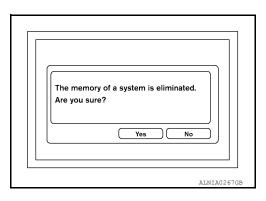


Delete Unit Connection Log

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:0000000007347611

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.	

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.

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Display item [unit]	ALL SIGNALS	SELECTION FROM MENU	Description	
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

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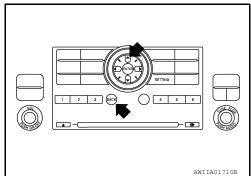
A/C and AV switch assembly self-diagnosis function

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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DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:0000000007347613

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-53, "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:0000000007347615

1.PERFORM SELF DIAGNOSTIC

- 1. Turn ignition switch ON and wait for 2 seconds or more.
- Check "Self Diagnostic Result" of "MULTI AV".

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-37, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

[MID AUDIO] < DTC/CIRCUIT DIAGNOSIS > U1010 CONTROL UNIT (CAN) INFOID:0000000007347616

Description

Initial diagnosis of AV control unit. **DTC Logic** INFOID:0000000007347617

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-114, "Removal and Installation".

>> Inspection End.

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U1200 AV CONTROL UNIT

Description INFOID:000000007347619

Replace the AV control unit if this DTC is displayed. Refer to AV-114, "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-114, "Removal and Installation".

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U1216 AV CONTROL UNIT

Description INFOID:000000007347621

Replace the AV control unit if this DTC is displayed. Refer to AV-114. "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-114, "Removal and Installation".

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U1240 SWITCH CONN

Description INFOID:0000000007347623

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 	control unit and A/C and AV Switch

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U1243 DISPLAY UNIT

Description INFOID:0000000007347624

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:0000000007347626

Regarding Wiring Diagram information, refer to AV-95, "Wiring Diagram".

1. CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to <u>AV-66</u>, "<u>DISPLAY UNIT</u>: <u>Diagnosis Procedure</u>". <u>Is inspection result OK?</u>

YES >> GO TO 2

NO >> Repair malfunctioning parts.

2.check continuity of communication circuit

- Turn ignition switch OFF.
- Disconnect display unit connector and AV control unit connector.
- 3. Check continuity between display unit harness connector M93 (A) terminals 11, 22 and AV control unit harness connector M133 (B) terminals 56, 44.

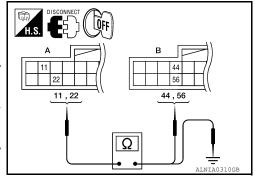
	A	В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
MO3	M93 11 M133 -		56	Yes
WISS			44	165

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

А			Continuity
Connector	Terminal		Continuity
M93	11	Ground	No
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Are continuity results as specified?

YES >> GO TO 3



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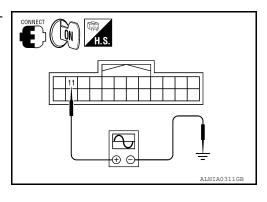
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NO >> Repair harness or connector.

$3. \mathsf{CHECK}$ 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	(-)	Reference signal	
M93	11	Ground	(V) 6 4 2 0 +-1ms PKIB5039J	



Are voltage readings as specified?

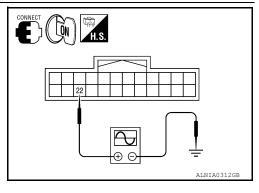
YES >> GO TO 4

NO >> Replace AV control unit. Refer to AV-114, "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 + 1ms PKIB5039J



Are voltage readings as specified?

YES >> Inspection End.

NO >> Replace display unit. Refer to AV-116, "Removal and Installation".

U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

U1300 AV COMM CIRCUIT

Description INFOID:0000000007347627

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 U1240	AV COMM CIRCUIT [U1300] 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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U1310 AV CONTROL UNIT

Description INFOID:0000000007347628

Replace the AV control unit if this DTC is displayed. Refer to AV-114, "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-114, "Removal and Installation".

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

POWER SUPPLY AND GROUND CIRCUIT AV CONTROL UNIT

AV CONTROL UNIT: Diagnosis Procedure

INFOID:0000000007347630

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Regarding Wiring Diagram information, refer to AV-95, "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	29
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 M131 and M135.

Check voltage between the AV control unit connectors M131 and M135 and ground.

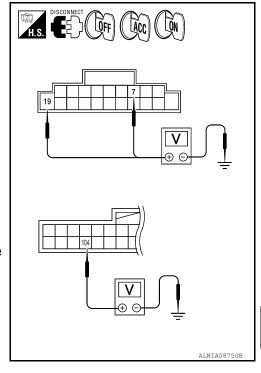
(+)		()	OFF	ACC	ON	
Connector	Terminal	(-) OFF		ACC	ON	
M131	7	Ground	0V	Battery voltage	Battery voltage	
WITST	19	Ground	Battery voltage	Battery voltage	Battery voltage	
M135	104	Ground	0V	0V	Battery voltage	

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.

2. Check continuity between AV control unit harness connectors M131, M133, M134, M135 and ground.

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(+)		(-)	Continuity	
Connector	Connector Terminal			
M131	20			
M133	54	Ground	Yes	
M134	68	Ground	163	
M135	85			

Are the continuity results as specified?

YES >> Inspection End.

NO >> Repair AV control unit ground.

DISPLAY UNIT

DISPLAY UNIT: Diagnosis Procedure

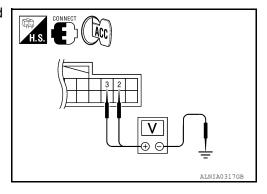
INFOID:0000000007347631

Regarding Wiring Diagram information, refer to AV-95, "Wiring Diagram".

1. CHECK POWER SUPPLY CIRCUIT

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

Signal name	Connector	Terminal	Ignition switch position	Value (Approx.)
Inverter VCC	M93	2	ACC	9V
Signal VCC	IVISO	3	ACC	30



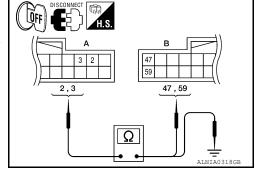
Does specified voltage exist?

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

2.CHECK POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect the display unit connector M93 and the AV control unit connector M133.
- 3. Check continuity between the display unit harness connector M93 (A) and the AV control unit connector M133 (B).

•	А		В		Continuity
	Connector	Terminal	Connector	Terminal	Continuity
	M93	2	M133	59	Yes
	IVIOS	3	IVITOS	47	163



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

Α			Continuity	
Connector	Terminal	_	Continuity	
M93	M93 Ground		No	
WISS	3	Ground	INO	

Are continuity results as specified?

- YES >> Check AV control unit power and ground supply. Refer to <u>AV-65, "AV CONTROL UNIT : Diagnosis Procedure"</u>.
- NO >> Repair harness or connector.

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

3.CHECK GROUND CIRCUIT

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

Connector	Terminal	_	Continuity
M93	1	Ground	Yes

(QFF)

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-95, "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.
- Check voltage between the A/C and AV switch assembly connector M98 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal	(-)	011	7.00	OIV
M98	2	Ground	0V	Battery voltage	Battery voltage

ALNIA0315GB

Are the voltage results as specified?

YES >> GO TO 3

NO

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

· Repair harness or connector.

3.GROUND CIRCUIT CHECK

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AV-67 August 2012 2012 Pathfinder Α

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INFOID:0000000007347632

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< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

1. Turn ignition switch OFF.

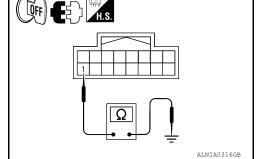
Check continuity between A/C and AV switch assembly harness connector M98 and ground.

Connector	Terminal	_	Continuity
M98	1	Ground	Yes

Are the continuity results as specified?

YES >> Inspection End.

NO >> Repair harness or ground.



REAR VIEW CAMERA

REAR VIEW CAMERA: Diagnosis Procedure

INFOID:0000000007347633

Regarding Wiring Diagram information, refer to AV-95, "Wiring Diagram".

1. CHECK POWER SUPPLY CIRCUIT (REAR VIEW CAMERA SIDE)

NOTE

Apply parking brakes before proceeding.

- 1. Turn ignition switch ON.
- Shift transmission into reverse.
- 3. Check voltage between rear view camera harness connector D551 terminal 2 and ground.

	(+)		Transmission	Value (Approx.)
Connector	Terminal	(-)	position	value (Approx.)
D551	2	Ground	Reverse	12V

Is voltage reading approximately 12 volts?

YES >> GO TO 4.

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

- 1. Turn ignition switch OFF.
- 2. Disconnect rear view camera and AV control unit connectors.
- Check continuity between rear view camera harness connector D551 terminal 2 and AV control unit harness connector M134 terminal 105.

Connector	Terminal	Connector	Terminal	Continuity
D551	2	M134	105	Yes

4. Check continuity between rear view camera harness connector D551 terminal 2 and ground.

Connector	Terminal	_	Continuity
D551	2	Ground	No

Are continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.check reverse position input signal $\,$

- Turn ignition switch ON.
- 2. Shift transmission into reverse.
- 3. Check voltage between AV control unit harness connector M134 terminal 105 and ground.

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

(+)		(-)	Transmission	Value (Approx.)
Connector	Terminal	(-)	position	value (Approx.)
M134	105	Ground	Reverse	12V

Is voltage reading approximately 12 volts?

YES >> Replace AV control unit. Refer to AV-114, "Removal and Installation".

NO >> Check harness for open or short between AV control unit and back-up lamp relay.

4. CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear view camera harness connector.
- 3. Check continuity between rear view camera harness connector D551 terminal 1 and ground.

Connector	Terminal	_	Continuity
D551	1	Ground	Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

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RGB (R: RED) SIGNAL CIRCUIT

Description INFOID:000000007347634

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

Diagnosis Procedure

INFOID:0000000007347635

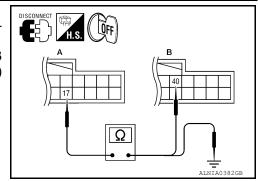
Regarding Wiring Diagram information, refer to AV-95, "Wiring Diagram".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M133.
- Check continuity between display unit harness connector M93

 (A) terminal 17 and AV control unit harness connector M133 (B) terminal 40.

	A	В		Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	17	M133	40	Yes



Check continuity between display unit harness connector M93

 (A) terminal 17 and ground.

	A	_	Continuity
Connector	Terminal		Continuity
M93	17	Ground	No

Are the continuity results as specified?

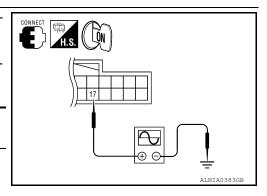
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RGB (R: RED) SIGNAL

- 1. Connect display unit connector M93 and AV control unit connector M133.
- 2. Turn ignition switch ON.
- 3. Check signal between display unit harness connector M93 terminal 17 and ground.

(+)		(-) Condition		Reference signal	
Connector	Terminal	(-)	Condition	received 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 AV-116, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-114, "Removal and Installation".

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RGB (G: GREEN) SIGNAL CIRCUIT

Description INFOID:0000000007347636

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

Diagnosis Procedure

INFOID:0000000007347637

Regarding Wiring Diagram information, refer to AV-95, "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 M133.
- Check continuity between display unit harness connector M93

 (A) terminal 6 and AV control unit harness connector M133 (B) terminal 39.

	Α		В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	6	M133	39	Yes

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

DISCONNECT H.S.	
A 6	B 39 1
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	A	_	Continuity
Connector	Terminal		
M93	6	Ground	No

Are the continuity results as specified?

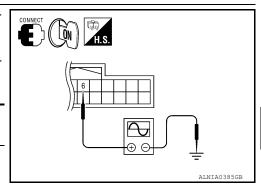
YES >> GO TO 2

NO >> Repair harness or connector.

2. CHECK RGB (G: GREEN) SIGNAL

- Connect display unit connector M93 and AV control unit connector M133.
- Turn ignition switch ON.
- 3. Check signal between display unit harness connector M93 terminal 6 and ground.

(+)		(-)	Condition	Reference signal
Connector	Terminal	(-)	Condition	recipion signal
M93	6	Ground	Receive audio sig- nal	(V) 0.4 0 -0.4 *** *** *****************************



Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-116, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-114, "Removal and Installation".

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RGB (B: BLUE) SIGNAL CIRCUIT

Description

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

Diagnosis Procedure

INFOID:0000000007347639

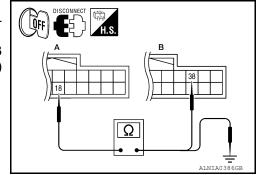
Regarding Wiring Diagram information, refer to AV-95, "Wiring Diagram".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M133.
- Check continuity between display unit harness connector M93

 (A) terminal 18 and AV control unit harness connector M133 (B) terminal 38.

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M93	18	M133	38	Yes



Check continuity between display unit harness connector M93

 (A) terminal 18 and ground.

	A		Continuity	
Connector	Terminal			
M93	18	Ground	No	

Are continuity results as specified?

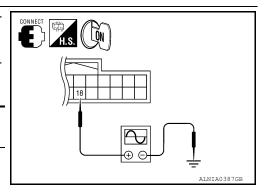
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RGB (B: BLUE) SIGNAL

- Connect display unit connector M93 and AV control unit connector M133.
- 2. Turn ignition switch ON.
- Check signal between display unit harness connector M93 terminal 18 and ground.

(+)		(-)	Condition	Reference signal	
Connector	Terminal	(-)	Condition	Neierence signal	
M93	18	Ground	Receive audio sig- nal	(V) 0. 4 0 -0. 4 -40μs SKIB2237J	



Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-116, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-114, "Removal and Installation".

[MID AUDIO]

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RGB SYNCHRONIZING SIGNAL CIRCUIT

Description INFOID:0000000007347640

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

Diagnosis Procedure

INFOID:0000000007347641

Regarding Wiring Diagram information, refer to AV-95, "Wiring Diagram".

1. CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M133.
- Check continuity between display unit harness connector M93

 (A) terminal 19 and AV control unit harness connector M133 (B) terminal 41.

	A		В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	19	M133	41	Yes

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

	A		Continuity
Connector	Terminal	_	Continuity
M93	19	Ground	No

Are continuity results as specified?

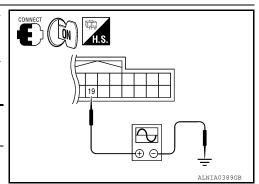
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RGB SYNCHRONIZING SIGNAL

- Connect display unit connector M93 and AV control unit connector M133.
- 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 µs SKIB3603E



Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-116, "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-114, "Removal and Installation"</u>.

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August 2012 AV-73 2012 Pathfinder

RGB AREA (YS) SIGNAL CIRCUIT

Description INFOID:0000000007347642

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

Diagnosis Procedure

INFOID:0000000007347643

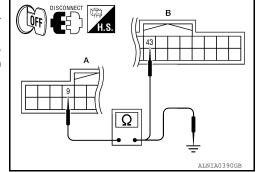
Regarding Wiring Diagram information, refer to AV-95, "Wiring Diagram".

1. CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M133.
- Check continuity between display unit harness connector M93

 (A) terminal 9 and AV control unit harness connector M133 (B) terminal 43.

А			В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	9	M133	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?

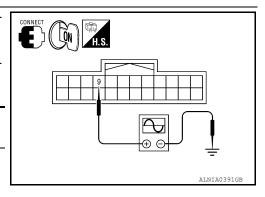
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RGB SYNCHRONIZING SIGNAL

- Connect display unit connector M93 and AV control unit connector M133.
- 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-116, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-114, "Removal and Installation".

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

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HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description

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:0000000007347645

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Regarding Wiring Diagram information, refer to AV-95, "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 M133.
- Check continuity between display unit harness connector M93

 (A) terminal 8 and AV control unit harness connector M133 (B) terminal 45.

	A B		Continuity	
Connector	Terminal	Connector Terminal		Continuity
M93	8	M133	45	Yes

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

	A	_	Continuity
Connector Terminal			Community
M93	8	Ground	No

Are continuity results as specified?

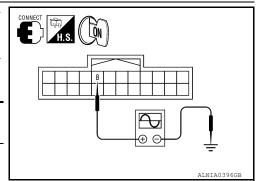
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

- Connect display unit connector M93 and AV control unit connector M133.
- 2. Turn ignition switch ON.
- 3. 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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Are voltage readings as specified?

YES >> Replace AV control unit. Refer to <u>AV-114, "Removal and Installation"</u>.

NO >> Replace display unit. Refer to AV-116, "Removal and Installation".

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[MID AUDIO]

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description INFOID:0000000007347646

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:0000000007347647

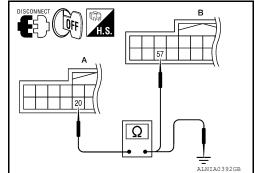
Regarding Wiring Diagram information, refer to AV-95, "Wiring Diagram".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M133.
- Check continuity between display unit harness connector M93

 (A) terminal 20 and AV control unit harness connector M133 (B) terminal 57.

-	A		В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	20	M133	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?

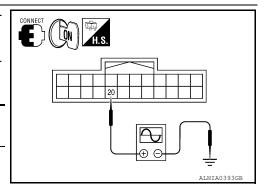
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK VERTICAL SYNCHRONIZING (VP) SIGNAL

- Connect display unit connector M93 and AV control unit connector M133.
- 2. 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 <u>AV-114, "Removal and Installation"</u>.

NO >> Replace display unit. Refer to AV-116, "Removal and Installation".

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FRONT DOOR SPEAKER

Description INFOID:0000000007347648

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

Diagnosis Procedure

INFOID:000000007347649

Regarding Wiring Diagram information, refer to AV-95, "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.

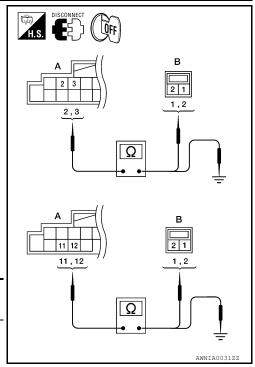
2. HARNESS CHECK

- 1. Disconnect AV control unit connector M131 and suspect speaker connector.
- Check continuity between AV control unit harness connector M131 (A) terminal and suspect speaker harness connector (B) terminal.

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2	D12	1	
M131	3	DIZ	2	Yes
	11	D112	1	165
	12	שווע	2	

Check continuity between AV control unit harness connector M131 (A) terminal and ground.

	A		Continuity	
Connector	Terminal			
	2			
M131	3	Ground	No	
WIST	11	Giouna		
	12			



Are continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3.FRONT SPEAKER SIGNAL CHECK

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< DTC/CIRCUIT DIAGNOSIS >

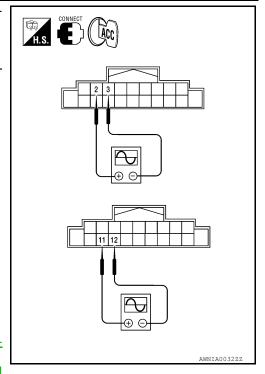
- Connect AV control unit connector M131 and front speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M131 terminals with CONSULT or oscilloscope.

	(+)	(-)			
Con- nec- tor	Termi- nal	Termi- nal	Condi- tion	Reference signal	
	2	3			
M131	11	12	Receive audio signal	(V) 1 0 -1 1 ms SKIA0177E	

Is the audio signal voltage as specified?

YES >> Replace speaker. Refer to <u>AV-118, "Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to <u>AV-114, "Removal and Installation"</u>.



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FRONT TWEETER

Description INFOID:0000000007347650

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

Diagnosis Procedure

INFOID:0000000007347651

Regarding Wiring Diagram information, refer to AV-95, "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.

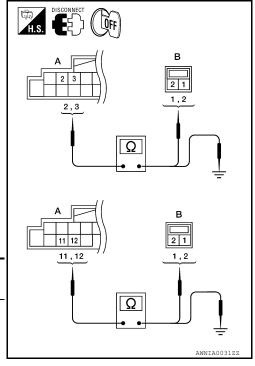
2. HARNESS CHECK

- 1. Disconnect AV control unit connector M131 and suspect front tweeter connector.
- 2. Check continuity between AV control unit harness connector M131 (A) and suspect front tweeter harness connector (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2	M109	1	
M121	M131 3 11	WITOS	2	Yes
IVITOT		M111	1	165
	12	IVIIII	2	

 Check continuity between AV control unit harness connector M131 (A) and ground.

Α			Continuity	
Connector	Terminal	_	Continuity	
	2			
M131	3	Ground	No	
WIIST	11	Ground		
	12			



Are the continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3. FRONT TWEETER SIGNAL CHECK

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< DTC/CIRCUIT DIAGNOSIS >

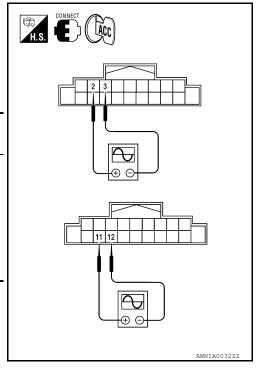
- Connect AV control unit connector M131 and front tweeter connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M131 terminals with CONSULT or oscilloscope.

(+)		(-)	Condi-	Reference signal	
Connector	Terminal	Terminal	tion	reference signal	
	2	3			
M131	11	12	Receive audio 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-117</u>, "<u>Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to <u>AV-114, "Removal and Installation"</u>.



REAR DOOR SPEAKER

Description INFOID:0000000007347652

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

Diagnosis Procedure

INFOID:0000000007347653

Regarding Wiring Diagram information, refer to AV-95, "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.

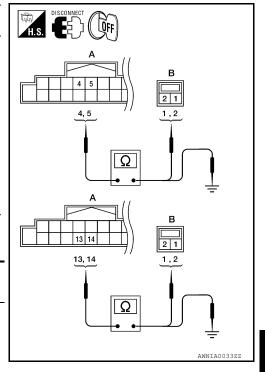
2. HARNESS CHECK

- Disconnect AV control unit connector M131 and suspect rear speaker connector.
- 2. Check continuity between AV control unit harness connector M131 (A) and suspect rear speaker harness connector (B).

Α		В		Continuity
Connector	Terminal	Connector Terminal		Continuity
	4 D209		1	
M131	5	D209	2	Yes
	13	D200	1	165
	14	D309	2	

 Check continuity between AV control unit harness connector M131 (A) and ground.

A	_	Continuity	
Terminal	_	Continuity	
4			
5	Ground	No	
13	Giodila	NO	
14			
	Terminal 4 5 13	Terminal 4 5 Ground	



Are the continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3. REAR SPEAKER SIGNAL CHECK

August 2012 AV-81 2012 Pathfinder

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< DTC/CIRCUIT DIAGNOSIS >

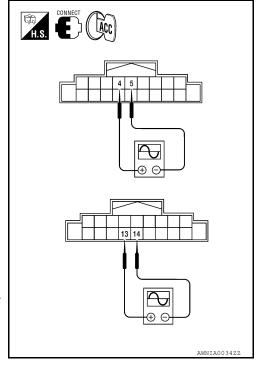
- 1. Connect AV control unit connector and rear speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M131 terminals with CONSULT or oscilloscope.

(+)		(-)	Condition	Reference	
Connector	Terminal	Terminal	Condition	signal	
	4	5			
M131	13	14	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	

Is the audio signal voltage as specified?

YES >> Replace the suspect rear door speaker. Refer to <u>AV-119</u>, <u>"Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to AV-114, "Removal and Installation".



[MID AUDIO]

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STEERING SWITCH

Description INFOID:0000000007347654

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

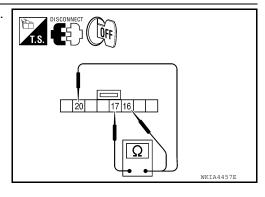
INFOID:0000000007347655

Regarding Wiring Diagram information, refer to AV-95, "Wiring Diagram".

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

- Disconnect steering wheel audio control switch connector M102.
- Check resistance between steering switch connector terminals.

Terr	minal	Signal name	Condition	Resistance (Ω) (Approx.)
		Seek (down)	Depress ♥ switch.	165
16 17	Volume (down)	Depress VOL down switch.	652	
		Power	Depress PWR switch.	0
		Seek (up)	Depress △ switch.	165
20 17	Volume (up)	Depress VOL up switch.	652	
		Mode	Depress MODE switch.	0



Do the steering wheel audio control switches check OK?

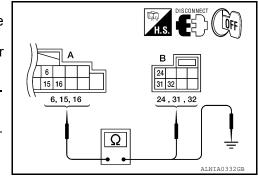
YES >> GO TO 2

NO >> Replace steering wheel audio control switch. Refer to AV-120, "Removal and Installation".

2.CHECK HARNESS

- Turn ignition switch OFF.
- 2. Disconnect AV control unit connector M131 and spiral cable connector M30.
- Check continuity between AV control unit harness connector M131 (A) and spiral cable harness connector M30 (B).

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	6		24	
M131	15	M30	31	Yes
	16		32	



Check continuity between AV control unit connector 1312 (A) and ground.

	A		Continuity
Connector Terminal			Continuity
	6		
M131	15	Ground	No
	16		

Are the continuity results as specified?

YES >> GO TO 3

K

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0

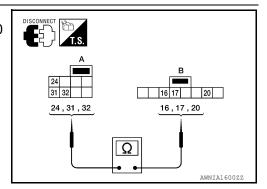
[MID AUDIO]

NO >> Repair harness.

3. SPIRAL CABLE CHECK

- 1. Disconnect spiral cable connector M102.
- 2. Check continuity between spiral cable harness connector M30 (A) and M102 (B).

Α		I	В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	24		20	
M30	31	M102	17	Yes
	32		16	



Is continuity present?

YES >> Inspection End.

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

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

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REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Description INFOID:000000007347656

Rear view camera signals are transmitted from the rear view camera to the AV control unit using the camera signal circuits.

Diagnosis Procedure

INFOID:0000000007347657

Regarding Wiring Diagram information, refer to AV-95, "Wiring Diagram".

1. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

NOTE:

Apply parking brakes before proceeding.

- 1. Turn ignition switch OFF.
- 2. Disconnect AV control unit connector M134 and rear view camera connector D551.
- 3. Check continuity between AV control unit harness connector M134 terminals 64, 65, 72 and rear view camera harness connector D551 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 M134 terminals 64, 65, 72 and ground.
 - 64, 65, 72 Ground : Continuity should not exist.

Is inspection result OK?

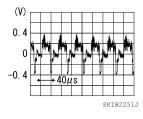
YES >> GO TO 2

NO >> Repair harness or connector.

2. CHECK CAMERA IMAGE SIGNAL

- 1. Connect AV control unit connector M134 and rear view camera connector D551.
- 2. Turn ignition switch ON.
- Shift transmission into reverse.
- 4. Check signal between AV control unit harness connector M134 terminals 64 and 65.

64 - 65



AV

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Is inspection result OK?

YES >> Replace AV control unit. Refer to AV-114, "Removal and Installation".

NO >> Replace rear view camera. Refer to AV-125, "Removal and Installation".

Р

August 2012 AV-85 2012 Pathfinder

ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

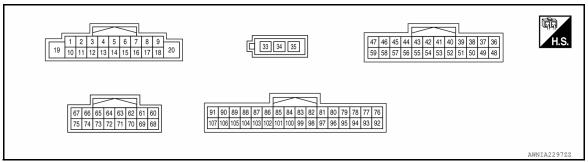
Reference Value

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) ON Parking brake is applied.		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	mal.	

TERMINAL LAYOUT



PHYSICAL VALUES

	minal e color)	Description			Condition	Reference value				
+	_	Signal name	Input/ Output	Condition		(Approx.)				
2 (BR)	3 (L)	Sound signal front door speaker and front tweeter LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E				
4 (G)	5 (B)	Sound signal rear door speaker and rear tweeter LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E				
					Press and hold MODE switch.	0V				
6	15	Olerada e distribuita e l	Ignition Input switch ON	le e ·	lme::4	lnn::t	lpo:±		Press and hold Δ switch.	0.75V
	(L)	Steering switch signal A			Press and hold VOL up switch	2V				
					Except for above.	5V				
7 (G/Y)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage				
9	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	0V				
(V)	Ground	marimation signal	прис	011	Lighting switch is ON.	Battery voltage				
11 (LG)	12 (R)	Sound signal front door speaker and front tweeter RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E				
13 (GR)	14 (O)	Sound signal rear door speaker and rear tweeter RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E				
15 (L)	Ground	Steering switch signal GND	_	Ignition switch ON	_	OV				

< ECU DIAGNOSIS INFORMATION >

	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Condition		(Approx.)
					Press and hold POWER switch	0V
16	15	Steering switch signal B	Input	Ignition switch	Press and hold ∇ switch	0.75V
(G)	(L)	Steering Switch signal b	mpat	ON	Press and hold VOL down switch	2V
					Except for above	5V
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage
20 (B)	Ground	Ground	_	Ignition switch ON	_	0V
34	_	Antenna main	_	_	_	
35	_	Antenna power	Output	Ignition switch ON	With AM/FM radio selected	12V
36 (G)	Ground	AUX image signal	Output	Ignition switch ON	When AUX mode is selected	(V) 0. 4 0 -0. 4 + 40µs skib2251J
37 (R)	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 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
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 SKIB2236J
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

AV CONTROL UNIT

[MID AUDIO]

		SIS INFORMATION >				
	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
41 (R)	Ground	RGB synchronizing signal	Output	Ignition switch ON	_	(V) 4 0 → 20 µs SKIB3603E
42	_	RGB synchronizing ground	_	Ignition switch ON	_	0V
					RGB image	5V
43 (G)	Ground	RGB area (YS) signal	Output	Ignition switch ON	AUX image	(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 PKIB5039J
45 (B)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	_	(V) 4 0 * 20μs SKIB3601E
46 (BR)	Ground	Signal ground	_	Ignition switch	_	0V
47 (R)	Ground	Signal VCC	Output	Ignition switch ACC	_	9V
54 (B)	Ground	Ground	_	Ignition switch ON	_	0V
56 (V)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness	(V) 6 4 2 0 •••1ms

< ECU DIAGNOSIS INFORMATION >

	minal color)	Description			Condition	Reference value	
+	_	Signal name	Input/ Output	Condition		(Approx.)	
57 (W)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch On	_	(V) 4 0 + 4ms SKIB3598E	
58 (SB)	Ground	Inverter ground	_	Ignition switch ON	_	0V	
59 (O)	Ground	Inverter VCC	Output	Ignition switch ACC	_	9V	
64 (W)	Ground	Rear view camera video signal ground	_	Ignition switch ON	_	0V	
65 (B)	Ground	Rear view camera video in (+)	Input	Ignition switch ON	With rear view camera ON	(V) 0.4 0 -0.4 -0.4 -0.8 SKIB2251J	
68 (B)	Ground	Rear view camera signal (ground)	_	Ignition switch ON	_	0V	
72	_	Shield	_	_	_	_	
85 (B)	Ground	Ground	_	Ignition switch ON	_	0V	
86 (L)	_	CAN-H	Input/ Output	_	_	_	
87 (P)	_	CAN-L	Input/ Output	_	_	_	
88 (L)	_	AV communication signal 1 (H)	Input/ Output	_	_	_	
89 (P)	_	AV communication signal 1 (L)	Input/ Output	_	_	_	
90 (L)	_	AV communication signal 2 (H)	Input/ Output	_	_	_	
91 (P)	_	AV communication signal 2 (L)	Input/ Output	_	_		
95 (W)	97 (R)	AUX audio signal RH	Input	Ignition switch ON	When AUX mode is selected	(V) 1 0 -1 → 2ms SKIB3609E	

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[MID AUDIO]

	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
96 (B)	97 (R)	AUX audio signal LH	Input	Ignition switch ON	When AUX mode is selected	(V) 1 0 -1 + 2ms SKIB3609E
101 (GR)	Ground	A/C and AV switch assembly ground	_	Ignition switch ON	_	0V
103	Ground	CD eject signal	Input		Pressing the eject switch	0V
(SB)	Oround	OD eject signal	Input		Except for above	3.3V
104 (W/G)	Ground	Ignition signal	Input	Ignition switch ON	_	Battery voltage
105				Ignition	R position	Battery voltage
(W)	Ground	Reverse signal	Input	switch ON	Other than R position	0V
106				Ignition	Parking brake ON	0V
(G)	Ground	Parking brake signal	Input	switch ON	Parking brake OFF	Battery voltage
107 (LG)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25MPH)	(V) 6 4 2 0 **20ms SKIA6649J

DTC Index

Self-diagnosis results display item

Error item	Refer to
CAN COMM CIRCUIT [U1000]	AV-56, "DTC Logic"
CONTROL UNIT (CAN) [U1010]	AV-57, "DTC Logic"
Control Unit FLASH-ROM [U1200]	AV-58, "DTC Logic"
CAN CONT [U1216]	AV-59, "DTC Logic"
SWITCH CONN [U1240]	AV-60, "Description"
FRONT DISP CONN [U1243]	AV-61, "DTC Logic"
AV COMM CIRCUIT [U1300]	AV-63, "Description"
CONTROL UNIT (AV) [U1310]	AV-64, "DTC Logic"

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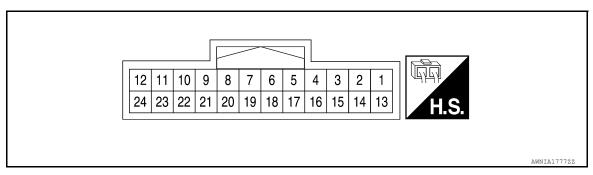
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DISPLAY UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Condition		(Approx.)
1 (B)	Ground	Ground	_	Ignition switch ON	_	0V
2 (O)	Ground	Inverter VCC	Input	Ignition switch ACC	_	9V
3 (R)	Ground	Signal VCC	Input	Ignition switch ACC	_	9V
4 (R)	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 -0. 4 -0. 4 -0. 4 -0. 4
8 (B)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	_	(V) 4 0 + 20µs SKIB3601E

DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[MID AUDIO]

	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Condition		(Approx.)
					At RGB image displayed	5V
9 (G)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At rear view camera image displayed	(V) 6 4 2 0 → • 200 µ s PKIB4948J
11 (V)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display- brightness	(V) 6 4 2 0 +-1ms
13 (SB)	Ground	Inverter ground	_	Ignition switch ON	_	0V
14 (BR)	Ground	Signal ground	_	Ignition switch ON	_	0V
15 (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 → 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 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
19 (R)	Ground	RGB synchronizing signal	Input	Ignition switch ON	_	(V) 4 0 → 20 µs SKIB3603E

DISPLAY UNIT

[MID AUDIO]

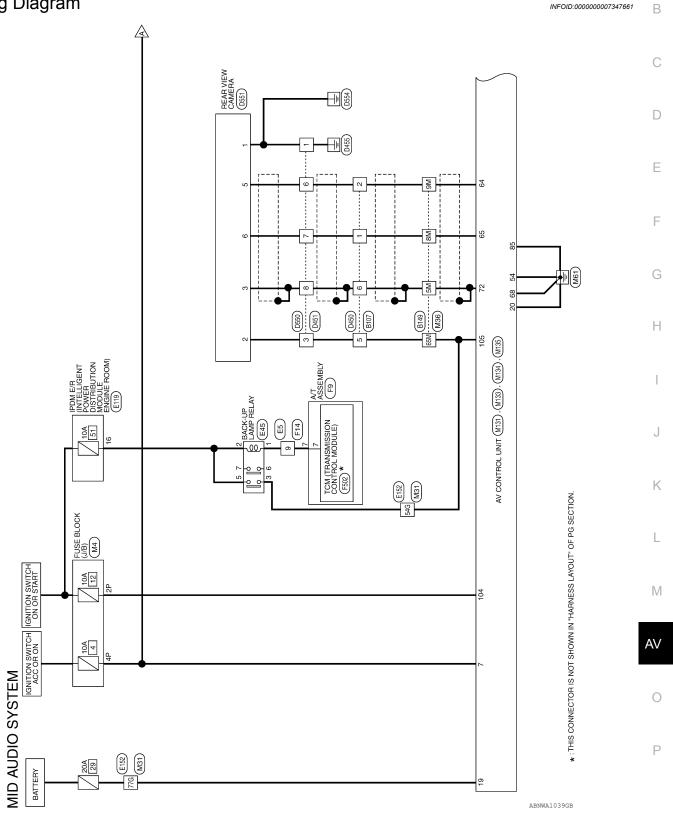
	minal e color)	Description			Condition	Reference value
+	-	Signal name	Input/ Output	Condition		(Approx.)
20 (W)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch On	_	(V) 4 0 + 4ms SKIB3598E
22 (LG)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display- brightness	(V) 6 4 2 0 +-1ms

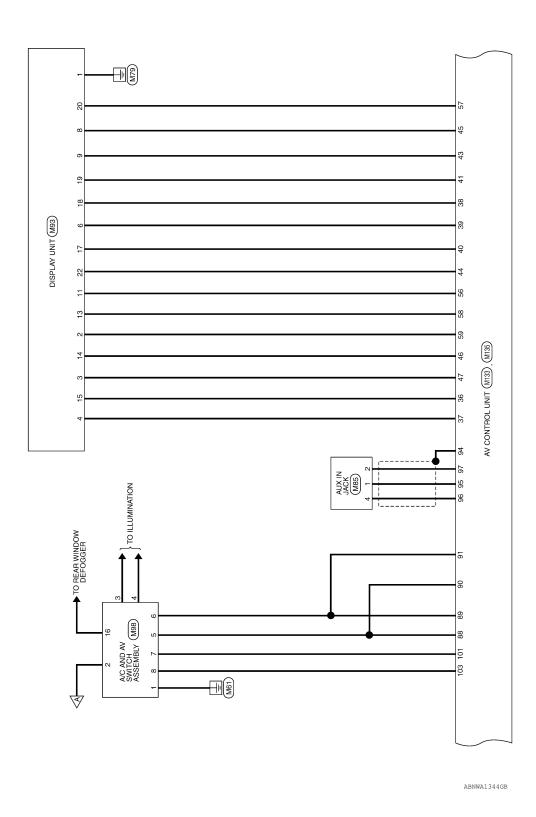
Α

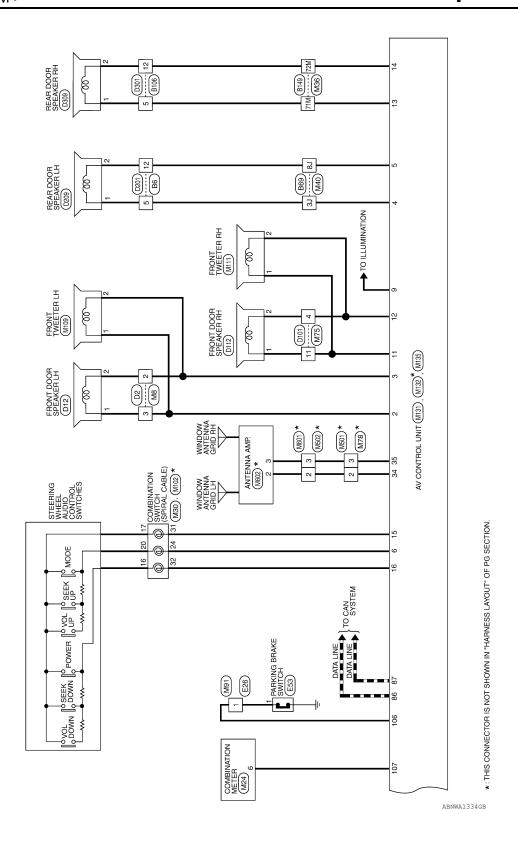
WIRING DIAGRAM

MID AUDIO SYSTEM

Wiring Diagram







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Connector Name COMBINATION METER

M24

Connector No.

Connector Color | WHITE

MID AUDIO SYSTEM CONNECTORS

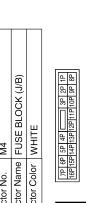


Connector Name WIRE TO WIRE

₩

Connector No.

Connector Color BROWN



7P 16P 15P 14P 11P 10P 10P 18P 18P 18P 18P 18P 18P 18P 18P 18P 18	Signal Name	-	
6P 15P 14P 13P 1	Color of Wire	9/M	נַ
H.S.	Ferminal No.	2P	۷.

9 82

SPEED OUT 8 Signal Name

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- (WITHOUT BOSE AUDIO SYSTEM)

BR

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Signal Name

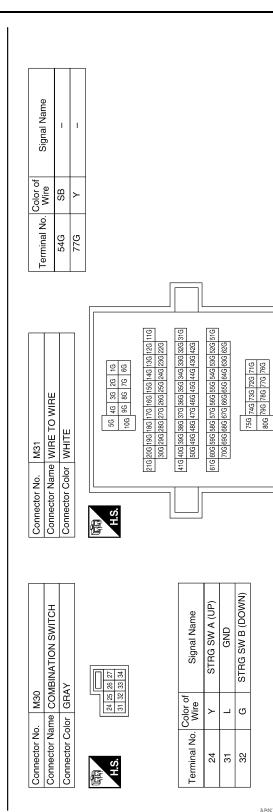
Color of Wire

Terminal No.

Color of Wire

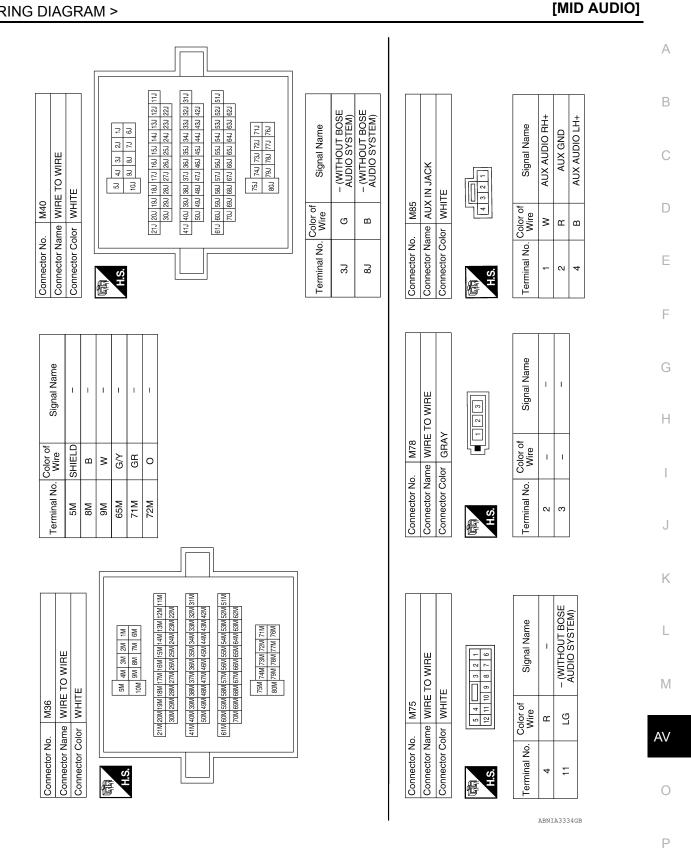
Terminal No.

Signal Name	1	_
Color of Wire	W/G	G/B
Terminal No.	2P	4P



ABNIA2655GB

MID AUDIO SYSTEM



AV-99 August 2012 2012 Pathfinder

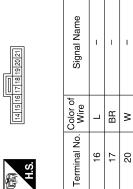
Signal Name	YS	1	IT DISP	1	INV GND	SIG GND	COMP IN SYNC	ı	æ	В	RGB SYNC	ΛV	1	DISP IT	_	1
Color of Wire	ŋ	ı	>	ı	SB	BB	g	1	>	ш	В	M	1	ГG	_	ı
Terminal No.	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24



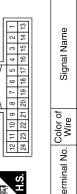
Connector Name COMBINATION SWITCH Connector Color GRAY

M102

Connector No.







Signal Name	GND	INV VCC	SIG VCC	COMP IN-	1	ŋ	ſ	НР
Color of Wire	В	0	В	В	_	В	1	В
Terminal No.	-	2	3	4	5	9	7	8

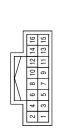
Signal Name	I	_	ı	1	-	1	1	RR DEFOG
Color of Wire	ı	ı	ı	ı	I	ı	ı	\
Terminal No. Wire	6	10	11	12	13	14	15	16

	WIRE		3 2 1	11 10 9 8	
M91	e WIRE TC	r WHITE	7 6 5 4 🗆	16 15 14 13 12 11 10 9	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	E	S F	100



I	G	-
Signal Na	Color of Wire	Terminal No.

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





Signal Name	GND	ACC	111	ILL CONT GND	M CAN1-H	M CAN1-L	SW GND	CD DVD EJECT
Color of Wire	В	G/Y	LG	BR	Т	Д	GR	SB
Terminal No.	-	2	ဇ	4	5	9	7	8

ABNIA3335GB

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Connector No.). M132	32
Connector Na	we AV	Connector Name AV CONTROL UNIT (WITH MID AUDIO SYSTEM)
Connector Color		GRAY
雨 H.S.		33 33 33
Terminal No.	Color of Wire	Signal Name
33	-	1
34	ı	ANT MAIN
35	1	ANT +B

U	Connector No.	M132
	Connector Name AV CONTROL (WITH MID AU	AV CONTROL (WITH MID AUI
10	Connector Color GRAY	GRAY

MID AUDIO SYSTEM



Signal Name	ILL+	_	FR SPRH (+)	FR SPRH (-)	RR SPRH (+)	RR SPRH (-)	STRG SW GND	STRG SW B	_	_	+B	GND
Color of Wire	Λ	_	БЛ	В	ВÐ	0	٦	9	_	_	Å	В
Š.												

Sonnector Color	Color WHITE
-----------------	-------------

9 0

AV CONTROL UNIT (WITH MID AUDIO SYSTEM)

Connector No. M131
Connector Name AV CC

-	ſ	20	
	6	18	
	8	17	
F	7	16	
/	9	15	
1 (5	14	
- 11\	4	13	L
	က	12	
	2	=	
	_	10	
		19	

Signal Name	I	FR SP LH (+)	FR SP LH (-)	RR SP LH (+)	RR SP LH (-)	STRG SW A	ACC	_
Color of Wire	ı	BR	_	g	В	>	G/Y	ı
erminal No.	1	2	င	4	5	9	7	8

ABNIA3336GB

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



2 1

	TER LH			
109	30NT TWEETER LH	NMOF	2 1	

M109	Connector Name FRONT TWEET	BROWN	
Connector No.	Connector Name	Connector Color	



Color of Wire	Ö	٦
Terminal No.	1	2

Signal Name

Terminal No.

Signal Name

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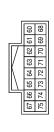
AV-101 August 2012 2012 Pathfinder M

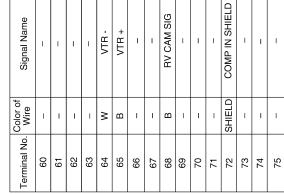
L

ΑV

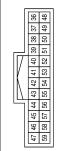
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Connector No.	M134
Connector Name	Connector Name AV CONTROL UNIT (WITH MID AUDIO SYSTEM)
Connector Color WHITE	WHITE









Ę	ŧ	ş	?	‡	?	74	10 00 60 04 14 74 04 44 04 04	7	ŝ	g	5	8
Ó	23		58 57	56	55	54	53	22	51	53	49	8
_												
erminal No.	≥		ĕ≅	Color of Wire	=			S	Signal Name	<u>=</u>	a	٦
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39			ш	В						G		
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Signal Name	COMP OUT+	COMP OUT-	В	ŋ	Я	RGB SYNC	ı	YS	DISP IT	웊	SIG GND	SIG VCC	ı	ı	I	I	ı	I	GND	-	IT DISP	VP	INV GND	INV VCC	
Color of Wire	ŋ	æ	œ	В	8	œ	1	ŋ	P	В	BR	ш	-	ı	1	ı	-	1	В	ı	^	>	SB	0	
Terminal No.	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	99	22	58	29	

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Signal Name	SW GND	ı	CD EJECT	NSI	REVERSE SIG	PKB SIG	SPEED 8P
Color of Wire	GR	1	SB	M/G	>	G	ГG
Terminal No.	101	102	103	104	105	106	107

Signal Name	GND	CAN-H	CAN-L	M CAN1 H	M CAN1 L	M CAN2 H	M CAN2 L	ı	1	HP SHIELD	AUX AUDIO RH+	AUX AUDIO LH+	AUX GND	_	_	-
Color of Wire	В	Г	Ь	Т	Ь	Г	Ь	ı	1	SHIELD	M	В	Я	_	_	-
Terminal No.	98	98	87	88	68	06	91	92	93	94	96	96	26	86	66	100

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	TO WIRE			Signal Name	_	1
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Connector No.	Connector Name WIRE TO WIRE	Connector Color	崎 H.S.	Terminal No.	2	ဇ

	TO WIRE		123	Signal Name	I	1
M502	ne WIRE	or GRAY		Color of Wire	_	ı
Connector No.	Connector Name WIRE TO WIRE	Connector Color GRAY	高 H.S.	Terminal No.	2	က

			1			
	WIRE TO WIRE			Signal Name	_	_
M501		or GRAY		Color of Wire	_	1
Connector No.	Connector Name	Connector Color	雨 H.S.	Terminal No.	2	er.

