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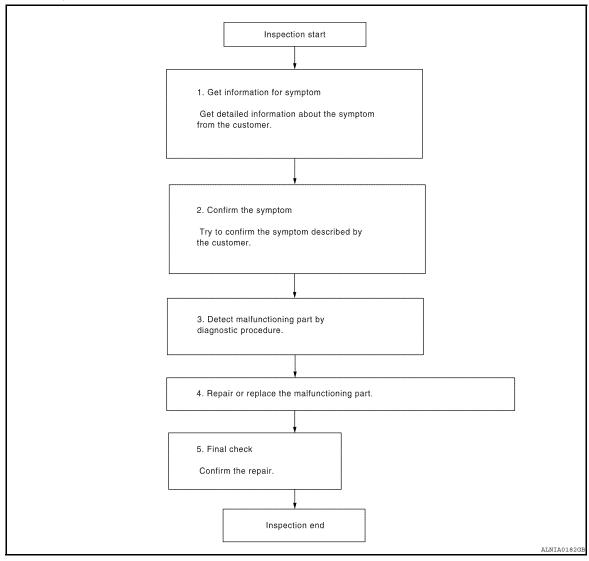
[BASE AUDIO] < BASIC INSPECTION >

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow INFOID:0000000005274856 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

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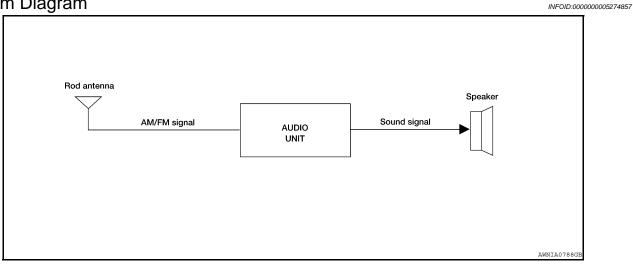
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FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram



System Description

INFOID:0000000005274858

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- · Rod antenna
- Front door speakers
- · Front tweeters
- Rear door speakers

When the audio system is on, radio signals are received by the rod antenna. The audio 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.

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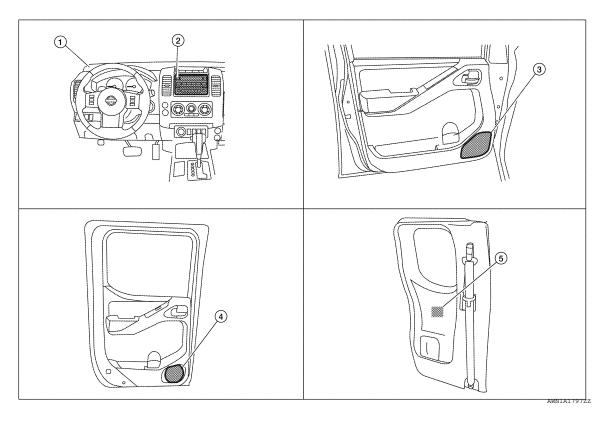
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Component Parts Location

INFOID:0000000005274859



- 1. Front tweeter (crew cab) LH M109 RH M111
- Rear door speaker (crew cab)
 LH D207
 RH D307
- 2. Audio unit M43
- Rear door speaker (king cab) LH B76 RH B160
- Front door speaker LH D12 RH D112

Component Description

INFOID:0000000005274860

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 unit Outputs high, mid and low range sounds

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[BASE AUDIO]

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000005274861

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Regarding Wiring Diagram information, refer to AV-18, "Wiring Diagram".

1.CHECK FUSES

Check that the following fuses of the audio unit are not 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?

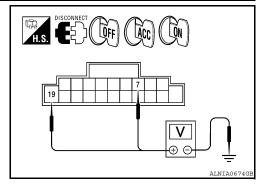
YES >> GO TO 2

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 M43.
- 2. Check voltage between the audio unit connector M43 ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal	(-)	OH	700	
M43	7	Ground	0V	Battery voltage	Battery voltage
IVITO	19	Ground	Battery voltage	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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Revision: October 2009 AV-9 2010 Frontier

INFOID:0000000005274863

FRONT DOOR SPEAKER

Description INFOID:000000005274862

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

Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-18, "Wiring Diagram".

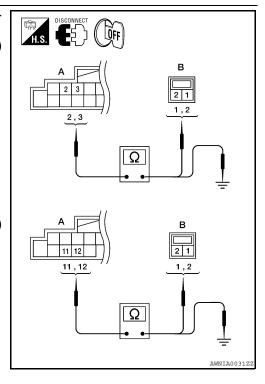
1. HARNESS CHECK

- Disconnect audio unit connector M43 and suspect speaker connector.
- 2. Check continuity between audio unit harness connector M43 (A) terminal and suspect speaker harness connector (B) terminal.

	A	В		Continuity	
Connector	Terminal	Connector Termina		Continuity	
M43	2	D12	1		
	3	D112 -	2	Yes	
	11		1	163	
	12		2		

3. Check continuity between audio unit harness connector M43 (A) terminal and ground.

	Α		Continuity
Connector	Terminal	_	
M43	2		No
	3	Ground	
	11	Giouria	
	12		



Are continuity results as specified?

YES >> GO TO 2

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

· Repair harness or connector.

2.FRONT SPEAKER SIGNAL CHECK

FRONT DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[BASE AUDIO]

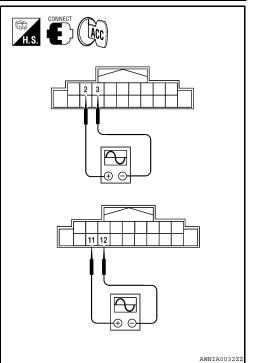
- 1. Connect audio unit connector M43 and front speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio unit harness connector M43 terminals with CONSULT-III or oscilloscope.

	(+)	(-)		
Con- nector	Terminal	Terminal	Condition	Reference signal
	2	3		
M43	11	12	Receive audio sig- nal	(V) 1 0 -1 1 ms

Is the audio signal voltage as specified?

YES >> Replace speaker. Refer to AV-30, "Removal and Installation".

NO >> Replace audio unit. Refer to <u>AV-28, "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:0000000005274865

Regarding Wiring Diagram information, refer to AV-18, "Wiring Diagram".

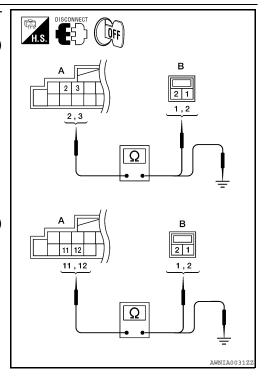
1. HARNESS CHECK

- 1. Disconnect audio unit connector M43 and suspect front tweeter connector.
- 2. Check continuity between audio unit harness connector M43 (A) and suspect front tweeter harness connector (B).

	A B		В		
Connector	Terminal	Connector Terminal		Continuity	
M43 2 M109 3 11 11 M111	2	M100	1		
	3		2	Yes	
	11		1	165	
	IVIIII	2			

Check continuity between audio unit harness connector M43 (A) and ground.

	Α		Continuity	
Connector	Terminal	_	Continuity	
M43	2			
	3	Ground	No	
	11	Giouna		
	12			



Are the continuity results as specified?

YES >> GO TO 2

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

Repair harness or connector.

2. FRONT TWEETER SIGNAL CHECK

FRONT TWEETER

< COMPONENT DIAGNOSIS >

[BASE AUDIO]

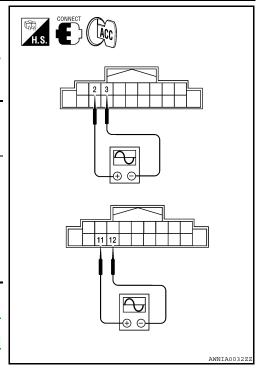
- 1. Connect audio unit connector M43 and front tweeter connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio unit harness connector M43 terminals with CONSULT-III or oscilloscope.

(+)		(-)				
Con- nector	Terminal	Terminal	Condition	Reference signal		
	2	3				
M43	11	12	Receive audio sig- nal	(V) 1 0 -1 1 ms		

Is the audio signal voltage as specified?

YES >> Replace the suspect front tweeter. Refer to <u>AV-29</u>, <u>"Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-28, "Removal and Installation"</u>.



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INFOID:0000000005274867

REAR DOOR SPEAKER

DescriptionINFOID:0000000005274866

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-18, "Wiring Diagram".

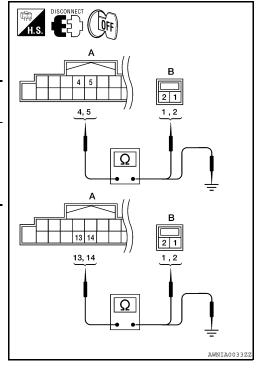
1. HARNESS CHECK

- Disconnect audio unit connector M43 and suspect rear door speaker connector.
- 2. Check continuity between audio unit harness connector M43 (A) and suspect rear door speaker harness connector (B).

	4	В	Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
M43	4	D207 (crew cab)	1		
	5	B76 (king cab)	2	Yes	
	13	D307 (crew cab)	1	165	
	14	B160 (king cab)	2		

3. Check continuity between audio unit harness connector M43 (A) and ground.

	А		Continuity		
Connector	Terminal	_	Continuity		
	4				
M43	5	Ground	No		
IVI43	13	Giouna	No		
	14				



Are the continuity results as specified?

YES >> GO TO 2

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

· Repair harness or connector.