	Color o Wire	_	_
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	RE TO WIRE	ITE	3	Signal Name	1
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Connector No. E26	Connector Name WIRE TO WIRE	Connector Color WHITE	研.S.H.S.	Terminal No. Wire	-
Connector No. E5	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No. Color of Signal Name	- PT 6

Signal Name

Color of Wire

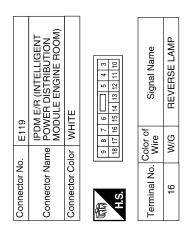
Terminal No.

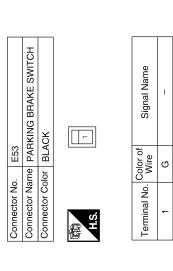
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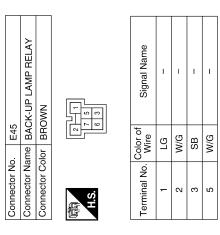
Connector Name ANTENNA AMP.

Connector No. M602

Connector Color GRAY







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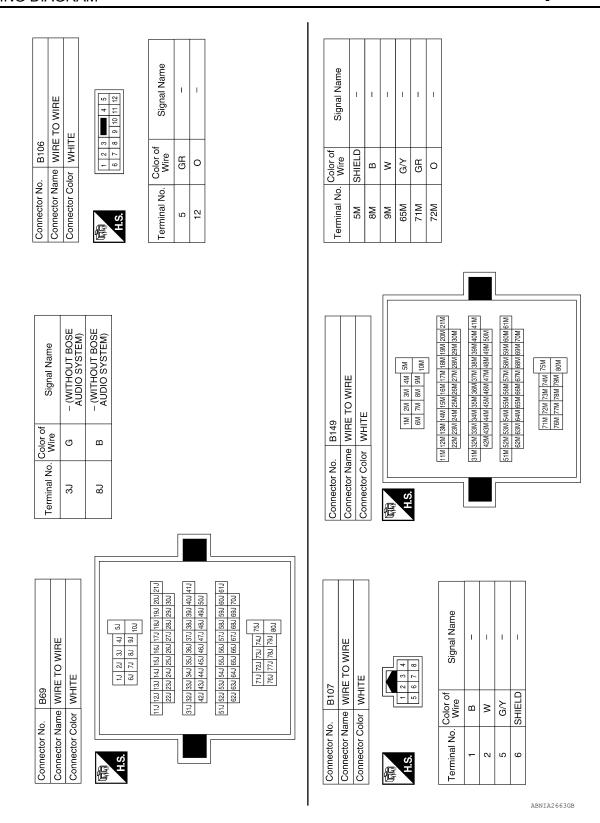
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Connector No. F9 Connector Name AT ASSEMBLY Connector Color GREEN AT ASSEMBLY Goldon of GREEN Signal Name 7 LG	Connector No. B6
Signal Name	F502 TCM (TRANSMISSION CONTROL MODULE) GRAY B 7 6 5 4 3 2 1 1 or of Signal Name ire Signal Name D REV LAMP RLY
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Connector No. E152 Connector Name WIRE TO WIRE Connector Color WHITE Connector Color Conne	Connector No. F14 Connector Name WIRE TO WIRE Connector Color WHITE T2 11 10 9 8 7 6 5 4 3 2 1 T2 12 22 21 20 19 18 17 16 15 14 13 Terminal No. Wire 9 LG

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[MID AUDIO]

r No. D2 r Name WIRE TO WIRE	Connector Name FRONT Connector Color WHITE	D12 ne FRONT or WHITE	Connector No. D12 Connector Name FRONT DOOR SPEAKER LH Connector Color WHITE	Connector No. D101 Connector Name WIRE TO WIRE Connector Color WHITE	ume WIRE	O WIRE
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Connector Name FRONT DOOR SPEAKER RH		2 1	Signal Name	I	-
me FRO	lor WHIT		Color of Wire	W/B	L/B
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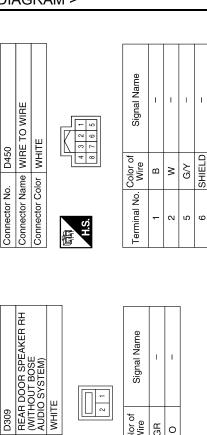
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MID AUDIO SYSTEM



Color of Wire

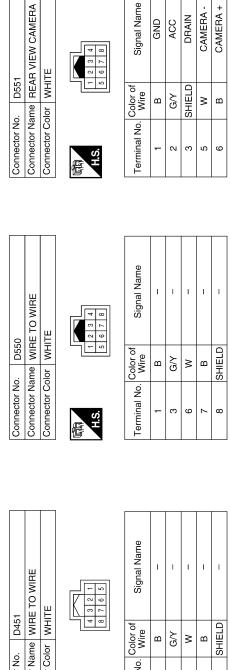
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Connector No.	D301	
Connector Name WIRE TO WIRE	ame WIRE	TO WIRE
Connector Color WHITE	olor WHIT	Ш
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Connector No.

Connector Name Connector Color

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Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE		2	Terminal No. Wire	-	3	9	7	8
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AUDIO SYSTEM

< SYMPTOM DIAGNOSIS > [MID AUDIO]

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

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AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	AV control unit power supply and ground circuit AV control unit	• <u>AV-65</u> • <u>AV-49</u>
Steering switch does not operate	Steering switch AV control unit	• <u>AV-83</u> • <u>AV-49</u>
All speakers do not sound	Speaker circuit shorted to ground AV control unit	AV-95AV-49
One or several speakers do not sound	Front door speakerFront tweeterRear door speaker	• <u>AV-77</u> • <u>AV-79</u> • <u>AV-81</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 DIAG- NOSIS" in the ap- propriate interior trim section.

CD

Symptom	Possible cause	Reference page
CD cannot be inserted.		
CD cannot be ejected.	AV control unit AV-49	AV/ 40
The CD cannot be played.		AV-49
The sound skips, stops suddenly, or is distorted.		

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[MID AUDIO]

NORMAL OPERATING CONDITION

Description INFOID:0000000007347663

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

NOISE

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

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

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

NOTE:

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

Type of Noise and Possible Cause

Occurrence condition		Possible cause
Occurs only when engine is ON.	A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed.	Ignition components
The occurrence of the noise is linked with the operation of the fuel pump.		Fuel pump condenser
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

[MID AUDIO] < PRECAUTION >

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRF-TFNSIONER"

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 3 minutes before performing any service.

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYS-
- · 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

Connect both battery cables.

NOTE:

Supply power using jumper cables if battery is discharged.

- Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
- 3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be
- 4. Perform the necessary repair operation.

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AV-111 2012 Pathfinder August 2012

PRECAUTIONS

< PRECAUTION > [MID 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.)

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

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 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, and wring the water out of the cloth to wipe the dirty area.
 - Then rub with a soft and dry cloth.
- Oily dirt: Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%), and wipe the dirty area.
 - Then dip a cloth into fresh water, and wring the water out of the cloth to wipe the detergent off. Then rub with a soft and dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol, or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

< PREPARATION > [MID AUDIO]

PREPARATION

PREPARATION

Special Service Tool

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name		Description
(J-46534) Trim tool set	AWJIA0483ZZ	Removing trim components

Commercial Service Tools

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INFOID:0000000007347667

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

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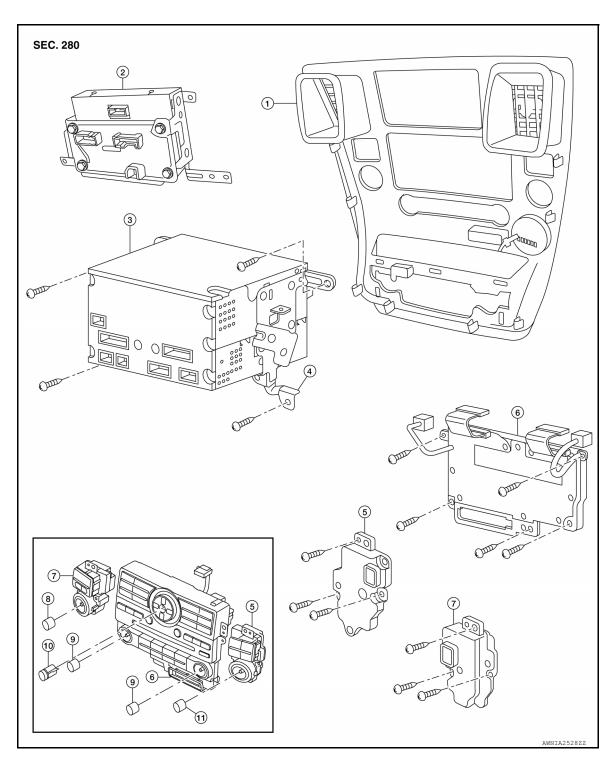
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REMOVAL AND INSTALLATION

AV CONTROL UNIT

Removal and Installation

INFOID:0000000007347669



- 1. Cluster lid C
- 4. AV control unit brackets
- 7. Volume knob switch
- 10. Enter button

- 2. Display unit
- 5. Tuner knob switch
- 8. Volume knob
- 11. Tuner knob

- 3. AV control unit
- 6. A/C and AV switch assembly
- 9. Temp knobs RH and LH

AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[MID AUDIO]

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 B

- 1. Disconnect the battery negative terminal.
- 2. Remove the cluster lid C. Refer to IP-16, "Removal and Installation".
- 3. Remove the AV control unit screws, using a power tool.
- 4. Remove the AV control unit.
- 5. Remove the A/C and AV switch assembly screws, then remove the A/C and AV switch assemblies as necessary.

INSTALLATION

Installation is in the reverse order of removal.

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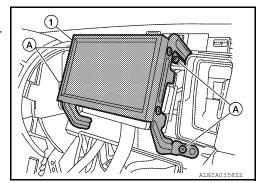
DISPLAY UNIT

Removal and Installation

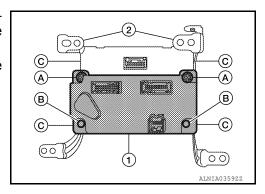
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REMOVAL

- 1. Remove cluster lid C. Refer to IP-16, "Removal and Installation".
- 2. Remove the display unit screws (A).
- 3. Pull out the display unit (1), then disconnect the display unit connectors and remove the display unit (1).



- 4. Remove the A/C auto amp.screws (A), remove the (C103) fasteners (B) from the display unit assembly brackets and remove the A/C auto amp. (1).
- 5. Remove the display unit bracket unit screws (C) and remove the display unit brackets (2).



INSTALLATION

Installation is in reverse order of removal.

[MID AUDIO]

FRONT TWEETER

Removal and Installation

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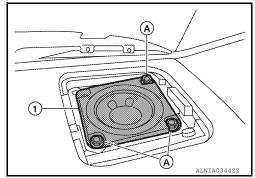
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REMOVAL

CAUTION:

Use a suitable tool to prevent damage to the front tweeter speaker grille trim and the instrument panel.

- 1. Remove the front tweeter grille.
- 2. Remove the front tweeter screws (A).
- 3. Pull out the front tweeter speaker (1) and disconnect front tweeter connector, then remove the front tweeter speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

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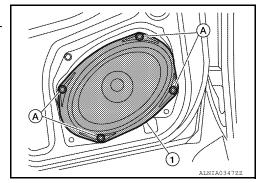
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000007347672

REMOVAL

- 1. Remove the front door finisher. Refer to INT-15, "Removal and Installation".
- 2. Remove the front door speaker screws (A).
- 3. Pull out the front door speaker (1), and disconnect the front door speaker connector and remove the front door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

[MID AUDIO]

REAR DOOR SPEAKER

Removal and Installation

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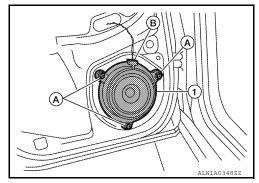
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REMOVAL

- 1. Remove the rear door finisher. Refer to INT-15, "Removal and Installation".
- 2. Remove the rear door speaker screws (A).
- 3. Disconnect the rear door speaker connector (B) and remove rear door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

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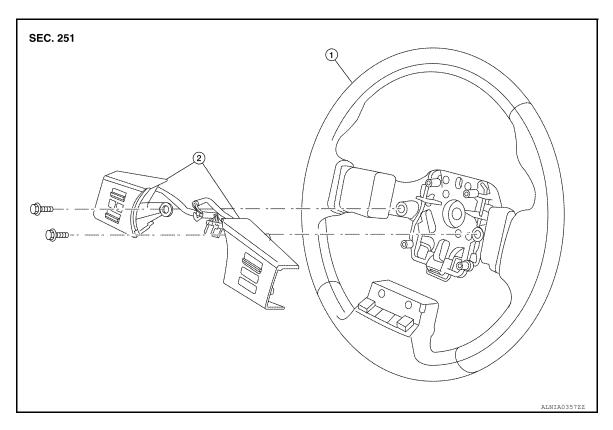
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STEERING SWITCH

Removal and Installation

INFOID:0000000007347674



1. Steering wheel

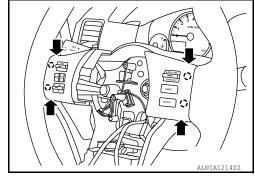
2. Steering wheel audio control switches

REMOVAL

- 1. Remove the driver air bag module. Refer to SR-5, "Removal and Installation".
- 2. Remove the steering wheel audio control switch assembly screws.
- 3. Disconnect the steering wheel audio control switches connector.
- Remove the steering wheel audio control switches by pulling on steering wheel audio control switches to release the pawls.
 CAUTION:

Do not tilt steering wheel audio control switches during removal or damage may occur to the pawls.

• (): Pawl



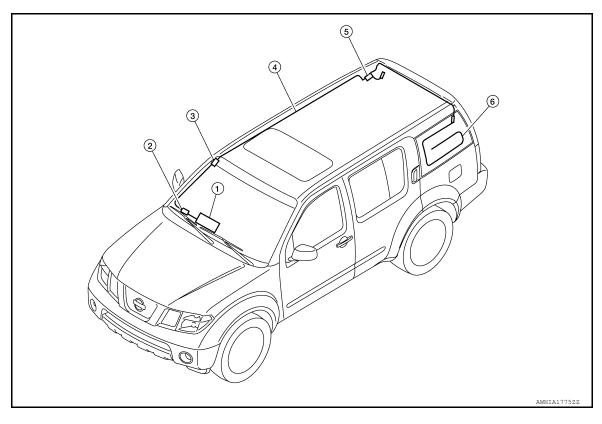
INSTALLATION

Installation is in the reverse order of removal.

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AUDIO ANTENNA

Location of Antenna



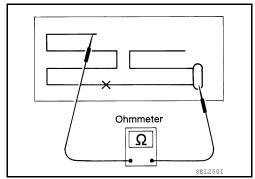
- 1. AV control unit M132
- 4. Antenna feeder
- 2. Harness connector M78, M501
- Antenna amp. M602

- 3. Harness connector M502, M601
- 6. Window antenna grid

Window Antenna Repair

ELEMENT CHECK

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



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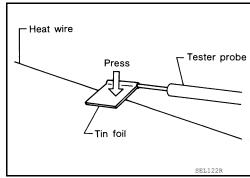
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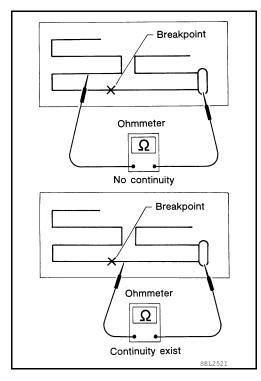
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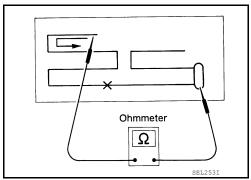
 When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



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-45, "Filament Repair".

AUXILIARY INPUT JACK [MID AUDIO] < REMOVAL AND INSTALLATION > **AUXILIARY INPUT JACK** Α Removal and Installation INFOID:0000000007347677 Removal В 1. Remove the A/T finisher. Refer to IP-21, "Removal and Installation". 2. Remove the auxiliary input jack. C Installation Installation is in the reverse order of removal. D Ε F Н J K L M

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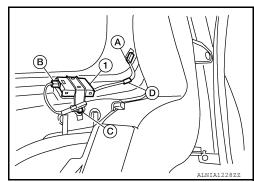
ANTENNA AMP.

Removal and Installation

INFOID:0000000007347678

REMOVAL

- 1. Remove the luggage side upper and lower RH finishers. Refer to INT-25, "Removal and Installation".
- 2. Detach the antenna amp. harness clip (D), disconnect the antenna amp. connector (A), harness connector (B), then remove the antenna amp. screw (C) and remove the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

[MID AUDIO]

REAR VIEW CAMERA

Removal and Installation

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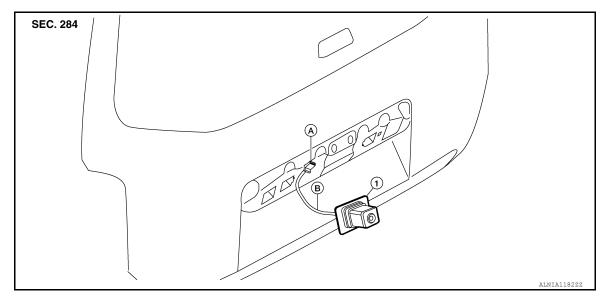
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Rear view camera

A. Rear view camera connector

B. Rear view camera harness clip

REMOVAL

- 1. Remove the license lamp finisher. Refer to EXT-23, "Removal and Installation".
- 2. Disconnect the rear view camera connector.
- 3. Detach the rear view camera harness clip.
- 4. Detach the rear view camera to release, then pull out to remove the rear view camera while feeding the rear view camera harness and connector through the back door.

INSTALLATION

Installation is in the reverse order of removal.

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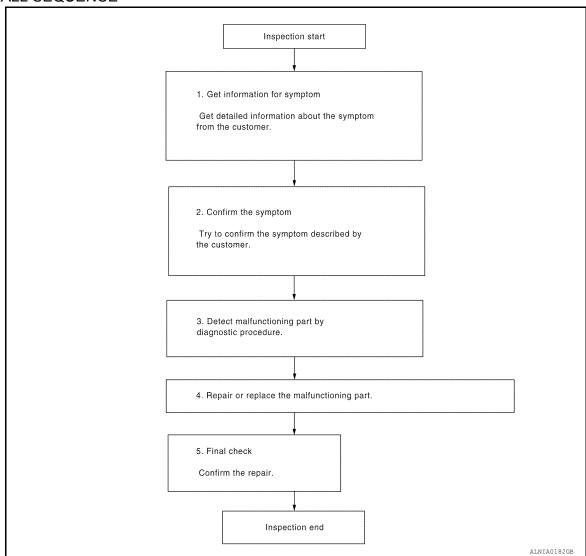
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BASIC INSPECTION

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

< BASIC INSPECTION > Is malfunctioning part detected? YES >> GO TO 4 NO >> GO TO 2 4. REPAIR OR REPLACE THE MALFUNCTIONING PART Repair or replace the malfunctioning part. Reconnect parts or connectors disconnected during Diagnostic Procedure. >> GO TO 5 5. FINAL CHECK Refer to confirmed symptom in step 2, and make sure that the symptom is not detected. Was the repair confirmed? YES >> Inspection End. >> GO TO 2 NO

[BOSE AUDIO WITHOUT NAVIGATION]

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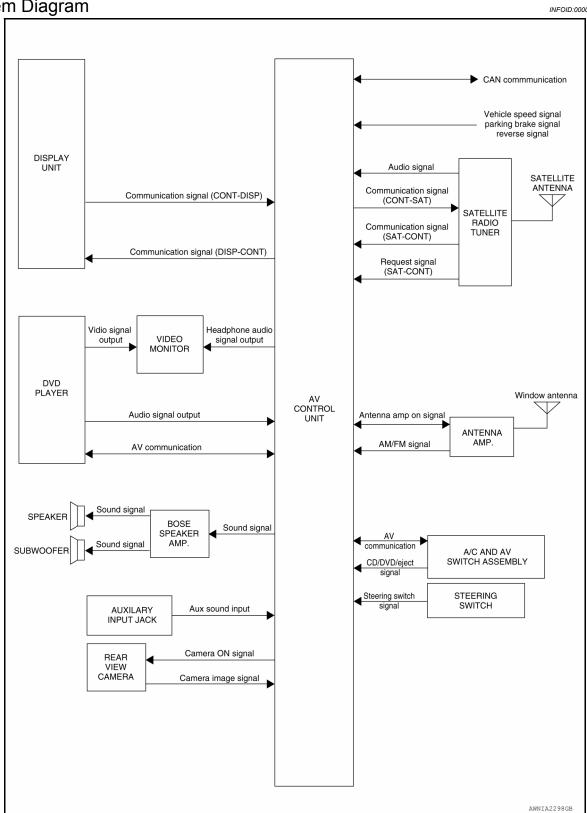
AV-127 August 2012 2012 Pathfinder

SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram

INFOID:0000000007347683



System Description

INFOID:0000000007347684

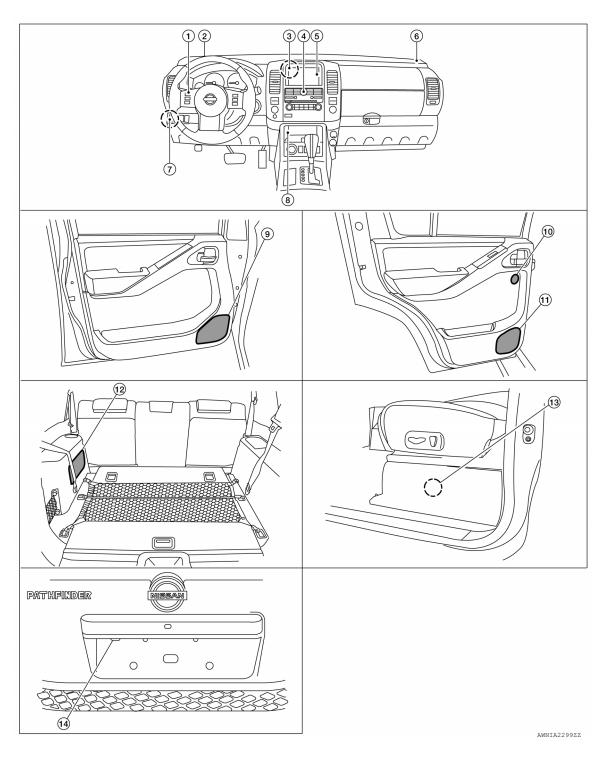
AUDIO SYSTEM

< SYSTEM DESCRIPTION >	[BOSE AUDIO WITHOUT NAVIGATION]	
The audio system consists of the following components • AV control unit		Λ
Display unit		Α
BOSE speaker amp.Window antenna		В
Steering wheel audio control switchesA/C and AV switch assembly		D
Front door speakersFront tweeters		С
Rear door speakers Rear tweeters		
Subwoofer		D
When the audio system is on, radio signals are received by the sends audio signals to the BOSE speaker amp. The BOSE sp	ne window antenna. The AV control unit then eaker amp. amplifies the audio signals before	
sending them to the front door speakers, front tweeters, rear do Refer to Owner's Manual for audio system operating instruction		Е
SATELLITE RADIO SYSTEM		
The satellite radio system consists of the following components Satellite antenna		F
 Satellite radio tuner When the satellite radio system is on, radio signals are supplied 	ed to the satellite radio tuner from the satellite	
antenna. The satellite radio tuner then sends audio signals to the Refer to Owner's Manual for satellite radio system operating ins	e AV control unit.	G
SPEED SENSITIVE VOLUME SYSTEM	u ucuons.	
Volume level of this system goes up and down automatically in level can be selected by the customer. Refer to Owner's Manual	. proportion to the rolling operation of the contract	Н
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AV-129 August 2012 2012 Pathfinder

Component Parts Location

INFOID:0000000007347685



- Steering wheel audio control switch- 2.
- 4. A/C and AV switch assembly M98
- 7. Satellite radio tuner M41, M129
- Front tweeter LH M109
- 5. Display unit M93
- 8. Aux jack M85

- AV control unit M42, M43, M44, M45, M46, M69, M70
- 6. Front tweeter RH M111
- 9. Front door speaker LH D12 RH D112

AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

10. Rear tweeter LH D208 RH D308 11. Rear door speaker LH D207 RH D307 12. Subwoofer B72

13. BOSE speaker amp B74 & B75 (located under driver seat)

14. Rear view camera D551

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Component Description

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 wheel audio control switch signal is output to audio 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
Rear door speakers	Outputs audio signal from BOSE speaker amp.Outputs high, mid and low range sounds
Rear tweeters	Outputs audio signal from BOSE speaker amp.Outputs high range sounds
Subwoofer	Outputs audio signal from BOSE speaker amp.Outputs low range sounds
Satellite radio tuner	Receives radio signals from satellite antennaSends audio signals to AV control unit
Satellite antenna	Audio signal (satellite radio) is received and output to AV control unit.

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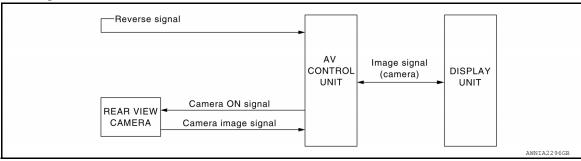
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REAR VIEW MONITOR SYSTEM

System Diagram

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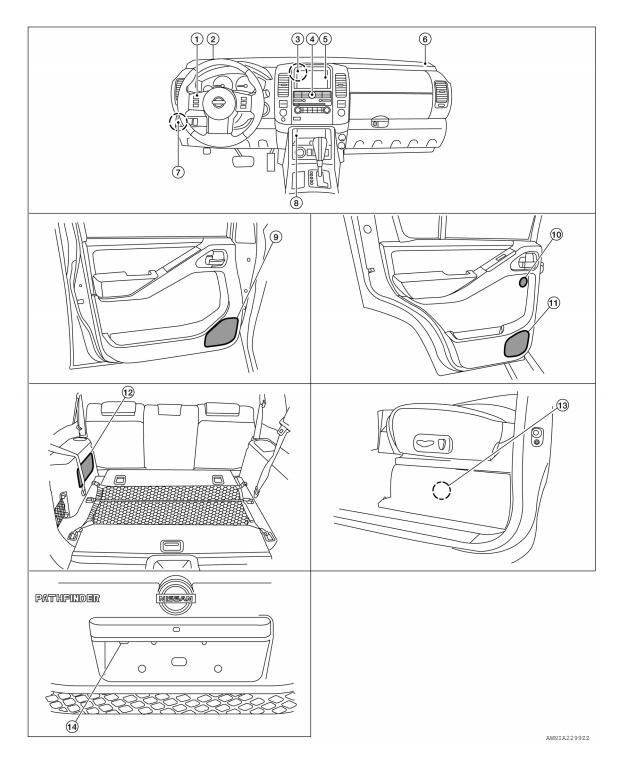
System Description

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When the shift selector is in the R position the AV control unit receives the reverse signal and turns on the rear view camera. The display unit receives camera image signals from the rear view camera. The display unit then shows a view to the rear of the vehicle. Lines which indicate the vehicle clearance and distances are also displayed.

Component Parts Location

INFOID:0000000007347689



- Steering wheel audio control switches
- 4. A/C and AV switch assembly M98
- 7. Satellite radio tuner M41, M129
- Front tweeter LH M109
- 5. Display unit M93
- 8. Aux jack M85

- AV control unit M42, M43, M44, M45, M46, M69, M70
- 6. Front tweeter RH M111
- 9. Front door speaker LH D12 RH D112

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REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

10. Rear tweeter LH D208 RH D308

11. Rear door speaker LH D207 **RH D307**

12. Subwoofer B72

13. BOSE speaker amp B74 & B75 (lo- 14. Rear view camera D551 cated under driver seat)

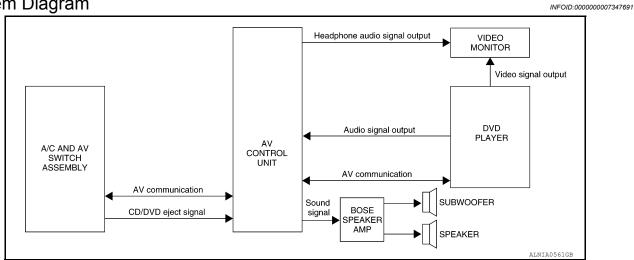
Component Description

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Part name	Description
AV control unit	 Receives reverse signal from back-up lamp relay Sends camera ON signal to rear view camera Receives image signal from rear view camera Sends camera image signal to display unit
Rear view camera	Receives camera ON signal from AV control unit Sends image signal to the AV control unit
Display unit	Receives camera image signal from AV control unit

DVD PLAYER

System Diagram



System Description

The DVD entertainment system consists of the following components

- AV control unit
- · Display unit
- DVD player
- · Video monitor
- A/C and AV switch assembly
- Steering wheel audio control switches
- BOSE speaker amp.
- · Front tweeters
- Front door speakers
- · Rear tweeters
- Rear door speakers
- Subwoofer

When the DVD entertainment system is on, video signals are sent from the DVD player to the video monitor. Audio signals are sent to the AV control unit. Audio signals can be directed through wired or wireless infrared headphones or through the BOSE speaker amp. to the vehicle speakers. Refer to the Owner's Manual for complete DVD entertainment system operating instructions.

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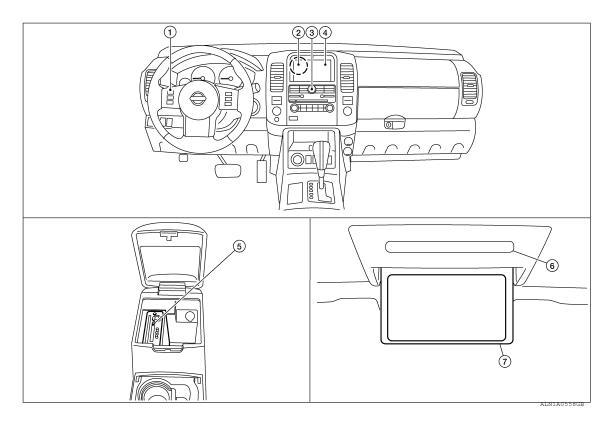
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Component Parts Location

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- 1. Steering wheel audio control switches 2.
- 4. Display unit M93

- AV control unit M42, M43, M44, M45, M46, M69, M70
- DVD player M205 (located in center console)
- A/C and AV switch assembly M98
- 6. Infrared headphone and remote receiver/transmitter (part of video monitor assembly)

7. Video monitor B76

Component Description

INFOID:0000000007347694

Part name	Description
DVD player	Outputs DVD video to video monitor Outputs DVD audio to the AV control unit
Video monitor	Receives and displays the DVD video signal
AV control unit	Controls audio system and DVD entertainment system functions
BOSE speaker amp.	Recieves audio signals from the AV control unitOutputs amplified audio signals to the speakers
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
Front door speakers	Outputs audio signal from BOSE speaker amp.Outputs high, mid and low range sounds
Front and rear tweeters	Outputs audio signal from BOSE speaker amp.Outputs high range sounds

DVD PLAYER

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

Part name	Description
Rear 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

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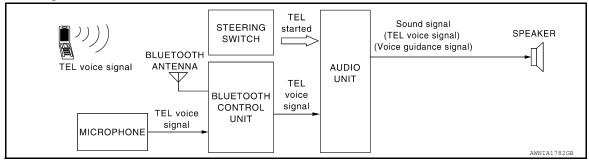
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HANDS-FREE PHONE SYSTEM

System Diagram

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System Description

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

NOTE:

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

Bluetooth telephone system allows users who have a Bluetooth cellular telephone to make a wireless connection between their cellular telephone and the Bluetooth control unit. Hands-free cellular telephone calls can be sent and received. 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

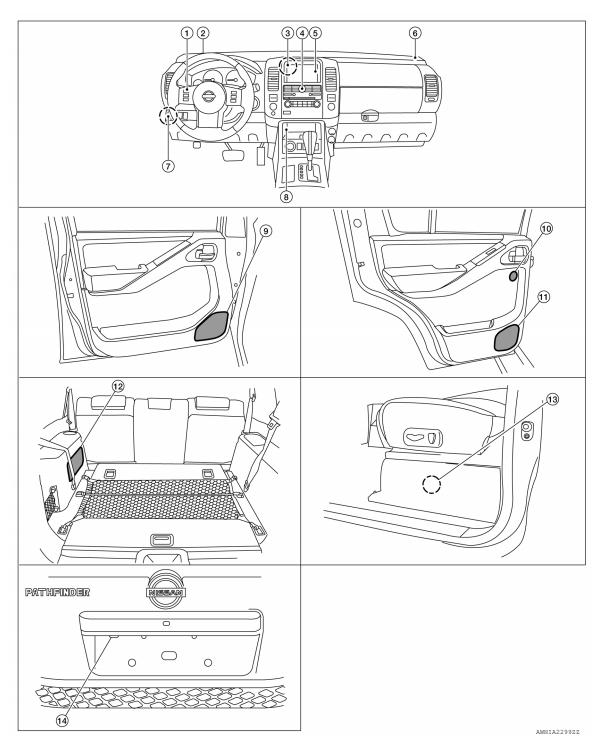
The microphone is located in the roof console assembly. The microphone sends a signal to the Bluetooth control unit. The microphone can be actively tested during self-diagnosis.

AV CONTROL UNIT

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

Component Parts Location

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- Steering wheel audio control switches
- 4. A/C and AV switch assembly M98
- 7. Satellite radio tuner M41, M129
- Front tweeter LH M109
- 5. Display unit M93
- 8. Aux jack M85

- 3. AV control unit M42, M43, M44, M45, M46, M69, M70
- 6. Front tweeter RH M111
- 9. Front door speaker LH D12 RH D112

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HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

10. Rear tweeter LH D208 RH D308

11. Rear door speaker LH D207 **RH D307**

12. Subwoofer B72

13. BOSE speaker amp B74 & B75 (lo- 14. Rear view camera D551 cated under driver seat)

Component Description

INFOID:0000000007347698

Part name	Description
AV control unit	 Receives telephone voice signal from Bluetooth control unit. Sends telephone voice and voice guidance signals to the speakers.
Door speaker	
Front tweeter	Receives telephone voice and voice guidance signals from the AV control 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

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

DIAGNOSIS SYSTEM (AV CONTROL UNIT) AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Description

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DESCRIPTION

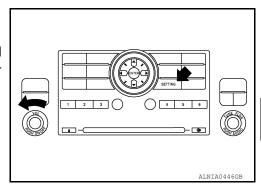
- Diagnosis function consists of the "Self-Diagnosis" mode performed automatically and the "Confirmation/ Adjustment" mode operated manually.
- "Self-Diagnosis" mode checks for connections between the units constituting this system, analyzes each individual unit at the same time, and displays the results 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, Bluetooth, DVD deck, Satellite tuner and switches. 	
CONFIRMATION/ ADJUSTMENT	Display diagnosis	Color spectrum bar	Color tone of the screen can be checked by the display of a color bar.	
		Gradation bar	Shading of the screen can be checked by the display of a gray scale.	
	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.	
	Climate control		Start automatic air conditioner self test.	
	Error history		Diagnosis results previously stored in the memory are displayed in this mode.	
	Vehicle CAN diagnosis		The transmitting/receiving of CAN communication can be monitored.	
	AV COMM diagnosis		The transmitting/receiving of AV communication can be monitored.	
	Delete unit connection log		Erase the error history and connection history of the unit.	
	Initialize settings		All audio settings are reset to default levels.	

OPERATION PROCEDURE

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



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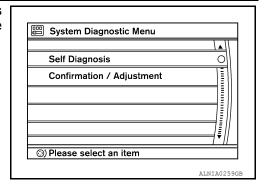
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DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

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

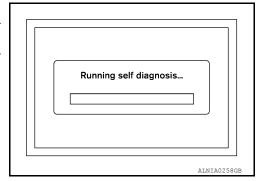


SELF-DIAGNOSIS

- 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.

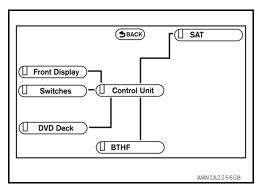
NOTE:

Self-diagnosis requires approximately 10 seconds to complete.



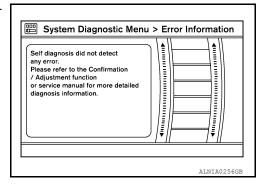
Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

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.



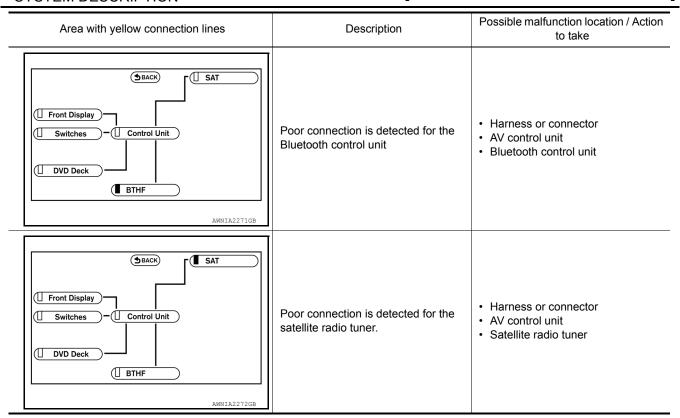
Self-Diagnosis Results

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

[BOSE AUDIO WITHOUT NAVIGATION]

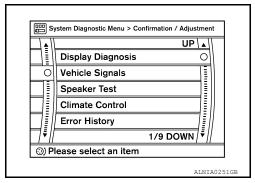
Area with yellow connection lines	Description	Possible malfunction location / Action to take
Switches — Control Unit DVD Deck BTHF AWNIA2267GB	AV control unit malfunction is detected	Replace the AV control unit. Refer to AV-255, "Removal and Installation".
Switches — Control Unit DVD Deck BTHF AWNIA2268GB	Poor connection is detected for the display unit	Harness or connector AV control unit Display unit
Switches — Control Unit DVD Deck BTHF AWNIA2269GB	Switch malfunction is detected	Perform A/C and AV switch assembly diagnostics. Refer to AV-148, "A/C AND AV SWITCH ASSEMBLY: Component Function Check".
Switches — Control Unit DVD Deck BTHF AWNIA2270GB	Poor connection is detected for the DVD player.	 Harness or connector AV control unit DVD player

[BOSE AUDIO WITHOUT NAVIGATION]

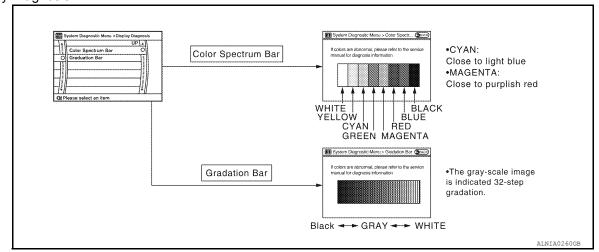


CONFIRMATION/ADJUSTMENT MODE

- 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 unit or press the "BACK" switch to return to the initial Confirmation/Adjustment Mode screen.



Display Diagnosis

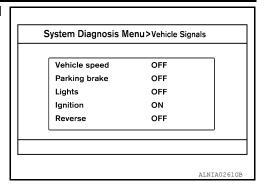


Vehicle Signals

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[BOSE AUDIO WITHOUT NAVIGATION]

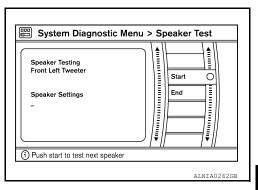
A comparison check can be made of each actual vehicle signal and the signals recognized by the system.



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.	
Darling broke	ON	Parking brake is applied.	mately 1.0 december 1110 to normal.	
Parking brake	OFF	Parking brake is released.		
P. b.	ON	Light switch ON		
Lights	OFF	Light switch OFF	Block the light beam from the auto light optical sensor.	
Institut	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. Press "End" to stop the test tones.



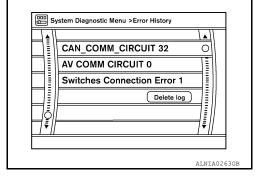
Error History

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



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< SYSTEM DESCRIPTION >

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• 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.

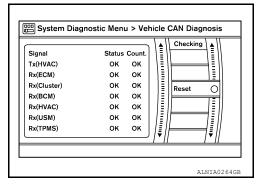
Count up method B

- 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	

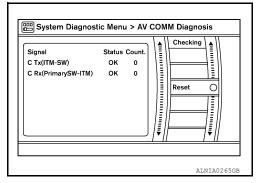
Vehicle CAN Diagnosis

- 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

- 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)

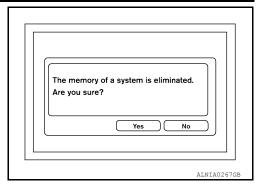


Initialize Settings

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

Initializes the AV control unit memory.



AV CONTROL UNIT: CONSULT Function

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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 display item

Error item	Refer to	
CAN COMM CIRCUIT [U1000]	AV-150, "Description"	
CONTROL UNIT (CAN) [U1010]	AV-151, "Description"	
Control Unit FLASH-ROM [U1200]	AV-152, "Description"	
CAN CONT [U1216]	AV-153, "Description"	
SWITCH CONN [U1240]	AV-154, "Description"	
FRONT DISP CONN [U1243]	AV-155, "Description"	
DVD DECK CONN [U1248]	AV-157, "Description"	
SAT CONN [U1255]	AV-158, "Description"	
HAND FREE CONN [U1256]	AV-159, "Description"	
AV COMM CIRCUIT [U1300]	AV-160, "Description"	
CONTROL UNIT (AV) [U1310]	AV-161, "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]	Χ	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]	X	Х	Displays [ON/OFF] condition of back-up lamp switch.

A/C AND AV SWITCH ASSEMBLY

August 2012 AV-147 2012 Pathfinder

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

A/C AND AV SWITCH ASSEMBLY : Component Function Check

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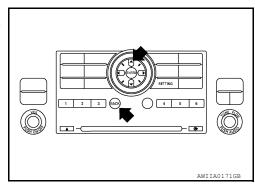
A/C and AV switch assembly self-diagnosis function

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)

< SYSTEM DESCRIPTION >

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DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description

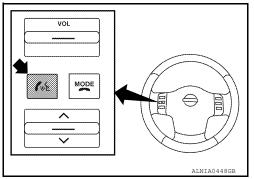
The Bluetooth control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

BLUETOOTH CONTROL UNIT INITIALIZATION CHECKS

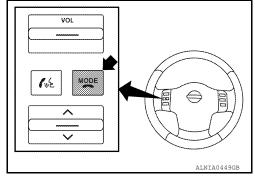
- · Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switches (SEND/END) stuck closed
- · Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth inquiry check

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.
- 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-149</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-149, "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-264, "Removal and Installation".	
"Bluetooth antenna open"	Inspect harness connection.	
"Bluetooth antenna shorted"	2. Replace Bluetooth antenna. Refer to AV-264, "Removal and Installation".	
"Phone/Send for Hands Free System is stuck"	Check steering wheel audio control switches. Refer to AV-196, "Description".	
"Phone/End for the Hands Free System is stuck"		
"Microphone test" (failed interactive test)	 Inspect harness between Bluetooth control unit and microphone. Replace microphone. Refer to <u>AV-263</u>, "<u>Removal and Installation</u>". 	

August 2012 AV-149 2012 Pathfinder

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:0000000007347704

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-13, "How to Use 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:0000000007347706

1.PERFORM SELF DIAGNOSTIC

- 1. Turn ignition switch ON and wait for 2 seconds or more.
- 2. Check "Self Diagnostic Result" of "MULTI AV".

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-37, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

U1010 CONTROL UNIT (CAN)

Description INFOID:0000000007347707

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-255, "Removal and Installation".

>> Inspection End.

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U1200 AV CONTROL UNIT

U1200 AV CONTROL UNIT

Description INFOID:000000007347710

Replace the AV control unit if this DTC is displayed. Refer to AV-255, "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-255, "Removal and Installation".

U1216 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

U1216 AV CONTROL UNIT

Description INFOID:000000007347712

Replace the AV control unit if this DTC is displayed. Refer to AV-255. "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 <u>AV-255</u> , "Removal and Installation".

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August 2012 AV-153 2012 Pathfinder

U1240 SWITCH CONN

[BOSE AUDIO WITHOUT NAVIGATION]

U1240 SWITCH CONN

Description INFOID:0000000007347714

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 	control unit and A/C and AV Switch

U1243 DISPLAY UNIT

Description INFOID:0000000007347715

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

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Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to <u>AV-163, "DISPLAY UNIT: Diagnosis Procedure"</u>. <u>Is inspection result OK?</u>

YES >> GO TO 2

NO >> Repair malfunctioning parts.

2.CHECK CONTINUITY OF COMMUNICATION CIRCUIT

- 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 M45
 (B) terminals 56, 44.

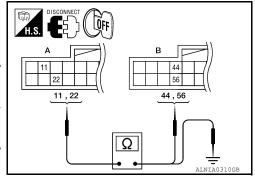
А		В		Continuity
Connector	connector Terminal Connector		Terminal	Continuity
M93	11	M45	56	Yes
Mag	22	ivi45	44	165

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

	A		Continuity
Connector	Terminal		Continuity
M93	11	Ground	No
Maa	22	Giodila	INO

Are continuity results as specified?

YES >> GO TO 3



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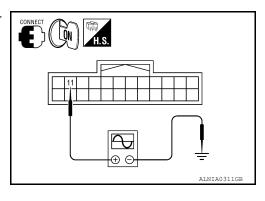
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NO >> Repair harness or connector.

$3. \mathsf{CHECK}$ 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 oscilliscope or CONSULT.

(+)				
	(+)		Reference signal	
Connector	Terminal	(-)	received signal	
M93	11	Ground	(V) 6 4 2 0 + 1ms	



Are voltage readings as specified?

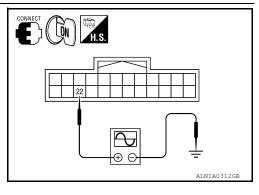
YES >> GO TO 4

NO >> Replace AV control unit. Refer to AV-255, "Removal and Installation".

4. CHECK COMMUNICATION SIGNAL

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

(+) Connector Terminal		(-)	Reference signal
M93	22	Ground	(V) 6 4 2 0 + 1ms PKIB5039J



Are voltage readings as specified?

YES >> Inspection End.

NO >> Replace display unit. Refer to AV-257, "Removal and Installation".

U1248 DVD DECK CONN

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

U1248 DVD DECK CONN

Description INFOID:0000000007347718

U1248 is indicated when a malfunction occurs in the communication signal of the DVD player. 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
U1248	DVD DECK CONN [U1248]	 DVD player power supply and ground circuit malfunction is detected Malfunction is detected on communication circuit between DVD player and AV control unit Malfunction is detected on communication signal between DVD player and AV control unit 	 DVD player power supply and ground circuit Communication circuit be- tween DVD player and AV control unit

Diagnosis Procedure

INFOID:0000000007347720

1. CHECK DVD PLAYER POWER SUPPLY AND GROUND CIRCUIT

Check DVD player power supply and ground circuit. Refer to <u>AV-168, "DVD PLAYER : Diagnosis Procedure"</u>. <u>Is inspection result OK?</u>

YES >> Inspection End.

NO >> Repair malfunctioning parts.

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U1255 SATELLITE RADIO TUNER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

U1255 SATELLITE RADIO TUNER

Description INFOID:0000000007347721

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:0000000007347723

1.CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT

Check satellite radio tuner power supply and ground circuit. Refer to <u>AV-166, "SATELLITE RADIO TUNER : Diagnosis Procedure".</u>

Is inspection result OK?

YES >> Inspection End.

NO >> Repair malfunctioning parts.