2. REAR DOOR SPEAKER SIGNAL CHECK

REAR DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[BASE AUDIO]

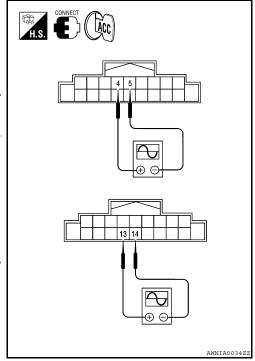
- 1. Connect audio unit connector and rear door speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio unit harness connector M43 terminals with CONSULT-III or oscilloscope.

Connector	(+)	(-)	Condition	Reference signal		
	Terminal	Terminal				
	4	5				
M43	13	14	Receive audio sig- nal	(V) 1 0 -1 1 ms		

Is the audio signal voltage as specified?

YES >> Replace the suspect rear door speaker. Refer to <u>AV-31</u>, <u>"Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-28, "Removal and Installation"</u>.



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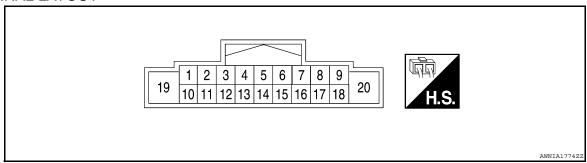
< ECU DIAGNOSIS > [BASE AUDIO]

ECU DIAGNOSIS

AUDIO UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire 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 skir3609E	
4 (G)	5 (B)	Sound signal rear door speaker LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 ** 2ms SKIB3609E	
7 (G/B)	Ground	ACC power supply	Input	Ignition switch ACC or ON	_	Battery voltage	
8 (GR)	Ground	ILL control	Input	Ignition switch ACC or ON	_	0V	
9 (R)	Ground	Light switch	Input	Ignition switch ACC or ON	_	Battery voltage	

AUDIO UNIT

< ECU DIAGNOSIS > [BASE AUDIO]

Terminal (Wire color)		Description		Condition		Reference value	
+	_	Signal name	Input/ Output		Condition	(Approx.)	
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 RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 → 2ms SKIB3609E	
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage	

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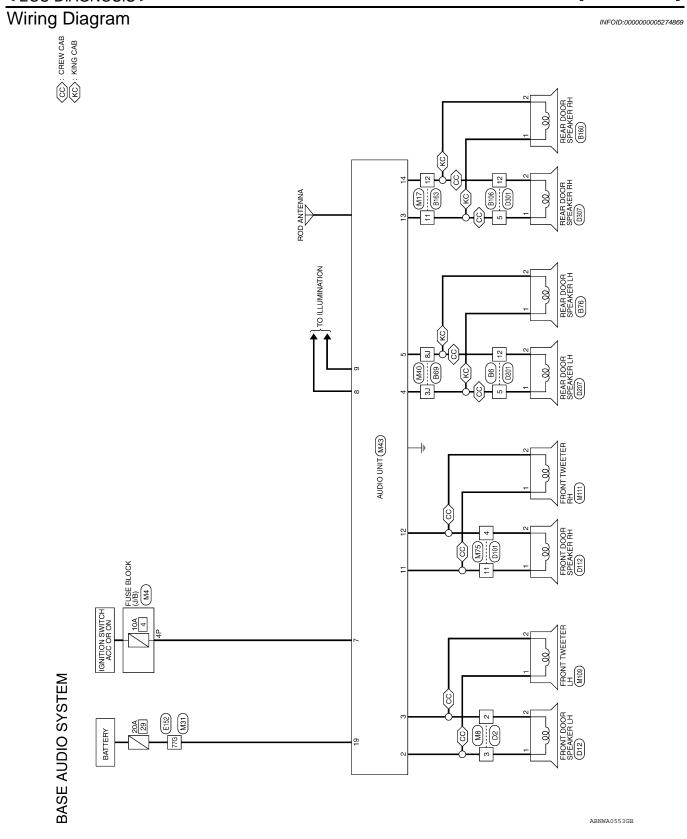
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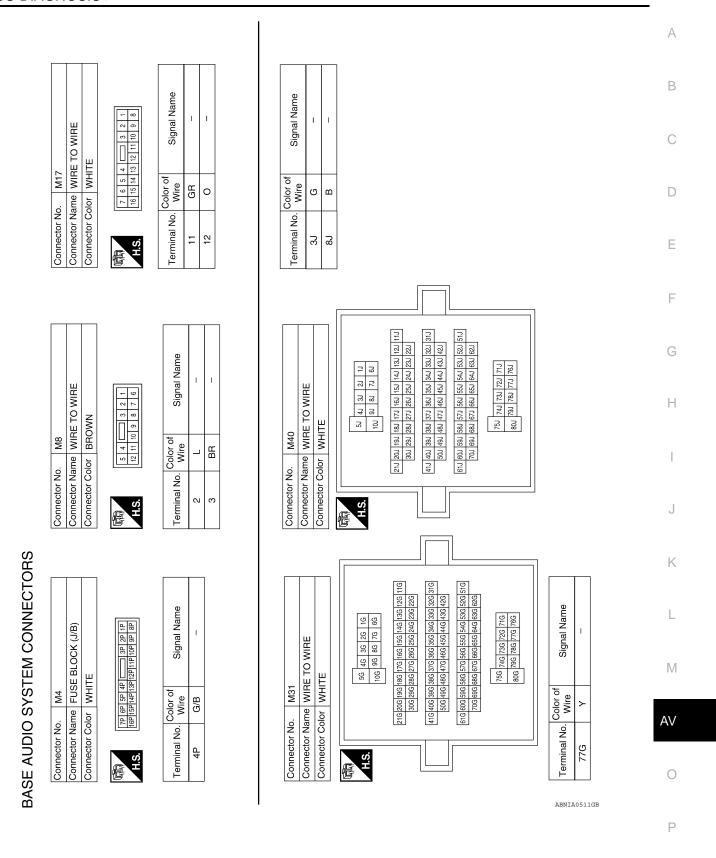
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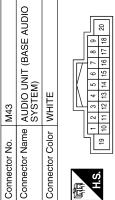


Connector No.	M75
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE



Signal Name	-	ı		
Color of Wire	н	ГG		
Terminal No.	4	11		

Signal Name	LIGHT SW	ı	FR SP RH (+)	FR SP RH (-)	RR SP RH (+)	RR SP RH (-)	ı	1	1	I	BAT	1
Color of Wire	Œ	1	ГG	œ	GR	0	1	-	_	_	>	1
Terminal No.	6	10	+	12	13	14	15	16	17	18	19	20





Signal Name	I	FR SP LH (+)	FR SP LH (-)	RR SP LH (+)	RR SP LH (-)	ı	ACC	ILL CONT
Color of Wire	ı	BR	٦	В	В	ı	G/B	GR
Terminal No.	-	2	ဧ	4	5	9	7	8



FRONT TWEETER LH (CREW CAB WITH BASE AUDIO SYSTEM)

Connector Name

M109

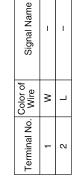
Connector No.

BROWN

Connector Color



2 1

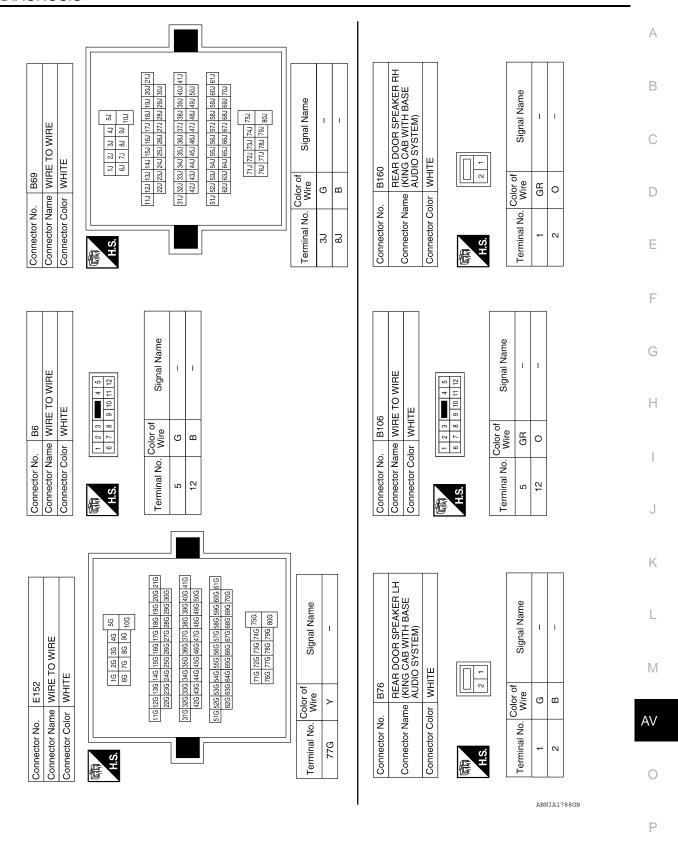


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Signal Name	I	1	
Color of Wire	g	٦	
Terminal No.	-	2	







	INT DOOR SPEAKER LH	Connector Name (WILH BASE AUDIO SYSTEM)	TE]	Signal Name	
D12	FRC	SX8	or WH			Solor of Wire	2
Connector No. D12	1	Connector Nar	Connector Color WHITE			Terminal No. Wire	,
	E TO WIRE	NWO		9 10 11 12	Signal Name	1	1
D2	ne WIR	or BRC		6 7 8	Color of Wire	N.	M
Connector No.	Connector Name WIRE TO WIRE	Connector Color BROWN	Į ą	(中央 H.S.	Terminal No. Wire	2	က
						Т	
3	RE TO WIRE	ТЕ		4 5 6 7 11 12 13 14 15 16	Signal Name	1	1
. B163	me WIR	or WHI		8 9 10 1	Solor of Wire	GR	0
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE		中中 H.S.	Terminal No. Wire	=	12

			·					
	E TO WIRE TE		9 8 7 6	Signal Name		I	ı	
D201	or WHI		12 11 10 9	Solor of Wire		_	0	
Connector No.	Connector Color WHITE	·	中和 H.S.	Terminal No. Wire		2	12	
	_		1					
12 ONIT DOOD OPTAKED DE	FRONT DOOR SPEAKER RH Connector Name (WITH BASE AUDIO SYSTEM)		[2]			Signal Name	1	ı
	sme (W FB	olor W			Color o	Wire	M/B	<u>-</u>
Connector No. D112	Connector Na	Connector Color WHITE	H.S.			Terminal No. Wire	-	c
	IE IO WIRE		9 10 11 12	Signal Name		_	1	
D101	or WIR		6 7 8	Solor of Wire	2	L/B	M/B	
Connector No.	Connector Name WIRE IC	ا	山山 H.S.	Terminal No. Wire		4	11	

ABNIA1789GB

Connector No.). D307	20
Connector Name		REAR DOOR SPEAKER RH (CREW CAB WITH BASE AUDIO SYSTEM)
Connector Color	_	WHITE
H.S.		
Terminal No.	Color of Wire	Signal Name
-	٦	ı
2	0	ı

Terminal No. Wire
(

	REAR DOOR SPEAKER RH (CREW CAB WITH BASE AUDIO SYSTEM)				Vame		
	R DOOR SE EW CAB WI' IO SYSTEN	里			Signal Name	I	
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AV-23 Revision: October 2009 2010 Frontier

[BASE AUDIO]

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000005274870

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	Audio unit power circuit Audio unit	• <u>AV-9</u>
All speakers do not sound	Audio unit Audio unit power circuit	• <u>AV-9</u>
One or several speakers do not sound	Front door speaker Front tweeter Rear door speaker	• <u>AV-10</u> • <u>AV-12</u> • <u>AV-14</u>

CD

Symptom	Possible cause	Reference page	
CD cannot be inserted.			
CD cannot be ejected.	- Audio unit	<u>AV-9</u>	
The CD cannot be played.	- Audio unit		
The sound skips, stops suddenly, or is distorted.			

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BASE AUDIO]

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NORMAL OPERATING CONDITION

Description INFOID:0000000005274871

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	Possible cause	
Occurs only when engine is ON.	Ignition components	
The occurrence of the noise is lin	Fuel pump condenser	
Noise only occurs when various	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 j	 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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PRECAUTIONS

< PRECAUTION > [BASE AUDIO]

PRECAUTION

PRECAUTIONS

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

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

WARNING:

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

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

WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

PREPARATION

< PREPARATION > [BASE AUDIO]

PREPARATION

PREPARATION

Commercial Service Tools

Tool name		Description
Power tool		Loosening bolts and nuts
	PBIC0191E	

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< ON-VEHICLE REPAIR >

[BASE AUDIO]

ON-VEHICLE REPAIR

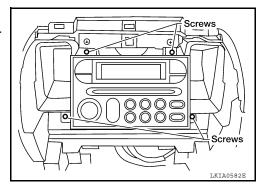
AUDIO UNIT

Removal and Installation

INFOID:0000000005274874

REMOVAL

- 1. Remove the cluster lid C. Refer to IP-11, "Removal and Installation".
- 2. Remove the audio control unit screws, using power tool.
- 3. Pull out the audio control unit from the instrument panel and disconnect the audio control unit connectors.



INSTALLATION

Installation is in the reverse order of removal.

FRONT TWEETER

< ON-VEHICLE REPAIR > [BASE AUDIO]

FRONT TWEETER

Removal and Installation

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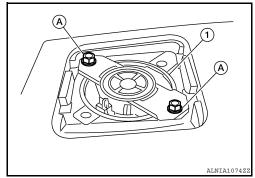
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REMOVAL

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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[BASE AUDIO]

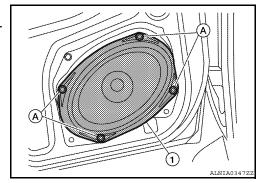
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000005274876

REMOVAL

- 1. Remove the front door finisher. Refer to INT-14, "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

< ON-VEHICLE REPAIR > [BASE AUDIO]

REAR DOOR SPEAKER

Removal and Installation

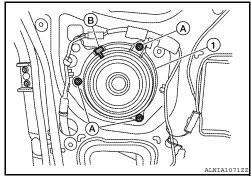
REMOVAL

1. Remove the rear door finisher. Refer to INT-14, "Removal and Installation".

- 2. Remove the rear door speaker screws (A).
- 3. Remove rear door speaker (1), disconnect rear door speaker connector (B).

NOTE:

King cab shown, crew cab similar.



INSTALLATION

Installation is in the reverse order of removal.

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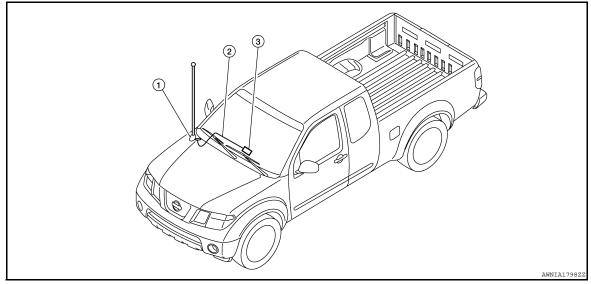
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AUDIO ANTENNA

Location of Audio Antenna System Component





1. Audio antenna

Antenna feeder

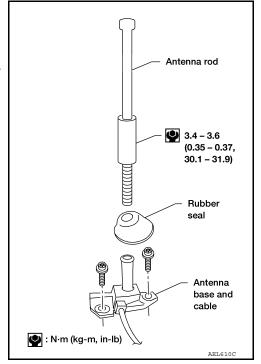
Audio unit M43

Removal and Installation

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REMOVAL

- 1. Remove lower glove box. Refer to IP-11, "Removal and Installation".
- 2. Disconnect audio antenna cable from antenna feeder.
- Remove antenna rod.
- 4. Remove rubber seal.
- 5. Remove cowl top. Refer to EXT-19, "Removal and Installation".
- 6. Remove fender protector. Refer to <u>EXT-22</u>, "Removal and Installation of Front Fender Protector".
- 7. Remove antenna base bolts.
- 8. Remove antenna base and cable.



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

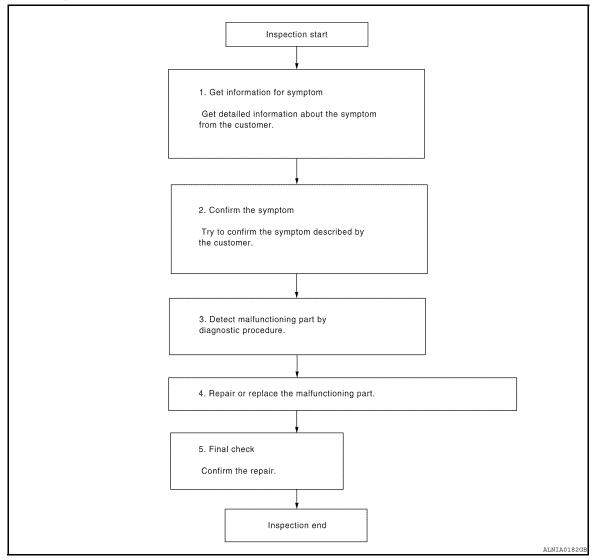
Always properly tighten the antenna rod during installation or the antenna rod may bend or break during vehicle operation.

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.

Revision: October 2009 AV-33

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[PREMIUM AUDIO (KING CAB)]

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5

5. FINAL CHECK

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

Was the repair confirmed?

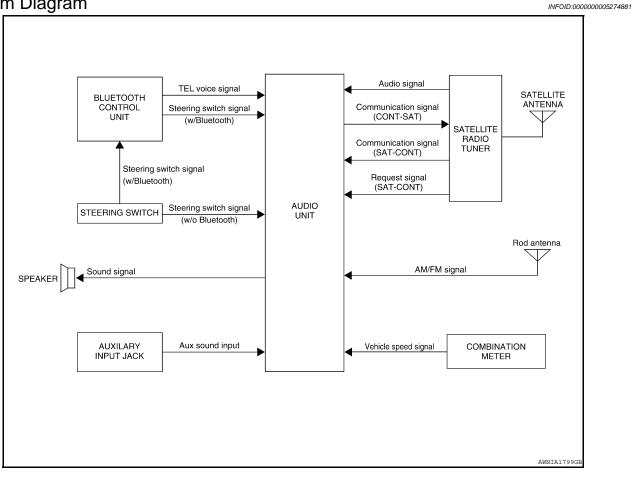
YES >> Inspection End.

NO >> GO TO 2

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram



System Description

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Rod antenna
- · Steering wheel audio control switches
- Front door speakers
- Front tweeters
- Rear door speakers

When the audio system is on, radio signals are received by the rod antenna. The audio 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.

SATELLITE RADIO SYSTEM

The satellite radio system consists of the following components

- Satellite antenna
- Satellite radio tuner

When the satellite radio system is on, radio signals are supplied to the satellite radio tuner from the satellite antenna. The satellite radio tuner then sends audio signals to the audio unit.

Refer to Owner's Manual for satellite radio system operating instructions.