U1256 HAND FREE CONN

[BOSE AUDIO WITHOUT NAVIGATION]

U1256 HAND FREE CONN

Description INFOID:000000007347724

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

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U1300 AV COMM CIRCUIT

[BOSE AUDIO WITHOUT NAVIGATION]

U1300 AV COMM CIRCUIT

Description INFOID:0000000007347725

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 U1240	AV COMM CIRCUIT [U1300] 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 	control unit and A/C and AV Switch

U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

U1310 AV CONTROL UNIT

Description INFOID:000000007347726

Replace the AV control unit if this DTC is displayed. Refer to AV-255, "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-255, "Removal and Installation".

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< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

POWER SUPPLY AND GROUND CIRCUIT AV CONTROL UNIT

AV CONTROL UNIT: Diagnosis Procedure

INFOID:0000000007347728

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

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	29
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 M42 and M70.
- Check voltage between the AV control unit connectors M42 and M70 and ground.

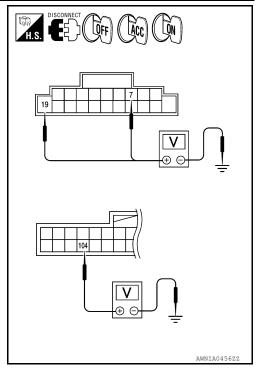
(+)		(-)	OFF	ACC	ON	
Connector	Terminal	(-) OFF		ACC	ON	
M42	7	7 Ground 0V		Battery voltage	Battery voltage	
IVI+Z	19	Ground	Battery voltage	Battery voltage	Battery voltage	
M70	104	Ground	0V	0V	Battery voltage	

Are the voltage results as specified?

YES >> GO TO 3

NO >> • Check

- >> Check connector housings for disconnected or loose terminals.
 - · Repair harness or connector.



3. GROUND CIRCUIT CHECK

- Turn ignition switch OFF.
- 2. Check continuity between AV control unit harness connectors M42, M45, M46, M70 and ground.

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

	(+)		Continuity	
Connector Terminal		(-)		
M42	20			
M45	54	Ground	Yes	
M46	68	Glound		
M70	85			

Are the continuity results as specified?

YES >> Inspection End.

NO >> Repair AV control unit ground.

DISPLAY UNIT

DISPLAY UNIT: Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CHECK POWER SUPPLY CIRCUIT

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

Connector	Terminal	Ignition switch position	Value (Approx.)
M93	2	ACC	9V
WISS	3	ACC	3 V

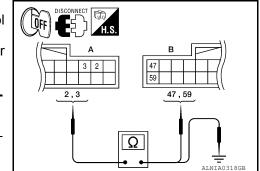
Does specified voltage exist?

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 M45.
- Check continuity between the display unit harness connector M93 (A) and the AV control unit connector M45 (B).

-	Α		В	- Continuity	
Connector	Terminal	Connector Terminal			
M93	2	M45	59	Yes	
IVIO	3	IVITO	47	163	



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

	A		Continuity	
Connector	Terminal	_		
M93	2	Ground	No	
WISO	3	Ground	INO	

Are continuity results as specified?

YES >> Check AV control unit power and ground supply. Refer to AV-162, "AV CONTROL UNIT : Diagnosis Procedure".

NO >> Repair harness or connector.

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[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS > 3.CHECK GROUND CIRCUIT

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

Connector	Terminal	_	Continuity
M93	1	Ground	Yes

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Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

A/C AND AV SWITCH ASSEMBLY

A/C AND AV SWITCH ASSEMBLY: Diagnosis Procedure

INFOID:0000000007347730

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1.CHECK FUSE

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

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

Is the fuse OK?

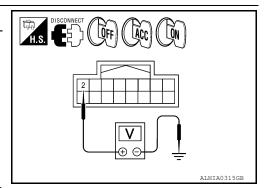
YES >> GO TO 2

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

(+)		(-)	OFF	ACC	ON
Connector	Terminal	(-) OFF			
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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

- 1. 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

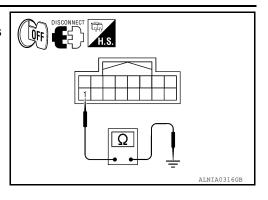
Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or ground.



BOSE SPEAKER AMP: Diagnosis Procedure



INFOID:0000000007347731

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Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1.CHECK FUSE

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

Unit	Terminal	Signal name	Fuse No.
BOSE speaker amp.	1	Battery power	29

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

- Turn ignition switch OFF.
- Disconnect BOSE speaker amp. connector.
- Check voltage between BOSE speaker amp. harness connector B74 terminal 1 and ground.

(+)		(-)	Voltage (approx.)	
Connector	Terminal	(-)	voltage (approx.)	
B74	1	Ground	Battery voltage	

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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.
- Disconnect BOSE speaker amp. connector.
- Check continuity between BOSE speaker amp. harness connector B74 terminal 17 and ground.

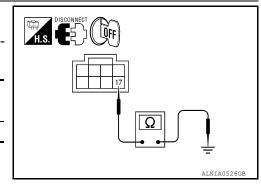
(+)	(-)	Continuity	
Connector	Terminal	(-)	Continuity	
B74	17	Ground	Yes	

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

SUBWOOFER



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SUBWOOFER: Diagnosis Procedure

INFOID:0000000007347732

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1.CHECK FUSE

Check that the subwoofer fuse is not blown.

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

Is the fuse OK?

YES >> GO TO 2

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

2. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 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	

DISCONNECT H.S. OFF

Is battery voltage present?

YES >> GO TO 3

NO >> Check harness between subwoofer and fuse.

3. CHECK GROUND CIRCUIT

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

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

DISCONNECT H.S. OFF

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000007347733

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CHECK FUSES

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

Unit	Terminals	Signal name	Fuse No.
Satellite radio tuner (factory in-	32	Battery power	17
stalled)	36	Ignition switch ACC or ON	4

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

Are the fuses OK?

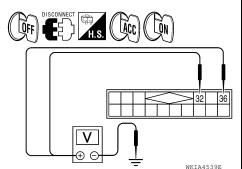
YES >> GO TO 2

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

2. POWER SUPPLY CIRCUIT CHECK

- Turn ignition switch OFF.
- 2. Disconnect satellite radio tuner (factory installed) connector M41.
- Check voltage between the satellite radio tuner (factory installed) and ground.

(-	+)	(-)	OFF	ACC	ON
Connector	Terminal	(-)	011	7.00	ON
M41	32	Ground	Battery volt- age	Battery volt- age	Battery volt- age
10141	36	Ground	0V	Battery volt- age	Battery volt- age



Are the voltage readings as specified?

YES >> GO TO 3

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

Repair harness or connector.

3.GROUND CIRCUIT CHECK

Inspect satellite radio tuner (factory installed) case ground.

Does case ground pass inspection?

YES >> Inspection End.

>> Repair satellite radio tuner (factory installed) case ground.

REAR VIEW CAMERA

REAR VIEW CAMERA: Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CHECK POWER SUPPLY CIRCUIT (REAR VIEW CAMERA SIDE)

Apply parking brakes before proceeding.

- 1. Turn ignition switch ON.
- Shift transmission into reverse.
- Check voltage between rear view camera harness connector D551 terminal 2 and ground.

(+)		(-)	Transmission	Value (Approx.)
Connector	Terminal	(-)	position	value (Approx.)
D551	2	Ground	Reverse	12V

Is voltage reading approximately 12 volts?

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

2.check power supply circuit (continuity)

- Turn ignition switch OFF.
- Disconnect rear view camera and AV control unit connectors. 2.
- Check continuity between rear view camera harness connector D551 terminal 2 and AV control unit harness connector M134 terminal 105.

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[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

Connector	Terminal	Connector	Terminal	Continuity
D551	2	M134	105	Yes

4. Check continuity between rear view camera harness connector D551 terminal 2 and ground.

Connector	Terminal	_	Continuity
D551	2	Ground	No

Are continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK REVERSE POSITION INPUT SIGNAL

- Turn ignition switch ON.
- 2. Shift transmission into reverse.
- Check voltage between AV control unit harness connector M134 terminal 105 and ground.

(+)		(-)	Transmission	Value (Approx.)
Connector	Terminal	(-)	position	value (Approx.)
M134	105	Ground	Reverse	12V

Is voltage reading approximately 12 volts?

YES >> Replace AV control unit. Refer to AV-255, "Removal and Installation".

NO >> Check harness for open or short between AV control unit and back-up lamp relay.

4. CHECK GROUND CIRCUIT

- Turn ignition switch OFF.
- Disconnect rear view camera harness connector.
- 3. Check continuity between rear view camera harness connector D551 terminal 1 and ground.

Connector	Terminal	_	Continuity
D551	1	Ground	Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

DVD PLAYER

DVD PLAYER: Diagnosis Procedure

INFOID:0000000007347735

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1.CHECK FUSE

Check that the following fuses of the DVD player are not blown.

Unit	Terminal Signal name		Fuse No.
DVD player	21		29
	24	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.

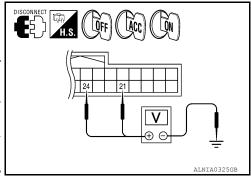
2.POWER SUPPLY CIRCUIT CHECK

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

- 1. Disconnect DVD player connector M205.
- Check voltage between the DVD player connector M205 and ground.

(+)	(-)	OFF	ACC	ON	
Connector	Terminal	(-)		ACC	ON	
M205	21	Ground	Battery voltage	Battery voltage	Battery volt- age	
IVIZOS	24	Glound	0V	Battery voltage	Battery volt- age	



Are the voltage results as specified?

YES >> GO TO 3

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

· Repair harness or connector.

$3. \mathsf{ground} \; \mathsf{circuit} \; \mathsf{check}$

1. Turn ignition switch OFF.

2. Check continuity between DVD player harness connector M205 terminal 5 and ground.

Connector	Terminal	_	Continuity
M205	5	Ground	Yes

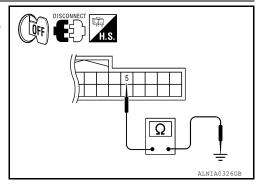
Does continuity exist?

YES >> Inspection End.

NO >> Repair DVD player ground.

VIDEO MONITOR

VIDEO MONITOR : Diagnosis Procedure



Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch to ACC.

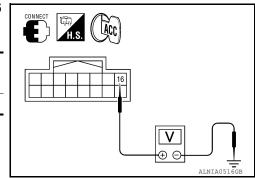
Check voltage between video monitor harness connector B76 and ground.

(+)	(-)	Ignition switch	Value (Approx.)	
Connector	Terminal	(-)	position		
B76	16	Ground	ACC	Battery voltage	

B76 16 Ground Does battery voltage exist?

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

2. CHECK POWER SUPPLY CIRCUIT



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< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

- 1. Turn ignition switch OFF.
- Disconnect the video monitor connector B76 and the DVD player connector M205.
- Check continuity between the video monitor harness connector B76 (A) and the DVD player connector M205 (B).

Α		В		Continuity
Connector	Terminal	Connector Terminal		Continuity
B76	16	M205	9	Yes

Check continuity between video monitor harness connector B76

 (A) and ground.

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	A	_	Continuity	
Connector	Terminal		Continuity	
B76	16	Ground	No	

Are continuity results as specified?

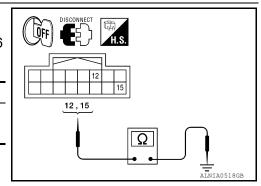
YES >> Check DVD player power and ground supply. Refer to <u>AV-168, "DVD PLAYER : Diagnosis Procedure"</u>.

NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect video monitor connector.
- Check continuity between video monitor harness connector B76 and ground.

Connector	Terminal	_	Continuity	
B76	12	Ground	Yes	
	15	Ground	165	



Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

BLUETOOTH CONTROL UNIT

BLUETOOTH CONTROL UNIT : Diagnosis Procedure

INFOID:0000000007347737

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CHECK FUSE

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

Power source	Fuse No.
Battery	29
Ignition switch ACC or ON	4
Ignition switch ON or START	12

Are the fuses OK?

YES >> GO TO 2

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

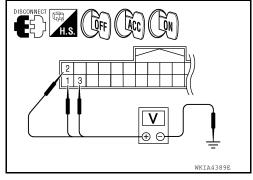
2.CHECK POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

Check voltage between Bluetooth control unit harness connector and ground.

(-	+)	(-)	OFF	ACC	ON
Connector	Terminal	(-)	OIT	700	ON
	1		Battery voltage	Battery voltage	Battery voltage
B124	2	Ground	0V	Battery voltage	Battery voltage
	3		0V	0V	Battery voltage



Are the voltage results as specified?

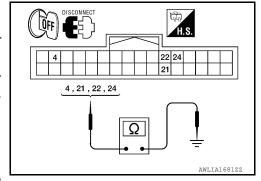
YES >> GO TO 3

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

3. CHECK GROUND CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect Bluetooth control unit connector B124.
- Check continuity between Bluetooth control unit harness connector and ground.

Connector	Terminal	_	Continuity	
	4			
B124	21	Ground	Yes	
D12 4	22	Ground		
	24			



Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

MICROPHONE

MICROPHONE: Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

Check voltage between microphone harness connector and ground.

(+)		Value (Approx.)
Connector	Connector Terminal		value (Approx.)
R8	4	Ground	5V

x.)

Is proper voltage present?

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

2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

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< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

- 1. Turn ignition switch OFF.
- 2. Disconnect Bluetooth control unit and microphone connectors.
- Check continuity between microphone harness connector R8

 (A) terminal 4 and Bluetooth control unit harness connector B124 (B) terminal 29.

-	Α			В	Continuity
	Connector	Terminal	Connector Terminal		Continuity
	R8	4	B124	29	Yes

Check continuity between microphone harness connector R8

 (A) terminal 4 and ground.

DISCONNECT H.S.
29
Δ Ω
ALNIA0132ZZ

,	A		Continuity
Connector	Connector Terminal		Continuity
R8	4	Ground	No

Are continuity 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 connector.
- 2. Turn ignition switch ON.
- 3. Check voltage between Bluetooth control unit harness connector and ground.

(+)		Value (Approx.)
Connector Terminal		(-)	value (Approx.)
B124	29	Ground	5V

CONNECT INS. 1.S. ALNIA01332Z

Is proper voltage present?

YES >> Inspection End.

NO >> Replace Bluetooth control unit. Refer to <u>AV-264</u>, "Removal and Installation".

4. CHECK GROUND CIRCUIT

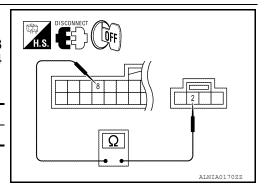
- Turn ignition switch OFF.
- 2. Disconnect Bluetooth control unit and microphone connectors.
- Check continuity between microphone harness connector R8 terminal 2 and Bluetooth control unit harness connector B124 terminal 8.

Connector	Terminal	Connector	Terminal	Continuity
R8	2	B124	8	Yes

Is continuity present?

YES >> Inspection End.

NO >> Repair harness or connector.



RGB (R: RED) SIGNAL CIRCUIT

Description INFOID:0000000007347739

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

Diagnosis Procedure

INFOID:0000000007347740

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Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M45.
- Check continuity between display unit harness connector M93

 (A) terminal 17 and AV control unit harness connector M45 (B) terminal 40.

	A	В		Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	17	M45	40	Yes

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

DISCONNECT H.S. OFF	
A 17	B 40 11
Ω	ALNIA0382GB

	A		Continuity
Connector	Terminal		
M93	17	Ground	No

Are the continuity results as specified?

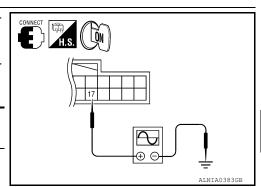
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RGB (R: RED) SIGNAL

- Connect display unit connector M93 and AV control unit connector M45.
- Turn ignition switch ON.
- Check signal between display unit harness connector M93 terminal 17 and ground.

(+)		(-) Condition		Reference signal	
Connector	Terminal	()	Condition	Neierence 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 AV-257, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-255, "Removal and Installation".

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RGB (G: GREEN) SIGNAL CIRCUIT

Description INFOID:000000007347741

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

Diagnosis Procedure

INFOID:0000000007347742

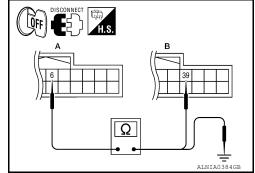
Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M45.
- Check continuity between display unit harness connector M93

 (A) terminal 6 and AV control unit harness connector M45 (B) terminal 39.

АВ			Continuity	
Connector	Terminal	Connector Terminal		Continuity
M93	6	M45	39	Yes



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

	A	_	Continuity	
Connector	Connector Terminal		Continuity	
M93	6	Ground	No	

Are the continuity results as specified?

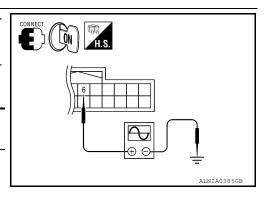
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RGB (G: GREEN) SIGNAL

- Connect display unit connector M93 and AV control unit connector M45.
- Turn ignition switch ON.
- 3. Check signal between display unit harness connector M93 terminal 6 and ground.

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



Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-257, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-255, "Removal and Installation".

RGB (B: BLUE) SIGNAL CIRCUIT

Description INFOID:0000000007347743

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

Diagnosis Procedure

INFOID:0000000007347744

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Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M45.
- Check continuity between display unit harness connector M93

 (A) terminal 18 and AV control unit harness connector M45 (B) terminal 38.

Α			В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	18	M45	38	Yes

Check continuity between display unit harness connector M93

 (A) terminal 18 and ground.

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	A	_	Continuity	
Connector	Terminal			
M93	18	Ground	No	

Are continuity results as specified?

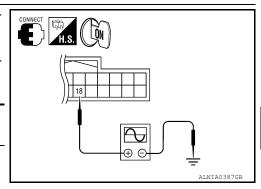
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RGB (B: BLUE) SIGNAL

- Connect display unit connector M93 and AV control unit connector M45.
- Turn ignition switch ON.
- Check signal between display unit harness connector M93 terminal 18 and ground.

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



Are voltage readings as specified?

YES >> Replace display unit. Refer to <u>AV-257, "Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to AV-255, "Removal and Installation".

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RGB SYNCHRONIZING SIGNAL CIRCUIT

Description INFOID:0000000007347745

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

Diagnosis Procedure

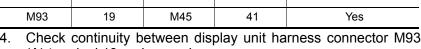
INFOID:0000000007347746

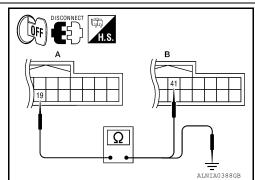
Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

- Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M45.
- 3. Check continuity between display unit harness connector M93 (A) terminal 19 and AV control unit harness connector M45 (B) terminal 41.

А			В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M93	19	M45	41	Yes





4.	Check continuity between display	unit namess	Connector	MISS
	(A) terminal 19 and ground.			

	4		Continuity
Connector	Terminal		Continuity
M93	19	Ground	No

Are continuity results as specified?

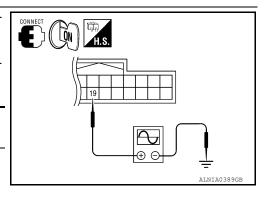
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RGB SYNCHRONIZING SIGNAL

- Connect display unit connector M93 and AV control unit connector M45.
- 2. Turn ignition switch ON.
- Check signal between display unit harness connector M93 terminal 19 and ground.

(+)		- (-) Condition		Poforonoo signal	
Connector	Terminal	(-)	Condition	Condition Reference signal	
M93	19	Ground	Receive audio sig- nal	(V) + 20 µs SKIB3603E	



Are voltage readings as specified?

>> Replace display unit. Refer to AV-257, "Removal and Installation". YES

>> Replace AV control unit. Refer to AV-255, "Removal and Installation". NO

RGB AREA (YS) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

RGB AREA (YS) SIGNAL CIRCUIT

Description INFOID:0000000007347747

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

Diagnosis Procedure

INFOID:0000000007347748

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Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect display unit connector M93 and AV control unit connector M45.
- Check continuity between display unit harness connector M93

 (A) terminal 9 and AV control unit harness connector M45 (B) terminal 43.

А			В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	9	M45	43	Yes

M93 9 M45 43 Yes

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

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,	A		Continuity	
Connector	Terminal		Continuity	
M93	9	Ground	No	

Are continuity results as specified?

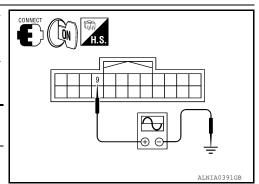
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RGB SYNCHRONIZING SIGNAL

- Connect display unit connector M93 and AV control unit connector M45.
- 2. Turn ignition switch ON.
- Check signal between display unit harness connector M93 terminal 9 and ground.

(+)		(-)	Condition	Reference signal	
Connector	Terminal	()	Condition	r toror orros orginar	
M93	9	Ground	Receive audio sig- nal	(V) 6 4 2 0 → +200 µ S PKIB4948J	



Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-257, "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-255, "Removal and Installation"</u>.

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HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT [BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description INFOID.000000007347749

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:0000000007347750

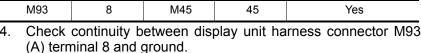
Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M45.
- Check continuity between display unit harness connector M93

 (A) terminal 8 and AV control unit harness connector M45 (B) terminal 45.

	А		В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	8	M45	45	Yes



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	٩	_	Continuity	
Connector	Terminal		Continuity	
M93	8	Ground	No	

Are continuity results as specified?

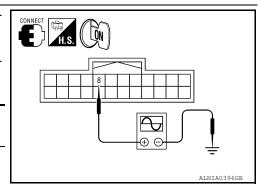
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

- Connect display unit connector M93 and AV control unit connector M45.
- 2. Turn ignition switch ON.
- Check signal between display unit harness connector M93 terminal 8 and ground.

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



Are voltage readings as specified?

YES >> Replace AV control unit. Refer to AV-255, "Removal and Installation".

NO >> Replace display unit. Refer to AV-257, "Removal and Installation".

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

< DTC/CIRCUIT DIAGNOSIS >

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description INFOID:0000000007347751

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-225, "Wiring Diagram - Without Navigation System".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M93 and AV control unit connector M45.
- Check continuity between display unit harness connector M93

 (A) terminal 20 and AV control unit harness connector M45 (B) terminal 57.

A			В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M93	20	M45	57	Yes

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

	A		Continuity
Connector	Terminal	_	
M93	20	Ground	No

Are continuity results as specified?

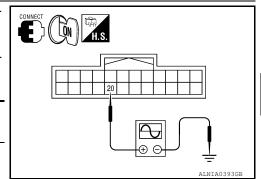
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK VERTICAL SINCHRONIZING (VP) SIGNAL

- Connect display unit connector M93 and AV control unit connector M45.
- 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 AV-255. "Removal and Installation".

NO >> Replace display unit. Refer to <u>AV-257</u>, "Removal and Installation".

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FRONT DOOR SPEAKER

Description INFOID:0000000007347753

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:0000000007347754

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CONNECTOR CHECK

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

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

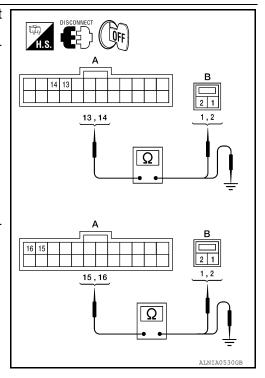
2. HARNESS CHECK

- 1. Disconnect BOSE speaker amp. connector B75 and suspect speaker connector.
- 2. Check continuity between BOSE speaker amp. harness connector B75 (A) and suspect speaker harness connector (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B75	13	D12	1	Yes
	14	D12	2	
	15	D112	1	165
	16	D112	2	

Check continuity between BOSE speaker amp. harness connector B75 (A) and ground.

	Α		Continuity
Connector	Terminal	_	
	13		
D7 <i>E</i>	14	Ground	No
B75	15		
	16		



Are continuity test results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3.FRONT SPEAKER SIGNAL CHECK

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

- 1. Connect BOSE speaker amp. connector B75 and suspect speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between BOSE speaker amp. harness connector B75 terminals with CONSULT or oscilloscope.

Connec-	Terminal		Condition	Reference	
tor	(+)	(-)	Condition	signal	
	13	14			
B75	15	16	Receive audio sig- nal	1 0 1 1 ms skino 1772	

Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to <u>AV-259, "Removal and Installation"</u>.

NO >> GO TO 4

4. HARNESS CHECK

- 1. Disconnect AV control unit connector M69 and BOSE speaker amp. connector B75.
- 2. Check continuity between AV control unit harness connector M69 (A) and BOSE speaker amp. harness connector B75 (B).

А		В		Continuity
Connector	Terminal	Connector Termina		Continuity
M69	113		30	
	119	D75	29	Yes
	109	B75	28	165
	115		27	

Check continuity between AV control unit harness connector M69 (A) and ground.

	А	_	Continuity
Connector	Terminal		Continuity
	113	Ground	No
M69	119		
MOS	109	Giouna	NO
	115		

Are continuity test results as specified?

YES >> GO TO 5

NO >> Repair harness or connector.

FRONT SPEAKER SIGNAL CHECK

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FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

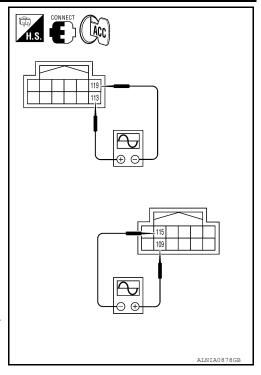
- 1. Connect AV control unit connector and BOSE speaker amp. connector.
- 2. Turn ignition switch ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M69 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	113	119			
M69	109	115	Receive audio sig- nal	(V) 1 0 -1 1 ms	

Are the audio signal voltage readings as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-265.</u> "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-255, "Removal and Installation"</u>.



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INFOID:0000000007347756

FRONT TWEETER

Description INFOID:0000000007347755

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-225, "Wiring Diagram - Without Navigation System".

1.CONNECTOR CHECK

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

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

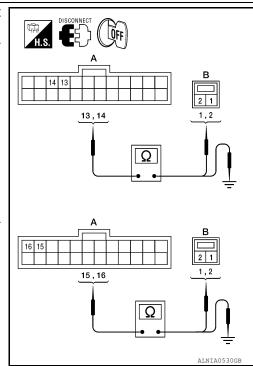
2. HARNESS CHECK

- Disconnect BOSE speaker amp. connector B75 and suspect tweeter connector.
- 2. Check continuity between BOSE speaker amp. harness connector B75 (A) and suspect tweeter harness connector (B).

АВ		В	Continuity	
Connector	Terminal	Connector Terminal		Continuity
	13	N4400	1	
B75	14	M109	2	Voo
	15	M111	1	Yes
	16	IVIIII	2	

Check continuity between BOSE speaker amp. harness connector B75 (A) and ground.

	Α		Continuity
Connector	Terminal	_	
	13		No
D75	14	Ground	
B75	15	Glound	No
	16		



Are continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3.front tweeter signal check

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< DTC/CIRCUIT DIAGNOSIS >

- Connect BOSE speaker amp. connector B75 and suspect tweeter connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between BOSE speaker amp. harness connector B75 terminals with CONSULT or oscilloscope.

Connec-	Terminal		Condition	Reference	
tor	(+)	(-)	Condition	signal	
	13	14			
B75	15	16	Receive audio sig- nal	1 0 1 ms 5 5 1 A 0 1 7 7 2	

Is audio signal voltage as specified?

YES >> Replace suspect tweeter. Refer to <u>AV-258, "Removal and Installation"</u>.

NO >> GO TO 4

4. HARNESS CHECK

- 1. Disconnect AV control unit connector M69 and BOSE speaker amp. connector B75.
- 2. Check continuity between AV control unit harness connector M69 (A) and BOSE speaker amp. harness connector B75 (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M69	113		30	
	119	B75	29	Yes
	109	673	28	163
	115		27	

Check continuity between AV control unit harness connector M69 (A) and ground.

	А		Continuity
Connector	Terminal		
	113	Ground	No
M69	119		
MOS	109	Ground	INO
	115		

ALNIA0532GB

Are continuity results as specified?

YES >> GO TO 5

NO >> Repair harness or connector.

5. FRONT TWEETER SIGNAL CHECK

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

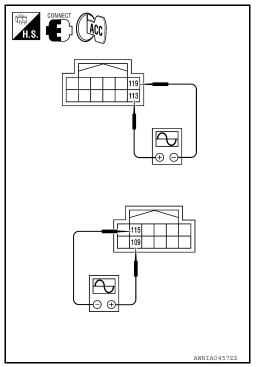
- 1. Connect AV control unit connector and BOSE speaker amp. connector.
- 2. Turn ignition switch ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M69 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	113	119			
M69	109	115	Receive audio sig- nal	(V) 1 0 -1 1 ms	

Are the audio signal voltage readings as specified?

YES >> Replace BOSE speaker amp. Refer to <u>AV-265.</u> "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-255, "Removal and Installation"</u>.



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REAR DOOR SPEAKER

Description INFOID:000000007347757

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:0000000007347758

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1.CONNECTOR CHECK

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

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

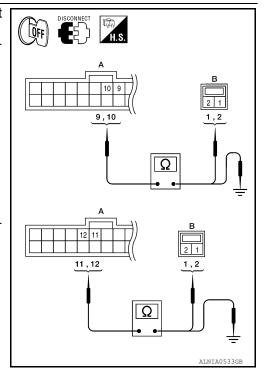
2. HARNESS CHECK

- Disconnect BOSE speaker amp. connectors B75 and suspect speaker connector.
- Check continuity between BOSE speaker amp. harness connectors B75 (A) and suspect speaker harness connector (B).

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B75	9	D207	1	
	10	D207	2	Yes
	11	D207	1	165
	12	D307	2	

Check continuity between BOSE speaker amp. harness connectors B75 (A) and ground.

Terminal	-	Continuity	
9			
10	Cround	No	
11	Ground	NO	
12			
	9 10 11 12	9 10 11 12 Ground	



Are the continuity results as specified?

YES >> GO TO 3

NO >> 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 B75 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	9	10			
B75	11	12	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-261, "Removal and Installation of Rear Tweeter"</u>.

NO >> GO TO 4

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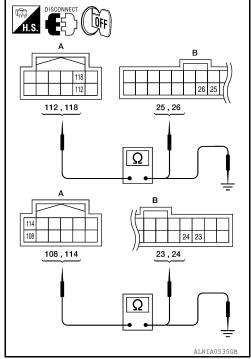
4. HARNESS CHECK

- 1. Disconnect AV control unit connector M69 and BOSE speaker amp. connector B75.
- 2. Check continuity between AV control unit harness connector M69 (A) and BOSE speaker amp. harness connector B75 (B).

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	112		26	Yes
M69	118	D75	25	
	108	B75	24	
	114		23	

Check continuity between AV control unit harness connector M69 (A) and ground.

	А		Continuity	
Connector	Terminal		Continuity	
	112	Ground	No	
M69	118			
MOS	108	Ground	No	
	114			



Are the continuity results as specified?

YES >> GO TO 5

NO >> Repair harness or connector.

5. REAR DOOR SPEAKER SIGNAL CHECK

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REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

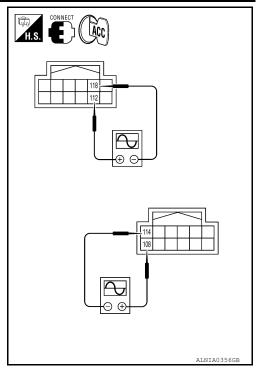
- 1. Connect AV control unit connector M69 and BOSE speaker amp. connector B75.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M69 terminals with CONSULT or oscilloscope.

Connector	Term	ninals	Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	112	118			
M69	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-265</u>. "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-255, "Removal and Installation"</u>.



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INFOID:0000000007347760

REAR TWEETER

Description INFOID:0000000007347759

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-225, "Wiring Diagram - Without Navigation System".

1.CONNECTOR CHECK

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

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

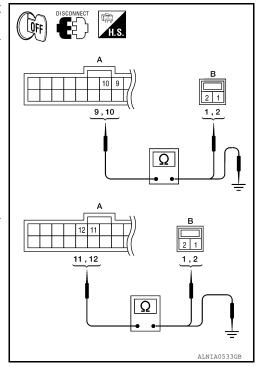
2. HARNESS CHECK

- Disconnect BOSE speaker amp. connectors B75 and suspect tweeter connector.
- 2. Check continuity between BOSE speaker amp. harness connectors B75 (A) and suspect tweeter harness connector (B).

	A	В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	9	D208	1	
B75	10	D200	2	Yes
	11	D200	1	i ies
	12	D308	2	

Check continuity between BOSE speaker amp. harness connectors B75 (A) and ground.

Connector	Terminal	-	Continuity	
	9			
B75	10	Ground	No	
Б/3	11	Glound	NO	
	12			



Are the continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3.REAR TWEETER SIGNAL CHECK

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- 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 B75 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	9	10			
B75	11	12	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-261</u>, "Removal and Installation of Rear Tweeter".

NO >> GO TO 4

4. HARNESS CHECK

- 1. Disconnect AV control unit connector M69 and BOSE speaker amp. connector B75.
- 2. Check continuity between AV control unit harness connector M69 (A) and BOSE speaker amp. harness connector B75 (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	112		26	
M69	118	B75	25	Yes
	108	6/3	24	
	114		23	

3. Check continuity between AV control unit harness connector M69 (A) and ground.

	А		Continuity	
Connector	Terminal	_		
	112	Ground	No	
M69	118			
MO9	108	Ground	INO	
	114			

Are the continuity results as specified?

YES >> GO TO 5

NO >> Repair harness or connector.

5. REAR TWEETER SIGNAL CHECK

REAR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

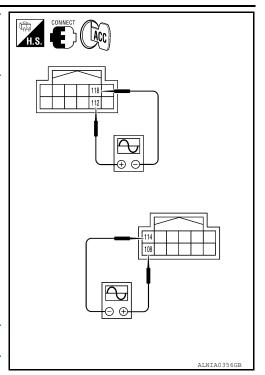
- 1. Connect AV control unit connector M69 and BOSE speaker amp. connector B75.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M69 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	112	118			
M69	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-265</u>. "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-255, "Removal and Installation"</u>.



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[BOSE AUDIO WITHOUT NAVIGATION]

SUBWOOFER

Description INFOID:000000007347761

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:0000000007347762

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1.CONNECTOR CHECK

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

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.VERIFY SUBWOOFER POWER AND GROUND SUPPLY

Check power and ground supply to the subwoofer. Refer to <u>AV-166, "SUBWOOFER: Diagnosis Procedure"</u> Did the power and ground supply check OK?

YES >> GO TO 3

NO >> Repair harness or connector.

3. HARNESS CHECK

- Disconnect BOSE speaker amp. connectors and subwoofer connector.
- 2. Check continuity between BOSE speaker amp. harness connectors B74 (A) and B75 (B) and subwoofer harness connector B72 (C).

Connector	Terminal	Connector	Terminal	Continuity
A: B74	3		1	
A. D/4	19	C: B72	2	Yes
B: B75	22		4	

Check continuity between BOSE speaker amp. harness connector B74 (A) and B75 (B) and ground.

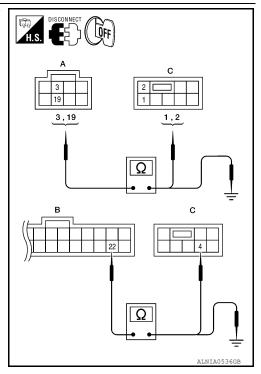
Connector	Terminal	-	Continuity	
A: B74	3			
A. D/4	19	Ground	No	
B: B75	22			

Are the continuity results as specified?

YES >> GO TO 4

NO >> Repair harness or connector.

 $4.\mathsf{subwoofer}$ amp on signal check



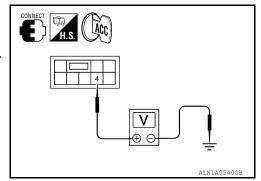
SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

- 1. Connect BOSE speaker amp. connector B74.
- 2. 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?

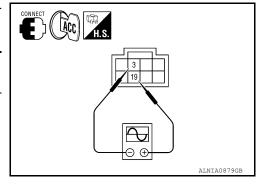
YES >> GO TO 5

NO >> Replace BOSE speaker amp. Refer to AV-265, "Removal and Installation".

5. SUBWOOFER AUDIO SIGNAL CHECK

- 1. Connect BOSE speaker amp. connectors and subwoofer connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- Check the signal between BOSE speaker amp. harness connector B74 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference
	(+)	(-)	Condition	signal
B74	19	3	Receive audio signal	(V) 1 0 -1 1 ms



Is the audio signal voltage as specified?

YES >> Replace subwoofer. Refer to AV-266, "Removal and Installation".

NO >> GO TO 6

6. HARNESS CHECK

1. Turn ignition switch OFF.

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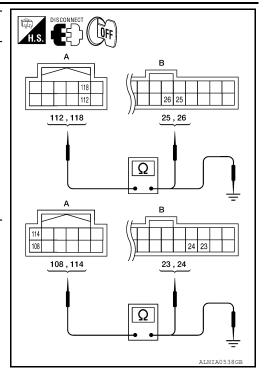
[BOSE AUDIO WITHOUT NAVIGATION]

- Disconnect AV control unit connector M69 and BOSE speaker amp. connector B75.
- 3. Check continuity between AV control unit harness connector M69 (A) and BOSE speaker amp. harness connector B75 (B).

Α			Continuity		
Connector	Terminal	Connector Terminal		Continuity	
	112		26		
M69	118	B75	25	Yes	
	108	673	24	163	
	114		23		

4. Check continuity between AV control unit harness connector M69 (A) and ground.

	A		Continuity	
Connector Terminal		_	Continuity	
	112		No	
M69	118	Ground		
MOS	108	Ground		
	114			



Are the continuity results as specified?

YES >> GO TO 7

NO >> Repair harness or connector.

7.BACK DOOR SPEAKER SIGNAL CHECK

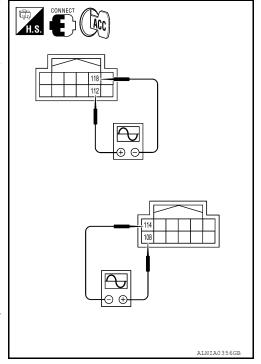
- 1. Connect AV control unit connector M69 and BOSE speaker amp. connector B75.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M69 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	112	118			
M69	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-265</u>, <u>"Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to AV-255, "Removal and Installation".



AMP ON SIGNAL CIRCUIT

Description INFOID:0000000007347763

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:0000000007347764

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CHECK AMP ON SIGNAL (BOSE SPEAKER AMP)

- 1. Turn audio system ON.
- Check voltage between BOSE speaker amp. harness connector B75 terminal 31 and ground.

(+)	(-)	Value (Approx.)	
Connector	Connector Terminal		value (Approx.)	
B75	31	Ground	Battery Voltage	

Is battery voltage present?

YES >> Inspection End.

NO >> GO TO 2

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

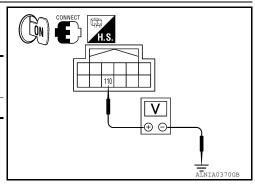
Check voltage between AV control unit harness connector M69 terminal 110 and ground.

(+)	(-)	Value (Approx.)	
Connector	Connector Terminal		value (Approx.)	
M69	110	Ground	Battery Voltage	

Is battery voltage present?

YES >> Repair harness or connector.

NO >> Replace AV control unit. Refer to AV-255, "Removal and Installation".



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STEERING SWITCH

Description INFOID:0000000007347765

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

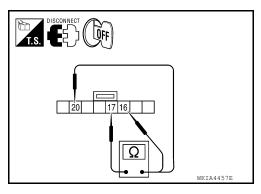
INFOID:0000000007347766

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

- Turn ignition switch OFF.
- 2. Disconnect steering wheel audio control switch connector M102.
- 3. Check resistance between steering switch connector terminals.

Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
		Seek (down)	Depress ∇ switch.	165
16	17	Volume (down)	Depress VOL down switch.	652
	Mode/End	Depress switch.	0	
		Seek (up)	Depress \triangle switch.	165
20	17	Volume (up)	Depress VOL up switch.	652
		Phone/Send	Depress ♥ 🖟 switch.	0



Do the steering wheel audio control switches check OK?

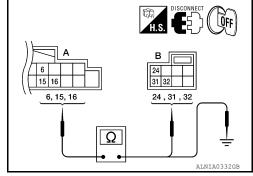
YES >> GO TO 2

NO >> Replace steering wheel audio control switch. Refer to AV-262, "Removal and Installation".

2. CHECK HARNESS

- Disconnect AV control unit connector M42 and spiral cable connector M30.
- Check continuity between AV control unit harness connector M42 (A) and spiral cable harness connector M30 (B).

<u> </u>	Α		В	
Connector	Terminal	Connector	Terminal	Continuity
	6		24	
M42	15	M30	31	Yes
	16		32	



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

	A		Continuity
Connector	Terminal	_	
	6		
M42	15	Ground	No
	16		

Are the continuity results as specified?

STEERING SWITCH

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

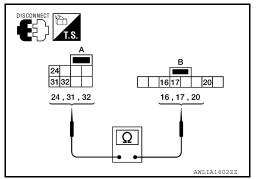
YES >> GO TO 3

NO >> Repair harness.

3. SPIRAL CABLE CHECK

- 1. Disconnect spiral cable connector M102.
- 2. Check continuity between spiral cable harness connector M30 (A) and M102 (B).

	A	В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	24		20	
M30	31	M102	17	Yes
	32		16	



Is continuity present?

YES >> Inspection End.

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

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COMMUNICATION SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER: Description

INFOID:0000000007347767

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

SATELLITE RADIO TUNER: Diagnosis Procedure

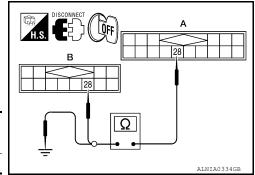
INFOID:0000000007347768

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CHECK HARNESS - 1

- 1. Turn ignition switch OFF.
- Disconnect satellite radio tuner (factory installed) connector M41 and AV control unit connector M136.
- Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and AV control unit harness connector M136 (B) terminal 28.

	A		В	
Connector	Terminal	Connector	Terminal	Continuity
M41	28	M136	28	Yes



4. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and ground.

А		_	Continuity
Connector	Terminal		Continuity
M41	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 M41 (A) terminal 29 and AV control unit harness connector M136 (B) terminal 29.

	A	В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	29	M136	29	Yes

2. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 29 and ground.

	H.S. DISCONNECT OFF
	29
-	$\overline{\square}$
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Α			Continuity	
Connector	Terminal		Continuity	
M41	29	Ground	No	

Are continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

COMMUNICATION SIGNAL CIRCUIT

[BOSE AUDIO WITHOUT NAVIGATION]

3.CHECK HARNESS - 3

< DTC/CIRCUIT DIAGNOSIS >

 Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and AV control unit harness connector M136 (B) terminal 30.

A			В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	30	M136	30	Yes

2. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and ground.

H.S. DISCONNECT OFF	A 30
30	•
	ALNIA0877GB

Α			Continuity	
Connector	Terminal		Continuity	
M41	30	Ground	No	

Are continuity results as specified?

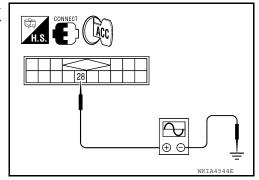
YES >> GO TO 4

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 M41 terminal 28 and ground with CONSULT or oscilloscope.

		ı		
(+)		(-)	Reference signal	
Connector	Terminal	(-)	Reference signal	
M41	28	Ground	(V) 15 10 5 0 	



Are voltage readings as specified?

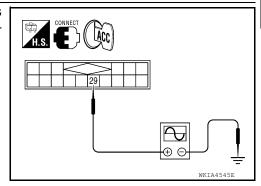
YES >> GO TO 5

NO >> Replace AV control unit. Refer to AV-255, "Removal and Installation".

5. CHECK TXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 29 and ground with CONSULT or oscilloscope.

(+)		()	Poforonco cianal	
Connector	Terminal	(-)	Reference signal	
M41	29	Ground	(V) 15 10 5 0 + 20ms SKIB3824E	



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COMMUNICATION SIGNAL CIRCUIT

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

Are the voltage readings as specified?

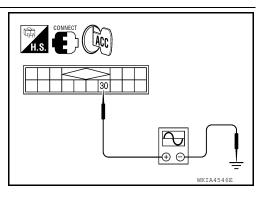
YES >> GO TO 6

NO >> Replace satellite radio tuner. Refer to AV-273, "Removal and Installation".

6. CHECK RXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 30 and ground with CONSULT or oscilloscope.

(+)		()	Deference signal	
Connector	Terminal	(-)	Reference signal	
M41	30	Ground	(V) 15 10 5 0 + 10ms SKIB3826E	



Are the voltage readings as specified?

YES >> Replace satellite radio tuner. Refer to AV-273, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-255, "Removal and Installation".

SOUND SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER: Description

INFOID:0000000007347769

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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:0000000007347770

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

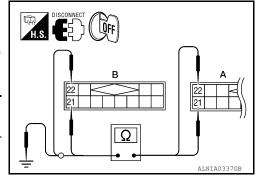
LEFT CHANNEL

1. CHECK HARNESS

1. Turn ignition switch OFF.

- Disconnect satellite radio tuner (factory installed) connector M41 and AV control unit connector M136.
- 3. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and AV control unit connector M136 (B).

	\	В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	21	M43	21	Yes
101-4-1	22	10143	22	165



4. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and ground.

Α			Continuity
Connector	Terminal	_	Continuity
M41	21	Ground	No
M41	22	Giouna	INO

Are continuity results as specified?

YES >> GO TO 2

NO >> Repair harness or connector.

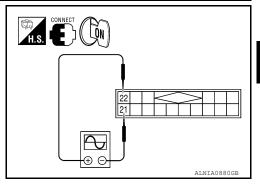
2.CHECK LEFT CHANNEL AUDIO SIGNAL

- Connect satellite radio tuner (factory installed) and AV control unit.
- Turn ignition switch ON.

August 2012

Check signal between satellite radio tuner (factory installed) connector M41 terminals 21 and 22 with CONSULT or oscilloscope.

(-	(+)		Reference signal	
Connector	Terminal	(-)	Reference signal	
M41	22	21	(V) 1 0 -1 + 2ms SKIB3609E	



AV-201 2012 Pathfinder

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< DTC/CIRCUIT DIAGNOSIS >

Are voltage readings as specified?

YES >> Replace AV control unit. Refer to AV-255, "Removal and Installation".

NO >> Replace satellite radio tuner. Refer to AV-273, "Removal and Installation".

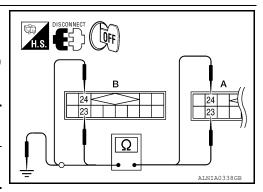
RIGHT CHANNEL

1. CHECK HARNESS

1. Turn ignition switch OFF.

- 2. Disconnect satellite radio tuner (factory installed) connector M41 and AV control unit connector M136.
- 3. Check continuity between satellite radio tuner (factory installed) M41 (A) and AV control unit M136 (B).

	1	E	Continuity	
Connector	Terminal	Connector	Terminal	
M41	23	M136	23	Yes
IVI 4 I	24	WITSO	24	165



4. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and ground.

	A		Continuity	
Connector	Terminal	_	Continuity	
M41	23	Ground	No	
1714 1	24	Giodila	INO	

Are continuity results as specified?

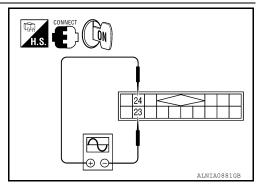
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RIGHT CHANNEL AUDIO SIGNAL

- Connect satellite radio tuner (factory installed) and AV control unit.
- 2. Turn ignition switch ON.
- Check signal between satellite radio tuner (factory installed) connector M41 terminals 23 and 24 with CONSULT or oscilloscope.

(-	(+)		Reference signal	
Connector	Terminal	(-)	reference signal	
M41	24	23	(V) 1 0 -1 → 2ms SKIB3609E	



Are voltage readings as specified?

YES >> Replace AV control unit. Refer to AV-255, "Removal and Installation".

NO >> Replace satellite radio tuner. Refer to AV-273, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description INFOID:0000000007347771

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

Diagnosis Procedure

INFOID:0000000007347772

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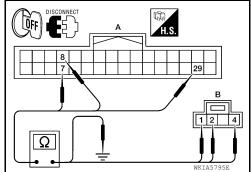
ΑV

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CHECK HARNESS BETWEEN BLUETOOTH CONTROL UNIT AND MICROPHONE

- 1. Turn ignition switch OFF.
- Disconnect Bluetooth control unit connector and microphone connector.
- 3. Check continuity between Bluetooth control unit harness connector B124 (A) and microphone harness connector R8 (B).