SPEED SENSITIVE VOLUME SYSTEM

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

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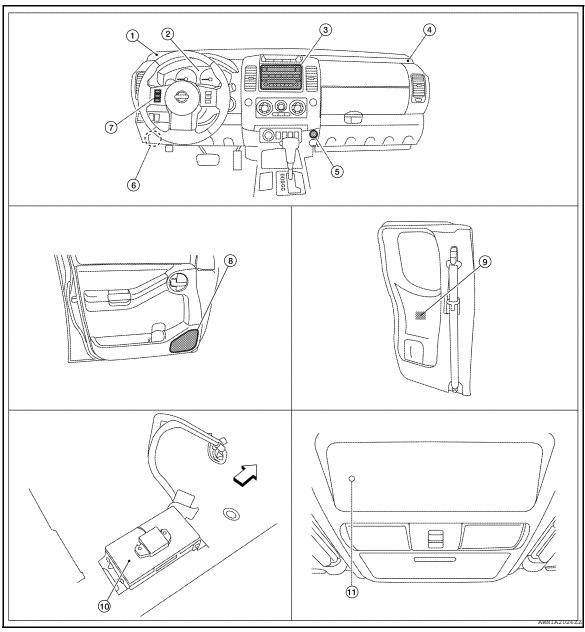
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Component Parts Location

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⟨□:FRONT

- 1. Front tweeter LH M110
- 4. Front tweeter RH M112
- 7. Steering wheel audio control switch- 8. es
- Bluetooth control unit B141, B142 (view with passenger front seat removed)
- 2. Combination meter M24
- 5. Aux in jack M85
- 8. Front door speaker LH D13 RH D111
- 11. Microphone R8

- 3. Audio unit M42, M44, M45, M64
- 6. Satellite radio tuner M41, M129
- 9. Rear door speaker LH B75 RH B150

AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

Component Description

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Α

Part name	Description	
Audio unit	Controls audio system and satellite radio system functions	В
Steering wheel audio control switches	Start a voice recognition sessionAnswer and end telephone callsAdjust the volume level	
Front door speakers	Outputs audio signal from audio unitOutputs high, mid and low range sounds	
Front tweeters	Outputs audio signal from audio unitOutputs high range sounds	С
Rear door speakers	Outputs audio signal from audio unitOutputs high, mid and low range sounds	 E
Satellite radio tuner	Receives radio signals from satellite antennaSends audio signals to audio unit	
Satellite antenna	Audio signal (satellite radio) is received and output to audio unit.	F

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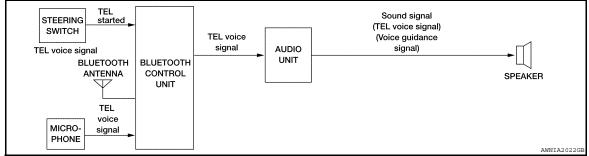
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HANDS-FREE PHONE SYSTEM

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

BLUETOOTH CONTROL UNIT

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

STEERING WHEEL AUDIO CONTROL SWITCHES

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

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

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

MICROPHONE

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

AUDIO UNIT

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

Component Parts Location

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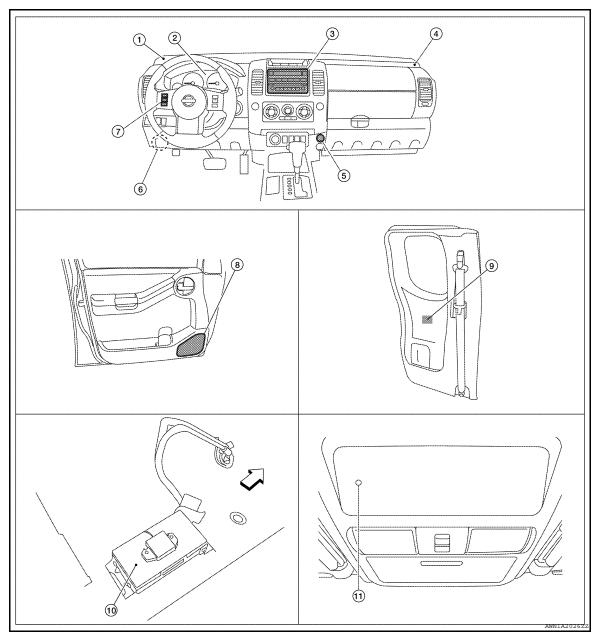
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⟨□:FRONT

- 1. Front tweeter LH M110
- 4. Front tweeter RH M112
- 7. Steering wheel audio control switches
- Bluetooth control unit B141, B142 (view with passenger front seat removed)
- 2. Combination meter M24
- 5. Aux jack M85
- 8. Front door speaker LH D13 RH D111
- 11. Microphone R8

- 3. Audio unit M42, M44, M45, M64
- 6. Satellite radio tuner M41, M129
- 9. Rear door speaker LH B75 RH B150

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HANDS-FREE PHONE SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

Component Description

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Part name	Description	
Audio unit	Receives telephone voice signal from Bluetooth control unit Sends telephone voice and voice guidance signals to the speakers	
Front door speaker	Descrives telephone value and value guidence signals from the guidence	
Front tweeter	Receives telephone voice and voice guidance signals from the audio amp.	
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 (AUDIO UNIT)

< FUNCTION DIAGNOSIS >

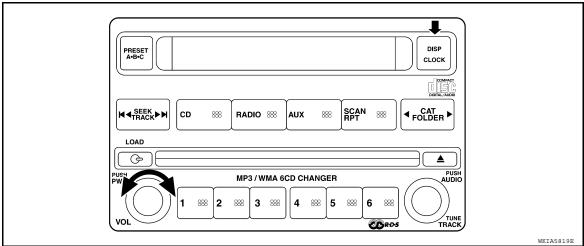
[PREMIUM AUDIO (KING CAB)]

DIAGNOSIS SYSTEM (AUDIO UNIT)

Component Function Check

STARTING THE SELF-DIAGNOSIS MODE

- 1. Turn ignition switch from OFF to ACC.
- 2. Press and hold the "DISP/CLOCK" switch and turn the volume control dial clockwise or counterclockwise for 30 clicks or more.



Then the self-diagnosis operates. A single beep indicates self-diagnosis mode is active.

- 3. Initially, all display segments will be illuminated.
- 4. Press each switch. When each switch is pressed, its name and communication code will be displayed **NOTE:**

CD player LOAD and EJECT buttons are not included in this test and will not change the display when pressed.

DIAGNOSIS FUNCTION

- It can check for continuity of the switches by sounding the beep when each audio unit switch and steering switch is pressed.
- It can check for continuity of harness between audio unit switch and steering switch.

EXITING THE SELF-DIAGNOSIS MODE

Turn ignition switch OFF. Then the self-diagnosis ends.

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DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

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DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description

o Bluetoeth central unit has two diagnostic checks. The first diagnostic check is performed automatically

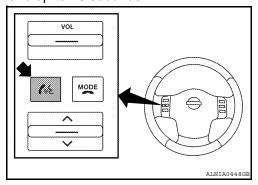
The Bluetooth control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

BLUETOOTH CONTROL UNIT INITIALIZATION CHECKS

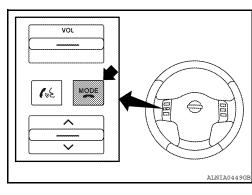
- · Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switches [SEND(()/END(MODE))] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth inquiry check

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 button again until you hear prompts.
- 6. The Bluetooth system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician. Refer to AV-42, "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-42, "Work Flow".
- 8. Self-diagnosis mode is complete when the voice prompt says "All diagnostic functions completed".



Work Flow (INFOID:000000005274891

Failure Message	Action		
"Internal failure"	Replace Bluetooth control unit. Refer to AV-90, "Removal and Installation".		
"Bluetooth antenna open"	Inspect harness connection.		
"Bluetooth antenna shorted"	2. Replace Bluetooth antenna. Refer to AV-90, "Removal and Installation".		
"Phone/Send for Hands Free System is stuck"	Check steering wheel audio control switches. Refer to AV-53, "Description".		
"Phone/End for the Hands Free System is stuck"	Check steering wheel audio control switches. Relef to AV-33, Description.		
"Microphone test" (failed interactive test)	 Inspect harness between Bluetooth control unit and microphone. Replace microphone. Refer to <u>AV-92</u>, "<u>Removal and Installation</u>". 		

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

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Regarding Wiring Diagram information, refer to AV-65, "Wiring Diagram".

1.CHECK FUSES

Check that the following fuses of the audio unit are not are not blown.

Unit	Terminals	Signal name	Fuse No.
Audio unit	6	Battery power	29
Addio driit	10	Ignition switch ACC or ON	4

Are the fuses OK?

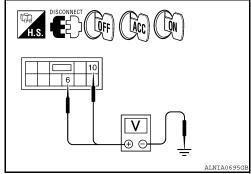
YES >> GO TO 2

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 M64.
- Check voltage between the audio unit connector M64 and ground.

((+)		OFF	ACC	ON
Connector	Terminal	(-) OFF		ACC	ON
M64	6	Ground	0V	Battery voltage	Battery voltage
IVIO4	10	Ground	Battery voltage	Battery voltage	Battery voltage



Are the voltage results as specified?

YES >> GO TO 3

NO

>> • Check connector housing 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.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-65, "Wiring Diagram".

1.CHECK FUSES

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

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< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

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

Are the fuses OK?

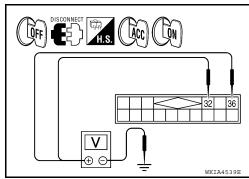
YES >> GO TO 2

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

2. POWER SUPPLY CIRCUIT CHECK

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

(+)		(-)	OFF	ACC	ON
Connector	Terminal	(-) OFF		ACC	ON
M41	32	Ground	Battery voltage	Battery voltage	Battery voltage
171-4-1	36	Olouliu	0V	Battery voltage	Battery voltage



Are the voltage readings as specified?

YES >> GO TO 3

NO >> • Check

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

Repair harness or connector.