-	-				
	A		Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
	7		1		
B124	8	R8	2	Yes	
	29		4		



4. Check continuity between Bluetooth control unit harness connector B124 (A) and ground.

	Α		Continuity	
Connector	Terminal	_		
	7		No	
B124	8	Ground		
	29			

Are the continuity test results as specified?

YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK MICROPHONE POWER SUPPLY

- Connect Bluetooth control unit connector and microphone connector.
- 2. Turn ignition switch ON.
- 3. Check voltage between microphone harness connector R8 terminal 4 and ground.

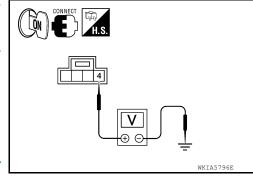
4 - Ground : Approx. 5V

Is voltage reading approx. 5 volts?

YES >> GO TO 3

NO >> Replace Bluetooth control unit. Refer to <u>AV-264</u>, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL



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MICROPHONE SIGNAL CIRCUIT

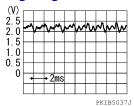
< DTC/CIRCUIT DIAGNOSIS >

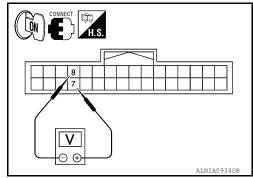
[BOSE AUDIO WITHOUT NAVIGATION]

Check signal between Bluetooth control unit harness connector B124 terminals 7 and 8.

7 - 8:

When giving a voice





Are voltage readings as specified?

YES >> Replace Bluetooth control unit. Refer to AV-264. "Removal and Installation".

NO >> Replace microphone. Refer to AV-263, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Description

Rear view camera signals are transmitted from the rear view camera to the AV control unit using the camera signal circuits.

Diagnosis Procedure

INFOID:0000000007347774

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Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram - Without Navigation System".

1. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

NOTE:

Apply parking brakes before proceeding.

- 1. Turn ignition switch OFF.
- 2. Disconnect AV control unit connector M134 and rear view camera connector D551.
- 3. Check continuity between AV control unit harness connector M134 terminals 64, 65, 72 and rear view camera harness connector D551 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 M134 terminals 64, 65, 72 and ground.

64, 65, 72 - Ground : Continuity should not exist.

Is inspection result OK?

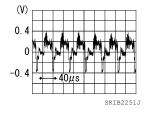
YES >> GO TO 2

NO >> Repair harness or connector.

2. CHECK CAMERA IMAGE SIGNAL

- 1. Connect AV control unit connector M134 and rear view camera connector D551.
- 2. Turn ignition switch ON.
- Shift transmission into reverse.
- 4. Check signal between AV control unit harness connector M134 terminals 64 and 65.

64 - 65



AV-205

Is inspection result OK?

YES >> Replace AV control unit. Refer to <u>AV-255, "Removal and Installation"</u>.

NO >> Replace rear view camera. Refer to AV-274, "Removal and Installation".

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2012 Pathfinder

August 2012

ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

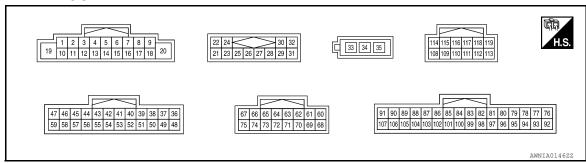
Reference Value

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-	
VIICE 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-	
FRB 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

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
					Pressing 🗸 🌾 switch	0V
6	15 Steering switch signal A	Steering switch signal A	Input	Ignition switch	Pressing △ switch	0.75V
(Y)	(L)		,	ON	Pressing VOL up switch	2V
					Except for above	5V
7 (G/Y)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage
9	9 (V) Ground Illumin	Illumination signal	Innut	OFF	Lighting switch is OFF.	0V
(V)		illumination signal	Input		Lighting switch is ON.	Battery voltage

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

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	minal e color)	Description	_		Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Арргох.)
15 (L)	Ground	Steering switch signal ground	_	Ignition switch ON	_	OV
					Pressing MODE switch	0V
16	15	Steering switch signal B	Input	Ignition switch	Pressing ∇ switch	0.75V
(G)	(L)	Oteching Switch signal b	mpat	ON	Pressing VOL down switch	2V
					Except for above	5V
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage
20 (B)	Ground	Ground	_	Ignition switch ON	_	0V
22 (R)	21 (G)	Satellite radio sound signal LH	Input	Ignition switch ON	When satellite radio mode is selected	(V) 1 0 -1 + 2ms SKIB3609E
24 (B)	23 (W)	Satellite radio sound signal RH	Input	Ignition switch ON	When satellite radio mode is selected	(V) 1 0 -1 + 2ms SKIB3609E
28 (O)	Ground	Request signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 +10ms SKIA9299J
29 (P)	Ground	Communication signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 + 1ms SKIA9300J
30 (L)	Ground	Communication signal (CONT→SAT)	Output	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 **1ms SKIA9301J

[BOSE AUDIO WITHOUT NAVIGATION]

	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Condition		(Approx.)
34	_	Antenna main	_	_	_	_
35	_	Antenna B+	_	_	_	_
36 (G)	Ground	AUX image signal	Output	Ignition switch ON	When AUX mode is selected	(V) 0. 4 0 -0. 4 -0. 4 -0. 4 -0. 4
37 (R)	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 11 11 11 11 11 11 11 11 11 11 11 11 11
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. 8 SKIB2236J
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
41 (R)	Ground	RGB synchronizing signal	Output	Ignition switch ON	-	(V) 4 0 → 20 µs SKIB3603E
					RGB image	5V
43 (G)	Ground	RGB area (YS) signal	Output	Ignition switch ON	AUX image	(V) 6 4 2 0 ++200µs

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description	Description		Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
44 (LG)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness	(V) 6 4 2 0 •••1ms
45 (B)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	_	(V) 4 0 → 20µs SKIB3601E
46 (BR)	Ground	Signal ground	_	Ignition switch	_	0V
47 (R)	Ground	Signal VCC	Output	Ignition switch ACC	_	9V
54 (B)	Ground	Ground	_	Ignition switch ON	_	0V
56 (V)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness	(V) 6 4 2 0 •••1ms
57 (W)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch On	_	(V) 4 0 → 4ms SKIB3598E
58 (SB)	Ground	Inverter ground	_	Ignition switch ON	_	0V
59 (O)	Ground	Inverter VCC	Output	Ignition switch ACC	_	9V
64 (W)	Ground	Rear view camera video signal ground	_	Ignition switch ON	_	0V

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[BOSE AUDIO WITHOUT NAVIGATION]

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
65 (B)	Ground	Rear view camera video in (+)	Input	Ignition switch ON	With rear view camera ON	(V) 0. 4 0 -0. 4 -0. 4 -0. 4 -0. 4
66 (G)	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	Rear view camera signal (ground) Shield	_	Ignition switch ON	_	0V
72 74	Ground	DVD player video ground	_	Ignition switch	_	
(R)	Giouna	DVD player video ground		ON	_	UV
77 (B)	76 (R)	Headphone RH audio sig- nal	Output	Ignition switch ON	With DVD player operating	(V) 1 0 -1 1 ms
80 (GR)	79 (SB)	Microphone signal	Input	Ignition switch ON	_	_
83 (R)	82 (G)	DVD player audio signal RH	Input	Ignition switch ON	With DVD player operating	(V) 1 0 -1 → 2ms SKIB3609E
85 (B)	Ground	Ground		Ignition switch ON	_	0V
86 (L)	_	CAN-H	Input/ Output	_	_	_
87 (P)	_	CAN-L	Input/ Output	_	_	_
88 (L)	_	AV communication signal 1 (H)	Input/ Output	_	_	_
89 (P)	_	AV communication signal 1 (L)	Input/ Output	_	_	_

[BOSE AUDIO WITHOUT NAVIGATION]

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Terminal Description			Condition		Reference value		
+	_	Signal name	Input/ Output		Condition	(Approx.)	
90 (L)	_	AV communication signal 2 (H)	Input/ Output	_	_	_	
91 (P)	_	AV communication signal 2 (L)	Input/ Output	_	_	_	
93 (G)	92 (W)	Headphone LH audio sig- nal	Output	Ignition switch ON	With DVD player operating	(V) 1 0 -1 + 2ms SKIB3609E	
94	_	Shield	_	_	_	_	
95 (W)	97 (R)	AUX audio signal RH	Input	Ignition switch ON	When AUX mode is selected	(V) 1 0 -1 + 2ms SKIB3609E	
96 (B)	97 (R)	AUX audio signal LH	Input	Ignition switch ON	When AUX mode is selected	(V) 1 0 -1 + 2ms SKIB3609E	
98 (W)	99 (B)	DVD player audio signal LH	Input	Ignition switch ON	With DVD player operating	(V) 1 0 -1 + 2ms SKIB3609E	
101 (GR)	Ground	A/C and AV switch assembly ground	_	Ignition switch ON	_	0V	
103 (SB)	Ground	CD eject signal	Input	_	Pressing the eject switch	0V	
104 (W/G)	Ground	Ignition signal	Input	Ignition switch ON	Except for above	3.3V Battery voltage	
105 (W)	Ground	Reverse signal	Input	Ignition switch ON	R position Other than R position	Battery voltage	
106	Cround	Darking broke signal	lon::4	Ignition	Parking brake ON	0V	
(G)	Ground	Parking brake signal	Input	switch ON	Parking brake OFF	Battery voltage	

[BOSE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value	
+	_	Signal name	Input/ Output		Condition	(Approx.)	
107 (LG)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25MPH)	(V) 6 4 2 0 *** 20ms SKIA6649J	
108 (G/R)	114 (B)	Rear RH pre-amp. audio signal	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E	
109 (G/Y)	115 (G/O)	Front RH pre-amp. audio signal	Output	Ignition switch ON	Audio output	(V) 1 0 -1 +2ms skib3609E	
110 (SB)	Ground	Amp. ON signal	Output	Ignition switch ON	Audio output	Battery voltage	
112 (BR/W)	118 (BR/Y)	Rear LH pre-amp. audio signal	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E	
113 (BR)	119 (B)	Front LH pre-amp. audio signal	Output	Ignition switch ON	Audio output	(V) 1 0 -1 +2ms SKIB3609E	

DTC Index

Self-diagnosis results display item

Error item	Refer to		
CAN COMM CIRCUIT [U1000]	AV-150, "DTC Logic"		
CONTROL UNIT (CAN) [U1010]	AV-151, "DTC Logic"		
Control Unit FLASH-ROM [U1200]	AV-152, "DTC Logic"		
CAN CONT [U1216]	AV-153, "DTC Logic"		

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

Refer to		
AV-154, "Description"		
AV-155, "DTC Logic"		
AV-157, "DTC Logic"		
AV-158, "DTC Logic"		
AV-159, "Description"		
AV-160, "Description"		
AV-161, "DTC Logic"		

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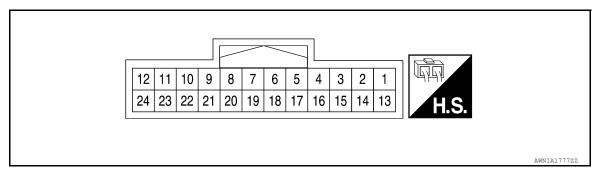
[BOSE AUDIO WITHOUT NAVIGATION]

DISPLAY UNIT

Reference Value

INFOID:0000000007347777

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 (O)	Ground	Inverter VCC	Input	Ignition switch ACC	_	9V	
3 (R)	Ground	Signal VCC	Input	Ignition switch ACC	_	9V	
4 (R)	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 -0. 4 -0. 4 -0. 4 -0. 4 -0. 4	
8 (B)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	_	(V) 4 0 → 20µs SKIB3601E	

DISPLAY UNIT

[BOSE AUDIO WITHOUT NAVIGATION]

Terminal Description			Condition		Reference value		
+	_	Signal name	Input/ Output	Condition		(Approx.)	
					At RGB image displayed	5V	
9 (G)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At rear view camera image displayed	(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 • • 1ms	
13 (SB)	Ground	Inverter ground	_	Ignition switch ON	_	0V	
14 (BR)	Ground	Signal ground	_	Ignition switch ON	_	0V	
15 (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 -0. 4 -0. 4 -0. 4 -0. 8 -0. 8 -	
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	
19 (R)	Ground	RGB synchronizing signal	Input	Ignition switch ON	_	(V) + 20 µs SKIB3603E	

DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value	
+	_	Signal name	Input/ Output	Soliditoli		(Approx.)	
20 (W)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch On	_	(V) 4 0 + 4ms SKIB3598E	
22 (LG)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display- brightness	(V) 6 4 2 0 •••1ms PKIB5039J	

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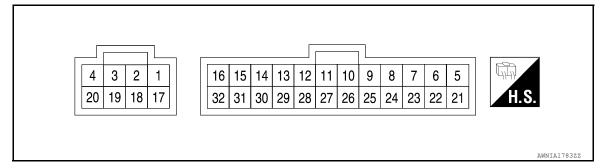
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BOSE SPEAKER AMP

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal e color)	Description			Condition	Reference value	
+	_	Signal name	Input/ Output		Condition	(Approx.)	
1 (Y)	Ground	Battery power	Input	_	_	Battery voltage	
9 (B)	10 (G)	Audio signal rear door speaker and tweeter LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E	
11 (GR)	12 (O)	Audio signal rear door speaker and tweeter RH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E	
13 (LG)	14 (L)	Audio signal front door speaker and tweeter LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E	
15 (W)	16 (R)	Audio signal front door speaker and tweeter RH	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		(Approx.)	
17 (B)	Ground	Ground	_	Ignition switch ON	_	0V	
19 (SB)	3 (B)	Audio signal subwoofer	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E	
22 (Y)	Ground	Subwoofer amp. ON signal	Output	Ignition switch ACC	Audio output	Battery voltage	
24 (G/R)	23 (B)	Audio signal rear RH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 + 2ms SKIB3609E	
26 (BR/W)	25 (BR/Y)	Audio signal rear LH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 + 2ms SKIB3609E	
28 (G/Y)	27 (G/O)	Audio signal front RH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 → 2ms SKIB3609E	
30 (BR)	29 (B)	Audio signal front LH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 + 2ms SKIB3609E	
31 (SB)	Ground	Amp. ON signal	Input	Ignition switch ON	Audio output	Battery voltage	

SATELLITE RADIO TUNER

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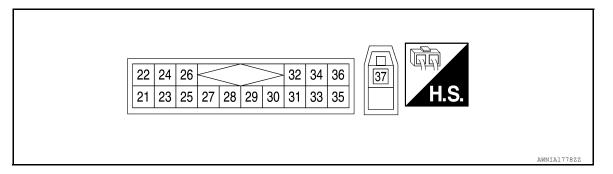
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SATELLITE RADIO TUNER

Reference Value



PHYSICAL VALUES

Ter	minal	Description				Reference value
+	_	Signal name	Signal name Input/ Condition Output		(Approx.)	
22 (R)	21 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected	(V) 1 0 -1 + 2ms SKIB3609E
24 (B)	23 (W)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	(V) 1 0 -1 + 2ms SKIB3609E
28 (O)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 +10ms SKIA9299J
29 (P)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 ** 1ms ** SKIA9300J

August 2012 AV-219 2012 Pathfinder

SATELLITE RADIO TUNER

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

Teri	minal	Description				Reference value	
+	_	Signal name	Input/ Output	Condition		(Approx.)	
30 (L)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 ** 1ms ** SKIA9301J	
32 (R/B)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage	
36 (G/B)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage	
37	_	Satellite antenna	Input	_	_	_	

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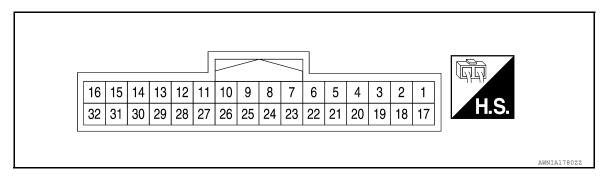
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DVD PLAYER

Reference Value



PHYSICAL VALUES

Teri	minal	Description					
+	_	Signal name	Input/ Output	Condition		Reference value (Approx.)	
1 (B)	2 (W)	DVD audio signal LH	Output	Ignition switch ON	With operation of the DVD player	(V) 1 0 -1 + 2ms SKIB3609E	
5 (B)	Ground	Ground	_	Ignition switch ON	_	0V	
6 (BR)	Ground	Illumination control (pulse width modulated)	_	_	With lighting switch ON	_	
7 (L)	Ground	CAN communication	Input/ Output	Ignition switch ON	_	_	
9 (BR)	Ground	Video monitor power sup- ply	Output	Ignition switch ON	With DVD player operation	12V	
10 (GR)	Ground	Switch power	Output	Ignition switch ON	With DVD player operation	5V	
12 (W/L)	Ground	VTR (+)	Output	Ignition switch ON	With DVD player operation	_	
13 (O/L)	Ground	VTR (-)	Output	Ignition switch ON	With DVD player operation	_	
14 (Y)	Ground	Display ground	_	Ignition switch ON	With DVD player operation	0V	
16 (V)	_	Data receive	Input	_	_	_	

August 2012 AV-221 2012 Pathfinder

[BOSE AUDIO WITHOUT NAVIGATION]

Terr	minal	Description		Condition		Reference value
+	_	Signal name	Input/ Output			(Approx.)
17 (R)	18 (G)	DVD audio signal RH	Output	Ignition switch ON	With DVD player operation	(V) 1 0 -1 + 2ms SKIB3609E
21 (Y)	Ground	Battery power	Input	_	_	12V
22 (SB)	Ground	Illumination power	Input	_	With instrument illumination ON	12V
23 (P)	Ground	CAN communication	Input/ Output	Ignition switch ON	_	0V
24 (G/B)	Ground	ACC power	Input	Ignition switch ACC or ON	_	12V
26 (P)	Ground	Ground	Input	Ignition switch ON	_	0V
28 (G)	Ground	Video out	Input	Ignition switch ACC or ON	_	(V) 0.4 0 -0.4 +40µs skib2251J
32 (LG)	_	Data transmit	Output	_	_	_

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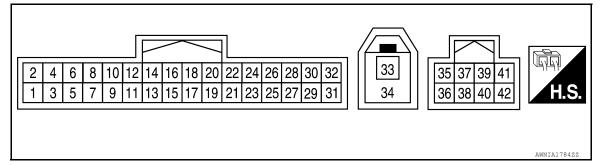
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BLUETOOTH CONTROL UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		ltom	Signal		Condition	Reference value
+	_	- Item	input/ output	Ignition switch	Operation	(Approx.)
1 (R/Y)	Ground	Battery power	Input	_	_	Battery voltage
2 (G/Y)	Ground	ACC power	Input	ACC/ON	_	Battery voltage
3 (W/G)	Ground	IGN power	Input	ON/ START	_	Battery voltage
4 (B)	-	Ground	_	_	_	_
7 (R)	_	Mic-in signal	Input	_	_	-
8	_	Shield	-	_	_	_
9 (GR)	10 (SB)	Audio out	Output	ACC/ON	Bluetooth control unit sends audio sig- nal	(V) 1 0 -1 + 2ms SKIB3609E
21 (B)	_	Ground	_	_	_	_
22 (B)	_	Ground	_	_	_	_
24 (B)	_	Ground	_	_	_	_
28 (SB)	Ground	Vehicle speed input signal (8-pulse)	Input	ON	When vehicle speed is approx. 40 km/h (25 mph)	(V) 15 10 5 0 + 20ms PKIA1935E
29 (G)	Ground	Microphone power	Output	ON	With Bluetooth ON	5V

August 2012 AV-223 2012 Pathfinder

BLUETOOTH CONTROL UNIT

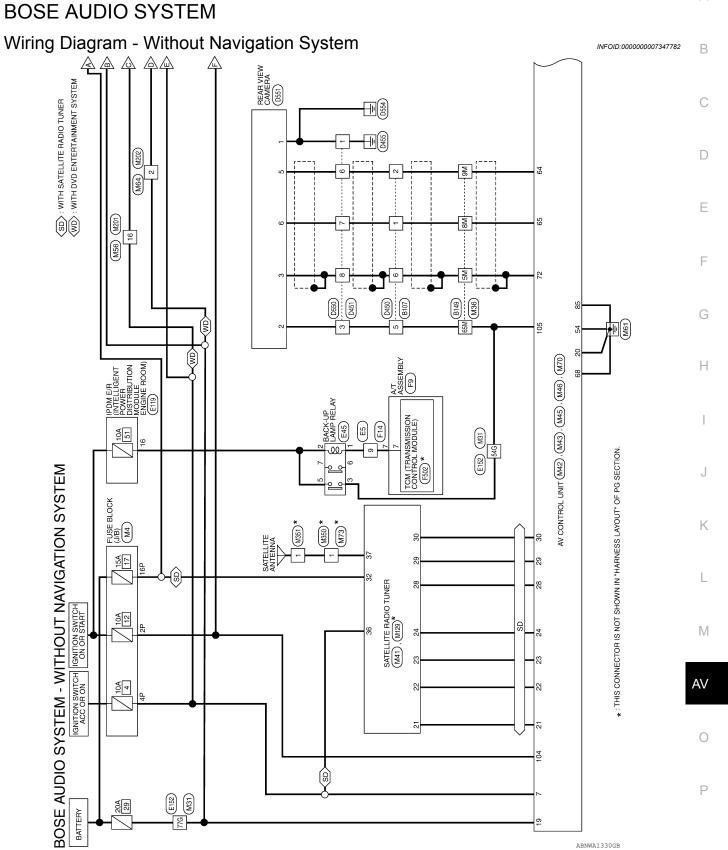
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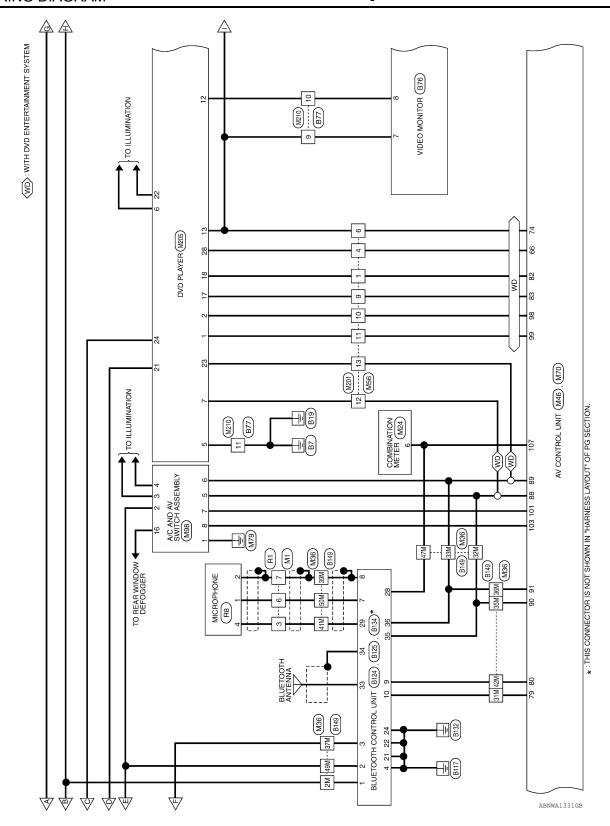
[BOSE AUDIO WITHOUT NAVIGATION]

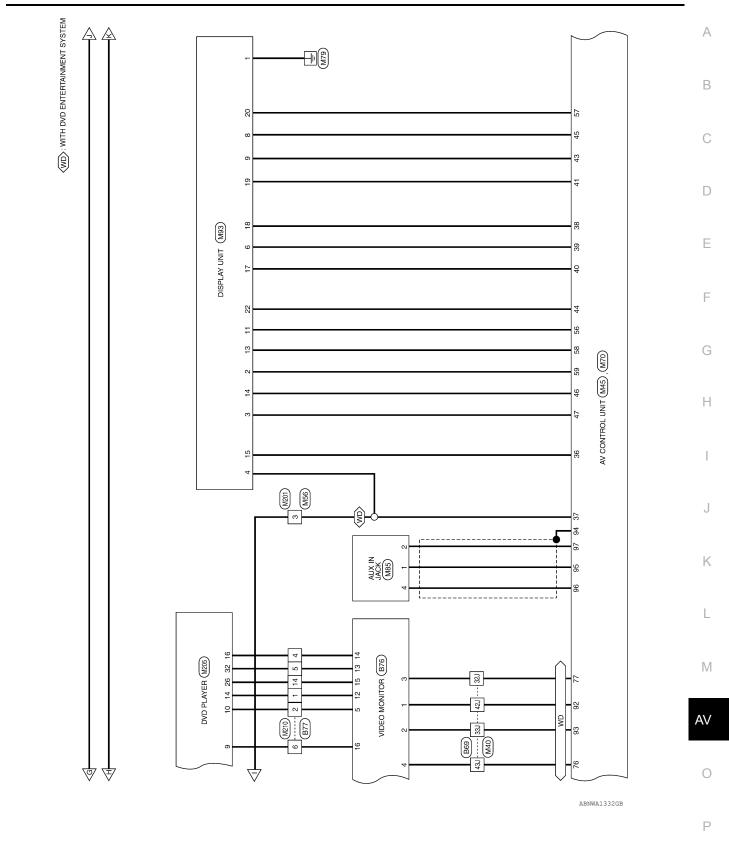
	Terminal (Wire color)		Signal		Condition	Reference value
+	_	Item	input/ output	Ignition switch	Operation	(Approx.)
33 (B)	_	Bluetooth an- tenna	_	_	_	_
34 (B)	_	Bluetooth an- tenna	_	_	_	_
35 (L)	_	M-CAN H	_	_	_	_
36 (P)	_	M-CAN L	_	_	_	-

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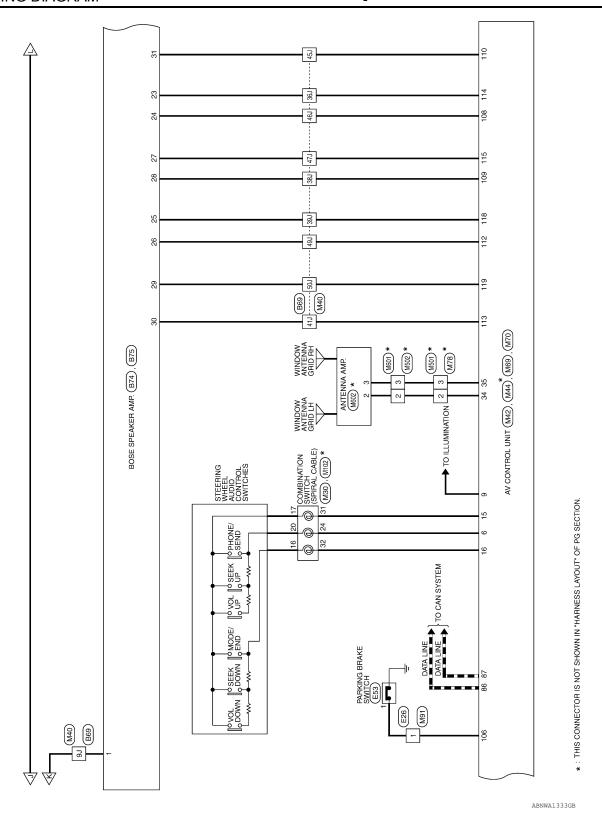
WIRING DIAGRAM

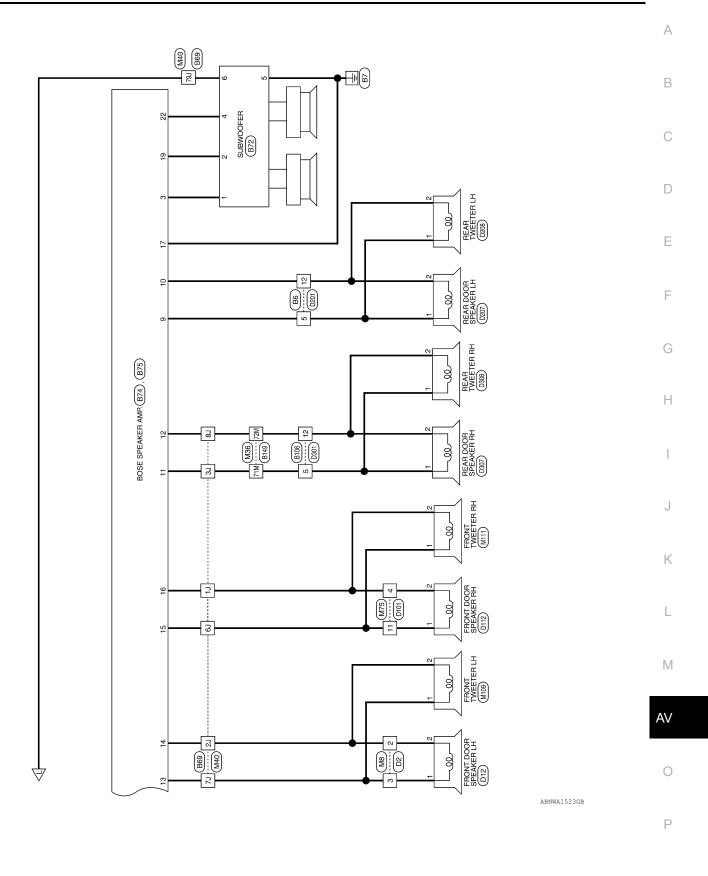






August 2012 AV-227 2012 Pathfinder





August 2012 AV-229 2012 Pathfinder

BOSE AUDIO SYSTEM CONNECTORS - WITHOUT NAVIGATION SYSTEM

Connector No.	M1	ပြ
Connector Name WIRE TO WIRE	WIRE TO WIRE	ပိ
Connector Color WHITE	WHITE	ပိ

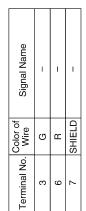
Connector Name | WIRE TO WIRE Connector Color | BROWN

M8

Connector No.



L
L



Signal Name	I	1	1	
Color of Wire	W/G	G/B	R/B	
Terminal No.	2P	4P	16P	

- (WITH BOSE AUDIO SYSTEM)

က

Signal Name

Color of Wire

Terminal No.

ſ	_	ı	
W/G	G/B	B/B	
2P	4P	16P	

M30	Connector Name COMBINATION SWITCH	GRAY
Connector No.	Connector Name	Connector Color GRAY

Connector Name COMBINATION METER

M24

Connector No.

Connector Color WHITE





STRG SW A (UP)	GND	STRG SW B (DOWN)
>	Т	В
24	31	32
	X	≻ ¬

(DOWN)

31 32 33 34	of Sig	STRG		STRG
8	Color of Wire	λ	7	9
	Terminal No.	24	31	32
-	22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			

		6 5 4 3 2 1	40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21			
	ı	2	3 2			
	ı	3	72			
	ı	4	24			
	ı	2	25		<u> </u>	8
		9	26		Signal Name	SPEED OUT 8
	l	7	27		Z	0
_		20 19 18 17 16 15 14 13 12 11 10 9 8	28		l g	嵐
Τ		6	29		Sig	H
		10	30			S
		11	31			
١.		12	32			
	l	13	33		Color of Wire	٦,
	l	14	34		응불	LG
	l	15	35		0	
	l	16	36		<u>o</u>	
	l	17	37		=	
	l	18	38		<u>⊒</u> 9.	9
		19	39			
		20	40		Terminal No. Wire	
	_		_	_		_

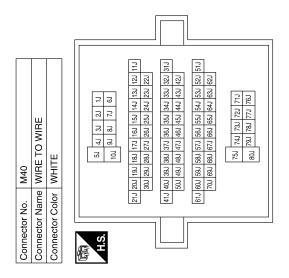
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	А
Signal Name	В
Color of Wire GR	
Terminal No. C 41M 42M 47M 49M 50M 65M 71M 72M	D
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	F
Signal Name Signal Name	G
SB Wire of Wire W W W Color of Wire W W Color of W	Н
Terminal No. 6 54G 77G 77G 2M 8M 9M 31M 32M 33M 35M 35M 39M 39M 39M 39M 39	I
	J
W W W W W W W W W W	K
M31 M31	L
Connector No. M31 Connector Name WIRE TO WIRE Connector Color WHITE SG 4G 3G 2G TO 9G 8G 7G TO 9G 8G TO 9G 7G TO 9G 8G TO 9G 7G TO 9G 8G TO 9G 8G TO 9G 7G TO 9G 8G TO 9G TO 9G 8G TO 9G TO 9G	M
Connector No. M31 Connector Name WIRE T Connector Color WHITE Line Connector Color WHITE Connector Name WIRE T Connector Name WIRE T Connector Name WIRE Tool 660 68 Eing cod 660 68 And connector Name WIRE Tool 660 68 Eing cod 660 68 E	AV
Connector No. Connector Name Connector No. C	0
ABNIA2619GB	Р

August 2012 AV-231 2012 Pathfinder

Signal Name	ı	1	1	ı	1	1	1	1	1	- (WITHOUT BASE AUDIO SYSTEM)
Color of Wire	BR/Y	BB	8	œ	SB	G/R	0/9	BR/W	В	B/B
Terminal No.	391	410	420	43J	45J	46J	47.1	497	P05	r62

Signal Name	1	ı	- (WITH BOSE AUDIO SYSTEM)	1	1	- (WITH BOSE AUDIO SYSTEM)	ı	1	1	1	1
Color of Wire	<u>«</u>	_	GR	>	ГG	0	>	В	ŋ	В	G/Y
Ferminal No.	L1	23	33	60	7.7	8	6	32J	331	36J	381



Signal Name	I	ı	I	REQ (TO HU)	TX (FROM HU)	RX (TO HU)	ı	BACKUP	1	ı	I	ACC
Color of Wire	1	ı	_	0	۵	_	1	B/B	1	ı	1	G/B
Terminal No.	25	26	27	28	29	30	31	32	33	34	35	98

Connector No.	M41
Connector Name	Connector Name SATELLITE RADIO TUNER
Connector Color WHITE	WHITE
	22 24 26 33 34 36 21 23 25 27 28 29 30 31 33 35
6	



Signal Name	SAT LCH (-)	SAT LCH (+)	SAT RCH (-)	SAT RCH (+)
Color of Wire	5	В	8	В
Terminal No.	21	22	23	24

ABNIA3327GB

Connector No.). M44	4
Connector Name		AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)
Connector Color		GRAY
H.S.		33 34 35 33 34 35
Terminal No.	Color of Wire	Signal Name
33	-	ı
34	-	ANT MAIN
35	-	ANT +B

Signal Name	ACC	ı	ILL+	ı	ı	ı	1	ı	STRG SW GND	STRG SW B	ı	ı	+B	GND
Color of Wire	ĞΛ	ı	>	ı	ı	ı	ı	ı	٦	В	ı	1	\	В
Terminal No.	7	8	6	10	11	12	13	14	15	16	17	18	19	20

	Signal Name	_	ı	REQ1 (TO HU)	RX (TO HU)	TX (FROM HU)	-	I
	Color of Wire	-	ı	0	Ь	Т	ı	ı
	Terminal No. Wire	56	27	28	59	08	31	35

Connector No.
Connector Name
Connector Color WHITE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
Color of Wire
l

Connector No.	M43
Connector Name	AV CONTROL UNIT (W BOSE AUDIO SYSTEM WITHOUT NAVI)
Connector Color WHITE	WHITE

Signal Name	N BUS LH-	N BUS LH+	N BUS RH-	N BUS RH+	1
Color of Wire	G	н	W	В	1
Terminal No. Wire	21	22	23	24	25

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Signal Name	1	IT DISP	VP	INV GND	INV VCC
Color of Wire	-	>	Μ	SB	0
Terminal No.	99	56	25	89	69

Signal Name	ı	γS	DISP IT	升	SIG GND	SIG VCC	-	ı	ı	-	-	ı	GND
Color of Wire	ı	σ	LG	В	BR	œ	ı	ı	ı	ı	-	ı	В
Terminal No.	42	43	44	45	46	47	48	49	50	51	25	53	54

Connector No.). M45	5
Connector Name		AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)
Connector Color		WHITE
47 4 H.S.	46 45 44 - 58 57 56 !	43 42 41 40 39 38 37 36 55 54 53 52 51 50 49 48
Terminal No.	Color of Wire	Signal Name
36	В	COMP OUT+
37	æ	COMP OUT-
38	æ	В
39	В	В
40	Μ	В
41	æ	RGB SYNC

Connector No.). M56	
Connector Name		WIRE TO WIRE
Connector Color	olor WHITE	ПЕ
9		
(中中 H.S.	8 7 6 16 15 14	5 4 3 2 1 13 12 11 10 9
Terminal No.	Color of Wire	Signal Name
1	ŋ	ı
8	Γ	1
7	В	1
9	В	-
6	В	1
10	W	-
11	В	I
12	٦	_
13	Ь	ı
16	G/B	I

Signal Name	COMP1 IN+	1	RV CAM SIG	1	_	ı	COMP IN SHIELD	1	COMP1 IN-	-
Color of Wire	ŋ	1	В	1	-	1	SHIELD	1	В	_
Terminal No.	99	29	89	69	02	71	72	73	74	22

	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)	0
		1
Connector Name Connector Color Connector Color Terminal No. W 60 61 63	Connector Na	Connector No

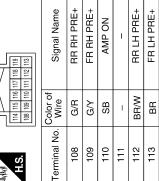
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Signal Name	RR RH PRE-	-BRH HR F	1	_	-BH LH PRE-	FR LH PRE-
Color of Wire	В	0/5	ı	1	BR/Y	В
Terminal No. Wire	114	115	116	117	118	119

Signal Name	SW GND	I	CD EJECT	NÐI	REVERSE SIG	PKB SIG	d8 QEEAS
Color of Wire	GR	ı	SB	W/G	>	ŋ	FG
Terminal No.	101	102	103	104	105	106	107

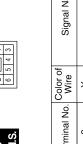
M69	Connector Name BOSE AUDIO SYSTEM WITHOUT NAVI)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	



erminal No.

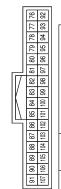
Signal Name	GND	CAN-H	CAN-L	M CAN1 H	M CAN1 L	M CAN2 H	M CAN2 L	HP LH-	HP LH+	HP SHIELD	AUX AUDIO RH+	AUX AUDIO LH+	AUX GND	AUDIO BUS LH-	AUDIO BUS LH+	1
Color of Wire	В	_	Д	_	Ь	_	Ь	8	G	SHIELD	*	В	ш	Μ	В	ı
Terminal No.	98	98	87	88	68	06	91	92	93	94	95	96	97	86	66	100

	TO WIRE	Ξ	
M64	WIRE	WHITE	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	



Signal Na	ı	
Color of Wire	\	
Terminal No.	2	

Connector No.	M70
Sonnector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM WITHOUT NAVI)
Connector Color WHITE	WHITE



Signal Name	HP RH-	HP RH+	I	TEL VOICE (TO IT	TEL VOICE (TO IT	I	AUDIO BUS RH-	AUDIO BUS RH+	1
Color of Wire	н	В	1	SB	GR	ı	g	н	ı
Terminal No.	9/	77	78	79	80	81	82	83	84

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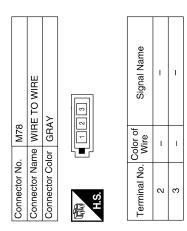
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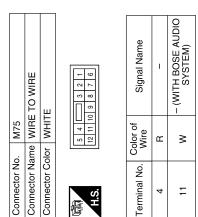
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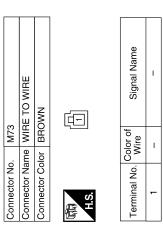
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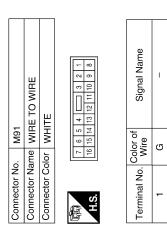
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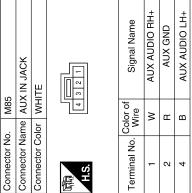
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ABNIA3330GB

[BOSE AUDIO WITHOUT NAVIGATION]

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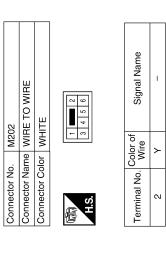
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WITHOUT NAVI) Connector Color WHITE WH	SP SP SYNC SP SYNC SP ST	Ctor Color Lal No. Color Lal N	
NHITE			0 6 0
Signal Name		Mire of Wire of September 2019 1 1 1 1 1 1 1 1 1	8 2
1		Color of Wire B B B B B B B B B B B B B B B B B B B	0 6 8 7
10 10 10 10 10 10 10 10		13	6 2
11 V 12 -		A Color of Mire of Mir	Signal Name GND ACC ILL ILL CONT GND M CAN1-H M CAN1-L SW GND CD DVD EJECT
12		1 B Mire S G G / G G / G G / G G / G G / G G / G G / G G / G G / G G / G G / G G / G G / G G / G G / G G / G G / G G / G G / G	GND GND ACC ILL ILL CONT GND M CAN1-H M CAN1-L SW GND CD DVD EJECT
Signal Name	V GND G GND O IN SYNC - B B SYNC VP - ISP IT		GND ACC ILL ILL CONT GND M CAN1-H M CAN1-L SW GND CD DVD EJECT
GND	G GND IN SYNC R B B SYNC VP - ISP IT		ACC ILL CONT GND M CAN1-H M CAN1-L SW GND CD DVD EJECT
NV VCC	- B B SYNC VP		ILL CONT GND M CAN1-H M CAN1-L SW GND CD DVD EJECT
SIG VCC	B SYNC VP - ISP IT		M CAN1-H M CAN1-L SW GND CD DVD EJECT
17 W 18 R 19 R 20 W 21 22 LG 23 24 24 24 24 24 24 24	B B SYNC VP - ISP IT		M CAN1-H M CAN1-L SW GND CD DVD EJECT
18	B SYNC VP -		M CAN1-L SW GND CD DVD EJECT
19 R 20 W 21 2 2 2 2 2 2 2 2	B SYNC VP - ISP IT		SW GND CD DVD EJECT
M102 COMBINATION SWITCH GRAY 20 21 22 L0 23 -24 -24 -24 -24 -24 -24 -24 -24 -24 -24	AV – TI ASI IT		CD DVD EJECT
M102 COMBINATION SWITCH GRAY 21 22 LG 23 -24 -24 -24 -24 -24 -24 -24	- TI dSI	6 5	1 1
M102 COMBINATION SWITCH GRAY 22 23 -24 -24 -24 -24 -24 -24 -24 -24 -24 -24	ISP IT	- -	1
M102 COMBINATION SWITCH GRAY Connector Name Connector Color		2	
M102 COMBINATION SWITCH GRAY COnnector No. Connector Name Connector Color		1	ı
M102 COMBINATION SWITCH GRAY COnnector No. Connector Name Connector Color			ı
M102 Connector No. COMBINATION SWITCH GRAY Connector Color		13	ı
M102 COMBINATION SWITCH GRAY Connector No. Connector Name Connector Color		14 -	ı
M102 COMBINATION SWITCH GRAY Connector No. Connector Name		15 –	ı
M102 COMBINATION SWITCH COMBINATION CONNECTOR Name GRAY		16 Y	RR DEFOG
COMBINATION SWITCH GRAY Connector Name	Conr	Connector No. M111	
GRAY Connector Color		Connector Name FROI	FRONT TWEETER RH
	Conr	Connector Color BROWN	NW
	£		Ī
[14 15 16 17 18 19 20 21] S.	H.S.	S.	
Terminal No. Color of Signal Name Terminal No. Wire Signal Name Signal Name Signal Name Signal No.	Signal Name Term	Terminal No. Wire	Signal Name
16 L – 1 G	1	1 W	ı
17 BR – 2 L	1	2 L	ı

August 2012 AV-237 2012 Pathfinder

[BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >



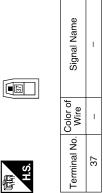
	Signal Name	ı	ı	4 P	+TTI	M CAN2 L	ACC	_	GND	I	VIDEO OUT	_	I	I	DATA TX1 (DVD->LCD)
	Color of Wire	1	1	\	SB	Д	G/B	-	Ь	ı	G	-	1	ı	PT
	Terminal No.	19	20	21	22	23	24	25	26	27	28	59	30	31	32
- 1															

	ro wire		2 3 4 5 6 7 8 10 11 12 13 14 15 16
M201	IR.	ᄪ	3 4
Σ	3	3	10
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.

Signal Name	ı	ı	I	ı	ı	1	_	ı	ı	-	
Color of Wire	ŋ	٦	В	æ	В	M	В	Т	Ь	G/B	
Terminal No. Wire	-	8	4	9	6	10	11	12	13	16	

Signal Name	GND	ILL-	M CAN2 H	-	+B	SW POWER +5	=	VTR+	VTR-	GND	=	DATA RX1 (LCD->DVD)	FES R+ OUTPUT	FES R- OUTPUT
Color of Wire	В	BR	_	-	BR	GR	-	M/L	O/L	>	1	>	Ж	g
Terminal No.	5	9	7	8	6	10	11	12	13	14	15	16	17	18

Connector No.	M129
Connector Name	Connector Name SATELLITE RADIO TUNER
Connector Color WHITE	WHITE



M205	DVD PLAYER	WHITE	
Connector No.	Connector Name DVD PLAYER	Connector Color WHITE	

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	F	4		
	2	18		
	3	19 1		
	4	20		
	2	26 25 24 23 22 21 20		
	9	22		
- 117	7	23		
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- 11	6	25		Color of
Ш	10	26		چ
	11			Č
	12	28		Г
	15 14 13 12 11	32 31 30 29 28 27		
. 6	14	30		
H.S.	15	31		
7	16	32		
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Signal Name	FES L+ OUTPUT	FES L- OUTPUT	1	-	
Color of Wire	В	8	ı	_	
Terminal No. Wire	-	2	3	4	

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[BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

0	E TO WIRE	NW		Signal Name	
. M350	me WIR	lor BRC	<u> </u>	Color of	N N I
Connector No.	Connector Name WIRE TO WIRE	Connector Color BROWN	是 H.S.	Terminal No Color of	-

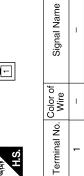
Signal Name	ı	ı	ı	ı	ı	ı	-	-	ı
Color of Wire	>	GR	>	LG	BR	O/L	M/L	В	Ь
Terminal No. Wire	-	2	4	5	9	6	10	11	14

Connector No.	M210
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 3 4 5 = 6 7 8 9 10

. M502	me WIRE TO WIRE	lor GRAY	11233	Color of Signal Name Wire	1	1
		Color GR	└ ■┤		ı	1
Connector No.	Connector Name	Connector Color	喃 H.S.	Terminal No.	2	3

olor Colc							
oolor Cool		E TO WIRE	<u></u>		Signal Name	_	-
ionnector No connector No connector No connector Co connector Co connector Co connector Co connector Co connector Co connector No conne		me WIRE	_		Color of Wire	ı	1
	Connector No.	Connector Na	Connector Co	高 H.S.	Terminal No.	2	3

Connector No.	M351
Connector Name	Connector Name SATELLITE ANTENNA
Connector Color BROWN	BROWN
原 H.S.	



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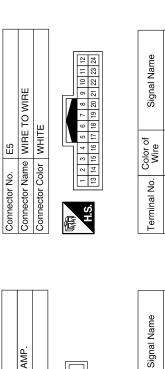
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[BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >



Signal Name	1
Color of Wire	FG
Terminal No.	6

	PARKING BRAKE SWITCH	\CK		Signal Name	
. E53		lor BLACK		Color of Wire	ď
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	•

Color of Wire

Terminal No.

Connector No.	E45
Connector Name	Connector Name BACK-UP LAMP RELAN
Connector Color BROWN	BROWN

Signal Name	-	I	I	I
Color of Wire	ГG	M/G	SB	M/G
Terminal No.	1	2	3	5

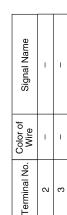
M601	
WIRE TO WIRE	
GRAY	

Connector Name

Connector No.

Connector Name ANTENNA AMP.
Connector Color GRAY

Connector No. M602



Connector No.		ш	E26						
Connector Name WIRE TO WIRE	ame	>	ا≝ا	Щ.	잍	1	≝	Щ	
Connector Color WHITE	흔	>	₹	≝	١				
個	-	2	3			4	2	9	7
<i>S</i> :	ω	6	9	8 9 10 11 12 13 14 15 16	12	5	4	15	16

Signal Name	ı	
Color of Wire	ŋ	
Terminal No.	-	

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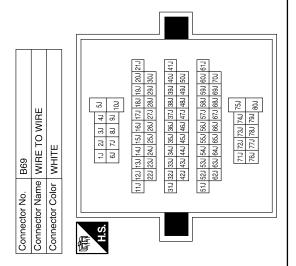
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Connector No. E119 IPDM E/R (INTELLIGENT Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector No. E152 Connector Name WIRE TO WIRE Connector Color WHITE	Connector Name A/T ASSEMBLY Connector Color GREEN
Connector Color WHITE	H.S. 16 26 36 46 56 66 76 86 96 106	H.S. (5 4 3 2 1)
Terminal No. Wire Signal Name 16 W/G REVERSE LAMP	116 126 136 146 156 166 176 186 196 206 216 226 236	Terminal No. Color of Signal Name 7 LG -
	Terminal No. Color of Wire Signal Name 54G SB - 77G Y -	
Connector No. F14 Connector Name WIRE TO WIRE Connector Color WHITE (12 11 10 9 8 7 6 5 4 3 2 1 1 1 1 1 1 1 1 1	Connector No. F502 Connector Name TCM (TRANSMISSION CONTROL MODULE) Connector Color GRAY	Connector No. B6 Connector Name WIRE TO WIRE Connector Color WHITE (1 2 3 mm) 4 5 mm) H.S. 6 7 8 9 10 11 12
Terminal No. Wire Signal Name 9 LG –	Terminal No. Wire Signal Name 7 O REV LAMP RLY	Terminal No.

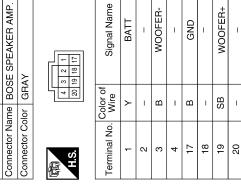
August 2012 AV-241 2012 Pathfinder

Signal Name	1	1	I	1	l	1	I	I	I	1	- (WITHOUT BASE AUDIO SYSTEM)
Color of Wire	G/Y	BR/Y	BR	Μ	В	SB	G/R	9/0	BR/W	В	B/B
Terminal No.	381	39J	41J	427	43J	45J	46J	47.0	497	201	ſ62

Signal Name	I	ı	- (WITH BOSE AUDIO SYSTEM)	ı	ı	– (WITH BOSE AUDIO SYSTEM)	I	-	_	ı
Color of Wire	œ	_	GR	*	LG	0	>	В	5	В
Terminal No.	11	23	33	60	7.1	89	91	32J	331	36J



B74	Connector Name BOSE SPEAKER AMP.	GRAY	
Connector No.	Connector Name	Connector Color GRAY	



	0
Connector No.	B/2
Connector Name SUBWOOFER	SUBWOOFER
Connector Color WHITE	WHITE
赋 H.S.	2 1 6 6 6 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7



Signal Name	WOOFER-	WOOFER+	AMP ON	GND	BATT	
Color of Wire	В	SB	\	В	B/B	
Terminal No.	1	2	4	2	9	

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[BOSE AUDIO WITHOUT NAVIGATION]

	WIRE TO WIRE	TE TE	7 6 5 4 3 2 1		Signal Name	I	I	I	_	I	I	_	_	1
. B77	-	lor WHITE	10 9 8 7		Color of Wire	>	GR	>	re	BB	70	M/L	В	۵
Connector No.	Connector Name	Connector Color		H.S.	Terminal No.	٢	2	4	5	9	6	10	11	14

	VIDEO MONITOR	WHITE	5 7 9 11 13 15 15 15 15 15 15 15 15 15 15 15 15 15	Signal Name	FES L CH INPUT-	FES L CH INPUT+	FES R CH INPUT-	FES R CH INPUT+	SW POWER +5	ı	VIDEO IN-
. B76	_	-	4 6	Color of Wire	>	თ	В	œ	GR	ı	O/L
Connector No.	Connector Name	Connector Color	高 H.S.	Terminal No.	-	2	က	4	5	9	2

	SPEAKER AMP.			11 10 9 8 7 6 5 27 26 25 24 23 22 21	Signal Name	ı	1	1	1	RR DR LH+ OUT	RR DR LH- OUT	RR DR RH+ OUT	RR DR RH- OUT	FR DR LH+ OUT	FR DR LH- OUT	FR DR RH+ OUT	FR DR RH- OUT	1	WOOFER CTRL	RR RH-(IN)	RR RH+(IN)	RR LH-(IN)	RR LH+(IN)	FR RH-(IN)	FR RH+(IN)	FR LH-(IN)	FR LH+(IN)	AMP ON	1
. B75	BOSE	Color BLACK	L	16 15 14 13 12 1 32 31 30 29 28 2	Color of Wire	1	1	1	ı	В	ŋ	GR	0	FG	Г	W	В	1	>	В	G/R	BR/Y	BR/W	0/9	G/Y	В	BR	SB	
Connector No.	Connector Name	Connector Co	4	H.S.	Terminal No.	2	9	7	8	6	10	11	12	13	14	15	16	21	22	23	24	25	56	27	28	59	30	31	32

VIDEO IN+

M/L

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9 1 1 2 5 5

DATA RX (DVD->LCD)
DATA TX (DVD->DVD)
GND
FILTERED BATT

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4 5 9 5 9

GND

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August 2012 AV-243 2012 Pathfinder

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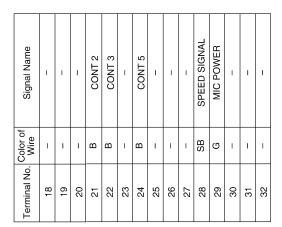
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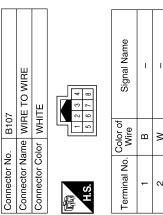
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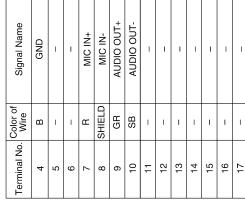
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Olgilar Ivalile	I	ı	ı	ı		Signal Name	GND	-	I	
Wire	В	M	G/Y	SHIELD		Color of Wire	В	_	I	
i dilli la la c.	1	2	5	9		Terminal No. Wire	4	2	9	



Connector No.). B106		
Connector Name WIRE TO WIRE	ame WIRE	TO WIRE	
Connector Color	olor WHITE	ш	
雨 H.S.	6 7 8	9 10 11 12	
Terminal No.	Color of Wire	Signal Name	
5	GR	ı	
12	0	1	

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

Signal Name	BATT	ACC	NÐI	
Color of Wire	R/Υ	G/Y	M/G	
Terminal No.	-	2	3	

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[BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

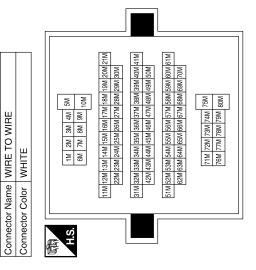
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				_							
		Connector Name BILLETOOTH CONTROL LINIT	200	<u> </u>			7]		Signal Name	BT ANTENNA	BT ANTENNA SHLD
	. B134	me BIUF	lor Bl AC			88			Color of Wire	В	В
	Connector No.	Connector Na	Connector Color BI ACK			S I			Terminal No.	33	34
	Signal Name		1	ı	I	ı	ı	ı			
	of										

Signal Name	-	-	1	I	İ	ı	
Color of Wire	-	_	1	1	I	I	
Terminal No. Wire	37	38	39	40	41	42	

	- UNIT					
	BLUETOOTH CONTROL UNIT	E	40 89 / 42 41	Signal Name	M CAN1 H	M CAN1 L
. B125	me BLUE	lor WHIT	88 83	Color of Wire	_	Ь
Connector No.	Connector Name	Connector Color WHITE	赋 H.S.	Terminal No.	35	36

Signal Name	ı	1	1	1	-	1	1	1
Color of Wire	В	GR	SB	G/Y	В	G/Y	GR	0
Terminal No.	41M	42M	47M	49M	M03	M59	71M	72M

Signal Name	ı	ı	1	1	1	ı	1	1	1	ı	_
Color of Wire	R/Y	SHIELD	В	Μ	SB	٦	Ь	٦	Ь	M/G	SHIELD
Terminal No.	ZM	5M	8M	M6	31M	32M	33M	35M	36M	37M	39M



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B149

Connector No.

Connector Name | FRONT DOOR SPEAKER RH

Connector Name WIRE TO WIRE

Connector Name FRONT DOOR SPEAKER LH

D12

Connector No.

Connector Color WHITE

Connector No. D101

Connector Color WHITE

Connector No. D112

Connector Color WHITE

Signal Name

Color of Wire M/B PB

Terminal No.

Signal Name

Color of Wire

Terminal No.

Signal Name

Color of Wire

Terminal No.

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W/B PB

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Connector Name MICROPHONE
4
Signal Name
MIC OUT +
MIC OUT .

Connector Name WIRE TO WIRE Connector Color | WHITE

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Connector No.

Signal Name	ı	_				
Color of Wire	L/R	L/W				
Terminal No. Wire	2	3				
				1		
Signal Name	MIC OUT +	MIC OUT -	MIC POWER			
Color of Wire	æ	SHIELD	G			
Terminal No. Wire	1	2	4			
				,		
Signal Name	ı	1	ı			
Color of Wire	ŋ	œ	SHIELD			
Terminal No. Wire	ო	9	7			

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[BOSE AUDIO WITHOUT NAVIGATION]

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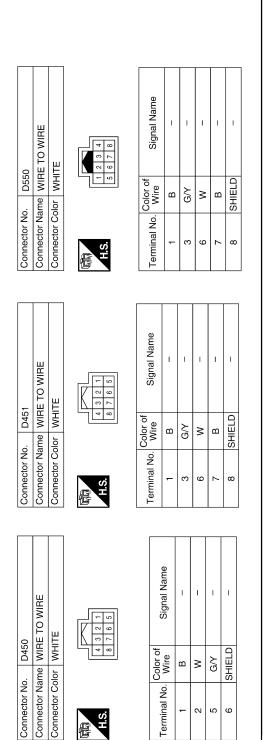
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< WIRING DIAGRAM >

BROWN	Signal Name	D308 REAR TWEETER RH BROWN	Signal Name
e z	Color of Wire GR		Color of Wire GR
Connector Name Connector Color H.S.	Terminal No.	Connector No. Connector Name Connector Color H.S.	Terminal No.
D207 REAR DOOR SPEAKER LH (WITH BOSE AUDIO SYSTEM) BROWN	Signal Name	D307 REAR DOOR SPEAKER RH (WITH BOSE AUDIO SYSTEM) BROWN	Signal Name
	Color of Wire GR	 -	Color of Wire GR
Connector No. Connector Color	Terminal No.	Connector No. Connector Name Connector Color	Terminal No.
TO WIRE E 3 2 1	Signal Name	D301 WIRE TO WIRE WHITE 4 3 2 1 4 5 5 5 5 5 5 5 5 5	Signal Name -
100 MHRE TG WHITE	Color of Wire GR		Color of Wire GR
Connector No. D201 Connector Name WIRE TO WIRE Connector Color WHITE S 4	Terminal No.	Connector No. Connector Color Connector Color H.S.	Terminal No. 5

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D551	Connector Name REAR VIEW CAMERA	WHITE	
Connector No.	Connector Name	Connector Color WHITE	

Signal Name	GND	ACC	DRAIN	CAMERA -	CAMERA +
Color of Wire	В	G/Y	SHIELD	W	В
rerminal No.	1	2	8	5	9

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[BOSE AUDIO WITHOUT NAVIGATION]

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000007347783

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	AV control unit power supply and ground circuit AV control unit	• <u>AV-162</u> • <u>AV-141</u>
Steering switch does not operate	Steering switch AV control unit	• <u>AV-196</u> • <u>AV-141</u>
All speakers do not sound	 Speaker circuit shorted to ground AV control unit BOSE speaker amp. ON signal BOSE speaker amp. power supply and ground circuit BOSE speaker amp. 	 AV-225 AV-141 AV-195 AV-165 AV-265
One or several speakers do not sound	Front door speaker Front tweeter Rear door speaker Rear tweeter Subwoofer	• AV-180 • AV-183 • AV-186 • AV-189 • AV-192
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 DIAG- NOSIS" in the ap- propriate interior trim section.

CD

Symptom	Possible cause	Reference page
CD cannot be inserted.		
CD cannot be ejected.	AV control unit	AV-141
The CD cannot be played.	Av control unit	AV-141
The sound skips, stops suddenly, or is distorted.		

SATELLITE RADIO

Symptom	Possible cause	Reference page
Inoperative	Satellite radio tuner power supply and ground circuit Satellite radio tuner communication circuit Satellite radio tuner	• <u>AV-166</u> • <u>AV-198</u> • <u>AV-273</u>
Right or left channel does not sound	Satellite radio tuner audio signal circuit Satellite radio tuner	• <u>AV-201</u> • <u>AV-273</u>

DVD PLAYER

Symptom	Possible cause	Reference page
DVD player inoperative	DVD player power supply and ground circuit DVD player	• <u>AV-168</u> • <u>AV-267</u>
No sound when playing a DVD	Audio signal circuitsAV control unitDVD player	AV-221AV-141AV-267

August 2012 AV-249 2012 Pathfinder

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AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

Symptom	Possible cause	Reference page
Video monitor is inoperative/does not display properly	Video monitor power supply and ground circuit Video out circuit DVD player Video monitor	• AV-169 • AV-221 • AV-267 • AV-267
DVD remote control is inoperative/does not operate properly	DVD remote control DVD player	• <u>AV-267</u>
Headphones inoperative	Headphone batteries DVD player	• <u>AV-267</u>

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

NORMAL OPERATING CONDITION

Description INFOID:0000000007347784

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

NOISE

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

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

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

NOTE:

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

Type of Noise and Possible Cause

C	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	Fuel pump condenser	
Noise only occurs when various	A cracking or snapping sound occurs with the operation of various switches.	Relay malfunction, AV control 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 malfunction Open circuit in printed heater Poor ground of antenna feeder line
A cracking or snapping sound occ it is vibrating excessively.	 Ground wire of body parts Ground due to improper part installation Wiring connections or a short circuit 	

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August 2012 AV-251 2012 Pathfinder

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 3 minutes before performing any service.

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000007347786

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 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 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, and wring the water out of the cloth to wipe the dirty area.
 - Then rub with a soft and dry cloth.
- Oily dirt: Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%), and wipe the dirty area.
 - Then dip a cloth into fresh water, and wring the water out of the cloth to wipe the detergent off. Then rub with a soft and dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol, or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

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PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000007347788

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name		Description
— (J-46534) Trim tool set	AWJIA0483ZZ	Removing trim components

Commercial Service Tools

INFOID:0000000007347789

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

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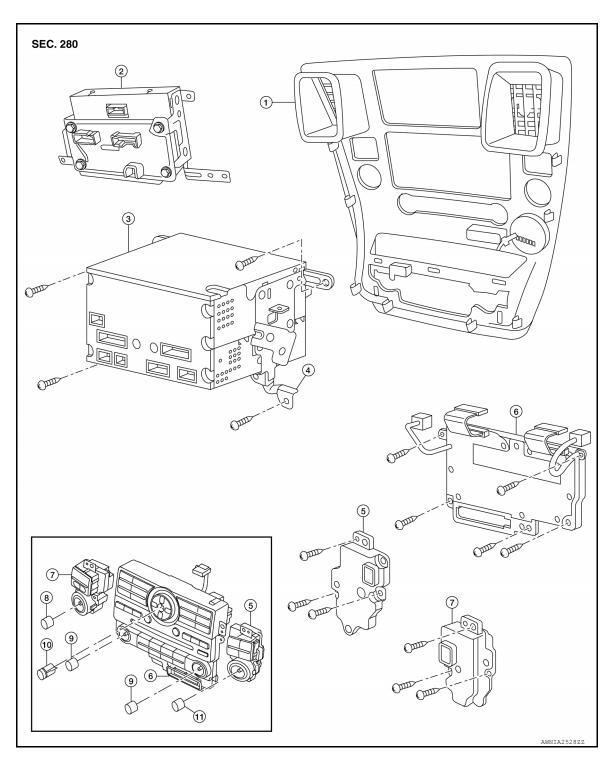
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INFOID:0000000007347790

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Removal and Installation



- Cluster lid C
- AV control unit brackets
- 7. Volume knob switch
- 10. Enter button

- Display unit
- 5. Tuner knob switch
- 8. Volume knob
- 11. Tuner knob

- A/C and AV switch assembly 6.
- 9. Temp knobs RH and LH

3. AV control unit

AV-255 August 2012 2012 Pathfinder

AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

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. Disconnect the battery negative terminal.
- 2. Remove the cluster lid C. Refer to IP-16, "Removal and Installation".
- 3. Remove the AV control unit screws, using a power tool.
- 4. Remove the AV control unit.
- Remove the A/C and AV switch assembly screws, then remove the A/C and AV switch assemblies as necessary.

INSTALLATION

[BOSE AUDIO WITHOUT NAVIGATION]

DISPLAY UNIT

Removal and Installation

INFOID:0000000007347791

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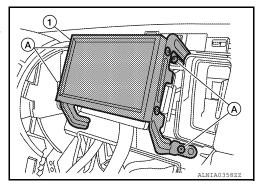
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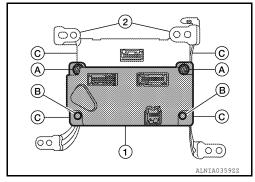
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REMOVAL

- 1. Remove cluster lid C. Refer to IP-16, "Removal and Installation".
- 2. Remove the display unit screws (A).
- 3. Pull out the display unit (1), then disconnect the display unit connectors and remove the display unit (1).



- 4. Remove the A/C auto amp.screws (A), remove the (C103) fasteners (B) from the display unit assembly brackets and remove the A/C auto amp. (1).
- 5. Remove the display unit bracket unit screws (C) and remove the display unit brackets (2).



INSTALLATION

Installation is in reverse order of removal.

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FRONT TWEETER

Removal and Installation

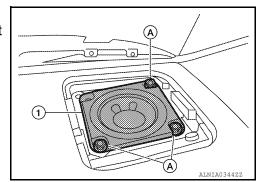
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REMOVAL

CAUTION:

Use a suitable tool to prevent damage to the front tweeter speaker grille trim and the instrument panel.

- 1. Remove the front tweeter grille.
- 2. Remove the front tweeter screws (A).
- 3. Pull out the front tweeter speaker (1) and disconnect front tweeter connector, then remove the front tweeter speaker (1).



INSTALLATION

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000007347793

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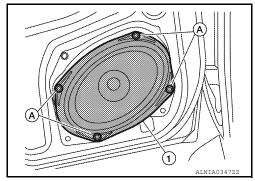
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REMOVAL

- 1. Remove the front door finisher. Refer to INT-15, "Removal and Installation".
- 2. Remove the front door speaker screws (A).
- 3. Pull out the front door speaker (1), and disconnect the front door speaker connector and remove the front door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

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REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

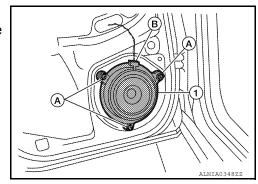
REAR DOOR SPEAKER

Removal and Installation of Rear Door Speaker

INFOID:0000000007347794

REMOVAL

- 1. Remove the rear door finisher. Refer to INT-15, "Removal and Installation".
- 2. Remove the rear door speaker screws (A).
- 3. Disconnect the rear door speaker connector (B) and remove rear door speaker (1).



INSTALLATION

REAR DOOR TWEETER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

REAR DOOR TWEETER

Removal and Installation of Rear Tweeter

INFOID:0000000007347795

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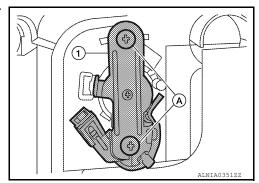
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REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

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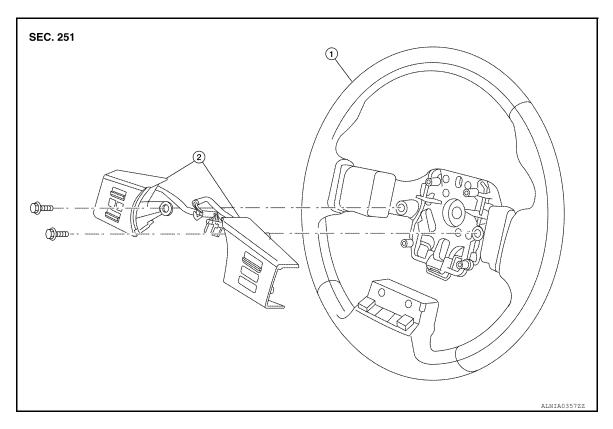
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STEERING SWITCH

Removal and Installation

INFOID:0000000007347796



1. Steering wheel

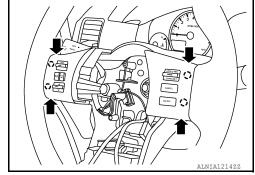
2. Steering wheel audio control switches

REMOVAL

- 1. Remove the driver air bag module. Refer to SR-5, "Removal and Installation".
- 2. Remove the steering wheel audio control switch assembly screws.
- 3. Disconnect the steering wheel audio control switches connector.
- Remove the steering wheel audio control switches by pulling on steering wheel audio control switches to release the pawls.
 CAUTION:

Do not tilt steering wheel audio control switches during removal or damage may occur to the pawls.

• (): Pawl



INSTALLATION

[BOSE AUDIO WITHOUT NAVIGATION]

MICROPHONE

Removal and Installation

INFOID:0000000007347797

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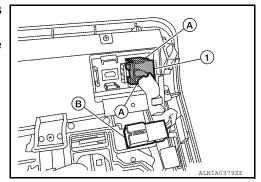
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REMOVAL

- 1. Remove the front roof console finisher. Refer to INT-22, "Removal and Installation".
- 2. Detach the microphone (1) from the front console finisher tabs (A).
- 3. Disconnect the microphone connector (B) and remove the microphone (1).



INSTALLATION

Installation is in the reverse order of removal.

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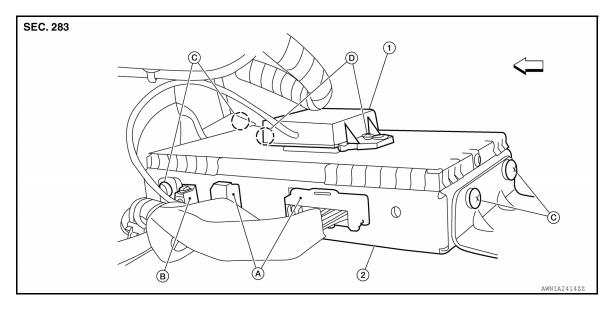
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BLUETOOTH CONTROL UNIT

Removal and Installation

INFOID:000000007347798



- 1. Bluetooth antenna
- 2. Bluetooth control unit
- C. Bluetooth control unit screws
- A. Bluetooth control unit connectors
- D. Bluetooth antenna screws

REMOVAL

- 1. Remove the RH front seat. Refer to SE-33, "Removal and Installation".
- 2. Disconnect the Bluetooth control unit connectors.
- 3. Remove the Bluetooth control unit bracket screws and remove the Bluetooth control unit assembly.
- 4. Remove the Bluetooth control unit screws.

Bluetooth antenna connector

5. Transfer the Bluetooth antenna to the new Bluetooth control unit.

INSTALLATION

BOSE SPEAKER AMP

Removal and Installation

INFOID:0000000007830127

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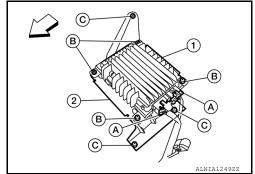
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REMOVAL

NOTE:

Do not remove the LH front seat from the vehicle.

- 1. Remove LH front seat bolts, disconnect the LH front seat electrical harness connector. Refer to <u>SE-33</u>, "Removal and Installation".
- 2. Tilt the LH front seat back to access the BOSE speaker amp. (1), then remove the BOSE speaker amp. screws (B).
 - <=: Vehicle front
- 3. Disconnect the Bose speaker amp. connectors (A) and remove Bose speaker amp. (1) from the bracket (2).
- 4. Then remove the BOSE speaker amp. bracket screws (C) and remove bracket (2).



INSTALLATION

Installation is in the reverse order of removal.

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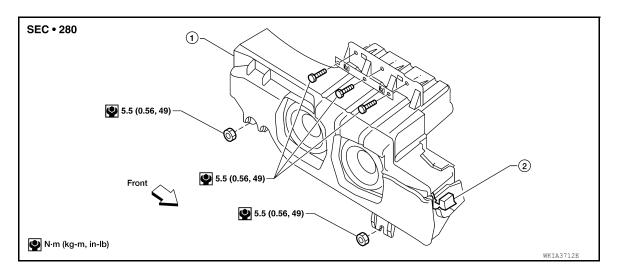
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SUBWOOFER

Removal and Installation

INFOID:0000000007347800

BOSE SYSTEM



Subwoofer

2. Subwoofer connector

Removal

- 1. Remove the luggage side lower finisher LH. Refer to INT-25, "Removal and Installation".
- 2. Remove subwoofer bolts and nuts.
- 3. Disconnect the subwoofer connector and remove the subwoofer.

Installation

DVD ENTERTAINMENT SYSTEM

Removal and Installation of DVD Player

INFOID:0000000007347801

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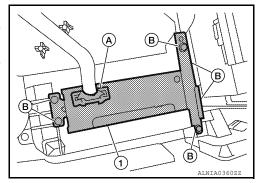
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REMOVAL

- 1. Remove the center console assembly. Refer to IP-22, "Removal and Installation".
- 2. Disconnect the DVD player connector (A).
- 3. Remove the DVD player screws (B), then remove the DVD player (1).
- 4. Remove the DVD player bracket screws and then remove DVD player brackets.



INSTALLATION

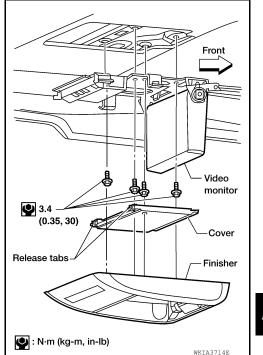
Installation is in reverse order of removal.

Removal and Installation of Video Monitor

INFOID:0000000007347802

REMOVAL

- 1. Release the clips and remove the video monitor finisher from headlining.
- 2. Press the release tabs and remove the cover.
- 3. Remove the video monitor screws.
- 4. Gently lower the assembly and disconnect the connector, then remove the video monitor from the headlining.



INSTALLATION

Installation is in reverse order of removal.

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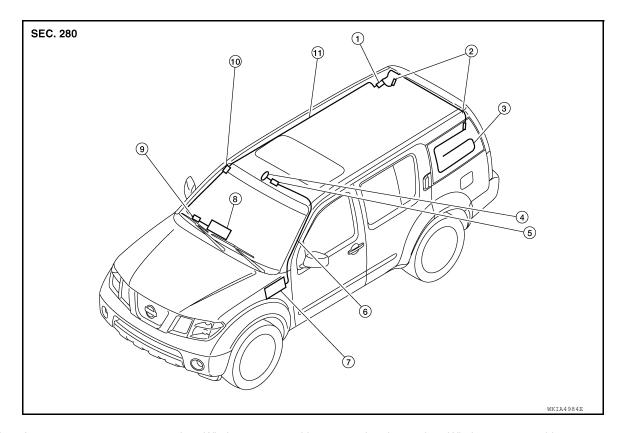
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AUDIO ANTENNA

Location of Antenna

INFOID:0000000007347803



- 1. Antenna amp. M602
- 4. Satellite antenna M351
- 7. Satellite radio tuner M41, M129
- 10. Harness connector M502, M601
- 2. Window antenna grid connector bracket
- 5. Harness connector M73, M350
- 8. AV control unit M43, M44
- 11. Antenna feeder

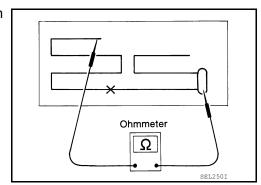
- 3. Window antenna grid
- 6. Satellite antenna feeder
- Harness connector M78, M501

Window Antenna Repair

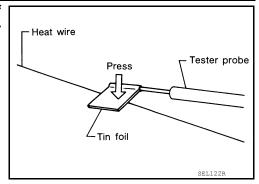
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ELEMENT CHECK

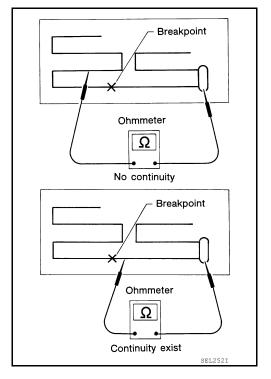
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



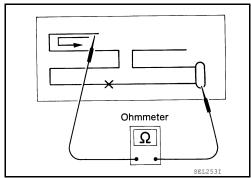
 When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



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



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



ELEMENT REPAIR

Refer to DEF-45, "Filament Repair".

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AUXILIARY INPUT JACK

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

AUXILIARY INPUT JACK

Removal and Installation

INFOID:0000000007347805

Removal

- 1. Remove the A/T finisher. Refer to IP-21, "Removal and Installation".
- 2. Remove the auxiliary input jack.

Installation

[BOSE AUDIO WITHOUT NAVIGATION]

ANTENNA AMP.

Removal and Installation

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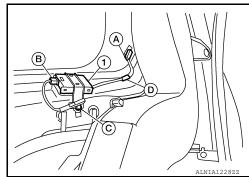
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REMOVAL

- 1. Remove the luggage side upper and lower RH finishers. Refer to INT-25, "Removal and Installation".
- 2. Detach the antenna amp. harness clip (D), disconnect the antenna amp. connector (A), harness connector (B), then remove the antenna amp. screw (C) and remove the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

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SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

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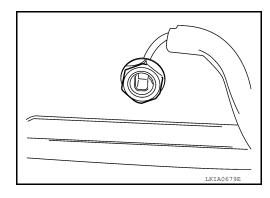
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:0000000007347807

REMOVAL

- 1. Remove the front roof console finisher. Refer to INT-22, "Removal and Installation".
- 2. Disconnect the satellite antenna connector.
- 3. Remove the satellite antenna nut.
- 4. Remove the satellite antenna.



INSTALLATION

SATELLITE RADIO TUNER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

SATELLITE RADIO TUNER

Removal and Installation

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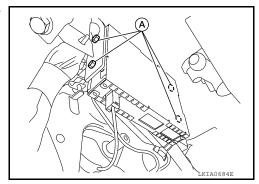
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REMOVAL

- 1. Disconnect the battery negative terminal.
- 2. Disconnect the satellite radio tuner connectors.
- 3. Remove satellite radio tuner screws (A), and remove satellite radio tuner from above the parking brake pedal.



INSTALLATION

Installation is in the reverse order of removal.

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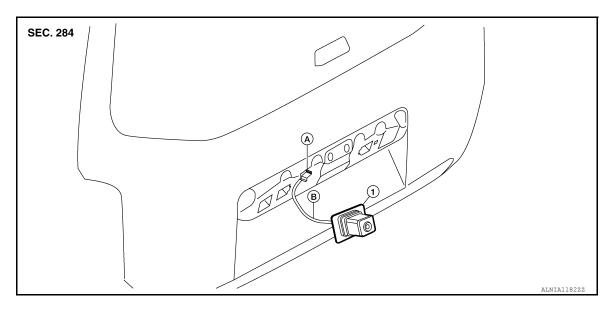
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REAR VIEW CAMERA

Removal and Installation

INFOID:0000000007347809



- Rear view camera
- A. Rear view camera connector
- B. Rear view camera harness clip

REMOVAL

- Remove the license lamp finisher. Refer to <u>EXT-23</u>, "Removal and Installation".
- 2. Disconnect the rear view camera connector.
- 3. Detach the rear view camera harness clip.
- 4. Detach the rear view camera to release, then pull out to remove the rear view camera while feeding the rear view camera harness and connector through the back door.

INSTALLATION

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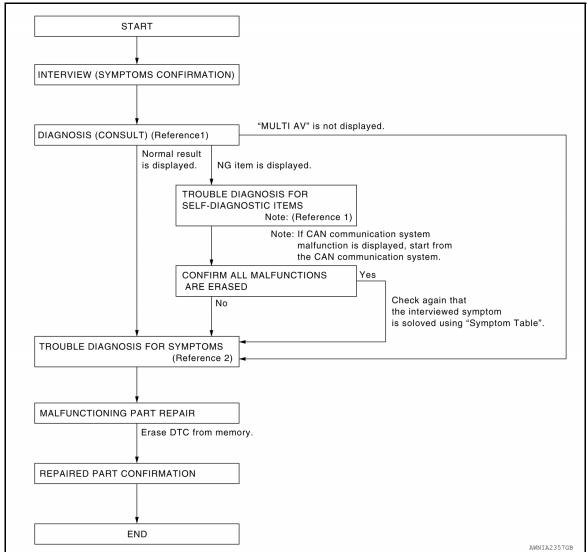
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

OVERALL SEQUENCE



- Reference 1 Refer to AV-306, "AV CONTROL UNIT: CONSULT Function".
- Reference 2··· Refer to AV-407, "Symptom Table".

DETAILED FLOW

1. CHECK SYMPTOM

Check the malfunction symptoms by performing the following items.

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

>> GO TO 2

2. SELF-DIAGNOSIS (CONSULT)

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

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.

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[BOSE AUDIO WITH NAVIGATION]

Is any DTC displayed?

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

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

- Check the DTC No. indicated in the self-diagnosis results.
- Perform the relevant diagnosis referring to the DTC No. list. Refer to AV-376, "DTC Index".

NOTE:

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

>> GO TO 5

4. PERFORM DIAGNOSIS BY SYMPTOM

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to <u>AV-407</u>, "Symptom <u>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

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

Is any DTC displayed?

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

7. FINAL CHECK

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

Are any symptoms present?

YES >> GO TO 4

NO >> Inspection End.

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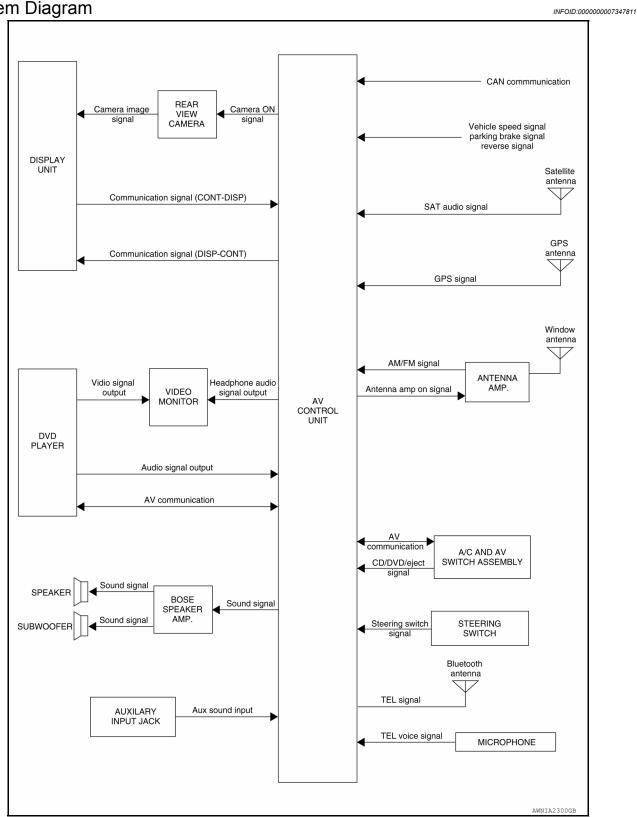
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SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram



System Description

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AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

The audio system consists of the following components

- AV control unit
- Display unit
- · BOSE speaker amp.
- Window antenna
- · Steering wheel audio control switches
- A/C and AV switch assembly
- Front door speakers
- · Front tweeters
- Rear door speakers
- · Rear tweeters
- 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, rear door speakers, rear tweeters and the subwoofer. Refer to Owner's Manual for audio system operating instructions.

SATELLITE RADIO SYSTEM

The satellite radio system consists of the following components

- · Satellite antenna
- · AV control unit

When the satellite radio system is on, radio signals are supplied to the AV control unit from the satellite antenna. The AV control unit then sends audio signals to the BOSE speaker amp.

Refer to Owner's Manual for satellite radio system operating instructions.

SPEED SENSITIVE VOLUME SYSTEM

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

Component Parts Location

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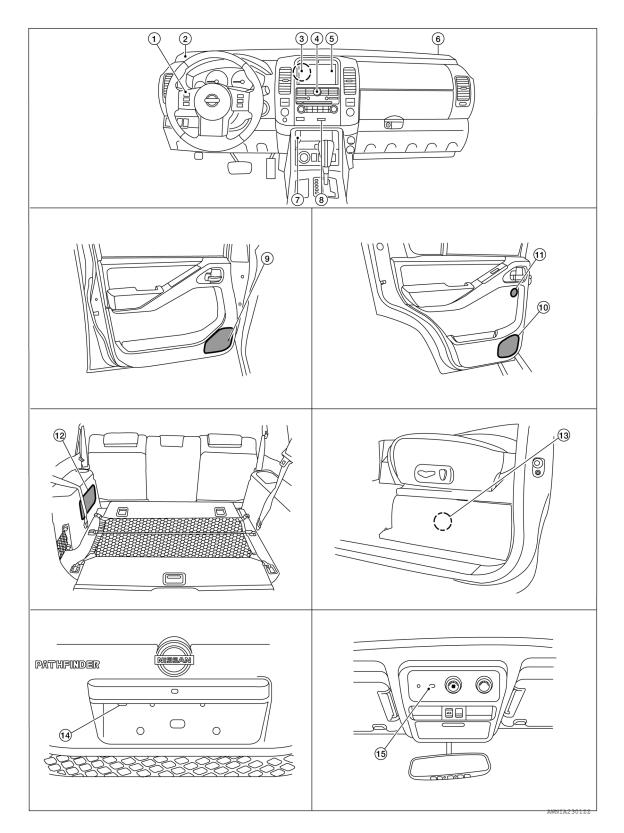
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- Steering wheel audio control switch- 2.
- Front tweeter LH M109

- A/C and AV switch assembly M98
- Display unit M92

- AV control unit M23, M37, M39, M44, M48, M71, M72
- Front tweeter RH M111

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AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

7.	Aux. jack M85	8.	Compact Flash insert slot	9.	Front door speaker LH D12 RH D112
10.	Rear door speaker LH D207 RH D307	11.	Rear tweeter LH D208 RH D308	12.	Subwoofer B72
13.	BOSE speaker amp B74, B75 (located under driver seat)	14.	Rear view camera D551	15.	Microphone R8

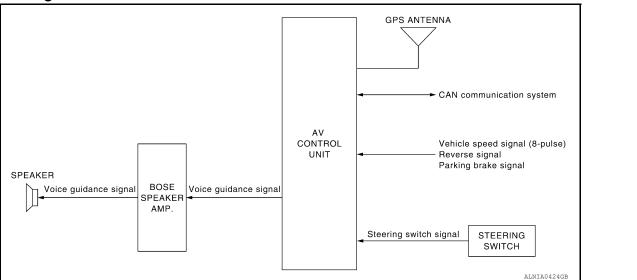
Component Description

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Part name	Description
AV control unit	Controls audio system and satellite radio system functions
Display unit	 Touch screen controls all audio and A/C operations Displays all audio and climate control related information
BOSE speaker amp.	Receives power (amp ON) and audio signals from AV control unit and outputs audio signals to each speaker.
Steering wheel audio control switches	 Audio operation can be operated Steering wheel audio control 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
Rear door speakers	Outputs audio signal from BOSE speaker amp.Outputs high, mid and low range sounds
Rear tweeters	Outputs audio signal from BOSE speaker amp.Outputs high range sounds
Subwoofer	Outputs audio signal from BOSE speaker amp.Outputs low range sounds
Satellite antenna	Audio signal (satellite radio) is received and output to AV control unit.

NAVIGATION SYSTEM

System Diagram



System Description

INFOID:0000000007347816

INFOID:0000000007347815

NOTE:

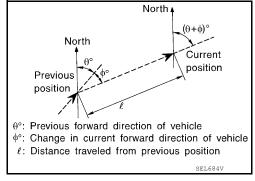
Refer to NAVIGATION System Owner's Manual for system operation.

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.

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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.

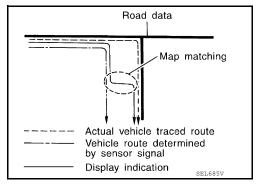
If there is an error in distance and/or direction, the alternative routes will be shown in different order of priority, and the wrong road can be avoided.

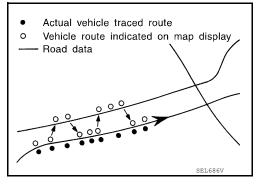
If two roads are running in parallel, they are of the same priority. Therefore, the current-location mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.

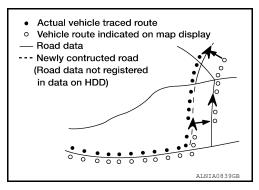
- Map-matching does not function correctly when the road on which the vehicle is driving is new and not recorded on the HDD, or when the road pattern stored in the map data and the actual road pattern are different due to repair.
 - When driving on a road not present in the map, the map-matching function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

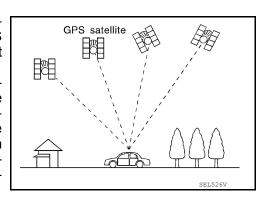
GPS (GLOBAL POSITIONING SYSTEM)

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).









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.

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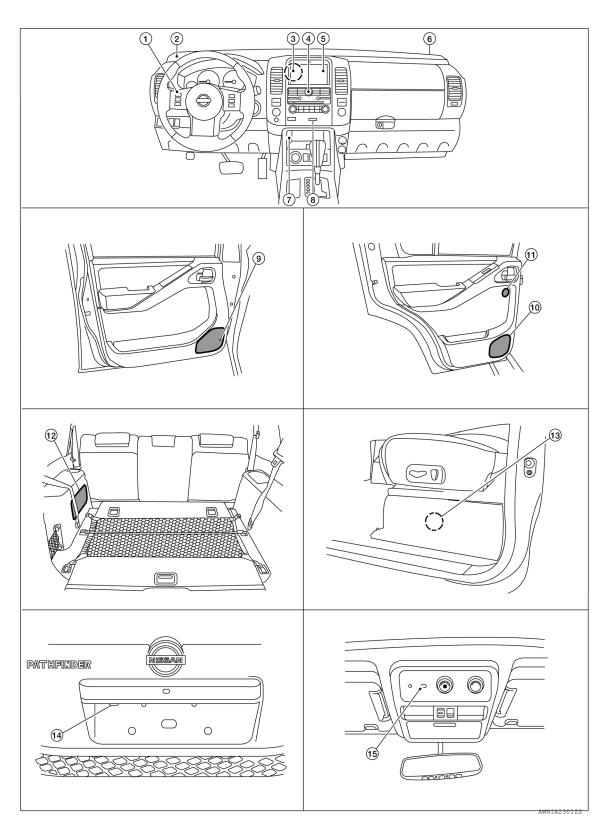
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Component Parts Location

INFOID:0000000007347817



- 1. Steering wheel audio control switch- 2.
- . Front tweeter LH M109
- 4. A/C and AV switch assembly M98
- 5. Display unit M92
- 3. AV control unit M23, M37, M39, M44, M48, M71, M72
- 6. Front tweeter RH M111

NAVIGATION SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

7.	Aux. jack M85	8.	Compact Flash insert slot	9.	Front door speaker LH D12 RH D112
10.	Rear door speaker LH D207 RH D307	11.	Rear tweeter LH D208 RH D308	12.	Subwoofer B72
13.	BOSE speaker amp B74, B75 (located under driver seat)	14.	Rear view camera D551	15.	Microphone R8

Component Description

INFOID:0000000007347818

Part name	Description
AV control unit	 Controls each operation of the navigation system DVD-ROM drive 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.

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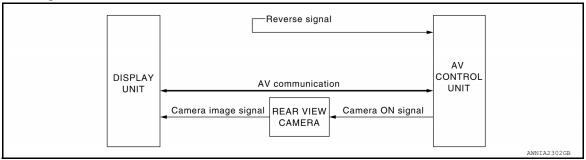
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REAR VIEW MONITOR SYSTEM

System Diagram

INFOID:0000000007347819



System Description

INFOID:0000000007347820

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

Component Parts Location

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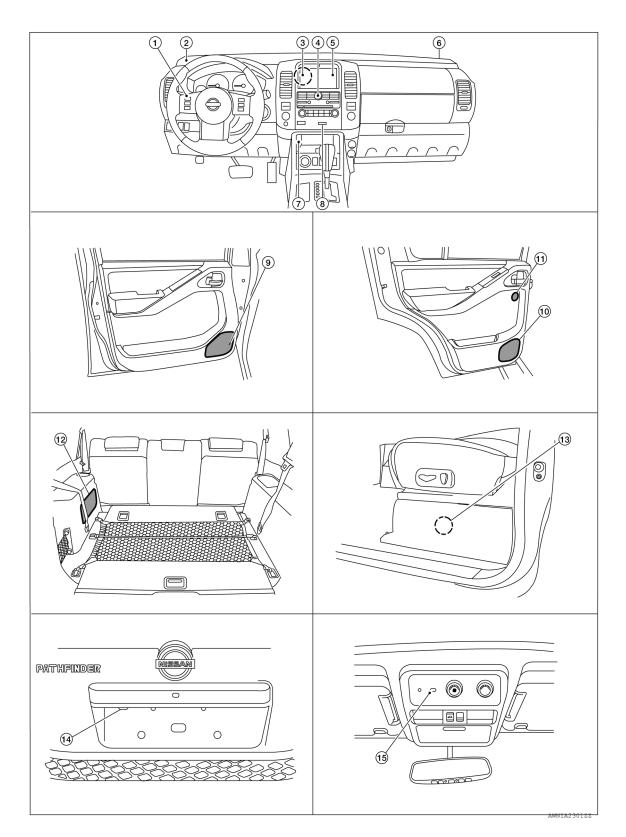
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- Steering wheel audio control switches
 es
 A/C and AV switch assembly M98
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- Front tweeter LH M109
- Display unit M92

- AV control unit M23, M37, M39, M44, M48, M71, M72
- 6. Front tweeter RH M111

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REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

7.	Aux. jack M85	8.	Compact Flash insert slot	9.	Front door speaker LH D12 RH D112
10.	Rear door speaker LH D207 RH D307	11.	Rear tweeter LH D208 RH D308	12.	Subwoofer B72
13.	BOSE speaker amp B74, B75 (located under driver seat)	14.	Rear view camera D551	15.	Microphone R8

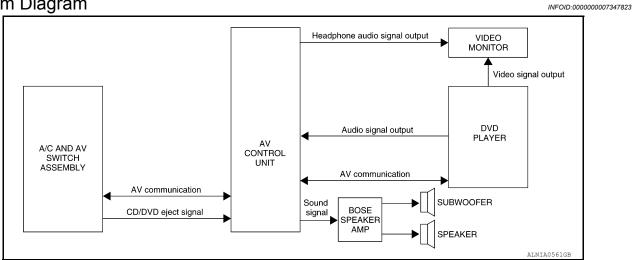
Component Description

INFOID:0000000007347822

Part name	Description
AV control unit	Receives reverse signal from back-up lamp relay Sends camera ON signal to rear view camera
Rear view camera	Receives camera ON signal from AV control unit Sends image signal to the display unit
Display unit	Receives image signal from rear view camera

DVD PLAYER

System Diagram



System Description

The DVD entertainment system consists of the following components

- AV control unit
- Display unit
- DVD player
- · Video monitor
- A/C and AV switch assembly
- Steering wheel audio control switches
- BOSE speaker amp.
- · Front tweeters
- · Front door speakers
- · Rear tweeters
- Rear door speakers
- Subwoofer

When the DVD entertainment system is on, video signals are sent from the DVD player to the video monitor. Audio signals are sent to the AV control unit. Audio signals can be directed through wireless infrared headphones or through the BOSE speaker amp. to the vehicle speakers. Refer to the Owner's Manual for complete DVD entertainment system operating instructions.