3. GROUND CIRCUIT CHECK

Inspect satellite radio tuner (factory installed) case ground.

Does case ground pass inspection?

YES >> Inspection End.

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

BLUETOOTH CONTROL UNIT

BLUETOOTH CONTROL UNIT: Diagnosis Procedure

INFOID:0000000005274894

Regarding Wiring Diagram information, refer to AV-65, "Wiring Diagram".

1.CHECK FUSE

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

Unit	Terminal	Signal name	Fuse No.
Bluetooth control unit	1	Battery power	29
	2	Ignition switch ACC or ON	4
	3	Ignition switch ON or START	12

Is inspection result OK?

YES >> GO TO 2.

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

2.CHECK POWER SUPPLY CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

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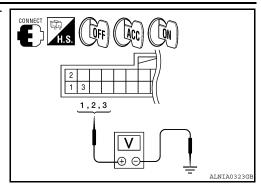
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Check voltage between Bluetooth control unit harness connector B141 and ground.

(+)		(-)	OFF	ON	ACC
Connector	Terminal	(-)	OH	ON	ACC
	1	Ground	Battery voltage	Battery voltage	Battery voltage
B141	2		0V	Battery voltage	Battery voltage
	3		0V	Battery voltage	0V



Is battery voltage present as specified?

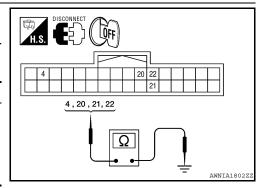
>> GO TO 3. YES

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

3. CHECK GROUND CIRCUIT

- Turn ignition switch OFF.
- Disconnect Bluetooth control unit connector. 2.
- Check continuity between Bluetooth control unit harness connector B141 and ground.

Connector	Terminal	_	Continuity	
	4			
B141	20	Ground	Yes	
5141	21		165	
	22			



Are continuity results as specified?

YES >> Inspection End.

NO >> Repair harness or connector.

MICROPHONE

MICROPHONE: Diagnosis Procedure

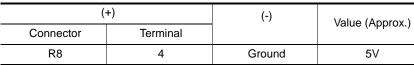
Regarding Wiring Diagram information, refer to AV-65, "Wiring Diagram".

1. CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

- Turn ignition switch ON.
- Check voltage between microphone harness connector R8 terminal 4 and ground.

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

AV-45

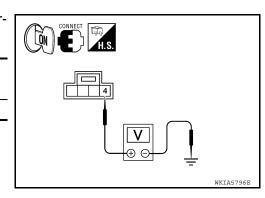


Is approximately 5V present?

Revision: October 2009

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

2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)



< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

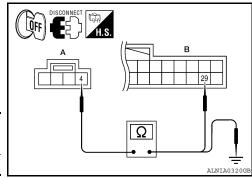
- 1. Turn ignition switch OFF.
- Disconnect microphone and Bluetooth control unit harness connectors.
- Check continuity between microphone harness connector R8

 (A) terminal 4 and Bluetooth control unit harness connector B141 (B) terminal 29.

A		В		Continuity
Connector	Terminal	Connector Terminal		Continuity
R8	4	B141	29	Yes

Check continuity between microphone harness connector R8

 (A) terminal 4 and ground.



	A		Continuity	
Connector	Terminal		Continuity	
R8	4	Ground	No	

Are the continuity test results as specified?

YES >> Replace the Bluetooth control unit. Refer to AV-90, "Removal and Installation".

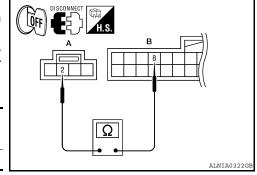
NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect microphone harness connector R8 and Bluetooth control unit harness connector B141.
- Check continuity between microphone harness connector R8

 (A) terminal 2 and Bluetooth control unit harness connector B141 (B) terminal 8.

А		1	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
R8	2	B141	8	Yes



Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

FRONT DOOR SPEAKER

Description INFOID:0000000005274896

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

Diagnosis Procedure

INFOID:0000000005274897

Regarding Wiring Diagram information, refer to AV-65, "Wiring Diagram".

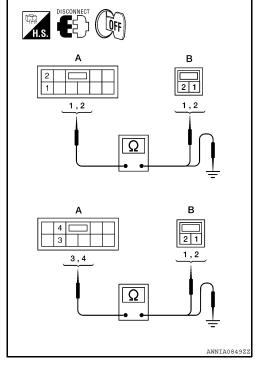
1. SPEAKER HARNESS CHECK

- Disconnect audio unit connector M64 and suspect speaker connector.
- 2. Check continuity between audio unit harness connector M64 (A) and suspect speaker harness connector (B).

А		В		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
	1	D13 2			
M64	2	D13	1	Yes	
	3	D111	2	res	
	4	וווט	1		

Check continuity between audio unit harness connector M64 (A) and ground.

	А		Continuity	
Connector	Terminal	_		
	1	Ground	No	
M64	2			
10104	3	Ground	INO	
	4			



Are continuity test results as specified?

YES >> GO TO 2

NO

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

· Repair harness or connector.

2. SPEAKER SIGNAL CHECK

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FRONT DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

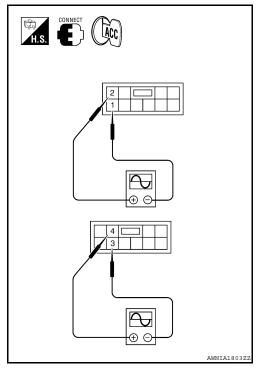
- 1. Connect audio unit connector and suspect speaker connector.
- 2. Turn ignition switch ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio unit harness connector M64 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference
Connector	(+)	(-)	Condition	signal
	2	1		
M64	4	3	Receive audio sig- nal	(V) 1 0 -1 1 ms

Are the audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to <u>AV-86, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-84, "Removal and Installation"</u>.



FRONT TWEETER

Description INFOID:0000000005274898

The audio unit sends audio signals to the tweeters using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000005274899

Regarding Wiring Diagram information, refer to AV-65, "Wiring Diagram".

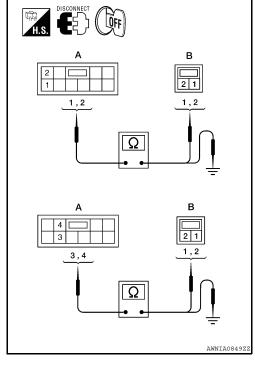
1. SPEAKER HARNESS CHECK

- Disconnect audio unit connector M64 and suspect speaker connector.
- 2. Check continuity between audio unit harness connector M64 (A) and suspect speaker harness connector (B).

А		В		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
	1	M110	2		
M64	2	IVITIO	1	Yes	
	3	M112	2	165	
	4	IVITIZ	1		

Check continuity between audio unit harness connector M64 (A) and ground.

	А		Continuity	
Connector	Terminal	_		
	1	Ground	No	
M64	2			
WO4	3			
	4			



Are continuity test results as specified?

YES >> GO TO 2

NO

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

· Repair harness or connector.

2. SPEAKER SIGNAL CHECK

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FRONT TWEETER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

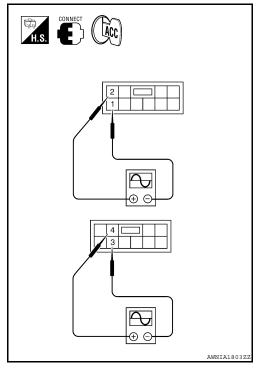
- 1. Connect audio unit connector and suspect speaker connector.
- 2. Turn ignition switch ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio unit harness connector M64 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference
Connector	(+)	(-)	Condition	signal
	2	1		
M64	4	3	Receive audio sig- nal	(V) 1 0 -1 1 ms

Are the audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to <u>AV-85, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-84, "Removal and Installation"</u>.



REAR DOOR SPEAKER

Description INFOID:000000005274900

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

Diagnosis Procedure

INFOID:000000005274901

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Regarding Wiring Diagram information, refer to AV-65, "Wiring Diagram".

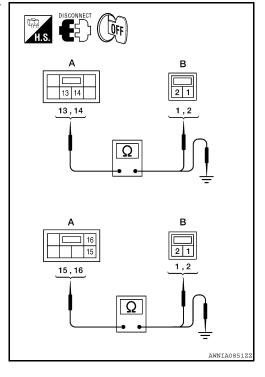
1. SPEAKER HARNESS CHECK

- Disconnect audio unit connector M44 and the suspect speaker connector.
- 2. Check continuity between audio unit harness connector M44 (A) and suspect speaker harness connector (B).

А		В		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
	13	B75 2			
M44	14	D/3	1	Yes	
	15	B150	2	165	
	16	D130	1		

Check continuity between audio unit harness connector M44 (A) and ground.

	А		Continuity	
Connector	Terminal	_		
	13	Ground	No	
M44	14			
IVI44	15	Ground	INO	
	16			



Are the continuity test results as specified?

YES >> GO TO 2

NO

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

• Repair harness or connector.

2. SPEAKER SIGNAL CHECK

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REAR DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

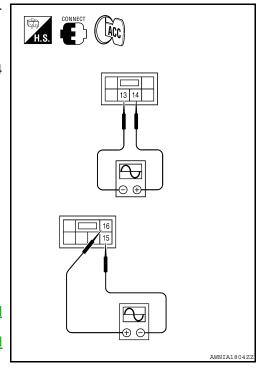
- Connect audio unit connector M44 and suspect speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio unit harness connector M44 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	14	13			
M44	16	15	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	

Is the audio signal voltage reading as specified?

YES >> Replace suspect speaker. Refer to <u>AV-87, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-84, "Removal and Installation"</u>.