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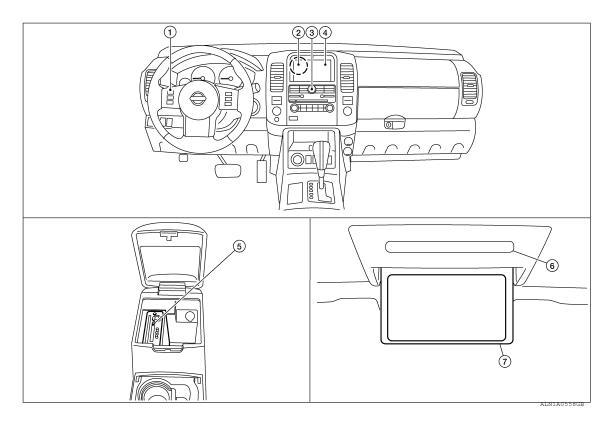
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Component Parts Location

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- 1. Steering wheel audio control switches 2.
- 4. Display unit M92

- AV control unit M23, M37, M39, M44, M48, M71, M72
- DVD player M205 (located in center console)
- A/C and AV switch assembly M98
- 6. Infrared headphone and remote receiver/transmitter (part of video monitor assembly)

7. Video monitor B76

Component Description

INFOID:0000000007347826

Part name	Description
DVD player	Outputs DVD video to video monitor Outputs DVD audio to the AV control unit
Video monitor	Receives and displays the DVD video signal
AV control unit	Controls audio system and DVD entertainment system functions
BOSE speaker amp.	Receives audio signals from the AV control unitOutputs amplified audio signals to the speakers
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
Front door speakers	Outputs audio signal from BOSE speaker amp.Outputs high, mid and low range sounds
Front and rear tweeters	Outputs audio signal from BOSE speaker amp.Outputs high range sounds

DVD PLAYER

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Part name	Description
Rear 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

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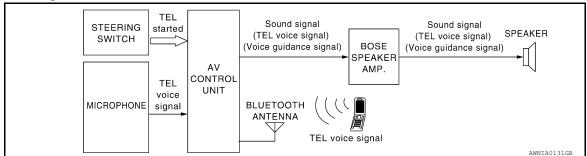
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HANDS-FREE PHONE SYSTEM

System Diagram

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System Description

INFOID:0000000007347828

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

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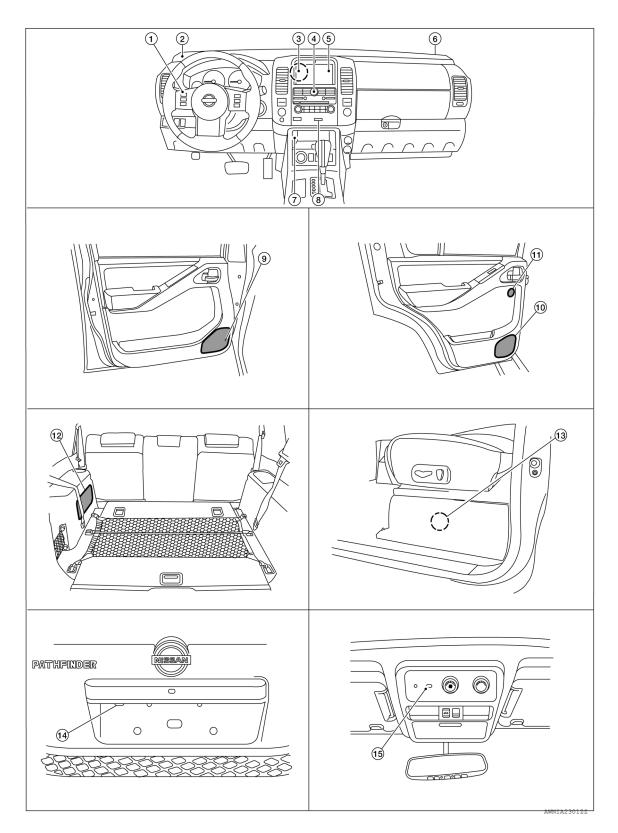
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- 1. Steering wheel audio control switch- 2.
- Front tweeter LH M109
- AV control unit M23, M37, M39, M44, M48, M71, M72

- 4. A/C and AV switch assembly M98
- 5. Display unit M92
- 6. Front tweeter RH M111

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HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

7.	Aux. jack M85	8.	Compact Flash insert slot	9.	Front door speaker LH D12 RH D112
10.	Rear door speaker LH D207 RH D307	11.	Rear tweeter LH D208 RH D308	12.	Subwoofer B72
13.	BOSE speaker amp B74, B75 (located under driver seat)	14.	Rear view camera D551	15.	Microphone R8

Component Description

INFOID:0000000007347830

Part name	Description	
AV control unit	 Receives telephone voice signal from Antenna and Microphone Sends telephone voice and voice guidance signals to the speakers 	
BOSE speaker amp.	 Receives audio signals from the AV control unit Outputs amplified audio signals to the speakers. 	
Front door speaker	Receives telephone voice and voice guidance signals from the AV control unit	
Front tweeter	through the BOSE speaker amp.	
Steering wheel audio control switches	Start a voice recognition sessionAnswer and end telephone callsAdjust the volume level	
Microphone	Sends voice signals to Bluetooth control unit	
Bluetooth antenna	Sends telephone voice signal to Bluetooth control unit	

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

DIAGNOSIS SYSTEM (AV CONTROL UNIT) AV CONTROL UNIT

AV CONTROL UNIT: Diagnosis Description

INFOID:0000000007347831

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.

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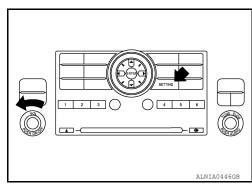
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[BOSE AUDIO WITH NAVIGATION]

	Mode		Description
	Display diagnosis	Color spectrum bar	Color tone of the screen can be checked by the display of a color bar.
		Gradation bar	Shading of the screen can be checked by the display of a gray scale.
		Touch panel	Touch panel calibration. Touch panel response check.
	Vehicle signals		The following vehicle signals are analyzed: Vehicle speed signal, park ing 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.
	Error history		Diagnosis results previously stored in the memory are displayed in this mode.
Synchronize FE	Synchronize FES	clock	Turns FES (Family Entertainment System) clock synchronization function ON/OFF.
ADJUSTMENT	Vehicle CAN diagr	nosis	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.
	Bluetooth	Confirm/Change passkey	Confirm and change the Bluetooth passkey.
SAT	Bidetootii	Confirm/Change device name	Confirm and change a device name stored in Bluetooth.
	SAT	Change channel	Any necessary channels required to receive traffic information from the satellite radio system can be set.
		Change application ID	Any application ID's required to receive traffic information from the sa ellite radio system can be set.
		Diag	Not used.
	Delete unit connec	ction log	Erase the error history and connection history of the unit.
	Initialize settings		All audio settings are reset to default levels.

OPERATION PROCEDURE

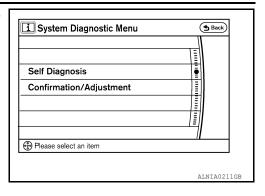
- 1. Start the engine.
- 2. Turn the audio system off.
- 3. While pressing the "SETTING" button, turn the volume control dial counterclockwise 30 clicks or more.



< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

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

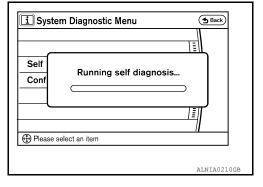


SELF-DIAGNOSIS

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

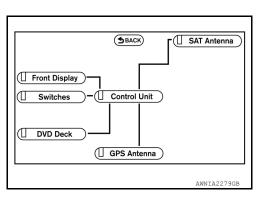
NOTE:

Self-diagnosis requires approximately 10 seconds to complete.



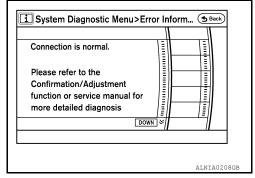
Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

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

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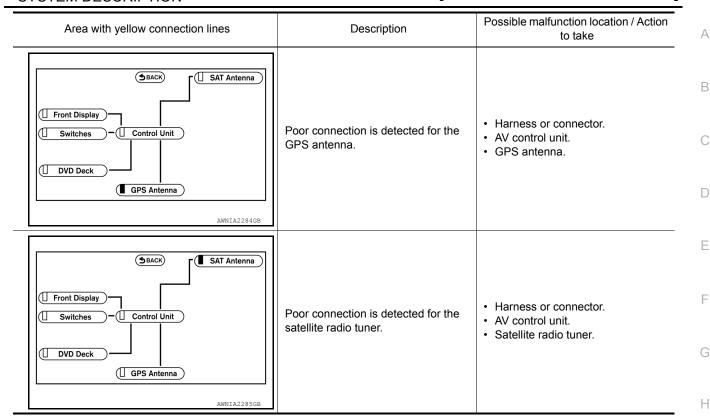
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Area with yellow connection lines	Description	Possible malfunction location / Action to take
SAT Antenna GPS Antenna AWNIA2280GB	AV control unit malfunction is detected.	Replace the AV control unit. Refer to AV-420. "Removal and Installation".
Switches — Control Unit DVD Deck GPS Antenna AWNIA2281GB	Poor connection is detected for the display unit.	 Harness or connector. AV control unit. Display unit.
SAT Antenna Switches	Switch malfunction is detected.	Perform A/C and AV switch assembly diagnostics. Refer to AV-307, "A/C AND AV SWITCH ASSEMBLY: Component Function Check".
Switches — Control Unit DVD Deck GPS Antenna	Poor connection is detected for the DVD player.	 Harness or connector. AV control unit. DVD player.

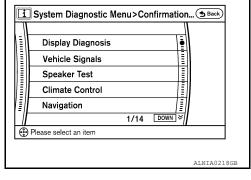
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[BOSE AUDIO WITH NAVIGATION]



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 or press the "BACK" button to return to the initial Confirmation/Adjustment Mode screen.



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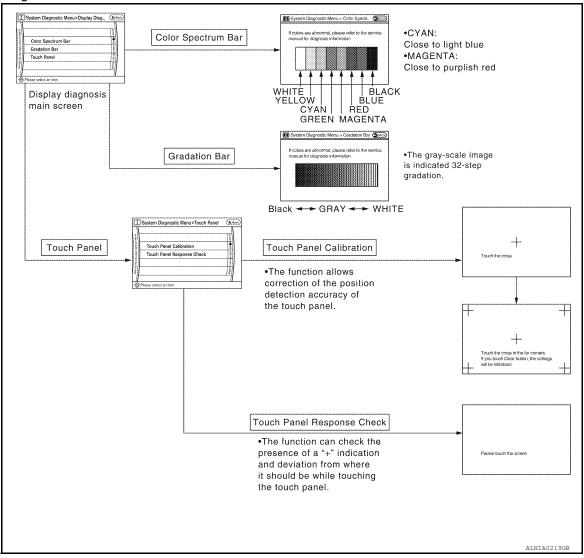
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Display Diagnosis



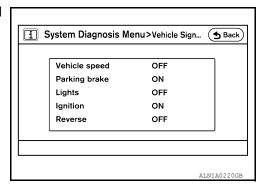
The tint of the color bar indication is as per the following list if RGB signal error is detected.

R (red) signal error : Light blue (Cyan) tint
G (green) signal error : Purple (Magenta) tint

B (blue) signal error : Yellow tint

Vehicle Signals

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



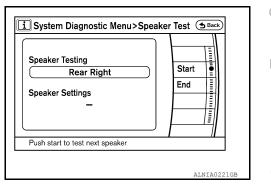
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[BOSE AUDIO WITH NAVIGATION]

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

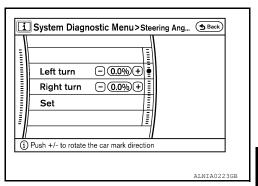
Select "Speaker Test" to display the speaker diagnosis screen. Press "Start" to generate a test tone in speakers. Touch "End" to stop the test tones.



Navigation

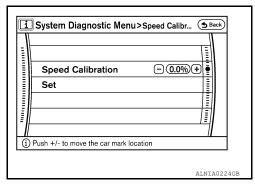
STEERING ANGLE ADJUSTMENT

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



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.



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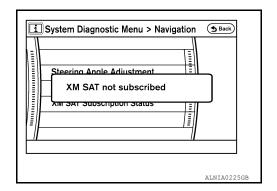
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XM SAT SUBSCRIPTION STATUS

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

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-306, "AV CONTROL UNIT: CONSULT Function".

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

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Error item	Description	Possible malfunction factor/Action to take
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	
FLASH-ROM Error Of Control Unit		
Connection Of Gyro		
XM SERIAL COMM Error		
CAN Controller Memory Error		Replace the AV control unit. Refer to AV-
Bluetooth Module Connection Error		420, "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-334, "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-420. "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-335, "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-336, "A/C AND AV SWITCH ASSEMBLY: Diagnosis Procedure". AV communication circuit between AV control unit and A/C and AV switch assembly.

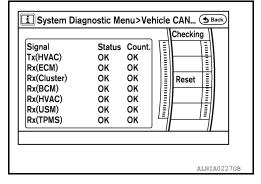
Vehicle CAN Diagnosis

August 2012 AV-303 2012 Pathfinder

< SYSTEM DESCRIPTION >

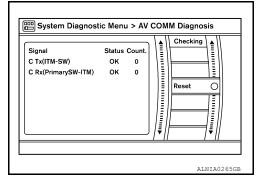
[BOSE AUDIO WITH NAVIGATION]

- 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.



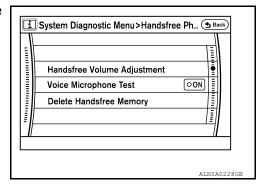
AV COMM Diagnosis

- 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

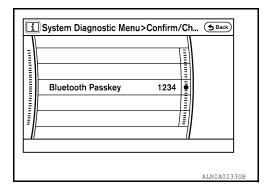
The hands-free phone reception volume adjustment, microphone and speaker test, and memory erase functions are also available.



Bluetooth

Passkey confirmation/change

- The passkey of Bluetooth can be confirmed and changed.
- The passkey can be changed by four digits within 0 to 9.

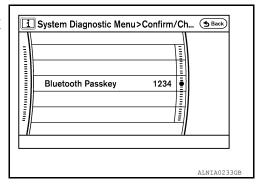


Device name check/change

< SYSTEM DESCRIPTION >

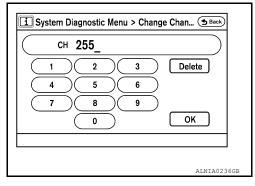
[BOSE AUDIO WITH NAVIGATION]

- The device name of Bluetooth can be confirmed and changed.
- The device name can be changed by sixteen digits within A to Z (small character can be used) and (hyphen).

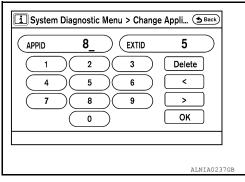


SAT

- Change Channel
- Any necessary channels required to receive traffic information from the satellite radio system can be set.

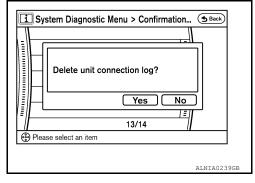


- · Change Application ID
- Any application ID's required to receive traffic information from the satellite radio system can be set.



Delete Unit Connection Log

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



Initialize Settings

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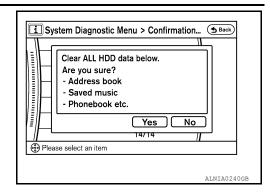
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< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Initializes the AV control unit memory.



AV CONTROL UNIT: CONSULT Function

INFOID:0000000007347832

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

MULTI AV diagnosis mode	Description	
ECU IDENTIFICATION	The part number of AV control unit can be checked.	
SELF DIAGNOSTIC RESULT	Displays AV control unit self-diagnosis results.	
DATA MONITOR	Displays AV control unit input/output data in real time.	
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.	

Self-diagnosis results

- In CONSULT self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates "CRNT". The past malfunction indicates "PAST".
- The timing is displayed as "0" if any of the error codes [U1000], [U1010], [U1300] and [U1310] is detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

Self-diagnosis results display item

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT[U1000]	CAN communication malfunction is detected	Perform diagnosis with CONSULT, and then repair the malfunctioning parts according to the diagnosis results. Refer to AV-309, "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]		Replace the AV control unit
BLUETOOTH CONN [U1217]		
HDD CONN [U1218]		
HDD READ [U1219]		
XM SERIAL COMM [U1220]	AV control unit malfunction is detected	
HDD WRITE [U121A]		
HDD COMM [U121B]		
HDD ACCESS [U121C]		
DSP CONN [U121D]		
DSP COMM [U121E]		
INTERNAL COMM [U121F]		AV control unit power supply and ground circuit

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Error item	Description	Possible malfunction factor/Action to take
GPS COMM [U1204]		An intermittent error caused by strong radio
GPS ROM [U1205]		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

Display item [unit]	ALL SIGNALS	SELECTION FROM MENU	Description	
VHCL SPD SIG [ON/OFF]	х	x	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:0000000007347833

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

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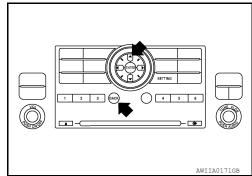
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[BOSE AUDIO WITH NAVIGATION]

- 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 INFOID:0000000007347834

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-13, "How to Use 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.
- 2. Check "Self Diagnostic Result" of "MULTI AV".

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-37. "Intermittent Incident".

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INFOID:0000000007347836

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U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

U1010 CONTROL UNIT (CAN)

Description INFOID:0000000007347837

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:0000000007347839

1. REPLACE AV CONTROL UNIT

When DTC U1010 is detected, replace AV control unit. Refer to AV-420, "Removal and Installation".

>> Inspection End.

U1200 AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U1200 AV CONTROL UNIT

Description INFOID:0000000007347840

Replace the AV control unit if this DTC is displayed. Refer to AV-420, "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-420, "Removal and Installation".

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U1201 AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U1201 AV CONTROL UNIT

Description INFOID:0000000007347842

Replace the AV control unit if this DTC is displayed. Refer to AV-420, "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 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-420, "Removal and Installation".

U1204 GPS COMM

Description INFOID:0000000007347844

Replace the AV control unit if this DTC is displayed. Refer to AV-420. "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 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-420, "Removal and Installation".

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U1205 GPS ROM

Description INFOID:0000000007347846

Replace the AV control unit if this DTC is displayed. Refer to AV-420, "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 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-420, "Removal and Installation".

U1206 GPS RAM

Description INFOID:0000000007347848

Replace the AV control unit if this DTC is displayed. Refer to AV-420. "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 DETECTION LOGIC

DTC	CONSULT display	Detection condition	Action to take
U1206	GPS RAM [U1206]	An internal malfunction is detected in AV control unit (GPS malfunction).	Replace AV control unit. Refer to AV-420, "Removal and Installation".

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U1207 GPS RTC

Description INFOID:0000000007347850

Replace the AV control unit if this DTC is displayed. Refer to AV-420, "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 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-420, "Removal and Installation".

U1216 AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U1216 AV CONTROL UNIT

Description INFOID:000000007347852

Replace the AV control unit if this DTC is displayed. Refer to AV-420, "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 <u>AV-420</u> , "Removal and Installation".

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U1217 AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U1217 AV CONTROL UNIT

Description INFOID:0000000007347854

Replace the AV control unit if this DTC is displayed. Refer to AV-420, "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 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-420, "Removal and Installation".

U1218 AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U1218 AV CONTROL UNIT

Description INFOID:000000007347856

Replace the AV control unit if this DTC is displayed. Refer to AV-420. "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-420, "Removal and Installation".

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U1219 AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U1219 AV CONTROL UNIT

Description INFOID:0000000007347858

Replace the AV control unit if this DTC is displayed. Refer to AV-420, "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-420, "Removal and Installation".

U1220 AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U1220 AV CONTROL UNIT

Description INFOID:0000000007347860

Replace the AV control unit if this DTC is displayed. Refer to AV-420, "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 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-420, "Removal and Installation".

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U121A AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U121A AV CONTROL UNIT

Description INFOID:0000000007347862

Replace the AV control unit if this DTC is displayed. Refer to AV-420, "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-420, "Removal and Installation".

U121B AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

U121B AV CONTROL UNIT

Description INFOID:000000007347864

Replace the AV control unit if this DTC is displayed. Refer to AV-420, "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-420, "Removal and Installation".

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U121C AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U121C AV CONTROL UNIT

Description INFOID:0000000007347866

Replace the AV control unit if this DTC is displayed. Refer to AV-420, "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-420, "Removal and Installation".

U121D AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

U121D AV CONTROL UNIT

Description INFOID:0000000007347868

Replace the AV control unit if this DTC is displayed. Refer to AV-420, "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-420, "Removal and Installation".

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U121E AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U121E AV CONTROL UNIT

Description INFOID:000000007347870

Replace the AV control unit if this DTC is displayed. Refer to AV-420, "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-420, "Removal and Installation".

U121F AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

U121F AV CONTROL UNIT

Description INFOID:0000000007347872

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:0000000007347874

1. CHECK AV CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check audio control unit power supply and ground circuit. Refer to <u>AV-334, "AV CONTROL UNIT : Diagnosis Procedure"</u>.

Is inspection result OK?

YES >> Inspection End.

NO >> Repair malfunctioning parts.

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August 2012 AV-327 2012 Pathfinder

U1243 DISPLAY UNIT

Description INFOID:0000000007347875

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). Auxiliary image signal is input from the auxiliary input jack. Camera image signal is input from the rear view camera. Synchronize signal (HP, VP) is output to AV control unit. Touch panel function can be operated for each system by touching a display directly.

DTC Logic INFOID:0000000007347876

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:0000000007347877

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

$1.\mathsf{check}$ display unit power supply and ground circuit

Check display unit power supply and ground circuit. Refer to AV-335, "DISPLAY UNIT: Diagnosis Procedure". Is inspection result OK?

YES >> GO TO 2

NO >> Repair malfunctioning parts.

2.check continuity communication circuit

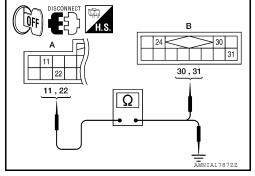
- Turn ignition switch OFF.
- Disconnect display unit connector M92 and AV control unit connector M37.
- Check continuity between display unit harness connector M92 (A) terminals 11, 22 and AV control unit harness connector M37

(B)	terminals	30.31	_

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M92	11	M37	30	Yes
IVI92	22	IVIST	31	res

Check continuity between display unit harness connector M92 (A) terminals 11, 22 and ground.

Α			Continuity	
Connector	Terminal	_	Continuity	
M92	11	Ground	No	
	22	Ground	NO	



U1243 DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Are continuity results as specified?

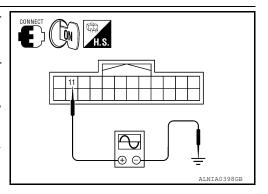
YES >> GO TO 3

NO >> Repair harness or connector.

3. CHECK COMMUNICATION SIGNAL

- Connect display unit connector M92 and AV control unit connector M37.
- 2. Turn ignition switch ON.
- 3. Check signal between display unit harness connector M92 terminal 11 and ground.

Connector	Terminals		Reference Signal
Connector	(+)	(-)	Neiereffice Signal
M92	11	Ground	(V) 6 4 2 0 ***-1ms



Are voltage readings as specified?

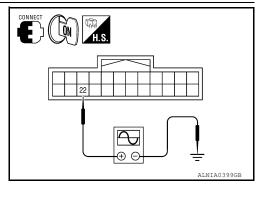
YES >> GO TO 4

NO >> Replace AV control unit. Refer to AV-420, "Removal and Installation".

4. CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector M92 terminal 22 and ground.

Connector	Terminals		Deference Signal	
Connector	(+)	(-)	Reference Signal	
M92	22	Ground	(V) 6 4 2 0 + 1ms PKIB5039J	



Are voltage readings as specified?

YES >> Inspection End.

NO >> Replace display unit. Refer to AV-422, "Removal and Installation".

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[BOSE AUDIO WITH NAVIGATION]

U1244 GPS ANTENNA

Description INFOID:0000000007347878

The GPS antenna receives satellite GPS signals.

DTC Logic

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000007347880

Regarding Wiring Diagram information, refer to AV-385. "Wiring Diagram - With Navigation System".

1.GPS ANTENNA CHECK

Inspect GPS antenna and antenna feeder for damage or poor connection.

Is the GPS antenna and feeder clean and undamaged?

YES >> GO TO 2

NO >> Repair or replace malfunctioning parts.

2. CHECK AV CONTROL UNIT VOLTAGE

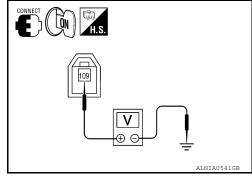
- 1. Turn ignition switch ON.
- 2. Check voltage between AV control unit connector M72 terminal 109 and ground.

109 - Ground : Approx. 5V

Is the voltage reading as specified?

YES >> Replace GPS antenna. Refer to <u>AV-434, "Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to AV-420, "Removal and Installation".



U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

U1258 SATELLITE RADIO ANTENNA

Description INFOID:0000000007347881

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-385, "Wiring Diagram - With Navigation System".

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

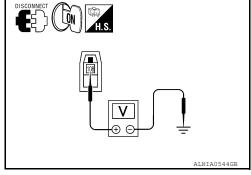
- Disconnect AV control unit connector M71.
- 2. Turn ignition switch ON.
- 3. Check voltage between AV control unit connector M71 terminal 108 and ground.

108 - Ground : Approx. 5 V

Is voltage approximately 5 volts?

YES >> Replace sattelite radio antenna. Refer to <u>AV-435.</u> "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-420, "Removal and Installation".



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August 2012 AV-331 2012 Pathfinder

U1300 AV COMM CIRCUIT

[BOSE AUDIO WITH NAVIGATION]

U1300 AV COMM CIRCUIT

Description INFOID:0000000007347884

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 U1240	AV COMM CIRCUIT [U1300] 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 	control unit and A/C and AV Switch

U1310 AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]

U1310 AV CONTROL UNIT

Description INFOID:0000000007347885

Replace the AV control unit if this DTC is displayed. Refer to AV-420. "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-420, "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:0000000007347887

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1. CHECK FUSES

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

Unit	Terminals	Signal name	Fuse No.
	19, 69, 71	Battery power	29
AV control unit	7, 72	Ignition switch ACC or ON	4
	82	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 M39 and M48.
- 2. Check voltage between the AV control unit connectors M39 and M48 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal	(-)	OH	700	ON
M39	7	Ground	0V	Battery voltage	Battery voltage
WIOS	19	Ground	Battery voltage	Battery voltage	Battery voltage
	69	Ground	Battery voltage	Battery voltage	Battery voltage
M48	71	Ground	Battery voltage	Battery voltage	Battery voltage
IVI48	72	Ground	0V	Battery voltage	Battery voltage
	82	Ground	0V	0V	Battery voltage

| SCONNECT | ACC | ON
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

2. Check continuity between AV control unit harness connector M39, M48 and ground.

[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

	(+)		Continuity
Connector	Terminal	(-)	Continuity
M39	20		Yes
	68		
	70	Ground	
M48	87		
	89		
	90	-	

Are the continuity results as specified?

YES >> Inspection End.

NO >> Repair AV control unit ground.

DISPLAY UNIT

DISPLAY UNIT: Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1. CHECK FUSES

Check that the following display unit fuses are not blown.

Unit	Terminals	Signal name	Fuse No.
Display unit	2	Battery power	29
Display unit	3	Ignition switch ACC or ON	4

Are the fuses OK?

YES >> GO TO 2

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

2. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch to ACC
- Check voltage between display unit harness connector M92 and ground.

Connector	Terminal	Ignition switch position	Value (Approx.)
M92	2	ACC	Battery voltage
WIJZ	3	7,00	Dattery voltage

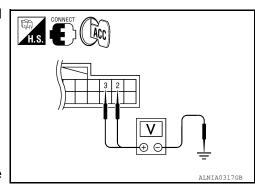
Does specified voltage exist?

YES >> GO TO 3.

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

· Repair harness or connector.

3. CHECK GROUND CIRCUIT



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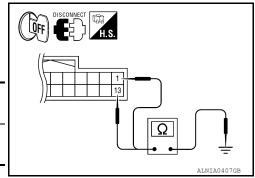
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< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

- 1. Turn ignition switch OFF.
- 2. Disconnect display unit connector.
- 3. Check continuity between display unit harness connector M92 and ground.

	(+)	()	Continuity
Connector	Terminal	(-)	Continuity
M92	1	Ground	Yes
10132	13	Ground	163



Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

A/C AND AV SWITCH ASSEMBLY

A/C AND AV SWITCH ASSEMBLY : Diagnosis Procedure

INFOID:0000000007347889

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1. CHECK FUSE

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

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

Is the fuse OK?

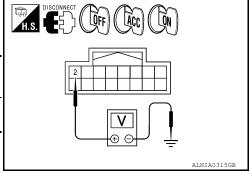
YES >> GO TO 2

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	(-)	Ori	ACC	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

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

- 1. Ignition OFF.
- Čheck continuity between A/C and AV switch assembly harness connector M98 and ground.

(+)		(-)	Continuity	
Connector	Terminal	(-)	Continuity	
M98	1	Ground	Yes	

DISCONNECT HIS

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:0000000007347890

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Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1. CHECK FUSE

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

Unit	Terminal	Signal name	Fuse No.
BOSE speaker amp.	1	Battery power	29

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

- Turn ignition switch OFF.
- 2. Disconnect BOSE speaker amp. connector.
- Check voltage between BOSE speaker amp. harness connector B74 terminal 1 and ground.

(+)		(-)	Voltage (approx.)	
Connector	Terminal	(-)	voltage (approx.)	
B74	1	Ground	Battery voltage	

DISCONNECT OFF

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.
- 3. Check continuity between BOSE speaker amp. harness connector B74 terminal 17 and ground.

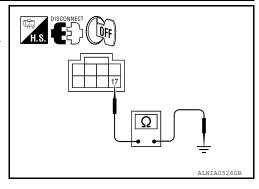
(+)		(-)	Continuity	
Connector	Terminal	(-)	Continuity	
B74	17	Ground	Yes	

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

SUBWOOFER



August 2012 AV-337 2012 Pathfinder

SUBWOOFER: Diagnosis Procedure

INFOID:0000000007347891

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1.CHECK FUSE

Check that the subwoofer fuse is not blown.

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

Is the fuse OK?

YES >> GO TO 2

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

2. CHECK POWER SUPPLY CIRCUIT

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

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

DISCONNECT H.S. OFF H.S. OFF ALNIA0528GB

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	(-)	Continuity
B72	5	Ground	Yes

DISCONNECT H.S. OFF

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

REAR VIEW CAMERA

REAR VIEW CAMERA : Diagnosis Procedure

INFOID:000000007347892

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1. CHECK POWER SUPPLY CIRCUIT (REAR VIEW CAMERA SIDE)

NOTE:

Apply parking brakes before proceeding.

- 1. Turn ignition switch ON.
- Shift transmission into reverse.
- Check voltage between rear view camera harness connector D551 terminal 2 and ground.

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< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

	(+)	(-)	Transmission	Value (Approx.)
Connector	Terminal	(-)	position	value (Applox.)
D551	2	Ground	Reverse	12V

Is voltage reading approximately 12 volts?

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

$2. {\sf CHECK\ POWER\ SUPPLY\ CIRCUIT\ (CONTINUITY)}$

- Turn ignition switch OFF.
- Disconnect rear view camera and AV control unit connectors.
- 3. Check continuity between rear view camera harness connector D551 terminal 2 and AV control unit harness connector M48 terminal 84.

Connector	Terminal	Connector	Terminal	Continuity
D551	2	M48	84	Yes

4. Check continuity between rear view camera harness connector D551 terminal 2 and ground.

Connector	Terminal	_	Continuity
D551	2	Ground	No

Are continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK REVERSE POSITION INPUT SIGNAL

- Turn ignition switch ON.
- 2. Shift transmission into reverse.
- 3. Check voltage between AV control unit harness connector M48 terminal 84 and ground.

(+	(+)		Transmission	Value (Approx.)
Connector	Terminal	(-)	position	value (Approx.)
M48	84	Ground	Reverse	12V

Is voltage reading approximately 12 volts?

YES >> Replace AV control unit. Refer to AV-420, "Removal and Installation".

NO >> Check harness for open or short between AV control unit and back-up lamp relay.

4. CHECK GROUND CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect rear view camera harness connector.
- Check continuity between rear view camera harness connector D551 terminal 1 and ground.

Connector	Terminal	_	Continuity
D551	1	Ground	Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

DVD PLAYER

DVD PLAYER: Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

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INFOID:0000000007347893

1. CHECK FUSE

Check that the following fuses of the DVD player are not blown.

Unit	Terminal	Signal name	Fuse No.
DVD player	21	Battery power	29
DVD player	24	Ignition switch ACC or ON	4

Is the fuse OK?

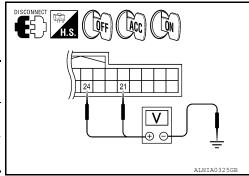
YES >> GO TO 2

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

2.POWER SUPPLY CIRCUIT CHECK

- 1. Disconnect DVD player connector M205.
- 2. Check voltage between the DVD player connector M205 and ground.

(+	·)	(-)	OFF	ACC	ON	
Connector	Terminal	(-)	OH	ACC	ON	
M205	21	Ground	Battery voltage	Battery voltage	Battery volt- age	
101203	24	Giodila	0V	Battery voltage	Battery volt- age	



Are the voltage results as specified?

YES >> GO TO 3

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

· Repair harness or connector.

3. GROUND CIRCUIT CHECK

- 1. Turn ignition switch OFF.
- 2. Check continuity between DVD player harness connector M205 terminal 5 and ground.

Connector	Terminal	_	Continuity
M205	5	Ground	Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair DVD player ground.

DISCONNECT H.S. ALNIA0326GB

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VIDEO MONITOR

VIDEO MONITOR: Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch to ACC.

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Check voltage between video monitor harness connector B76 and ground.

(+)		(-)	Ignition switch	Value (Approx.)
Connector	Terminal	(-)	position	value (Applox.)
B76	16	Ground	ACC	Battery voltage

CONNECT H.S. CACC

Does battery voltage exist?

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

2.CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the video monitor connector B76 and the DVD player connector M205.
- 3. Check continuity between the video monitor harness connector B76 (A) and the DVD player connector M205 (B).

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
B76	16	M205	9	Yes

 Check continuity between video monitor harness connector B76 (A) and ground.

(71) and groc	ma.		
	A	_	Continuity
Connector	Terminal		Continuity
B76	16	Ground	No

Are continuity results as specified?

YES >> Check DVD player power and ground supply. Refer to <u>AV-339, "DVD PLAYER : Diagnosis Procedure".</u>

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect video monitor connector.
- Check continuity between video monitor harness connector B76 and ground.

Connector	Terminal	_	Continuity
B76	12	Ground	Yes
	15	Glound	

DISCONNECT H.S. 12,15

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

MICROPHONE

MICROPHONE : Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1. CHECK POWER SUPPLY CIRCUIT

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< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Check voltage between microphone harness connector R8 terminal 4 and ground.

(+)	(-)	Ignition switch position	Value (Approx.)
Connector	Terminal	(-)	ignition switch position	value (Approx.)
R8	4	Ground	ON	5V

CONNECT THIS. H.S. WITAS796E

Is approximately 5V present?

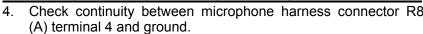
YES >> GO TO 3 NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

- 1. Turn ignition switch OFF.
- 2. Disconnect microphone and AV control unit harness connectors.
- Check continuity between microphone harness connector R8

 (A) terminal 4 and AV control unit harness connector M48 (B) terminal 73.

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
R8	4	M48	73	Yes



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DISCONNECT A

	Ą		Continuity
Connector	Connector Terminal		Continuity
R8	4	Ground	No

Are the continuity test results as specified?

YES >> Replace the AV control unit. Refer to AV-420, "Removal and Installation".

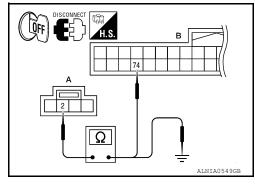
NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect microphone harness connector R8 and AV control unit harness connector M48.
- Check continuity between microphone harness connector R8

 (A) terminal 2 and AV control unit harness connector M48 (B) terminal 74.

Α		В		Continuity
Connector	Terminal	Connector Terminal		Continuity
R8	2	M48	74	Yes



Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

RGB (R: RED) SIGNAL CIRCUIT

Description

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

Diagnosis Procedure

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Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M92 and AV control unit connector M37.
- Check continuity between display unit harness connector M92

 (A) terminal 17 and AV control unit harness connector M37 (B) terminal 21.

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M92	17	M37	21	Yes

Check continuity between display unit harness connector M92

 (A) terminal 17 and ground.

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	A	_	Continuity
Connector	Terminal		
M92	17	Ground	No

Are the continuity results as specified?

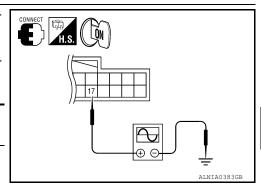
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RGB (R: RED) SIGNAL

- Connect display unit connector M92 and AV control unit connector M37.
- Turn ignition switch ON.
- 3. Check signal between display unit harness connector M92 terminal 17 and ground.

	(+)		Condition	Reference signal
Connector	Terminal	(-)	Ooridition	received signal
M92	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-422, "Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to AV-420, "Removal and Installation".

August 2012 AV-343 2012 Pathfinder

RGB (G: GREEN) SIGNAL CIRCUIT

Description INFOID:0000000007347898

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

Diagnosis Procedure

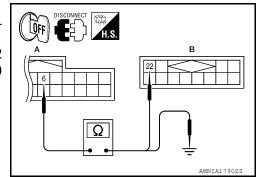
INFOID:0000000007347899

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M92 and AV control unit connector M37.
- Check continuity between display unit harness connector M92
 (A) terminal 6 and AV control unit harness connector M37 (B) terminal 22.

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M92	6	M37	22	Yes



Check continuity between display unit harness connector M92
 (A) terminal 6 and ground.

	A	_	Continuity
Connector	Terminal		
M92	6	Ground	No

Are the continuity results as specified?

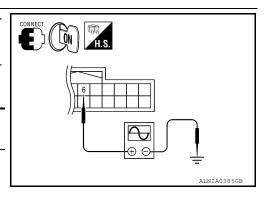
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RGB (G: GREEN) SIGNAL

- Connect display unit connector M92 and AV control unit connector M37.
- Turn ignition switch ON.
- 3. Check signal between display unit harness connector M92 terminal 6 and ground.

(+)		(-)	Condition	Reference signal	
Connector	Terminal	(-)	Condition	Reference signal	
M92	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-422, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-420, "Removal and Installation".

RGB (B: BLUE) SIGNAL CIRCUIT

Description INFOID:0000000007347900

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

Diagnosis Procedure

INFOID:0000000007347901

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Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M92 and AV control unit connector M37.
- Check continuity between display unit harness connector M92

 (A) terminal 18 and AV control unit harness connector M37 (B) terminal 23.

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M92	18	M37	23	Yes

 Check continuity between display unit harness connector M92 (A) terminal 18 and ground.

DISCONNECT H.S.	
A 18	B 23
Ω	

	A	<u> </u>	Continuity	
Connector	Terminal		Continuity	
M92	18	Ground	No	

Are continuity results as specified?

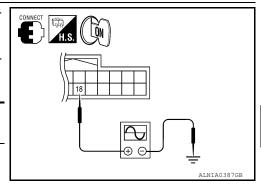
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RGB (B: BLUE) SIGNAL

- Connect display unit connector M92 and AV control unit connector M37.
- Turn ignition switch ON.
- Check signal between display unit harness connector M92 terminal 18 and ground.

(+)		(-)	Condition	Reference signal
Connector	Terminal	(-)	Condition	reference signal
M92	18	Ground	Receive audio sig- nal	(V) 0. 4 0 -0. 4 -0. 4 -0. 4 SKIB2237J



Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-422, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-420, "Removal and Installation".

August 2012 AV-345 2012 Pathfinder

RGB SYNCHRONIZING SIGNAL CIRCUIT

Description INFOID:0000000007347902

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

Diagnosis Procedure

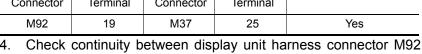
INFOID:0000000007347903

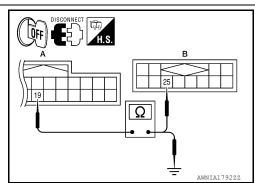
Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1. CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

- Turn ignition switch OFF.
- Disconnect display unit connector M92 and AV control unit connector M37.
- 3. Check continuity between display unit harness connector M92 (A) terminal 19 and AV control unit harness connector M37 (B) terminal 25.

ı	4		В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M92	19	M37	25	Yes





(A) terminal 19 and ground.

	4	_	Continuity
Connector	Terminal		Continuity
M92	19	Ground	No

Are continuity results as specified?

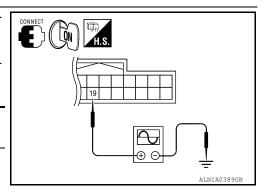
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RGB SYNCHRONIZING SIGNAL

- Connect display unit connector M92 and AV control unit connector M37.
- 2. Turn ignition switch ON.
- Check signal between display unit harness connector M92 terminal 19 and ground.

(+)		(-)	Condition	Reference signal
Connector	Terminal			_
M92	19	Ground	Receive audio sig- nal	(V) 4 0 + 20 \(\mu\)s SKIB3603E



Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-422, "Removal and Installation".

>> Replace AV control unit. Refer to AV-420, "Removal and Installation". NO

RGB AREA (YS) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

RGB AREA (YS) SIGNAL CIRCUIT

Description INFOID:000000007347904

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

Diagnosis Procedure

INFOID:0000000007347905

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Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1. CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M92 and AV control unit connector M37.
- Check continuity between display unit harness connector M92
 (A) terminal 9 and AV control unit harness connector M37 (B) terminal 27.

	Α		В	Continuity
Connector	Terminal	Connector Terminal		Continuity
M92	9	M37	27	Yes

4. Check continuity between display unit harness connector M92 (A) terminal 9 and ground.

	A		Continuity
Connector	Terminal	_	Continuity
M92	9	Ground	No

Are continuity results as specified?

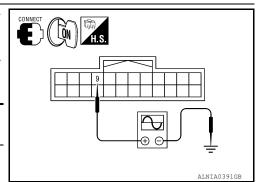
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RGB SYNCHRONIZING SIGNAL

- Connect display unit connector M92 and AV control unit connector M37.
- 2. Turn ignition switch ON.
- Check signal between display unit harness connector M92 terminal 9 and ground.

(+) Connector Terminal		(-)	Condition	Reference signal
M92	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-422, "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-420, "Removal and Installation"</u>.

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HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT DIAGNOSIS > [BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description INFOID:0000000007347906

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

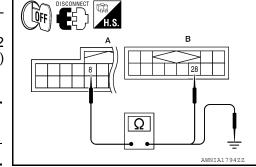
INFOID:0000000007347907

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1. CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M92 and AV control unit connector M37.
- 3. Check continuity between display unit harness connector M92 (A) terminal 8 and AV control unit harness connector M37 (B) terminal 28.

٠	,	A	I	В	Continuity
	Connector	Terminal	Connector Terminal		Continuity
	M92	8	M37	28	Yes



Check continuity between display unit harness connector M92
 (A) terminal 8 and ground.

	A	_	Continuity
Connector	Terminal		Continuity
M92	8	Ground	No

Are continuity results as specified?

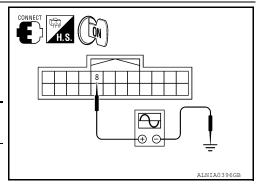
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

- Connect display unit connector M92 and AV control unit connector M37.
- 2. Turn ignition switch ON.
- 3. Check signal between display unit harness connector M92 terminal 8 and ground.

(+)		(-) Condition		Poforonoo signal	
Connector	Terminal	(-)	Condition	Reference signal	
M92	8	Ground	Receive audio sig- nal	(V) + + 20µs SKIB3601E	



Are voltage readings as specified?

YES >> Replace AV control unit. Refer to <u>AV-420, "Removal and Installation"</u>.

NO >> Replace display unit. Refer to AV-422, "Removal and Installation".

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT [BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description INFOID:0000000007347908

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-385, "Wiring Diagram - With Navigation System".

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

- 1. Turn ignition switch OFF.
- Disconnect display unit connector M92 and AV control unit connector M37.
- Check continuity between display unit harness connector M92

 (A) terminal 20 and AV control unit harness connector M37 (B) terminal 29.

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M92	20	M37	29	Yes

 Check continuity between display unit harness connector M92 (A) terminal 20 and ground.

Α			Continuity
Connector Terminal		_	Continuity
M92	20	Ground	No

Are continuity results as specified?

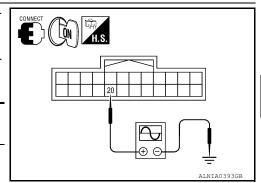
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK VERTICAL SINCHRONIZING (VP) SIGNAL

- Connect display unit connector M92 and AV control unit connector M37.
- 2. Turn ignition switch ON.
- 3. Check signal between display unit harness connector M92 terminal 20 and ground.

(+)		(-)	Condition	Reference signal
Connector	Terminal	(-)	Condition	reference signal
M92	20	Ground	Receive audio sig- nal	(V) ++4ms SKIB3598E



Are voltage readings as specified?

YES >> Replace AV control unit. Refer to <u>AV-420, "Removal and Installation"</u>.

NO >> Replace display unit. Refer to <u>AV-422, "Removal and Installation"</u>.

DISCONNECT H.S.

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INFOID:0000000007347909

August 2012 AV-349 2012 Pathfinder

FRONT DOOR SPEAKER

Description INFOID:0000000007347910

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:0000000007347911

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1. CONNECTOR CHECK

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

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

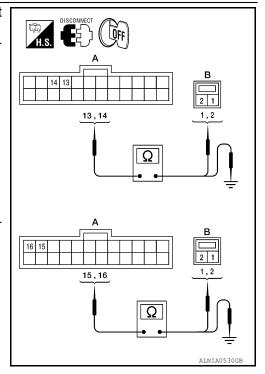
2. HARNESS CHECK

- 1. Disconnect BOSE speaker amp. connector B75 and suspect speaker connector.
- Check continuity between BOSE speaker amp. harness connector B75 (A) and suspect speaker harness connector (B).

A		В	
Terminal	Connector	Terminal	Continuity
13	D40	1	
14	DIZ	2	Yes
15	D112	1	165
16	טווע -	2	
	Terminal 13 14 15	Terminal Connector 13	Terminal Connector Terminal 13 D12 1 14 2 1 15 D112 1

Check continuity between BOSE speaker amp. harness connector B75 (A) and ground.

	Α		Continuity
Connector	Terminal	_	Continuity
	13		No
D75	14	Ground	
B75	15	Ground	
	15		



Are continuity test results as specified?

YES >> GO TO 3

NO >> 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 B75 and suspect speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between BOSE speaker amp. harness connector B75 terminals with CONSULT or oscilloscope.

Connec-	Terr	Terminal		Reference	
tor	(+)	(-)	Condition	signal	
	13	14			
B75	15	16	Receive audio sig- nal	1 0 1 ms 3 SKIAO1772	

Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to <u>AV-424, "Removal and Installation"</u>.

NO >> GO TO 4

4. HARNESS CHECK

- 1. Disconnect AV control unit connector M39 and BOSE speaker amp. connector B75.
- 2. Check continuity between AV control unit harness connector M39 (A) and BOSE speaker amp. harness connector B75 (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2	3	30	
M39	3		29	Yes
	11	B75	28	
	12		27	

Check continuity between AV control unit harness connector M39 (A) and ground.

	А		Continuity	
Connector	Terminal		Continuity	
	2			
M39	3 Ground		No	
IVIS9	11	Giodila	INO	
	12			

Are continuity test results as specified?

YES >> GO TO 5

NO >> Repair harness or connector.

FRONT SPEAKER SIGNAL CHECK

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FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

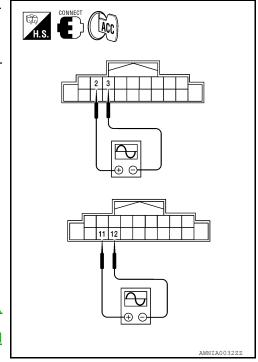
- 1. Connect AV control unit connector and BOSE speaker amp. connector.
- 2. Turn ignition switch ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M39 terminals with CONSULT or oscilloscope.

Connector	Tern	ninals	Condition	Reference
Connector	(+)	(-)	Condition	signal
	2	3		
M39	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-427.</u> "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-420, "Removal and Installation"</u>.



[BOSE AUDIO WITH NAVIGATION]

FRONT TWEETER

Description INFOID:0000000007347912

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:0000000007347913

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Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1.CONNECTOR CHECK

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

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

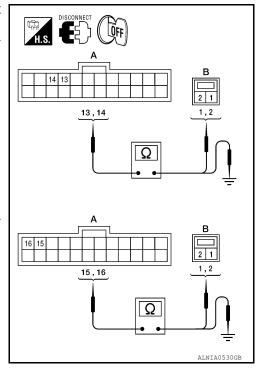
2. HARNESS CHECK

- Disconnect BOSE speaker amp. connector B75 and suspect tweeter connector.
- 2. Check continuity between BOSE speaker amp. harness connector B75 (A) and suspect tweeter harness connector (B).

	A	В				Continuity
Connector	Terminal	Connector	Terminal	Continuity		
	13		1			
D75	14	M109	2	Voo		
B75	15	M111	1	Yes		
	16	IVIIII	2			

Check continuity between BOSE speaker amp. harness connector B75 (A) and ground.

	Α		Continuity
Connector	Terminal		
	13		
B75	14	Ground	No
Б/3	15	Glound	INO
	16		



Are continuity test results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3.front tweeter signal check

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[BOSE AUDIO WITH NAVIGATION]

- 1. Connect BOSE speaker amp. connector B75 and suspect tweeter connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between BOSE speaker amp. harness connector B75 terminals with CONSULT or oscilloscope.

Connec-			Condition	Reference	
tor	(+)	(-)	Condition	signal	
	13	14			
B75	15	16	Receive audio sig- nal	1 0 1 1 ms ssize 1772	

Is audio signal voltage as specified?

YES >> Replace suspect tweeter. Refer to <u>AV-423, "Removal and Installation"</u>.

NO >> GO TO 4

4. HARNESS CHECK

- 1. Disconnect AV control unit connector M39 and BOSE speaker amp. connector B75.
- 2. Check continuity between AV control unit harness connector M39 (A) and BOSE speaker amp. harness connector B75 (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2		30	
M39	3	B75	29	Yes
	11	673	28	165
	12		27	

Check continuity between AV control unit harness connector M39 (A) and ground.

	А		Continuity	
Connector	Terminal	<u> </u>		
	2	Ground	No	
M39	3			
M39	11	Ground	No	
	12			

ALNIA0550GB

Are continuity test results as specified?

YES >> GO TO 5

NO >> Repair harness or connector.

5. FRONT TWEETER SIGNAL CHECK

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

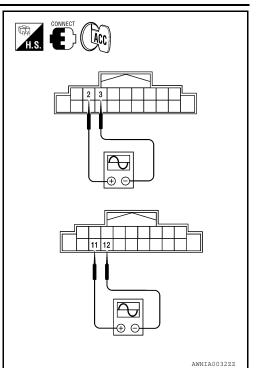
- 1. Connect AV control unit connector and BOSE speaker amp. connector.
- 2. Turn ignition switch ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M39 terminals with CONSULT or oscilloscope.

Connector	Tern	ninals	Condition	Reference
Connector	(+)	(-)	Condition	signal
	2	3		
M39	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-427</u>, <u>"Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to <u>AV-420, "Removal and Installation"</u>.



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REAR DOOR SPEAKER

Description INFOID:000000007347914

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:0000000007347915

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1.CONNECTOR CHECK

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

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

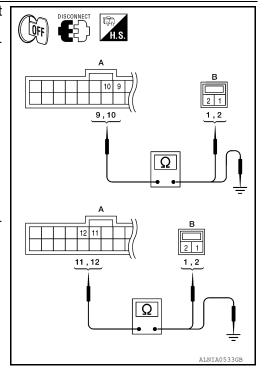
2. HARNESS CHECK

- Disconnect BOSE speaker amp. connectors B75 and suspect speaker connector.
- Check continuity between BOSE speaker amp. harness connectors B75 (A) and suspect speaker harness connector (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B75	9	D207	1	Yes
	10	D207	2	
	11	D307	1	
	12	D307	2	

Check continuity between BOSE speaker amp. harness connectors B75 (A) and ground.

Connector	Terminal	-	Continuity	
	9			
B75	10	Ground	No	
	11	Glound	NO	
	12			



Are the continuity test results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3.rear door speaker signal check

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

- 1. Connect BOSE speaker amp. connectors and suspect speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- Check the signal between BOSE speaker amp. harness connectors B75 terminals with CONSULT or oscilloscope.

Connector	Term	ninals	Condition	Reference
Connector	(+)	(-)	signal	signal
	9	10		
B75	11	12	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-425</u>, "Removal and Installation of Rear Door Speaker".

NO >> GO TO 4

4. HARNESS CHECK

- 1. Disconnect AV control unit connector M39 and BOSE speaker amp. connector B75.
- 2. Check continuity between AV control unit harness connector M39 (A) and BOSE speaker amp. harness connector B75 (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M39	4	D75	26	
	5		25	Yes
	13	B75	24	165
	14		23	

Check continuity between AV control unit harness connector M39 (A) and ground.

	А		Continuity	
Connector	Terminal		Continuity	
	4	Ground	No	
M39	5			
IVIS9	13	Ground	NO	
	14			

Are the continuity test results as specified?

YES >> GO TO 5

NO >> Repair harness or connector.

5. REAR DOOR SPEAKER SIGNAL CHECK

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REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

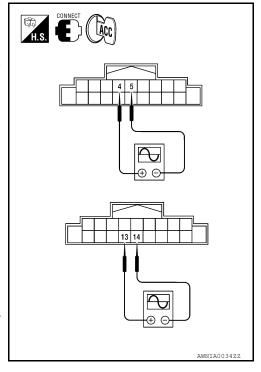
- 1. Connect AV control unit connector M39 and BOSE speaker amp. connector B75.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M39 terminals with CONSULT or oscilloscope.

Connector	Term	ninals	Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	4	5			
M39	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-427</u>. "<u>Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to <u>AV-420, "Removal and Installation"</u>.



[BOSE AUDIO WITH NAVIGATION]

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INFOID:0000000007347917

REAR TWEETER

Description INFOID:0000000007347916

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-385, "Wiring Diagram - With Navigation System".

1.CONNECTOR CHECK

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

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

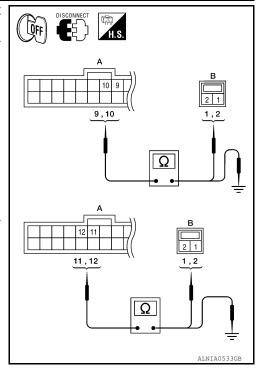
2. HARNESS CHECK

- Disconnect BOSE speaker amp. connectors B75 and suspect tweeter connector.
- 2. Check continuity between BOSE speaker amp. harness connectors B75 (A) and suspect tweeter harness connector (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B75	9	D000	1	
	10	D208	2	Yes
	11	D200	1	res
	12	D308	2	

Check continuity between BOSE speaker amp. harness connectors B75 (A) and ground.

Terminal	-	Continuity	
9			
10	Ground	No	
11			
12			
	9 10 11	9 10 11 Ground	



Are the continuity test results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3.REAR TWEETER SIGNAL CHECK

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[BOSE AUDIO WITH NAVIGATION]

(Acc)

- 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 B75 terminals with CONSULT or oscilloscope.

Connector	Term	ninals	Condition	Reference
Connector	(+)	(-)	Condition	signal
	9	10		
B75	11	12	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-425</u>, "Removal and Installation of Rear Door Speaker".

NO >> GO TO 4

4. HARNESS CHECK

- 1. Disconnect AV control unit connector M39 and BOSE speaker amp. connector B75.
- 2. Check continuity between AV control unit harness connector M39 (A) and BOSE speaker amp. harness connector B75 (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M39	4		26	
	5	D75	25	Yes
	13	B75	24	165
	14		23	

Check continuity between AV control unit harness connector M39 (A) and ground.

Α			Continuity
Connector	Terminal	_	Continuity
M39	4	Ground	No
	5		
	13		
	14		

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Are the continuity test results as specified?

YES >> GO TO 5

NO >> Repair harness or connector.

5. REAR TWEETER SIGNAL CHECK

REAR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

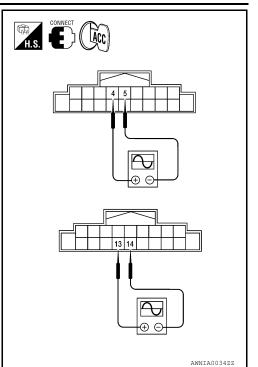
- 1. Connect AV control unit connector M39 and BOSE speaker amp. connector B75.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M39 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
	(+)	(-)	Condition	signal	
	4	5			
M39	13	14	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-427</u>, <u>"Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to <u>AV-420, "Removal and Installation"</u>.



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SUBWOOFER

Description INFOID:0000000007347918

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:0000000007347919

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1.CONNECTOR CHECK

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

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.VERIFY SUBWOOFER POWER AND GROUND SUPPLY

Check power and ground supply to the subwoofer. Refer to <u>AV-338, "SUBWOOFER: Diagnosis Procedure"</u> Did the power and ground supply check OK?

YES >> GO TO 3

NO >> Repair harness or connector.

3. HARNESS CHECK

- Disconnect BOSE speaker amp. connectors and subwoofer connector.
- Check continuity between BOSE speaker amp. harness connectors B74 (A) and B75 (B) and subwoofer harness connector B72 (C).

Connector	Terminal	Connector	Terminal	Continuity
A: B74	3		1	
A. D/4	19	C: B72	2	Yes
B: B75	22		4	

Check continuity between BOSE speaker amp. harness connector B74 (A) and B75 (B) and ground.

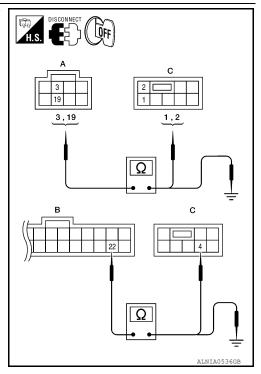
Connector	Terminal	-	Continuity	
A: B74	3			
A. D/4	19	Ground	No	
B: B75	22			

Are the continuity test results as specified?

YES >> GO TO 4

NO >> Repair harness or connector.

f 4.SUBWOOFER AMP ON SIGNAL CHECK



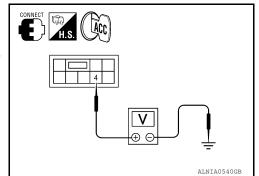
SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

- 1. Connect BOSE speaker amp. connector B74.
- 2. 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?

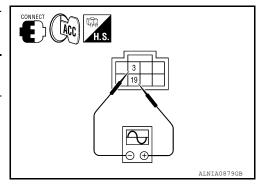
YES >> GO TO 5

NO >> Replace BOSE speaker amp. Refer to AV-427, "Removal and Installation"

5. SUBWOOFER AUDIO SIGNAL CHECK

- 1. Connect BOSE speaker amp. connectors and subwoofer connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- Check the signal between BOSE speaker amp. harness connector B74 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference
Connector	(+)	(-)	Condition	signal
B74	19	3	Receive audio signal	(V) 1 0 -1 1 ms



Is the audio signal voltage as specified?

YES >> Replace subwoofer. Refer to AV-428, "Removal and Installation".

NO >> GO TO 6

6. HARNESS CHECK

1. Turn ignition switch OFF.

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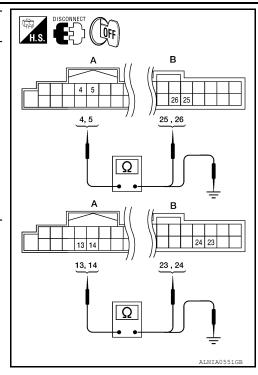
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- 2. Disconnect AV control unit connector M39 and BOSE speaker amp. connector B75.
- 3. Check continuity between AV control unit harness connector M39 (A) and BOSE speaker amp. harness connector B75 (B).

А			Continuity	
Connector	Terminal	Connector	Terminal	Continuity
	4		26	
M39	5	B75	25	Yes
IVIJ	13	673	24	163
	14		23	

4. Check continuity between AV control unit harness connector M39 (A) and ground.

	A		Continuity	
Connector	Terminal	_		
	4	Ground	No	
M39	5			
WIS9	13			
	14			



Are the continuity test results as specified?

YES >> GO TO 7

NO >> Repair harness or connector.

7.BACK DOOR SPEAKER SIGNAL CHECK

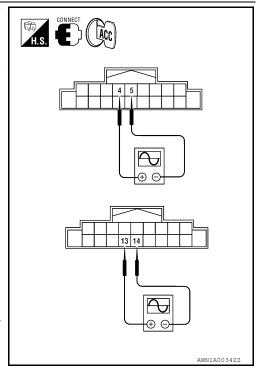
- Connect AV control unit connector M39 and BOSE speaker amp. connector B75.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between AV control unit harness connector M39 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	4	5			
M39	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-427.</u> "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-420, "Removal and Installation".



AMP ON SIGNAL CIRCUIT

Description INFOID:0000000007347920

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:0000000007347921

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

$1.\mathsf{CHECK}\,\mathsf{AMP}\,\mathsf{ON}\,\mathsf{SIGNAL}\,(\mathsf{BOSE}\,\mathsf{SPEAKER}\,\mathsf{AMP})$

- 1. Turn audio system ON.
- 2. Check voltage between BOSE speaker amp. harness connector B75 terminal 31 and ground.

(+)	(-)	Value (Approx.)	
Connector	Connector Terminal		value (Approx.)	
B75	31	Ground	Battery Voltage	

Is battery voltage present?

YES >> Inspection End.

NO >> GO TO 2

2.CHECK AMP ON SIGNAL (AV CONTROL UNIT)

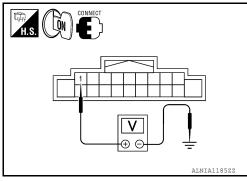
Check voltage between AV control unit harness connector M39 terminal 1 and ground.

(+)	(-)	Value (Approx.)	
Connector	Terminal	(-)	value (Approx.)	
M39	1	Ground	Battery Voltage	

Is battery voltage present?

YES >> Repair harness or connector.

NO >> Replace AV control unit. Refer to <u>AV-420, "Removal and Installation"</u>.



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STEERING SWITCH

Description INFOID:0000000007347922

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

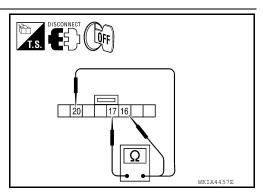
INFOID:0000000007347923

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

- 1. Turn ignition switch OFF.
- 2. Disconnect steering wheel audio control switch connector M102.
- 3. Check resistance between steering switch connector terminals.

Terr	minal	Signal name	Condition	Resistance (Ω) (Approx.)
		Seek (down)	Depress ∇ switch.	165
16	16 17	Volume (down)	Depress VOL down switch.	652
		Mode/End	Depress switch.	0
		Seek (up)	Depress △ switch.	165
20 1	17	Volume (up)	Depress VOL up switch.	652
		Phone/Send	Depress ₡ 🖟 switch.	0



Do the steering wheel audio control switches check OK?

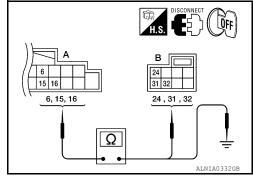
YES >> GO TO 2

NO >> Replace steering wheel audio control switch. Refer to AV-436. "Removal and Installation".

2. CHECK HARNESS

- 1. Turn ignition switch OFF.
- 2. Disconnect AV control unit connector M39 and spiral cable connector M30.
- 3. Check continuity between AV control unit harness connector M39 (A) and spiral cable harness connector M30 (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	6		24	
M39	15	M30	31	Yes
	16		32	



4. Check continuity between AV control unit connector M39 (A) and ground.

	A	_	Continuity	
Connector	Terminal	_	Continuity	
	6			
M39	15	Ground	No	
	16			

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Are the continuity results as specified?

YES >> GO TO 3

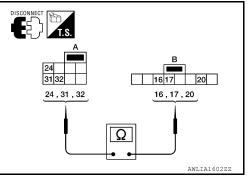
NO >> Repair harness.

3. SPIRAL CABLE CHECK

1. Disconnect spiral cable connector M102.

2. Check continuity between spiral cable harness connector M30 (A) and M102 (B).

	А		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	24		20	
M30	31	M102	17	Yes
	32		16	



Does continuity exist?

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:000000007347924

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

Diagnosis Procedure

INFOID:0000000007347925

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1. VERIFY MICROPHONE POWER AND GROUND SUPPLY

Check power and ground supply to the microphone. Refer to <u>AV-341, "MICROPHONE : Diagnosis Procedure"</u>. <u>Did the power and ground supply check OK?</u>

YES >> GO TO 2

NO

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

Repair harness or connector.

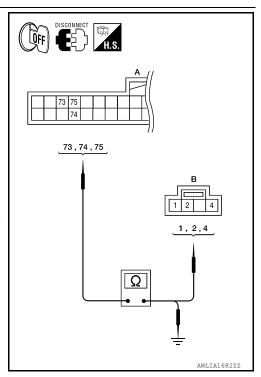
2. CHECK HARNESS BETWEEN AV CONTROL UNIT AND MICROPHONE

- 1. Turn ignition switch OFF.
- Disconnect AV control unit connector and microphone connector.
- 3. Check continuity between AV control unit harness connector M48 (A) and microphone harness connector R8 (B).

	A		Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
	75		1		
M48	74	R8	2	Yes	
	73		4		

 Check continuity between AV control unit harness connector M48 (A) and ground.

	Α		Continuity	
Connector	Terminal		Continuity	
	75			
M48	74	Ground	No	
	73			



Are the continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3.CHECK MICROPHONE SIGNAL

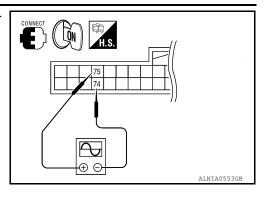
MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Check signal between AV control unit harness connector M48 terminals 74 and 75 with CONSULT or oscilliscope.

		T .		
Connector	(+)	(-)	Reference signal	
Cormicolor	Terminal	Terminal	received digital	
			While speaking into MIC	
M48	75	74	(V) 2. 5 2. 0 1. 5 1. 0 0. 5	
			PKTR5037.J	



Are voltage readings as specified?

YES >> Replace AV control unit. Refer to <u>AV-420, "Removal and Installation"</u>.

NO >> Replace microphone. Refer to AV-437, "Removal and Installation".

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REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Description INFOID:0000000007347926

Rear view camera signals are transmitted from the rear view camera to the display unit using the camera signal circuits.

Diagnosis Procedure

INFOID:0000000007347927

Regarding Wiring Diagram information, refer to AV-385, "Wiring Diagram - With Navigation System".

1. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

NOTE:

Apply parking brakes before proceeding.

- 1. Turn ignition switch OFF.
- 2. Disconnect display unit connector M92 and rear view camera connector D551.
- 3. Check continuity between display unit harness connector M92 terminals 12, 14, 24 and rear view camera harness connector D551 terminals 3, 5 and 6.

12 - 6 : Continuity should exist.
14 - 5 : Continuity should exist.
24 - 3 : Continuity should exist.

4. Check continuity between display unit harness connector M92 terminals 14, 12, 24 and ground.

12, 14, 24 - Ground : Continuity should not exist.

Is inspection result OK?

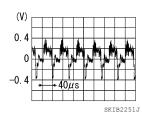
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK CAMERA IMAGE SIGNAL

- 1. Connect display unit connector M92 and rear view camera connector D551.
- 2. Turn ignition switch ON.
- 3. Shift transmission into reverse.
- 4. Check signal between display unit harness connector M92 terminals 12 and 14.





Is inspection result OK?

YES >> Replace display unit. Refer to AV-422, "Removal and Installation".

NO >> Replace rear view camera. Refer to AV-438, "Removal and Installation".

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ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

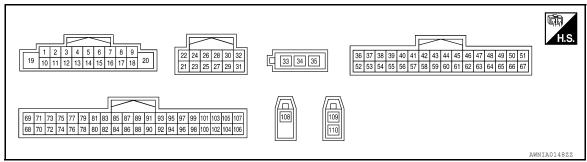
Reference Value

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	
VIICE OF DISIO	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.		
ILLUW 31G	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

	Terminal Description			Condition	Reference value		
+	_	Signal name	Input/ Output	Condition		(Approx.)	
1 (SB)	Ground	Amp. ON signal	Output	Ignition switch ON	_	Battery voltage	
2 (BR)	3 (B)	Pre-amp. audio signal front LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 * 2ms SKIB3609E	

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	minal color)	Description				Deference value	
+	-	Signal name	Input/ Output	Condition		Reference value (Approx.)	
4 (BR/W)	5 (BR/Y)	Pre-amp. audio signal rear LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E	
					Pressing 🗸 🌿 switch	0V	
6	15	Steering switch signal A	Input	Ignition switch	Pressing Δ switch	0.75V	
(Y)	(L)		-	ON	Pressing VOL up switch	2V	
					Except for above	5V	
7 (G/Y)	Ground	ACC power supply	Input	Ignition switch ACC	-	Battery voltage	
9				Ignition	Lighting switch is OFF.	0V	
(V)	Ground	Illumination signal	Input	switch OFF	Lighting switch is ON.	Battery voltage	
11 (G/Y)	12 (G/O)	Pre-amp. audio signal front RH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E	
13 (G/R)	14 (B)	Audio signal rear RH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E	
15 (L)	Ground	Steering switch signal ground	_	Ignition switch ON	_	0V	
					Pressing MODE switch	0V	
16	15	Ota saine evitab sissed D	lanat	Ignition	Pressing ∇ switch	0.75V	
(G)	(L)	Steering switch signal B	Input	switch ON	Pressing VOL down switch	2V	
					Except for above	5V	
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage	
20 (B)	Ground	Ground	_	Ignition switch ON	_	0V	

	rminal e color)	Description	Description		Condition	Reference value	
+	_	Signal name	Input/ Output	Condition		(Approx.)	
21 (L)	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	
22 (G)	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 → 40μs SKIB2236J	
23 (Y)	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	
25 (R)	Ground	RGB synchronizing signal	Output	Ignition switch ON	_	(V) → 20 µs SKIB3603E	
					At RGB image displayed	5V	
27 (G)	Ground	RGB area (YS) signal	Output	Ignition switch ON	At rear view camera image displayed	(V) 6 4 2 0 ++200 \(\mathred{\matrod{\matrod{\matrod{\mathred{\matrod{\mathred{\matrod{\matrod{\matro	
28 (B)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	<u> </u>	(V) 4 0 → 20µs SKIB3601E	

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Condition		(Approx.)
29 (W)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch On	_	(V) 4 0 → 4ms SKIB3598E
30 (V)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness	(V) 6 4 2 0 ++1ms PKIB5039J
31 (LG)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness	(V) 6 4 2 0 •••1ms
34	_	Antenna main	_	_	_	_
35	_	Antenna B+	_	_	_	_
42 (W)	58 (B)	DVD audio signal LH	Input	Ignition switch ON	When DVD player is operating	(V) 1 0 -1 + 2ms SKIB3609E
43 (R)	59 (G)	DVD audio signal RH	Input	Ignition switch ON	When DVD player is operating	(V) 1 0 -1 + 2ms SKIB3609E
48	Ground	CD/DVD eject signal	Input	_	Pressing the eject switch	0V
(SB)	Cround	OS/DVD Gjoot Signal	прис		Except for above	3.3V
50 (B)	51 (R)	AUX jack audio signal LH	Input	Ignition switch ON	When AUX mode is selected	(V) 1 0 -1 + 2ms SKIB3609E

[BOSE AUDIO WITH NAVIGATION]

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
61 (G)	45 (W)	Headphone LH audio sig- nal	Output	Ignition switch ON	When DVD player is operating	(V) 1 0 -1 * + 2ms SKIB3609E
62 (R)	46 (B)	Headphone RH audio sig- nal	Output	Ignition switch ON	When DVD player is operating	(V) 1 0 -1 ** 2ms SKIB3609E
65 (GR)	Ground	A/C and AV switch assembly ground	_	Ignition switch ON	_	0V
66 (W)	51 (R)	AUX jack audio signal RH	Input	Ignition switch ON	When AUX mode is selected	(V) 1 0 -1 + 2ms SKIB3609E
68 (B)	Ground	Ground	_	Ignition switch ON	_	0V
69 (R/B)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage
70 (B)	Ground	Ground	_	Ignition switch ON	_	0V
71 (R/B)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage
72 (G/Y)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage
73 (G)	Ground	MIC power	Output	Ignition switch ON	_	5V
74	_	Shield	_	_	_	_
75 (R)	_	MIC signal	Input	Ignition switch ON	_	_
76	_	Shield	_	_		
82 (W/G)	Ground	IGN ON or START power supply	Input	Ignition switch ON or START	_	Battery voltage

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

	minal color)	Description			Condition	Reference value	
+	_	Signal name	Input/ Output		Condition	(Approx.)	
83		5		Ignition	Parking brake ON	0V	
(G)	Ground	Parking brake signal	Input	switch ON	Parking brake OFF	Battery voltage	
84	Ground	Doverno cianal	Innut	Ignition switch	R position	Battery voltage	
(W)	Ground	Reverse signal	Input	ON	Other than R position	0V	
85 (LG)	Ground	Vehicle speed signal (8- pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25MPH)	(V) 6 4 2 0 *** * 20ms SKIA6649J	
87 (B)	_	Ground	Input	_	_	0V	
89 (B)	_	Ground	Input	_	_	0V	
90 (B)	_	Ground	Input	_	_	0V	
95 (L)	_	AV communication signal 2 (H)	Input/ Output	_	_	_	
96 (P)	_	AV communication signal 2 (L)	Input/ Output	_	_	_	
97 (L)	_	AV communication signal 1 (H)	Input/ Output	_	_	_	
98 (P)	_	AV communication signal 1 (L)	Input/ Output	_	_	_	
99 (L)	_	CAN-H	Input/ Output	_	_	_	
100 (P)	_	CAN-L	Input/ Output	_	_	_	
108		Satellite antenna signal	Input		_		
109	_	GPS antenna	Input	_	_	_	
110	_	GPS antenna	Input	_	_	_	

DTC Index

Self-diagnosis results display item

Error item	Refer to
CAN COMM CIRCUIT [U1000]	AV-309, "DTC Logic"
CONTROL UNIT (CAN) [U1010]	AV-310, "DTC Logic"
Control Unit FLASH-ROM [U1200]	AV-311, "DTC Logic"
Gyro NO CONN [U1201]	AV-312, "DTC Logic"
CAN CONT [U1216]	AV-317, "DTC Logic"
BLUETOOTH CONN [U1217]	AV-318, "DTC Logic"
HDD CONN [U1218]	AV-319, "DTC Logic"
HDD READ [U1219]	AV-320, "DTC Logic"

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

Error item	Refer to
XM SERIAL COMM [U1220]	AV-321, "DTC Logic"
HDD WRITE [U121A]	AV-322, "DTC Logic"
HDD COMM [U121B]	AV-323, "DTC Logic"
HDD ACCESS [U121C]	AV-324, "DTC Logic"
DSP CONN [U121D]	AV-325, "DTC Logic"
DSP COMM [U121E]	AV-326, "DTC Logic"
INTERNAL COMM [U121F]	AV-327, "DTC Logic"
GPS COMM [U1204]	AV-313, "DTC Logic"
GPS ROM [U1205]	AV-314, "DTC Logic"
GPS RAM [U1206]	AV-315, "DTC Logic"
GPS RTC [U1207]	AV-316, "DTC Logic"
FRONT DISP CONN [U1243]	AV-328, "DTC Logic"
GPS ANTENNA CONN [U1244]	AV-330, "DTC Logic"
XM ANTENNA CONN [U1258]	AV-331, "DTC Logic"
AV COMM CIRCUIT [U1300]	AV-332, "Description"
CONTROL UNIT (AV) [U1310]	AV-333, "DTC Logic"

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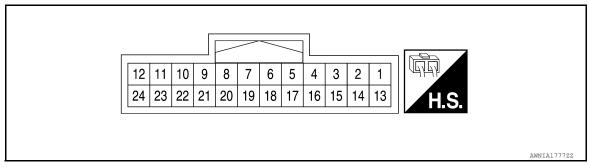
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DISPLAY UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
1 (B)	Ground	Ground	_	Ignition switch ON	_	0V
2 (Y)	Ground	Battery power	Input	_	_	Battery voltage
3 (V)	Ground	ACC power	Input	Ignition switch ACC	_	Battery voltage
4 (R)	Ground	DVD video (-)	_	Ignition switch ON	When DVD mode is selected	0V
6 (G)	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
8 (B)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	_	(V) 4 0 → 20µs SKIB3601E
					At RGB image displayed	5V
9 (G)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At rear view camera image displayed	(V) 6 4 2 0 → +200µs PKIB4948J

DISPLAY UNIT

LCU	DIAGNO	SIS INFORMATION >			[2002]	DIO WITH NAVIGATION]
	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
11 (V)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness	(V) 6 4 2 0 + 1ms PKIB5039J
12 (B)	14 (W)	Rear view camera video (+)	Input	Ignition switch ON	Transmission in reverse	(V) 0. 4 0 -0. 4 -0. 4 -0. 4 -0. 4 -0. 4
13 (B)	Ground	Ground	_	Ignition switch ON	_	0V
14 (W)	Ground	Rear view camera video (-)	_	Ignition switch ON	Transmission in reverse	0V
15 (G)	4 (R)	DVD video (+)	Input	Ignition switch ON	When DVD mode is selected	(V) 0. 4 0 -0. 4 -0. 4 -0. 4 -0. 4
17 (L)	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 -0. 4 -0. 4 -0. 4 -0. 8 -0. 8
18 (Y)	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
19 (R)	Ground	RGB synchronizing signal	Input	Ignition switch ON	_	(V) 4 0 → +20 µs SKIB3603E

DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

Terminal (Wire color)		Description			Condition	Reference value	
+	_	Signal name	Input/ Output	(Approx.)		(Approx.)	
20 (W)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch On		(V) 4 0 +4ms SKIB3598E	
22 (LG)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness	(V) 6 4 2 0 *-1ms	
24	_	Shield	_	_	_	_	

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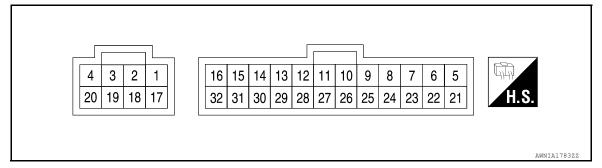
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BOSE SPEAKER AMP

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal Description			Condition		Reference value		
+	_	Signal name	Input/ Output	Condition		(Approx.)	
1 (Y)	Ground	Battery power	Input	_	_	Battery voltage	
9 (B)	10 (G)	Audio signal rear door speaker and tweeter LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E	
11 (GR)	12 (O)	Audio signal rear door speaker and tweeter RH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 * 2ms SKIB3609E	
13 (LG)	14 (L)	Audio signal front door speaker and tweeter LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E	
15 (W)	16 (R)	Audio signal front door speaker and tweeter RH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E	

BOSE SPEAKER AMP

	minal color)	Description			O and disting	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
17 (B)	Ground	Ground	_	Ignition switch ON	_	0V
19 (SB)	3 (B)	Audio signal subwoofer	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E
22 (Y)	Ground	Subwoofer amp. ON signal	Output	Ignition switch ACC	Audio output	Battery voltage
24 (G/R)	23 (B)	Audio signal rear RH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 + 2ms SKIB3609E
26 (BR/W)	25 (BR/Y)	Audio signal rear LH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 * 2ms SKIB3609E
28 (G/Y)	27 (G/O)	Audio signal front RH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 → 2ms SKIB3609E
30 (BR)	29 (B)	Audio signal front LH	Input	Ignition switch ON	Audio input	(V) 1 0 -1 → 2ms SKIB3609E
31 (SB)	Ground	Amp. ON signal	Input	Ignition switch ON	Audio output	Battery voltage

[BOSE AUDIO WITH NAVIGATION]

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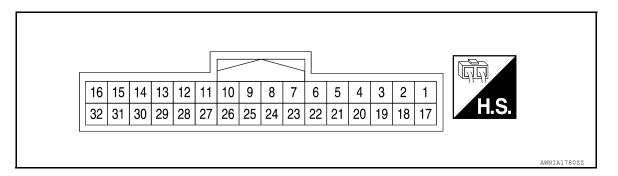
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DVD PLAYER

Reference Value



PHYSICAL VALUES

Teri	minal	Description					
+	_	Signal name	Input/ Output		Condition	Reference value (Approx.)	
1 (B)	2 (W)	DVD audio signal LH	Output	Ignition switch ON	With operation of the DVD player	(V) 1 0 -1 + 2ms SKIB3609E	
5 (B)	Ground	Ground	_	Ignition switch ON	_	0V	
6 (BR)	Ground	Illumination control (pulse width modulated)	_	_	With lighting switch ON	_	
7 (L)	Ground	CAN communication	Input/ Output	Ignition switch ON	_	_	
9 (BR)	Ground	Video monitor power supply	Output	Ignition switch ON	With DVD player operation	12V	
10 (GR)	Ground	Switch power	Output	Ignition switch ON	With DVD player operation	5V	
12 (W/L)	Ground	VTR (+)	Output	Ignition switch ON	With DVD player operation	_	
13 (O/L)	Ground	VTR (-)	Output	Ignition switch ON	With DVD player operation	_	
14 (Y)	Ground	Display ground	_	Ignition switch ON	With DVD player operation	0V	
16 (V)	_	Data receive	Input	_	_	_	

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Terr	minal	Description				Reference value
+	_	Signal name	Input/ Output	Condition		(Approx.)
17 (R)	18 (G)	DVD audio signal RH	Output	Ignition switch ON	With DVD player operation	(V) 1 0 -1 * 2ms SKIB3609E
21 (Y)	Ground	Battery power	Input	_	_	12V
22 (SB)	Ground	Illumination power	Input	_	With instrument illumination ON	12V
23 (P)	Ground	CAN communication	Input/ Output	Ignition switch ON	_	0V
24 (G/B)	Ground	ACC power	Input	Ignition switch ACC or ON	_	12V
26 (P)	Ground	Ground	Input	Ignition switch ON	_	0V
28 (G)	Ground	Video out	Input	Ignition switch ACC or ON	_	(V) 0. 4 0 0 -0. 4 → 40µs
32 (LG)	_	Data transmit	Output	_	_	

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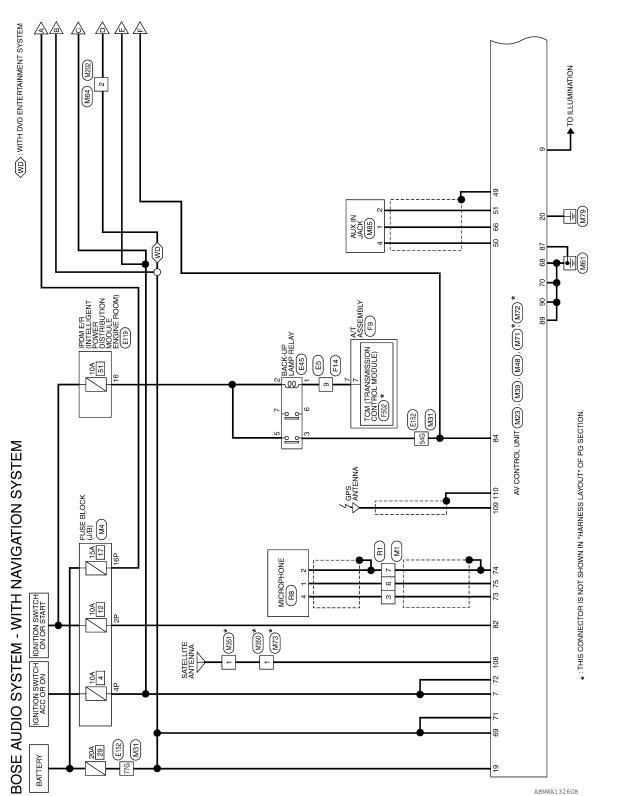
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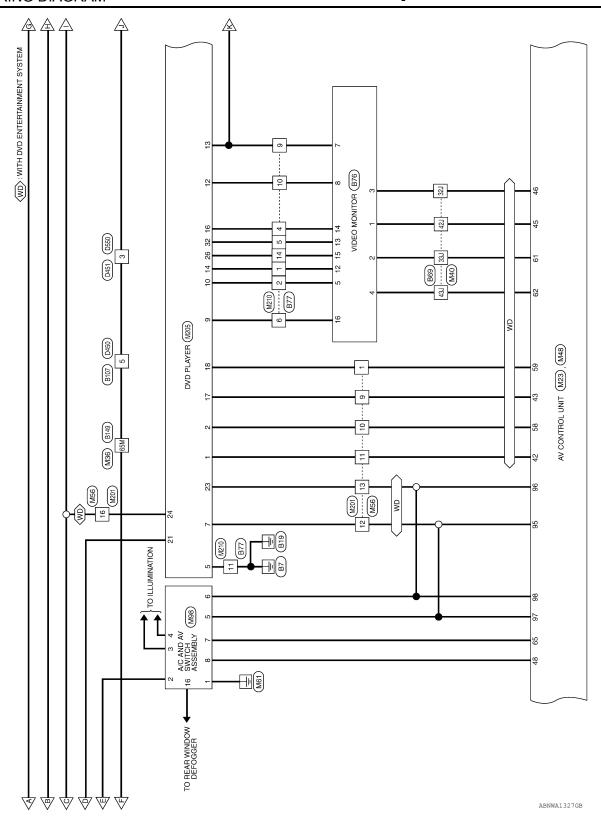
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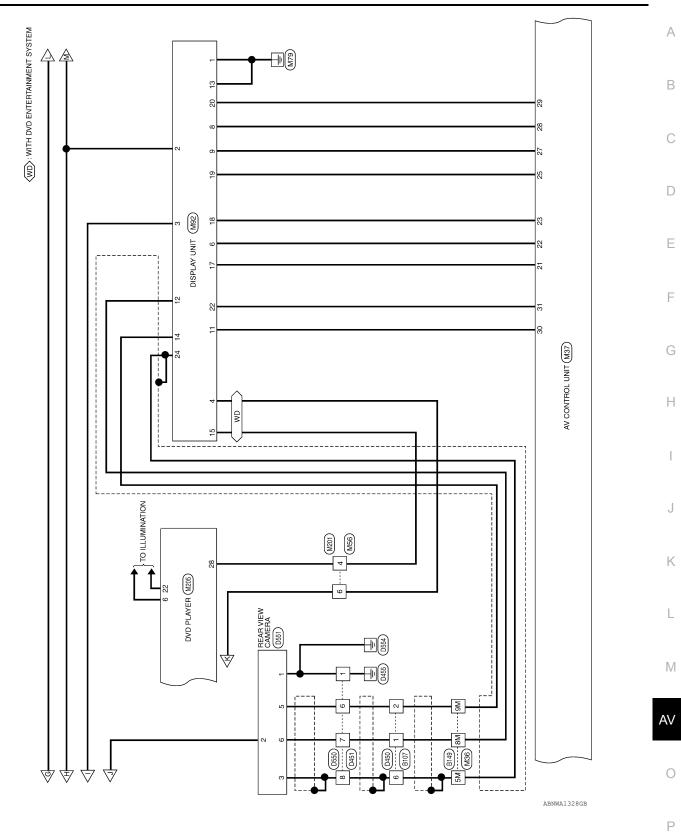
WIRING DIAGRAM

BOSE AUDIO SYSTEM

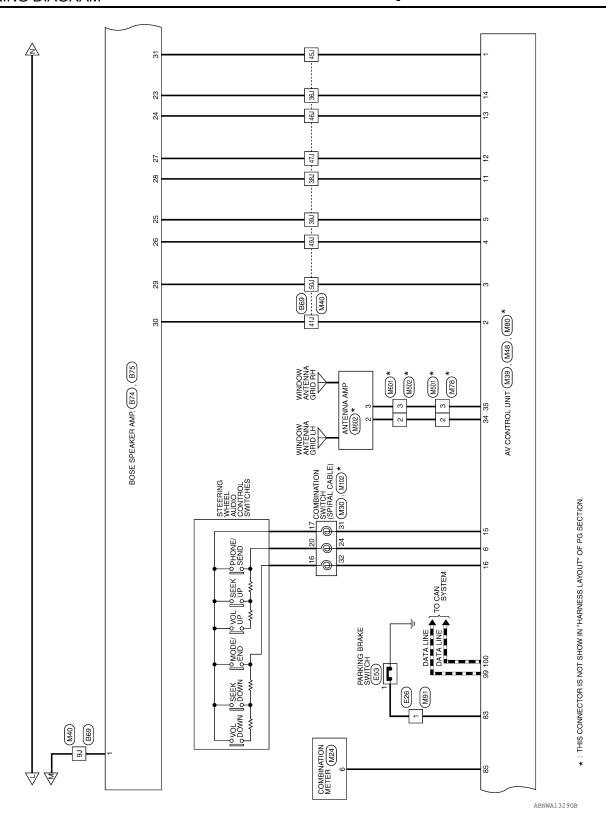
Wiring Diagram - With Navigation System

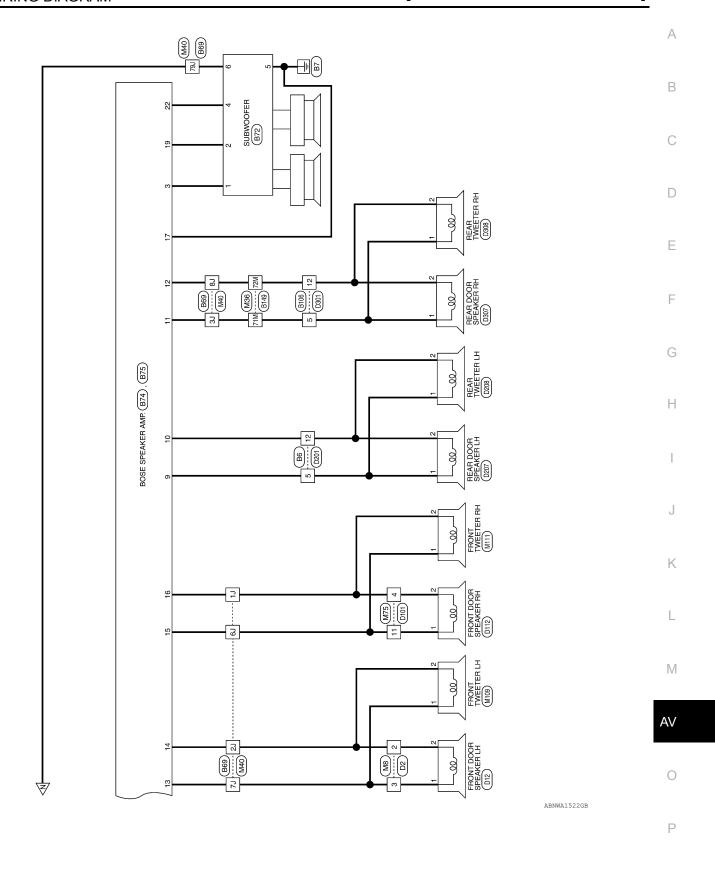






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BOSE AUDIO SYSTEM CONNECTORS - WITH NAVIGATION SYSTEM

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

Connector No.	Ε				
Connector Name WIRE TO WIRE	WIR	ET	0	<u>></u>	RE
Connector Color WHITE	MH	빝			
प्रिंग	L				
1 2 3	4	ď	7	α	1 9 2 4 5 6 7 8 9 10 11 19



Signal Name	I	Ι	I
Color of Wire	В	В	SHIELD
erminal No. Wire	3	9	7

	RE TO WIRE	NMC	2 L S S S S S S S S S S S S S S S S S S	Signal Name	1	- (WITH BOSE AUDIO	SYSTEM)
M8	ne WIF	or BR	12 11 10 9	Solor of Wire	_	C	5
Connector No.	Connector Name WIRE TO WIRE	Connector Color BROWN	H.S.	Terminal No. Wire	2	c	n
	E BLOCK (J/B)	里	3P 2P 1P 12P 1T 12P 11P 12P 13P 13	Signal Name	1	ı	I
Connector No. M4	Connector Name FUSE BLOCK (J/B)	Connector Color WHITE	9 68 58 48	Terminal No. Wire Signal Name	- m/G	G/B –	R/B _

Signal Name	1	-	_	
Color of Wire	M/G	G/B	B/B	
Terminal No.	2P	4P	16P	

Signal Name	ı	ı	ı	ı	AUDIO BUS LH -	AUDIO BUS RH -	ı	HP LH +	HP RH +	I	ı	SW GND	AUX AUDIO RH +	1
Color of Wire	1	1	1	1	В	σ	1	g	æ	1	1	GR	>	1
Terminal No.	54	55	99	57	28	29	09	61	62	63	64	65	99	29

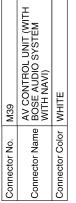
of Signal Name	AUDIO BUS LH +	AUDIO BUS RH +	ı	-HJ GH	- HD CH -	ı	CD-DVD-EJECT	D AUX SHIELD	AUX AUDIO LH +	AUX GND	1	ı
Color Wire	>	Œ	ı	>	В	-	SB	SHIELD	В	В	-	
Terminal No. Wire	42	43	44	45	46	47	48	49	20	51	25	53

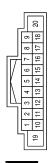
			1	50 51 66 67								1
8	Sonnector Name BOSE AUDIO SYSTEM WITH NAVI)	ITE		40 41 42 43 44 45 46 47 48 49 8 56 57 58 59 60 61 62 63 64 65 65	Signal Name	-	1	I	-	1	I	
M23	me BO	lor W		37 38 39 4 53 54 55	Color of Wire	1	1	ı	1	1	ı	
Connector No.	Sonnector Na	Connector Color WHITE		.S.	Ferminal No.	36	37	38	39	40	41	

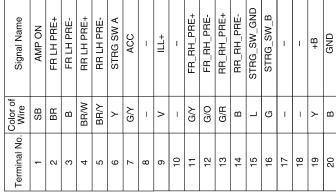
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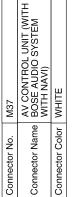
	А
Signal Name	В
Color of Wire SHIELD W W G/V GR GR	C
Terminal No. 5M 8M 9M 65M 71M 72M	E
	F
M30 GRAY Color of Signal Name Y	G
Connector No. M30 Connector Name COMBINATION SWITCH Connector Color GRAY Signal Name	Н
Connector Name Connector Name Connector Color Terminal No. W 24 31 32 Connector Name Connector Name Connector Color Enwit	l
	J K
M m e 12 12 13 15 14 15 15 15 15 15 15	L
Signal No WIRE Signal No	M
Connector No. M24 Connector Name COMBINATION Connector Color WHITE 20 19 18 17 16 15 14 13 12 11 10 9 8 6 LG SPEEI 6 LG SPEEI Connector No. M31 Connector No. M31 Connector No. Wire Signa 20 13 30 20 28 Connector No. WHITE Connector No. WHITE Connector Color of 100 200 200 200 200 200 200 Terminal No. Wire Signa 400 400 400 400 400 200 200 200 200 200	AV
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Signal Name	æ	9	В	I	RGB SYNC	I	YS	웊	VP	IT DISP	DISP IT	I
Color of Wire	٦	В	Υ	ı	Œ	ı	g	В	8	>	ГG	1
Terminal No.	21	22	23	24	25	26	27	28	29	30	31	32