[PREMIUM AUDIO (KING CAB)]

STEERING SWITCH

Description

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:0000000005274903

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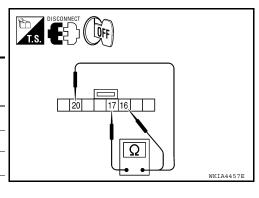
Р

Regarding Wiring Diagram information, refer to AV-65, "Wiring Diagram".

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.

Terminal Signal name		Signal name	Condition	Resistance (Ω) (Approx.)
		Seek (down)	Depress ∇ switch.	165
16	16 17	Volume (down)	Depress VOL down switch.	487
		Mode/end	Depress MODE switch.	0
		Seek (up)	Depress △ switch.	165
20 17	Volume (up)	Depress VOL up switch.	487	
		Phone/send	Depress 🗸 🌿 switch.	0



Do the steering wheel audio control switches check OK?

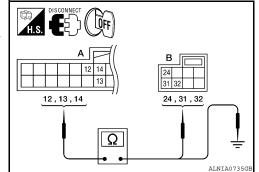
YES >> GO TO 2

NO >> Replace steering wheel audio control switch. Refer to AV-88, "Removal and Installation".

2. CHECK HARNESS

- Disconnect Bluetooth control unit harness connector B141 and spiral cable harness connector M30.
- Check continuity between Bluetooth control unit harness connector B141 (A) and spiral cable harness connector M30 (B).

A		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	12		24	
B141	13	M30	32	Yes
	14		31	



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3. Check continuity between Bluetooth control unit connector B141 (A) and ground.

А			Continuity
Connector	Terminal	_	Continuity
	12		
B141	13	Ground	No
	14		

Are the continuity results as specified?

Revision: October 2009

< COMPONENT DIAGNOSIS >

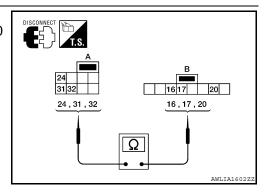
YES >> GO TO 3

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).

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



Does the spiral cable check OK?

YES >> Inspection End.

NO >> Replace spiral cable. Refer to <u>SR-6. "Removal and Installation"</u>.

COMMUNICATION SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

COMMUNICATION SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER: Description

INFOID:0000000005274904

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

SATELLITE RADIO TUNER: Diagnosis Procedure

INFOID:0000000005274905

Regarding Wiring Diagram information, refer to AV-65, "Wiring Diagram".

1. CHECK HARNESS - REQ1

- Turn ignition switch OFF.
- Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
- 3. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and audio unit harness connector M42 (B) terminal 48.

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	28	M42	48	Yes



H.S. DISCONNECT OFF
1 48
ALMTAO 700 CI

harness connector M41 (A) terminal 28 and ground.

	A		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 - TXD

Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 29 and audio unit harness connector M42 (B) terminal 49.

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	29	M42	49	Yes

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

) S	H.S. DISCONNECT OFF A	
_	B 29 49	
_)		

	A		Continuity	
Connector	Terminal		Continuity	
M41	29	Ground	No	

Are continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

AV-55 Revision: October 2009 2010 Frontier M

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3. CHECK HARNESS - RXD

1. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and audio unit harness connector M42 (B) terminal 50.

	Α		В	
Connector	Terminal	Connector	Terminal	Continuity
M41	30	M42	50	Yes

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

H.S. DISCONNECT OFF	A
B 50	30
	•
$\overline{\square}$	
	ALNIA0708GB

Α		_	Continuity
Connector	Terminal		Continuity
M41	30	Ground	No

Are continuity results as specified?

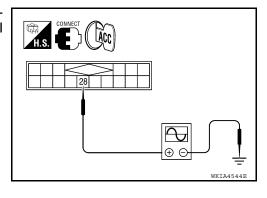
YES >> GO TO 4

NO >> Repair harness or connector.

4. CHECK REQ1 SIGNAL

- 1. Connect satellite radio tuner (factory installed) connector and audio 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-III or oscilloscope.

(+)		(-)	Reference signal	
Connector	Terminal	(-)	Reference signal	
M41	28	Ground	(V) 15 10 5 0 ** 20ms SKIB3825E	



Are voltage readings as specified?

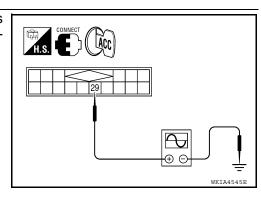
YES >> GO TO 5

NO >> Replace audio unit. Refer to AV-84, "Removal and Installation".

5. CHECK TXD SIGNAL

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

(+)		(-)	Reference signal	
Connector	Terminal	()	Reference signal	
M41	29	Ground	(V) 15 10 5 	



COMMUNICATION SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

Are the voltage readings as specified?

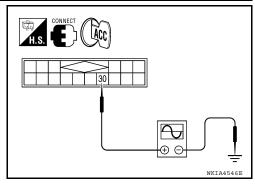
YES >> GO TO 6

NO >> Replace satellite radio tuner.

6.CHECK RXD SIGNAL

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

(+)		()	Reference 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-97, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-84, "Removal and Installation".

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SOUND SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER: Description

INFOID:0000000005274906

Left and right channel audio signals are supplied from the satellite radio tuner to the audio unit through the sound signal circuits.

SATELLITE RADIO TUNER: Diagnosis Procedure

INFOID:0000000005274907

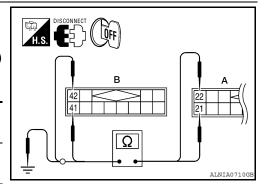
Regarding Wiring Diagram information, refer to AV-65, "Wiring Diagram".

LEFT CHANNEL

1. CHECK HARNESS

- 1. Turn ignition switch OFF.
- 2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
- 3. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and audio unit connector M42 (B).

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	21	M42	41	Yes
10141	22	10142	42	165



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

	А		Continuity
Connector	Terminal		Continuity
M41	21	Ground	No
IVI -1 I	22	Ground	140

Are continuity results as specified?

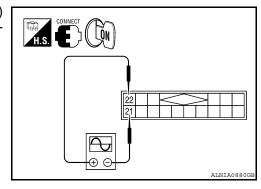
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK LEFT CHANNEL AUDIO SIGNAL

- 1. Connect satellite radio tuner (factory installed) and audio unit.
- 2. Turn ignition switch ON.
- 3. Check signal between satellite radio tuner (factory installed) connector M41 terminals 21 and 22 with CONSULT-III or oscilloscope.

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



Are voltage readings as specified?

SOUND SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

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YES >> Replace audio unit. Refer to AV-84, "Removal and Installation".

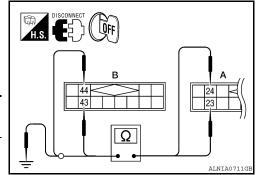
NO >> Replace satellite radio tuner. Refer to AV-97, "Removal and Installation".

RIGHT CHANNEL

1. CHECK HARNESS

- 1. Turn ignition switch OFF.
- Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
- 3. Check continuity between satellite radio tuner (factory installed) M41 (A) and audio unit M42 (B).

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	23	M42	43	Yes
10141	24	IVI4Z	44	165



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

	А	_	Continuity
Connector	Terminal		Continuity
M41	23	Ground	No
IVI 4 I	24	Giouna	NO

Are continuity results as specified?

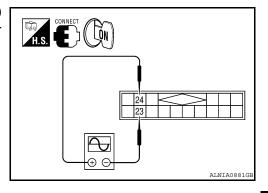
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RIGHT CHANNEL AUDIO SIGNAL

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

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



Are voltage readings as specified?

Revision: October 2009

YES >> Replace audio unit. Refer to AV-84, "Removal and Installation".

NO >> Replace satellite radio tuner. Refer to AV-97, "Removal and Installation".

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MICROPHONE SIGNAL CIRCUIT

Description INFOID:000000005274908

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

Diagnosis Procedure

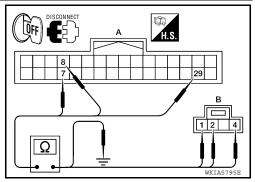
INFOID:0000000005274909

Regarding Wiring Diagram information, refer to AV-65, "Wiring Diagram".

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 B141 (A) and microphone harness connector R8 (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	7		1	
B141	8	R8	2	Yes
	29		4	



4. Check continuity between Bluetooth control unit harness connector B141 (A) and ground.

	Α	_	Continuity
Connector	Terminal		
	7		
B141	8	Ground	No
	29		

Are the continuity test results as specified?

YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK MICROPHONE POWER SUPPLY

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

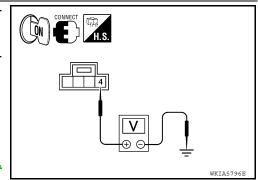
4 - Ground : Approx. 5V

Is voltage reading approx. 5 volts?

YES >> GO TO 3

NO >> Replace Bluetooth control unit. Refer to <u>AV-90</u> "Removal and Installation".

3.CHECK MICROPHONE SIGNAL



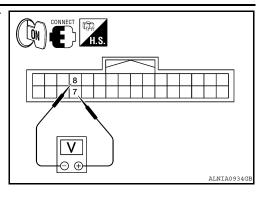
MICROPHONE SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

Check signal between Bluetooth control unit harness connector B141 terminals 7 and 8 with CONSULT-III or and oscilliscope.

Connector	(+)	(-)	Reference signal
Connector	Terminal	Terminal	Neierence signal
			While speaking into MIC
B141	7	8	2. 5 2. 0 1. 5 1. 0 0. 5 0 • • • 2ms
			PKIB5037J



Are voltage readings as specified?

YES >> Replace Bluetooth control unit. Refer to AV-90, "Removal and Installation".