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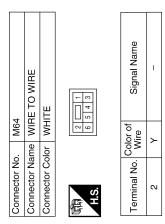
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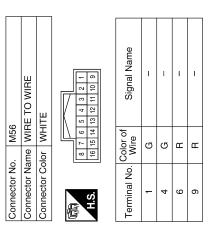
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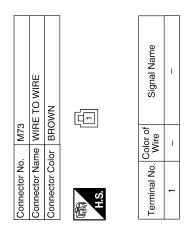
Connector Color WHITE	_	- B	Wire	Signal Name	Ter	Terminal No.	Color of Wire	Signal Name
+		구	æ	ı		381	G/Y	ı
		2.1	٦	ı		39.1	BR/Y	1
		33	GR	- (WITH BOSE AUDIO		41)	BB	1
50 41 31 21 13		3	5	SYSTEM)		42)	>	ı
91 81 71		67	8	1		43J	æ	1
	-	7.1	ГG	I		45J	SB	1
21.1 20.1 19.1 18.1 17.1 16.1 15.1 14.1 13.1 12.1 11.1 30.1 29.1 28.1 27.1 26.1 25.1 24.1 23.1 22.1		81	0	- (WITH BOSE AUDIO SYSTEM)		46J	G/R	1
		-6	>			47J	G/O	I
/ 4		32.1	- а	ı		49)	BR/W	ı
81 60 50 52 56 57 57 57 57 57		33.1	<u>ت</u> و	1		507	В	ı
70, 69, 68, 67, 66, 65, 64, 63, 62,		36J	5 B	I		797	B/B	- (WITHOUT BASE
Connector No. M48		Terminal No.	Color of	Signal Name	Ter	Terminal No.	Color of Wire	Signal Name
AV CONTROL UNIT (WITH Connector Name BOSE AUDIO SYSTEM		77				93	1	1
\rightarrow		78	ı	I		94	1	1
Connector Color WHITE		62	ı	I		95	٦	M-CAN2-H
		80	ı	-		96	۵	M-CAN2-L
70 00 00 00 00 00 00 00 00 00 00 00 00 0	101 100	81	Ι	-		26	7	M-CAN1-H
68 70 72 74 76 78 80 82 84 86 88 90 92 94 96	39 100 102 104 106	82	M/G	IGN		98	۵	M-CAN1-L
		83	G	PKB SIG		66	_	CAN-H
Terminal No. Color of Signal Name		84	8	REVERSE SIG		100	۵	CAN-L
GND GND		85	LG	SPEED 8P		101	-	_
- m		98	1	-		102	ı	ı
		87	В	RV CAM SIG		103	1	1
		88	ı	I		104	1	1
		89	В	RESERVE 2		105	ı	ı
MIC		06	В	RESERVE 3		106	1	ı
-D MIC GNE		91	I	ı		107	1	ı
	_	•						

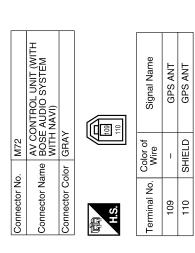
August 2012 AV-393 2012 Pathfinder

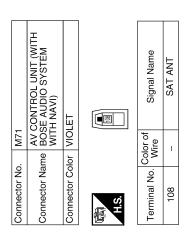


Signal Name	ı	1	1	I	ı
Color of Wire	8	В	٦	۵	G/B
Terminal No. Wire	10	1	12	13	16









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Connector No. M80 AV CONTROL UNIT (WITH Connector Name BOSE AUDIO SYSTEM WITH NAW)	Connector Color GRAY 斯勒 H.S.	Terminal No. Color of Signal Name	1	- ANT MAIN	ANT +B
Connec	Connec	Termin	33	34	35
TO WIRE		Signal Name	ı	ı	
me WIRE		Color of Wire	1	ı	
Connector No. M78 Connector Name WIRE TO WIRE Connector Color GRAY	S.H.	Terminal No. Wire	2	ဇ	
]			00	
No. M75 Name WIRE TO WIRE Color WHITE	10 9 8 7 6	Signal Name	ı	- (WITH BOSE AUDIO	SYSTEM)
No. M75 Name WIRE T	5 4 🗆	Color of Wire	œ		^

			ı		
1	RE TO WIRE	IITE	5 4 3 2 1 14 13 12 11 10 9 8	Signal Name	1
. M91	me WII	lor WF	7 6 5 4 16 15 14 13	Color of Wire	ဗ
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	响 H.S.	Terminal No. Wire	-

3 2 1	Signal Name	AUX AUDIO RH-	AUX GND	HI OIDIN XIN
4	Color of Wire	>	œ	В
ý	ninal No.	-	2	4

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August 2012 AV-395 2012 Pathfinder

Connector No. M85
Connector Name AUX IN JACK
Connector Color WHITE

Signal Name	COMP1 IN+	1	Œ	В	RGB SYNC	VP	_	DISP IT	1	COMP2 IN SHIELD	
Color of Wire	ŋ	ı	٦	Y	ш	Α	_	FG	1	SHIELD	
Terminal No.	15	16	17	18	19	20	21	22	23	24	

Signal Name	9	1	НР	γS	I	IT DISP	COMP2 IN+	GND	COMP2 IN-
Color of Wire	g	ı	В	ŋ	1	۸	В	В	M
Terminal No.	9	7	8	6	10	11	12	13	14

	DISPLAY UNIT (WITH NAVI)			6 5 4 3 2 1 18 17 16 15 14 13	Signal Name	GND	8+ +B	ACC	COMP1 IN-	ı
M92		v WHITE		12 11 10 9 8 7 6 24 23 22 21 20 19 18	Color of Wire	В	>	>	æ	-
Connector No.	Connector Name	Connector Color	e e	H.S. 24 2	Terminal No.	1	2	3	4	9

			1				_
2	MBINATION SWITCH	47	1718 1912021	Signal Name	ı	ı	1
			141516	Color of Wire	_	BB	>
Connector No.	Connector Nar	Connector Col	H.S.	Terminal No.	16	17	20
	Connector No. M102	e e	or ne	or re-	<u>a 'a</u> § >	S S S	So E So E

Signal Name	ı	ı	ı	1	ı	ı	-	RR DEFOG
Color of Wire	1	ı	1	1	1	1	-	٨
Terminal No. Wire	6	10	11	12	13	14	15	16

	A/C AND AV SWITCH ASSEMBLY			8 10 12 14 16	13 15	
	} ≻		/	17	듸	
			1 IV	유	တ	
	Z≥	ш	I IN		^	
ω	SE	WHITE		9	2	
M98	AXC	∣≶		4	က	
			1	7	-	
r No.	or Name	or Color				ı

Signal Name	GND	ACC	ILL	ILL CONT GND	M CAN1-L	M CAN1-H	SW GND	CD DVD EJECT
Color of Wire	В	G/Υ	LG	BR	_	Ь	GR	SB
Terminal No. Wire	1	2	3	4	2	9	2	8

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				Connector No. M202	Connector Name WIRE TO WIRE	Connector Color WHITE			6 5 4 3		Terminal No. Color of Signal Name	2 Y –	
M111 FRONT TWEETER RH BROWN		Signal Name -	1	Mama Name		I	ı	ı	I	1			
-		Color of Wire	L	Color of	Wire	>	В	_	<u> </u>	g/B			
Connector No. Connector Name Connector Color	E.S.	Terminal No.	2	Terminal No	5	10	7	12	13	16			
Connector No. M109 Connector Name FRONT TWEETER LH Connector Color BROWN		Signal Name	ı		E TO WIRE	1			7 8 8	12 13 14 15	Signal Name	ı	1
me FRONT		Color of Wire G	L	. M201	me WIRE	lor WHITE			1 2 3 4	9 10 11 21 21 21 21 21 21 21 21 21 21 21 21	Color of Wire	ŋ	g
Connector No. Connector Name Connector Color	原 H.S.	Terminal No.	2	Connector No.	Connector Name WIRE TO WIRE	Connector Color		管	N H	5	Terminal No.	-	4

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August 2012 AV-397 2012 Pathfinder

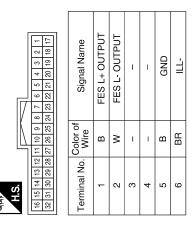
o. Color of Signal Name	G/B ACC	ı	P GND	1	G VIDEO OUT	1	1	1	I G DATA TX1 (DVD, SI CD)
Terminal No.	24	25	26	27	28	29	30	31	32

l —	_	_			
51	Connector Name SATELLITE ANTENNA	NMC		Signal Name	-
. M351	ıme SA	lor BR		Color of Wire	I
Connector No.	Connector Na	Connector Color BROWN	南 H.S.	Terminal No. Wire	٢

		_	_	_	_			_	_	_	_		_				$\overline{}$
Signal Name	M CAN2 H	ı	4 P	SW POWER +5	I	VTR+	VTR-	GND	-	DATA RX1 (LCD->DVD)	FES R+ OUTPUT	FES R- OUTPUT	_	_	8+	+771	M CAN2 L
Color of Wire	Т	1	BR	GR	-	M/L	O/L	\	1	>	Ж	G	-	I	Υ	SB	Ь
Terminal No.	7	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23

	09	RE TO WIRE	NMC	₽	Signal Name	-
	. M350	me WIF	lor BR(Color of Wire	1
	Connector No.	Connector Name WIRE TO WIRE	Connector Color BROWN	南 H.S.	Terminal No. Color of Wire	,

Connector No.	M205
Connector Name DVD PLAYER	DVD PLAYER
Connector Color WHITE	WHITE



0	WIRE TO WIRE	ITE	2	14 15 16 17 1	Signal Name	I	I	ı	I	-	_	_	_	I
. M210	_	lor WHITE	0 0	2 22	Color of Wire	>	GR	>	ГG	BR	O/L	M/L	В	۵
Connector No.	Connector Name	Connector Color		H.S.	Terminal No.	-	2	4	5	9	6	10	11	14

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BOSE AUDIO SYSTEM

[BOSE AUDIO WITH NAVIGATION]

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	O WIRE		S Z	Signal Name	1	I	
M601	e WIRE 1	GRAY		Color of Wire	1	-	
Connector No.	Connector Name WIRE TO WIRE	Connector Color GRAY	H.S.	Terminal No.	2	3	
	TO WIRE		23	Signal Name	ı	1	
M502	ne WIRE 1	or GRAY		Color of Wire	1	-	
Connector No.	Connector Name WIRE TO WIRE	Connector Color GRAY	原 H.S.	Terminal No.	2	3	
	TO WIRE		23	Signal Name	1	I	
M501	ne WIRE	or GRAY		Color of Wire	ı	1	
Connector No.	Connector Name WIRE TO WIRE	Connector Color GRAY	南 H.S.	Terminal No. Color of Wire	2	3	

M602	Connector No. E5		Connector No. E26	E26
ANTENNA AMP.	Connector Name WIRE TO WIRE	3E TO WIRE	Connector Nar	Connector Name WIRE TO WIRE
GRAY	Connector Color WHITE	IITE	Connector Color WHITE	or WHITE
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lor of Signal Name	Terminal No. Wire	Signal Name	Terminal No. Wire	Solor of Signal Name
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Color Wire Connector No. Connector Color Connector Color Terminal No. | α | m

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AV-399 August 2012 2012 Pathfinder

No. E53 Name PARKING BRAKE SWITCH Color of Signal Name G G Color of Signal Name G Color of Signal Name G Color of Signal Name Color of Signal Name Color of Signal Name G Color of Signal Name						- BT 6	DIA -	Terminal No. Color of Signal Name	H.S. 24 23 22 21 20 19 18 17 16 15 14 13	Connector Color WHITE	Connector Name WIRE TO WIRE	Connector No. F14		16 W/G REVERSE_LAMP		Torming Color of Signal Name		S 18 17 16 15 14 13 12 11 1	0 8 7 6 7 8 4 3	Connector Color WHITE	MODULE ENGINE ROOM)	IPDM E/R (INTELLIGEN	Connector No. E119
Connector Connec						57	97		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Connector Color GREEN	Connector Name A/T ASSEMBLY	Connector No. F9			უ	wire			ં		Connector Color BLACK		
Connector No. E45 Connector Name BACK-UP LAMP RELAY Connector Color BROWN	54G SB –	SB	Color of Signal Wire	716 726 736 746 754 786 776 786 806	51 G 52 G 53 G 54 G 55 G 56 G 57 G 58 G 59 G 60 G 61 G 82 G 53 G 64 G 55 G 66 G 67 G 68 G 69 G 70 G	31G 32G 33G 34G 35G 36G 37G 38G 39G 41G 41G 42G 43G 44G 45G 46G 47G 48G 49G 50G	316 326 336 346 356 366 376 396 416	226 236 246 256 266 276 286 296 306	1G 2G 3G 4G 6G 7G 8G 9G	_			M/G	SB	W/G		Color of Signal N	JII.			_	BACK-UP LAMP R	

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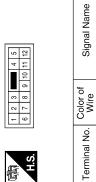
Signal Name	ı	ı	1	1	1	_	_	_	1	ı	- (WITHOUT BASE AUDIO SYSTEM)
Color of Wire	G/Y	BR/Y	BR	Μ	В	SB	G/R	0/9	BR/W	В	B/B
Terminal No.	381	391	41J	42J	43J	45J	46J	47.0	490	501	L6Z

Signal Name	ı	ı	- (WITH BOSE AUDIO SYSTEM)	1	1	- (WITH BOSE AUDIO SYSTEM)	1	1	1	_
Color of Wire	æ	٦	GR	M	ГG	0	\	В	Э	В
Terminal No.	11	2J	33	69	۲٦	8.1	91	32J	331	36J

B69 NWRE TO WIRE WHITE	(1.) [2.] 3.] 4.0 [5.] [8.] 9.] (1.0) [1.0] [8.] (1.0) [1.0] [8.] (1.0) [1.0] [8.] (1.0)
Connector No. Connector Name Connector Color	<u>-</u> 6 6
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Signal N	ı	I	I	1	I	_	1	-	1	I	– (WITHOU AUDIO SY	
Color of Wire	G/Y	BR/Y	BR	Μ	В	SB	G/R	G/O	BR/W	В	B/B	
Terminal No.	38J	39J	41J	42J	43J	45J	46J	47J	49J	507	79J	

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



- (WITH BOSE AUDIO SYSTEM)

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- (WITH BOSE AUDIO SYSTEM)

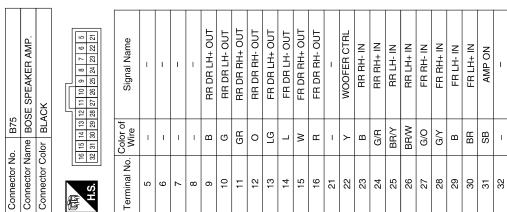
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AY	9 8 7 6 5 4 3 2 2 1	Signal Name	REV LAMP RLY
r Color GRAY	6 0	No. Color of Wire	_
olor	ر ا	ŏ≥)
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Ŋ	TCM (TRANSMISSION CONTROL MODULE)	AY	9 8 7 6 5 4 3 2 1	Signal Name	REV LAMP RLY
). F502		olor GR	10 9	Color of Wire	0
Connector No.	Connector Name	Connector Color GRAY	南 H.S.	Terminal No. Wire	7

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AV-401 August 2012 2012 Pathfinder



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	BOSE SPEAKER AMP.	17	9 18 17	Signal Name	BATT	1	WOOFER- OUT	ı	GND	1	WOOFER+ OUT	I
B74	_	or GRAY	20 19	Color of Wire	>	ı	В	ı	В	1	SB	ı
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	F	2	က	4	17	18	19	20

Connector No.	. B72	
Connector Name		SUBWOOFER
Connector Color WHITE	lor WH	ТЕ
师 H.S.	2 -	ω 4
Terminal No. Wire	Color of Wire	Signal Name
-	В	WOOFER-
2	SB	WOOFER+
4	>	AMP ON
5	В	GND
9	R/B	BATT

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Connector No. Connector Name Connector Color H.S. Terminal No. Www. 1 2 6 4 4 4 6 9 0 0 0 0 0 0 0 0 0 0 0 0	 ∞ ō⊱ ≻ : > ೮ : 5	WIRE TO WIRE WHITE WHITE Signal Name Soft Signal Name
10	M/L	1
=		1
14	۵	1

Signal Name	VIDEO IN+	I	1	ı	GND	DATA RX (DVD->LCD)	DATA TX (LCD->DVD)	GND	FILTERED BATT
Color of Wire	M/L	ı	1	1	Y	ГG	>	Д	BR
Terminal No. Wire	80	6	10	11	12	13	14	15	16

				ame	PUT-	PUT+	IPUT-	PUT+	R +5		ż
	VIDEO MONITOR	世	8 10 12 14 16 7 9 11 13 15	Signal Name	FES L CH INPUT-	FES L CH INPUT+	FES R CH INPUT-	FES R CH INPUT+	SW POWER +5	I	VIDEO IN-
B76	-	or WHITE	2 -1 -3 4 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Color of Wire	M	В	В	ш	GR	ı	O/L
Connector No.	Connector Name	Connector Color	所 H.S.	Terminal No.	ļ	7	ဇ	4	9	9	7

Connector No.	٠.	B107	2
Connector Name	ame	WIR	WIRE TO WIRE
Connector Color	olor	WHITE	TE
E	Ľ	4	
H.S.		2 9	3 4 8 7
	l		
Terminal No.	Color of Wire	or of re	Signal Name
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5	G/Y	7	I
9	SHIELD	ELD	ı

	TO WIRE	ш	9 10 11 12	Signal Name	1	_
B106	ne WIRE	or WHITE	1 5 3 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Color of Wire	GR	0
Connector No.	Connector Name WIRE TO WIRE	Connector Color	原 H.S.	Terminal No.	2	12

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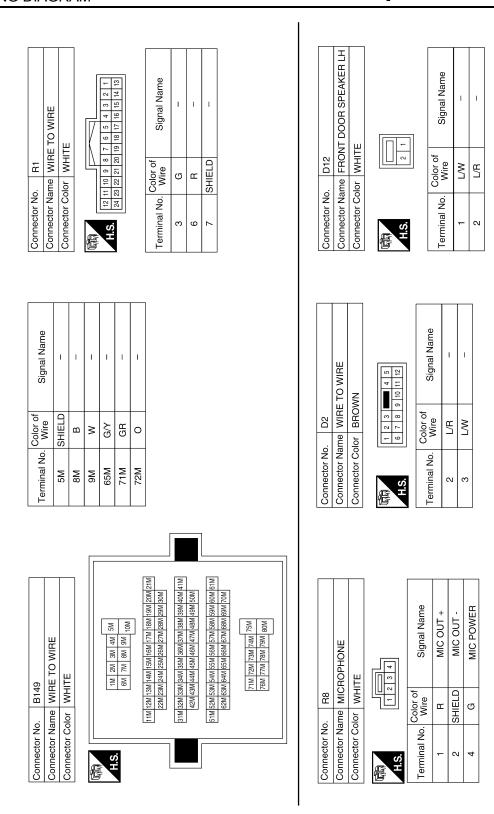
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BOSE AUDIO SYSTEM

[BOSE AUDIO WITH NAVIGATION]

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	Е			Signal Name	ı	1
o. D201	Connector Name WIRE TO WIRE	olor WHITE	5 4 3 2 1 12 11 10 9 8 7 6		GR	0
Connector No.	Connector Na	Connector Color WHITE	馬 H.S.	Terminal No. Wire	5	12
	Connector Name FRONT DOOR SPEAKER RH	щ		Signal Name	ı	1
D112	me FRON	lor WHITI		Color of Wire	W/B	L/B
Connector No. D112	Connector Nar	Connector Color WHITE	所 H.S.	Terminal No. Wire	-	2

Signal Name

Color of Wire L/B M/B

Terminal No.

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Connector Name WIRE TO WIRE

Connector No. D101

Connector Color WHITE

D301
Connector No.
D208
Connector No.
D207
Connector No.

	TO WIRE			- Q - N - N - N - N - N - N - N - N - N	Signal Name	ı	ı
. D301	me WIRE	lor WHITE		5 4 11 10 9	Color of Wire	GR	0
Connector No. D301	Connector Name WIRE TO WIRE	Connector Color WHITE		H.S.	Terminal No. Wire	5	12
80	Connector Name REAR TWEETER LH	OWN			of Signal Name	ı	I
o. D2	ame RE	olor BR	ے		Color	GR	0
Connector No. D208	Connector Na	Connector Color BROWN		H.S.	Terminal No. Wire	-	2
	YKER LH	0			lame		
207	REAR DOOR SPEA	Sonnector Name (WITH BOSE AUDIO SYSTEM)	ROWN	2 1	r of Signal Name	-	1
ا ا	uE:	Vame (S	Solor B		Colo Wir	GR	0
Connector No. D207		onnector N	Connector Color BROWN	南 H.S.	Terminal No. Wire	-	2

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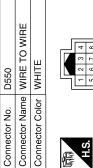




	_	_
Signal Name	-	_
Color of Wire	GR	0
Terminal No.	1	2







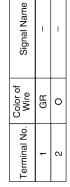




Signal Na	-	1	I	I	1
Color of Wire	В	G/Y	Ν	В	SHIELD
Terminal No.	1	ε	9	2	8

Connector No. D307	Connector Name (WITH BOSE AUDIO SYSTEM)	Connector Color BROWN	
Conne	Conne	Conne	





D451	Connector Name WIRE TO WIRE	WHITE	
Connector No.	Connector Name	Connector Color WHITE	





Signal Name	1	1	I	ı	1
Color of Wire	В	G/Y	M	В	SHIELD
Terminal No.	-	3	9	7	8

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SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

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AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	AV control unit power supply and ground circuit AV control unit	• <u>AV-334</u> • <u>AV-295</u>
Steering switch does not operate	Steering switch AV control unit	• <u>AV-366</u> • <u>AV-295</u>
All speakers do not sound	 Speaker circuit shorted to ground AV control unit BOSE speaker amp. ON signal BOSE speaker amp. power supply and ground circuit BOSE speaker amp. 	• AV-385 • AV-295 • AV-365 • AV-337 • AV-427
One or several speakers do not sound	Front door speakerFront tweeterRear tweeterRear door speakerSubwoofer	 AV-350 AV-353 AV-359 AV-356 AV-362
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 DIAG- NOSIS" in the ap- propriate interior trim section.

NAVIGATION SYSTEM

Symptom	Possible cause	Reference page
Inoperative	AV control unit power supply and ground circuit AV control unit	• <u>AV-334</u> • <u>AV-295</u>
Steering switch does not operate	Steering switch AV control unit	AV-366AV-295
Voice activated control does not operate	Microphone Steering switch AV control unit	AV-368AV-366AV-295

HANDS-FREE PHONE SYSTEM

Symptom	Possible cause	Reference page
Inoperative	AV control unit power supply and ground circuit AV control unit	• <u>AV-334</u> • <u>AV-295</u>
Steering switch does not operate	Steering switch AV control unit	• <u>AV-366</u> • <u>AV-295</u>
Voice activated control does not operate	Microphone Steering switch AV control unit	AV-368AV-366AV-295

REAR VIEW MONITOR

Symptom	Possible cause	Reference page
Inoperative	Rear view camera power supply and ground circuit Rear view camera image signal circuit Rear view camera	• AV-338 • AV-370 • AV-438

August 2012 AV-407 2012 Pathfinder

MULTI AV SYSTEM

[BOSE AUDIO WITH NAVIGATION]

DVD PLAYER

Symptom	Possible cause	Reference page
DVD player inoperative	DVD player power supply and ground circuit DVD player	• <u>AV-339</u> • <u>AV-429</u>
No sound when playing a DVD	Audio signal circuits AV control unit DVD player	AV-383AV-295AV-429
Video monitor is inoperative/does not display properly	Video monitor power supply and ground circuits Video out circuit DVD player Video monitor	• AV-340 • AV-383 • AV-429 • AV-429
DVD remote control is inoperative/does not operate properly	DVD remote control DVD player	• <u>AV-429</u>
Headphones inoperative	Headphone batteries DVD player	• <u>AV-429</u>

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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NORMAL OPERATING CONDITION

Description

AUDIO SYSTEM

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

Noise

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

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

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

NOTE:

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

Type of Noise and Possible Cause

Occurrence condition		Possible cause
Occurs only when engine is ON.	A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed.	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	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

NAVIGATION SYSTEM

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

August 2012 AV-409 2012 Pathfinder

Symptom	Cause	Remedy
Map screen and BIRDVIEW™ Name of the place vary with the screen.	Some thinning of the character data is done to prevent the display becoming to complex. In some cases and in some locations, the display contents may differ. The same place name, street name, etc. may not be displayed every time on account of the data processing.	System is not malfunctioning.
Vehicle mark is not positioned correctly.	Vehicle is transferred by ferry or by towing after its ignition switch is turned to OFF.	Drive the vehicle for a while in the GPS satellite signal receiving condition.
Screen will not switch to nighttime mode after the lighting switch is turned ON.	The daytime screen is selected by the "SWITCH SCREENS" when the last time the screen dimming setting is done. Switching between daytime/nighttime screen may be inhibited by the automatic illumination adjustment function.	Perform screen dimming and select the nighttime screen by "SWITCH SCREENS".
Map screen will not scroll in accordance with the vehicle travel.	Current location is not displayed.	Press "MAP" button to display the current location.
Vehicle mark will not be shown.	Current location is not displayed.	Press "MAP" button to display the current location.
Accuracy indicator (GPS satellite mark) on the map screen stays gray.	GPS satellite signal is intercepted because the vehicle is in or behind a building.	Move the vehicle out to an open space.
	GPS satellite signal cannot be received because an obstacle is placed on top of the instrument panel.	Do not place anything on top of the meter display (instrument panel).
	GPS satellites are not visible from current location.	Wait until GPS satellites are visible by moving the vehicle.
Vehicle location accuracy is low.	Accuracy indicator (GPS satellite mark) on the map screen stays gray.	Current location is not determined.
	Vehicle speed setting by the vehicle speed pulse has been deviated (advanced or retarded) from the actual vehicle speed because tire chain is fitted or the system has been used on another vehicle.	Drive the vehicle for a while [for approx. 30 minutes at approx. 30 km/h (19 MPH)] and the deviation will be automatically adjusted. If advancement or retard still occur, perform the distance adjustment by CONFIRMATION/ADJUSTMENT mode of diagnosis function.
	Map data has error or omission. (Vehicle mark is always deviated to the same position.)	As a rule, an updated map DVD–ROM will be released once a year.

Destination, Passing Points and Menu Items Cannot be Selected/Set

Symptom	Cause	Remedy
Destination cannot be set.	Destination to be set is on an expressway.	Set the destination on an ordinary road.
Passing point is not searched when re-searching the route.	The vehicle has already passed the passing point, or the system judged so.	To include the passing points that have been passed into the route again, set the route again.
Route information will not be displayed.	Route searching has not been done.	Set the destination and perform route searching.
	Vehicle mark is not on the recommended route.	Drive on the recommended route.
	Route guide is turned OFF.	Turn route guide ON.
	Route information is not available on the dark pink route.	System is not malfunctioning.
After the route searching, no guide sign will appear as the vehicle goes near the entrance/exit to the toll road.	Vehicle mark is not on the recommended route. (On the display, only guide signs related to the recommended route will be shown.)	Drive on the recommended route.

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Symptom	Cause	Remedy
Automatic route searching is not possible.	Vehicle is driving on a highway (gray route), or no recommended route is available.	Drive on a road to be searched. Or re–search the route manually. In this case, however, the whole route will be searched.
Performed automatic detour search (or detour search). However, the result is the same as that of the previous search.	Performed search with every conditions considered. However, the result is the same as that of the previous search.	System is not malfunctioning.
Passing points cannot be set.	More than five passing points were set.	Passing points can be set up to five. To stop at more than five points, perform sharing in several steps.
When setting the route, the starting point cannot be selected.	The current vehicle location is always set as the starting point of a route.	System is not malfunctioning.
Some menu items cannot be selected.	The vehicle is being driven.	Stop the vehicle at a safe place and then operate the system.
Voice Guide		
Symptom	Cause	Remedy
Voice guide will not operate.	Note: Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction.	System is not malfunctioning.
	The vehicle is not on the recommended route.	Return to the recommended route or 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.	
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	System is not malfunctioning.

August 2012 AV-411 2012 Pathfinder

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

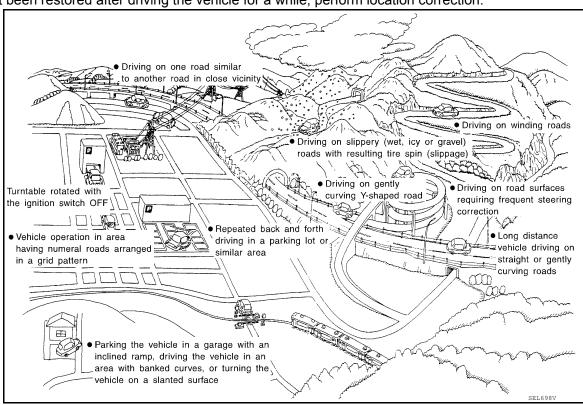
Symptom	Cause	Remedy
Detouring route is recommended.	In some areas, highways (gray routes) are not used for the search. (Note). Therefore, detour route may be recommended.	Set the route closer to the basic route (gray route).
	A detour route may be shown when some traffic regulation (one-way traffic, etc.) is set at the area around the starting point or the destination.	Slightly move the starting point or the destination, or set the passing point on the route of your choice.
	In the area where highways (gray routes) are used for the search, left turn has priority around the current location and the destination (passing points). For this reason, the recommended route may be detouring.	System is not malfunctioning.
Landmarks on the map do not match the actual ones.	This can be happen due to omission or error in the map data.	As a rule, an updated map DVD-ROM will be released once a year. Wait until the latest map has become available.
Recommended route is far from the starting point, passing points, and destination.	Starting point, passing points, and destination of the route guide were set far from the desired points because route searching data around these area were not stored.	Reset the destination onto the road nearby. If this road is one of the highways (gray routes), an ordinary road nearby may be displayed as the recommended route.

NOTE:

Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

Examples of Current-Location Mark Displacement

Vehicle's travel amount is calculated by reading its travel distance and turning angle. Therefore, if the vehicle is driven in the following manner, an error will occur in the vehicle's current location display. If correct location has not been restored after driving the vehicle for a while, perform location correction.



[BOSE AUDIO WITH NAVIGATION]

Cause (con	dition) -: While driving	ooo: Display	Driving condition	Remarks (correction, etc.)	1
	Y-intersections		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	ELK0192D			
		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		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 cor-		
Road config-		ELK0194D	rect 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 lo-	
i da di	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.	cation correction and, if necessary, direction correction.	
	Roads laid out in a grid p	attern	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	ELK0196D			
		7	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.		A
	:	ELK0197D			

Cause (con	dition) –: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
	In a parking lot Parking lot SEL709V	When driving in a parking lot, or other location where there are no roads on the map, matching may place the vehicle mark on a nearby road. When the vehicle returns to the road, the vehicle mark may have deviated from the correct location. When driving in circle or turning the steering wheel repeatedly, direction errors accumulate, and the vehicle mark may deviate from the correct location.	Tromanie (correction, etc.)
Place	Turntable	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.	If after travelling about 10 km (6 miles) the correct location has
	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.	not been restored, perform lo- cation correction and, if neces- sary, direction correction.
	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.	
Map data	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, ad- just it by using the distance ad- justment function. (If the tire chain is removed, recover the original value.)

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Cause (con	dition) –: 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 cor-	Position correction accuracy Within 1 mm (0.04 in) SELTOIN	If the accuracy of location settings is poor, accuracy may be reduced when the correct road cannot be found, particularly in places where there are many roads.	Enter in the road displayed on the screen with an accuracy of approx. 1mm. Caution: Whenever possible, use detailed map for the correction.
rect location	Direction when location is corrected Direction calibration adjustment	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

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< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

- Because calculation of the current location cannot be done when traveling with the ignition off, for example when traveling by ferry or when being towed, the location before travel is displayed. If the precise location can be detected with GPS, the location will be corrected.

Vehicle Mark Jumps

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location.

- When map matching has been done
- If the current location and the vehicle mark are different when map matching is done, the vehicle mark may seem to jump. At this time, the location may be "corrected" to the wrong road or to a location which is not on a road.
- · When GPS location correction has been done
- If the current location and the vehicle mark are different when the location is corrected using GPS measurements, the vehicle mark may seem to jump. At this time, the location may be "corrected" to a location which is not on a road.

Vehicle Mark is in a River or Sea

The navigation system moves the vehicle mark with no distinction between land and rivers or sea. If the vehicle mark is somehow out of place, it may appear that the vehicle is driving in a river or the sea.

Vehicle Mark Automatically Rotates

The system wrongly memorizes the rotating status as stopping when the ignition switch is turned ON with the turntable rotating. That causes the vehicle mark to rotate when the vehicle is stopped.

When Driving on Same Road, Sometimes Vehicle Mark is in Right Place and Sometimes it is in Wrong Place The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRF-TFNSIONER"

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 3 minutes before performing any service.

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYS-
- · 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

Connect both battery cables.

NOTE:

Supply power using jumper cables if battery is discharged.

- Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
- 3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be
- 4. Perform the necessary repair operation.

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- 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 Trouble Diagnosis

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AV COMMUNICATION SYSTEM

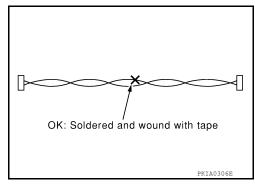
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

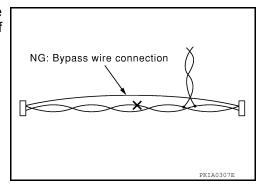
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AV COMMUNICATION SYSTEM

• 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

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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 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, and wring the water out of the cloth to wipe the dirty
 - Then rub with a soft and dry cloth.
- Oily dirt: Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%), and wipe the dirty area.
 - Then dip a cloth into fresh water, and wring the water out of the cloth to wipe the detergent off. Then rub with a soft and dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol, or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

PREPARATION

PREPARATION

Special Service Tool

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name		Description	(
_		Removing trim components	
(J-46534) Trim tool set			ı
	AWJIA0483ZZ		

Commercial Service Tools

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INFOID:0000000007347941

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

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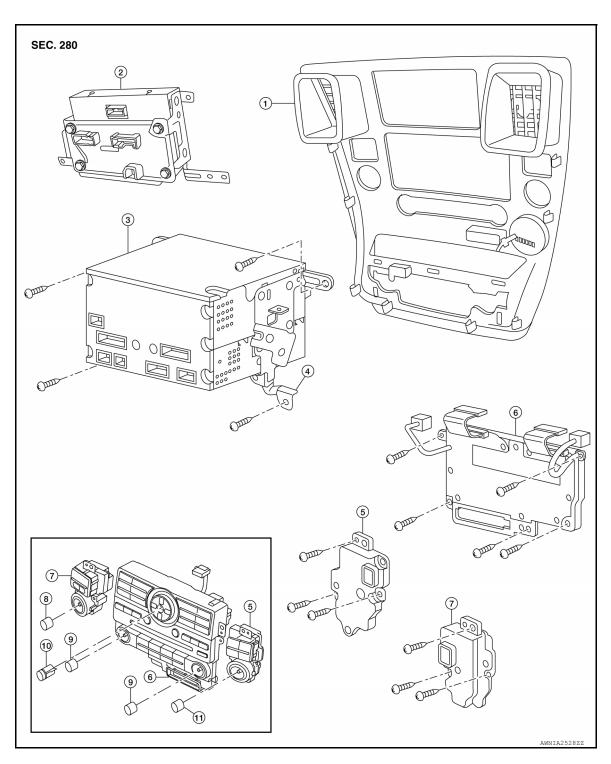
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REMOVAL AND INSTALLATION

AV CONTROL UNIT

Removal and Installation

INFOID:0000000007347943



- 1. Cluster lid C
- 4. AV control unit brackets
- 7. Volume knob switch
- 10. Enter button

- 2. Display unit
- 5. Tuner knob switch
- 8. Volume knob
- 11. Tuner knob

- AV control unit
- 6. A/C and AV switch assembly
- 9. Temp knobs RH and LH

AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

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. Disconnect the battery negative terminal.
- 2. Remove the cluster lid C. Refer to IP-16, "Removal and Installation".
- 3. Remove the AV control unit screws, using a power tool.
- 4. Remove the AV control unit.
- 5. Remove the A/C and AV switch assembly screws, then remove the A/C and AV switch assemblies as necessary.

INSTALLATION

Installation is in the reverse order of removal.

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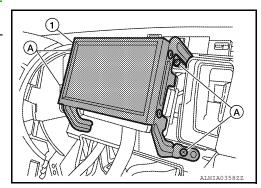
DISPLAY UNIT

Removal and Installation

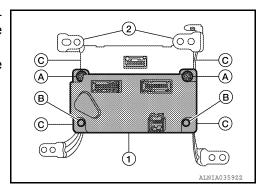
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REMOVAL

- 1. Remove cluster lid C. Refer to IP-16, "Removal and Installation".
- 2. Remove the display unit screws (A).
- 3. Pull out the display unit (1), then disconnect the display unit connectors and remove the display unit (1).



- 4. Remove the A/C auto amp.screws (A), remove the (C103) fasteners (B) from the display unit assembly brackets and remove the A/C auto amp. (1).
- 5. Remove the display unit bracket unit screws (C) and remove the display unit brackets (2).



INSTALLATION

Installation is in reverse order of removal.

FRONT TWEETER

Removal and Installation

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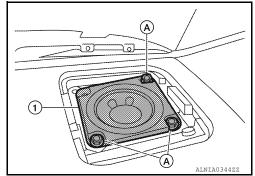
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REMOVAL

CAUTION:

Use a suitable tool to prevent damage to the front tweeter speaker grille trim and the instrument panel.

- 1. Remove the front tweeter grille.
- 2. Remove the front tweeter screws (A).
- 3. Pull out the front tweeter speaker (1) and disconnect front tweeter connector, then remove the front tweeter speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

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FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

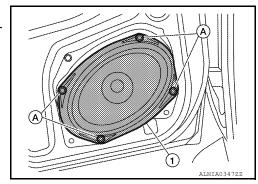
FRONT DOOR SPEAKER

Removal and Installation

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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 (A).
- 3. Pull out the front door speaker (1), and disconnect the front door speaker connector and remove the front door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

REAR DOOR SPEAKER

Removal and Installation of Rear Door Speaker

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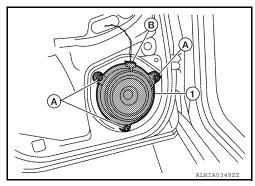
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REMOVAL

- 1. Remove the rear door finisher. Refer to INT-15, "Removal and Installation".
- 2. Remove the rear door speaker screws (A).
- 3. Disconnect the rear door speaker connector (B) and remove rear door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

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REAR DOOR TWEETER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

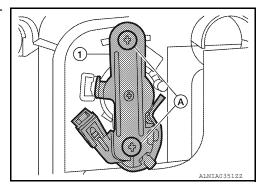
REAR DOOR TWEETER

Removal and Installation of Rear Tweeter

INFOID:0000000007347948

REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

BOSE SPEAKER AMP

[BOSE AUDIO WITH NAVIGATION]

BOSE SPEAKER AMP

Removal and Installation

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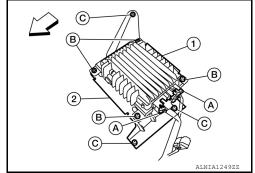
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REMOVAL

NOTE:

Do not remove the LH front seat from the vehicle.

- 1. Remove LH front seat bolts, disconnect the LH front seat electrical harness connector. Refer to <u>SE-33.</u> "Removal and Installation".
- 2. Tilt the LH front seat back to access the BOSE speaker amp. (1), then remove the BOSE speaker amp. screws (B).
 - <=: Vehicle front
- 3. Disconnect the Bose speaker amp. connectors (A) and remove Bose speaker amp. (1) from the bracket (2).
- 4. Then remove the BOSE speaker amp. bracket screws (C) and remove bracket (2).



INSTALLATION

Installation is in the reverse order of removal.

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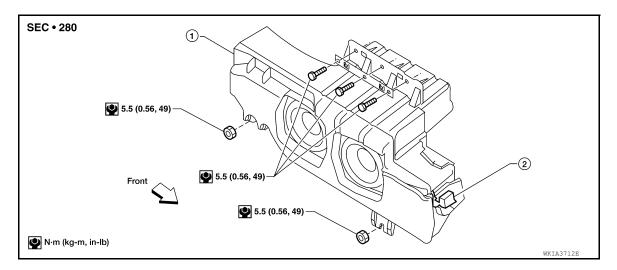
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SUBWOOFER

Removal and Installation

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BOSE



1. Subwoofer

2. Subwoofer connector

Removal

- Remove the luggage side lower finisher LH. Refer to <u>INT-25. "Removal and Installation"</u>.
- 2. Remove subwoofer bolts and nuts.
- 3. Disconnect the subwoofer connector and remove the subwoofer.

Installation

Installation is in the reverse order of removal.

DVD ENTERTAINMENT SYSTEM

Removal and Installation of DVD Player

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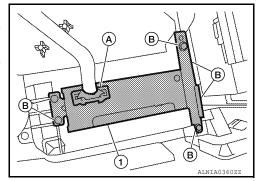
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REMOVAL

- 1. Remove the center console assembly. Refer to IP-22, "Removal and Installation".
- 2. Disconnect the DVD player connector (A).
- 3. Remove the DVD player screws (B), then remove the DVD player (1).
- 4. Remove the DVD player bracket screws, then remove DVD player brackets.



INSTALLATION

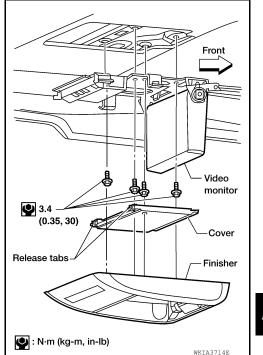
Installation is in reverse order of removal.

Removal and Installation of Video Monitor

INFOID:0000000007347952

REMOVAL

- 1. Release the clips and remove the video monitor finisher from headlining.
- Press the release tabs and remove the cover.
- 3. Remove the video monitor screws.
- 4. Gently lower the assembly and disconnect the connector, then remove the video monitor from the headlining.



INSTALLATION

Installation is in reverse order of removal.

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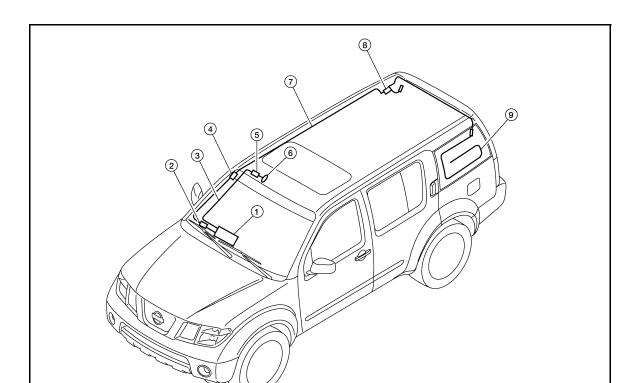
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August 2012 AV-429 2012 Pathfinder

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AUDIO ANTENNA

Location of Antenna



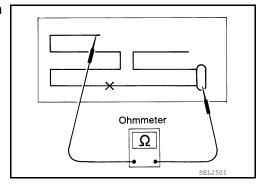
- 1. AV control unit M44, M71
- 4. Harness connector M502, M601
- 7. Antenna feeder
- Harness connector M78, M501
- 5. Harness connector M73, M350
- Antenna amp. M602

- Satellite antenna feeder
- 6. Satellite antenna M351
- 9. Window antenna grid

Window Antenna Repair

ELEMENT CHECK

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



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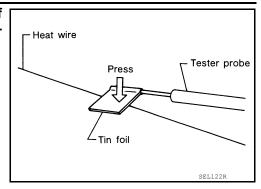
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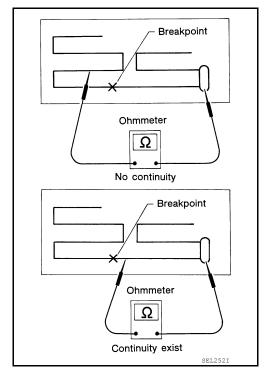
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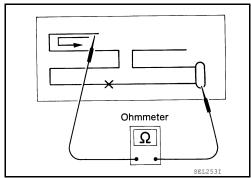
 When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



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-45, "Filament Repair".

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AUXILIARY INPUT JACK

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

AUXILIARY INPUT JACK

Removal and Installation

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Removal

- 1. Remove the A/T finisher. Refer to IP-21, "Removal and Installation".
- 2. Remove the auxiliary input jack.

Installation

Installation is in the reverse order of removal.

ANTENNA AMP.

Removal and Installation

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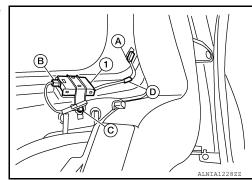
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REMOVAL

- 1. Remove the luggage side upper and lower RH finishers. Refer to INT-25, "Removal and Installation".
- 2. Detach the antenna amp. harness clip (D), disconnect the antenna amp. connector (A), harness connector (B), then remove the antenna amp. screw (C) and remove the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

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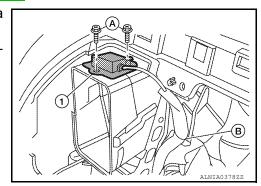
GPS ANTENNA

Removal and Installation

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REMOVAL

- 1. Remove the cluster lid C. Refer to IP-16, "Removal and Installation".
- 2. Remove the GPS antenna screws (A), detach the GPS antenna harness clip (B).
- 3. Remove GPS antenna and feeder assembly (1) out of the instrument panel.



INSTALLATION

Installation is in the reverse order of removal.

SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

SATELLITE RADIO ANTENNA

Removal and Installation

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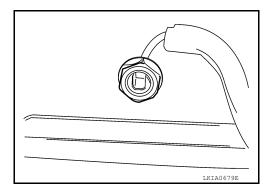
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REMOVAL

- 1. Remove the front roof console finisher. Refer to INT-22, "Removal and Installation".
- 2. Disconnect the satellite antenna connector.
- 3. Remove the satellite antenna nut.
- 4. Remove the satellite antenna.



INSTALLATION

Installation is in the reverse order of removal.

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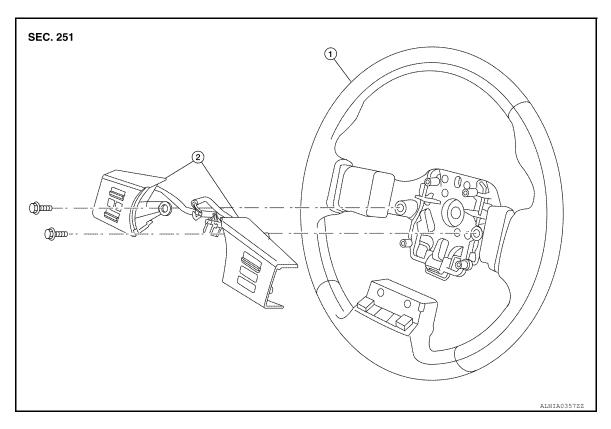
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ΑV

STEERING SWITCH

Removal and Installation

INFOID:000000007347959



1. Steering wheel

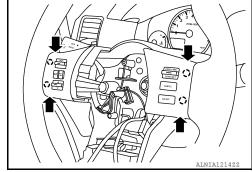
2. Steering wheel audio control switches

REMOVAL

- 1. Remove the driver air bag module. Refer to SR-5, "Removal and Installation".
- 2. Remove the steering wheel audio control switch assembly screws.
- 3. Disconnect the steering wheel audio control switches connector.
- Remove the steering wheel audio control switches by pulling on steering wheel audio control switches to release the pawls.
 CAUTION:

Do not tilt steering wheel audio control switches during removal or damage may occur to the pawls.

• (): Pawl



INSTALLATION

Installation is in the reverse order of removal.

MICROPHONE

Removal and Installation

INFOID:0000000007347960

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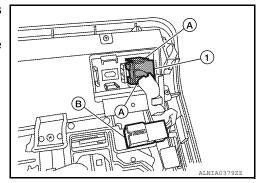
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REMOVAL

- 1. Remove the front roof console finisher. Refer to INT-22, "Removal and Installation".
- 2. Detach the microphone (1) from the front console finisher tabs (A).
- 3. Disconnect the microphone connector (B) and remove the microphone (1).



INSTALLATION

Installation is in the reverse order of removal.

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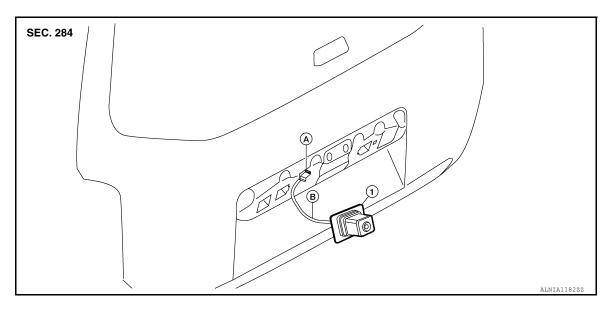
ΑV

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REAR VIEW CAMERA

Removal and Installation

INFOID:0000000007347961



- 1. Rear view camera
- A. Rear view camera connector
- B. Rear view camera harness clip

REMOVAL

- Remove the license lamp finisher. Refer to <u>EXT-23</u>, "Removal and Installation".
- 2. Disconnect the rear view camera connector.
- 3. Detach the rear view camera harness clip.
- 4. Detach the rear view camera to release, then pull out to remove the rear view camera while feeding the rear view camera harness and connector through the back door.

INSTALLATION

Installation is in the reverse order of removal.