NO >> Replace microphone. Refer to AV-92, "Removal and Installation".

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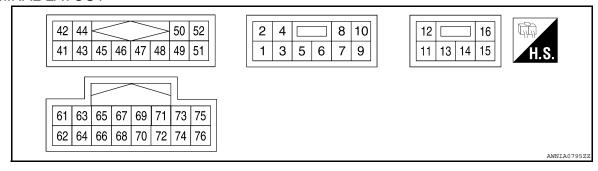
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ECU DIAGNOSIS

AUDIO UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	ninal color)	Item	Signal input/		Condition	Reference value (Approx.)
+	_		output			(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
2 (BR)	1 (L)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms
4 (LG)	3 (R)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms
6 (Y)	Ground	Battery power	Input	_	_	Battery voltage
7 (GR)	Ground	Illumination control signal	Input	Ignition switch ON	Illumination control switch is operated by lighting switch in 1st position.	Changes between 0 and 12V
8	Ground	Illumination aignal	Innut	OFF	Lighting switch is in 1st position.	Battery voltage
(R)	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	0V
9	_	Shield	_	_	_	0V
10 (G/B)	Ground	ACC signal	Input	Ignition switch ON	-	Battery voltage

[PREMIUM AUDIO (KING CAB)]

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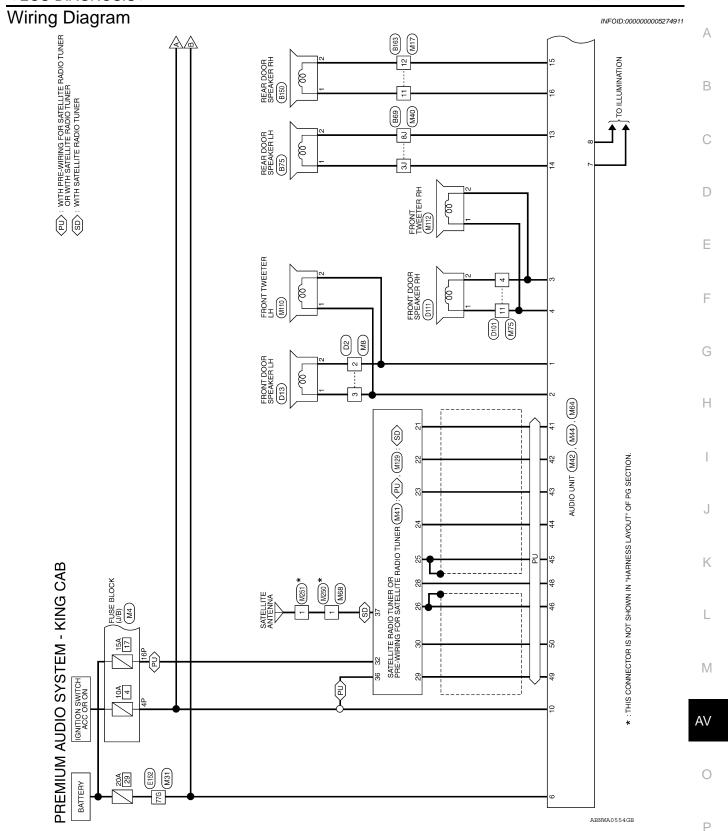
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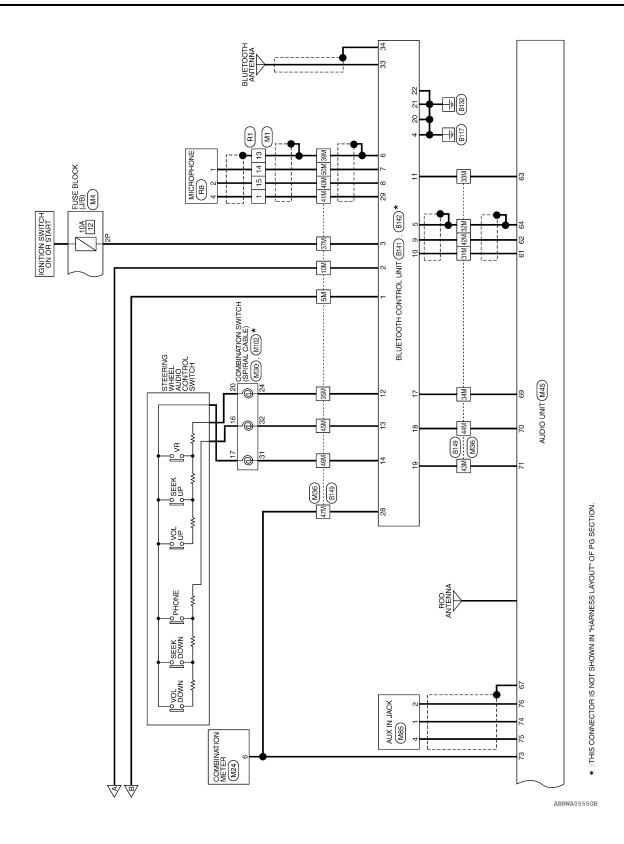
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	ninal color)	Item	Signal input/		Condition	Reference value
+	-		output			(Approx.)
14 (G)	13 (B)	Audio sound signal rear LH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms
16 (GR)	15 (O)	Audio sound signal rear RH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms
42 (R)	41 (G)	Satellite radio audio signal LH	Input	Ignition switch ON	Satellite radio tuner operating	(V) 1 0 -1 + 2ms SKIB3609E
44 (B)	43 (W)	Satellite radio au- dio signal RH	Input	Ignition switch ON	Satellite radio tuner operating	(V) 1 0 -1 + 2ms SKIB3609E
45	_	Ground	_	_	_	0V
46	_	Data ground	_	_	_	0V
48 (O)	-	REQ (SAT→AV control unit)	Input	Ignition switch ON	_	_
49 (P)	-	RX (SAT→AV control unit)	Input	Ignition switch ON	_	_
50 (L)	_	TX (AV control unit→SAT)	Input	Ignition switch ON	_	_
62 (W)	61 (B)	Telephone signal input	Input	Ignition switch ACC/ON	Bluetooth control unit sends audio signal	(V) 1 0 -1 + 2ms SKIB3609E
63 (R)	_	Mute control	_	_	_	_
64	_	Shield	_	_	_	0V

[PREMIUM AUDIO (KING CAB)]

	minal e color)	Item	Signal input/ output		Condition	Reference value (Approx.)
67	_	Shield	_	Ignition switch ON	_	0V
					Pressing 🗸 🌾	0V
69	71	Steering switch sig-	Input	Ignition switch	Pressing △ switch	0.75
(V)	(O)	nal A	mpac	ON	Pressing VOL up switch	2V
					Except for above	5V
					Pressing MODE switch	0V
70	71	Steering switch sig-		Ignition	Pressing ∇ switch	0.75V
(LG)	(O)	nal B	Input	switch ON	Pressing VOL down switch	2V
					Except for above	5 V
73 (SB)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	(V) 15 10 5 0 + 20ms PKIA1935E
74 (W)	Ground	Auxiliary audio input RH (+)	Input	Ignition switch ON	Receive audio sig- nal (AUX input)	(V) 1 0 -1 1 ms
75 (B)	Ground	Auxiliary audio input LH (+)	Input	Ignition switch ON	Receive audio sig- nal (AUX input)	(V) 1 0 -1 1 ms
76 (R)	_	Shield	_	_	-	0V





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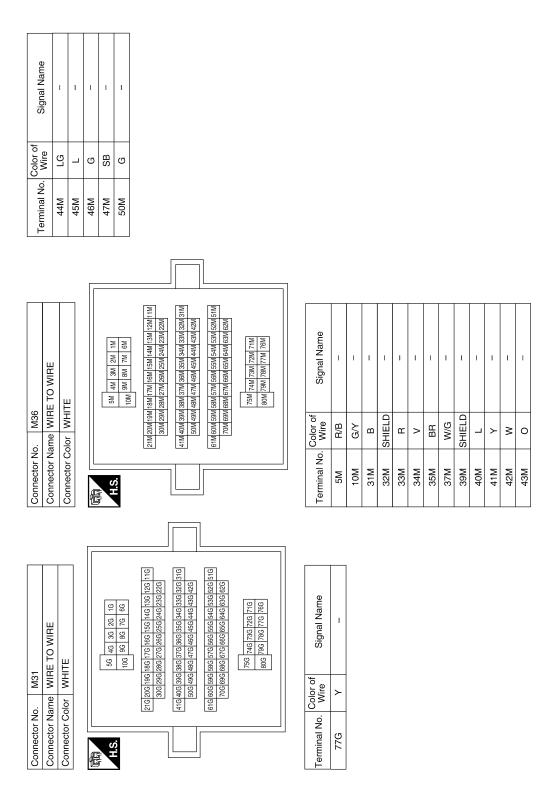
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PREMIUM AUDIO SYSTEM CONNECTORS - KING CAB

Connector No. M8	Connector Name WIRE TO WIRE	Connector Color BROWN	H.S. (1) 10 9 8 7 6	Terminal No. Wire Signal N		3 BR		
M4	Connector Name FUSE BLOCK (J/B)	VHITE	9 69 59 49 19 19 19 19 19 19 1	of Signal Name	1	ı	ı	
Connector No.	nector Name F	Connector Color WHITE	(17) (18) (18) (18) (18) (18) (18) (18) (18	Terminal No. Wire	2P W/G	4P G/B	16P R/B	
Con		Con	6 7 8 9 10 11 12 18 19 20 21 22 23 24	Signal Name Terr	ı	ı	ı	
Connector No. M1	Connector Name WIRE TO WIRE	Connector Color WHITE		Terminal No. Wire	>	3 SHIELD	D G	-
Connec	Connec	Connec	H.S.	Termin	_	13	12	,

Signal Name

Connector No.	M17	Connector No.	M24	Connector No.	M30	
Connector Name WIRE TO WIRE	WIRE TO WIRE	Connector Name	COMBINATION METER	Connector Nam	Connector Name COMBINATION SWITCH	된 된
Connector Color	WHITE	Connector Color	WHITE	Connector Color GRAY	GRAY	
(所) 7 6 5 14 H.S.	13 10 11 10 11 11 11 11	高 H.S.		H.S.	24 25 28 27 31 32 33 34	
		20 19 18 17 16 15 14 40 39 38 37 36 35 34	1 13 12 11 10 9 8 7 6 5 4 3 2 1 1 33 32 31 30 29 28 27 26 25 24 23 22 21	Terminal No. Wire	olor of Signal Name	<u>a</u>
				24	BR STRG SW A (UP)	(UP)
Color of Color of	Of Signal Name	Torming! No.		31	G STRG SW GND	9
Wir		ellillal NO. W	re Olyliai Nallie	32	L STRG SW B (DOWN)	(NWO
11 GR	1	9	SB SPEED OUT 8			
12 0	1					



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Connector No.	No. M40	0	Connector No.	14M		Conn	Connector No.	M42		
Connector Name WIRE TO Connector Color WHITE	Name WIF	WIRE TO WIRE	Connector Name		SATELLITE RADIO TUNER OR PRE-WIRING FOR SATELLITE RADIO TUNER	Conn	Connector Name		AUDIO UNIT (KING CAB WITH PREMIUM AUDIO SYSTEM)	
			Connector Color	lor WHITE	TE	Conn	Connector Color	or WHITE	Ш	
是 S.H.	-		H.S.	24 26 27	28 29 30 31 33 35	而 H.S.		42 44 41 43 45 46	50 52	
	21J 20J 19J 18J 17J 30J 29J 28J 27J	181 173 163 153 144 133 123 113 283 273 263 253 244 233 223	Terminal No.	Color of Wire	Signal Name	F	Olylonian	Color of	Omed News	
	41.1 40.1 39.1 38.1 37.1	-	21	ŋ	SAT LCH (-)		a la	Wire	Olginal Ivaline	
	50 49 48 47	48J 47J 46J 45J 44J 43J 42J	22	æ	SAT LCH (+)		141	<u>ن</u>	(-)	_
	61, 60, 59, 58, 57,	56J 55J 54J 53J	23	W	SAT RCH (-)		42	<u>د</u> ع	L (+)	_
	707	70J 69J 68J 67J 66J 65J 64J 63J 62J	24	В	SAT RCH (+)		543	S ((-) H	
		75, 24, 20, 20, 24,	25	SHIELD	EARTH (SIG)			<u>а</u>	R(+)	
		₹ ह	26	SHIELD	DATA EARTH			SHIELD	EARTH (SIG)	_
			27	1	1			SHIELD	DATA EARTH	
			28	0	REQ1		47	1	ı	1
Terminal No.	Color of Wire	Signal Name	29	۵	TXD	<u> </u>	48	0	REQ	
8	G		30	٦	RXD		49	۵	X	
8	В	1	31	1	ı		20	_	×	$\overline{}$
			32	B/B	BACKUP		51	1	1	_
			33	1	1		52	1	1	\neg
			34	_	ı					
			35	_	1					
			36	G/B	ACC					

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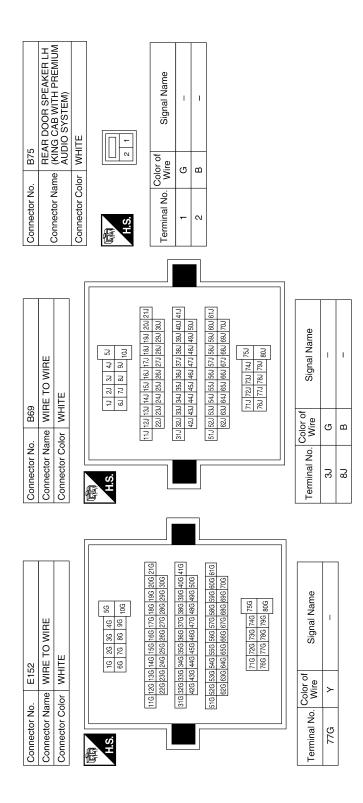
	AUDIO UNIT (KING CAB WITH PREMIUM AUDIO SYSTEM)	Щ		8 10	Signal Name	FRSP LH (-)	FRSP LH (+)	FRSP RH (-)	FRSP RH (+)	ı	BAT (BACK UP)	ILL CONT	LIGHT SW	1	AC.C.								IN JACK	ш		1 1 1 1 1 1 1 1 1 1	Signal Name	R+	COMMON	-
. M64				2 4 1 3 5	Color of Wire	-	BR	æ	re P	1	>	GR	œ	1	g/G	ם D						. M85	me AUX I	lor WHITE		4 3	Color of Wire	W	ч	
Connector No.	Connector Name	Connector Color	á	是 H.S.	Terminal No.	-	2	က	4	5	9	7	8	6	2 5	2						Connector No.	Connector Name AUX IN JACK	Connector Color		H.S.	Terminal No.	1	2	
<u> </u>			Ľ			l		1	I	1			1	1													•			L
	AUDIO UNIT (KING CAB WITH PREMIUM AUDIO SYSTEM)	TE	[69 71 73 75 70 72 74 76	Signal Name	TEL SIG INPUT (-)	TEL SIG INPUT (+)	TEL SIG ON TRIG	TEL SIG GND	1	I	SHIELD	1	REMOTE A SWC	REMOTE B SWC	REMOTE GND SWC	ı	SPEED SIGNAL	AUX R+	AUX L+	AUX GND		E TO WIRE	Щ		9 8 7 6	Signal Name	1	1	
, M45		-		61 63 65 67 69 71 62 64 66 68 70 72	Color of Wire	Ф	3	۳	SHIELD	1	1	SHIELD	1	>	re	0	1	SB	W	В	œ	. M75	me WIRE	lor WHITE		12 11 10 9	Color of Wire	œ	P	-
Connector No.	Connector Name	Connector Color		H.S.	Terminal No.	61	62			65			89	69	20	7.1	72	73	74	75	9/	Connector No.	Connector Name WIRE TO WIRE	Connector Color		H.S.	Terminal No.	4	1	
												1																1	1	
	AUDIO UNIT (KING CAB WITH PREMIUM AUDIO SYSTEM)	ш	ſ	16	Signal Name	I	1	RRSP LH (-)	RRSP LH (+)	RRSP RH (-)	RRSP RH (+)	-											ector Name WIRE TO WIRE	ET	_		Signal Name	ı		
. M44		lor WHITE		12 16 16 11 11 13 14 15	Color of Wire)	ı	В	ŋ	0	GR). M68	me WIRE	olor VIOLET			Color of Wire	1		
ctor No.	ctor Name	ctor Color			nal No.	-	2	8	4	5	9											ector No.	ctor Na	ector Color			nal No.			

Connector No.	M102	Connector No.	M110	Connector No.	M112
Connector Nar	Connector Name COMBINATION SWITCH	Connector Name		Connector Name	FRONT TWEETER RH (KING CAB WITH PREMILIM
Connector Color GRAY	or GRAY		AUDIO SYSTEM)		
é		Connector Color	BROWN	Connector Color	BROWN
H.S.		画 H.S.	2	H.S.	2
Terminal No.	Color of Signal Name	Terriminal No.	Color of Signal Name		Color of Constant Name
16	ı	-		- ellilliai NO.	Vire Signal Ivalile
17	BR -			-	
20		5		5	
Connector No.	M129	Connector No.	M250	Connector No.	M251
	SATELLITE RADIO TUNER	Connector Name	Connector Name WIRE TO WIRE	Coppositor Name	SATELLITE ANTENNA
			1,)		

								А
								В
	Connector Name SATELLITE ANTENNA	Z				Signal Name	I	С
M251	SATEL	BROWN	[-	r of	ē.		D
	Name	Color			Colo	lo. Wire	-	Е
Connector No.	Connector	Connector Color	é	山河 H.S.		Terminal No.	-	F
								G
	O WIRE					Signal Name	1	Н
M250	WIRE	VIOLE	[r of	e e		I
	Name	Color			Colo	o. Wire		
Connector No.	Connector Name WIRE TO WIRE	Connector Color VIOLET	é	H.S.		Terminal No.	-	J
								K
	NO TUNER	S FOR				Name		L
M129	ATELLITE RAC	SCIOT NAME OH PRE-WIKING FOR STELLITE RADIO TUNER	VIOLET			of Signal Nan		N
	ŝ	Sy.	olor VI			Color of	wire	ΑV
ector No.	:	ector Na	ector Color			oN len	5	

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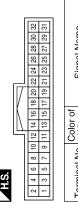


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Signal Name	CONT 2	CONT 3	1	1	ı	ı	-	SPEED SIGNAL	MIC POWER	ı	1	ı
Color of Wire	В	В	1	1	1	-	_	SB	\	1	1	1
Terminal No.	21	22	23	24	25	26	27	28	29	30	31	32

Signal Name	MIC SHIELD	MIC IN+	MIC IN-	AUDIO OUT+	AUDIO OUT-	MUTE CONTROL	LADDER IN 1	LADDER IN 2	LADDER IN GND	ı	-	LADDER OUT 1	LADDER OUT 2	LADDER OUT GND	CONT 1
Color of Wire	SHIELD	G	_	>	В	Œ	BR	٦	Q	ı	-	>	LG	0	В
Terminal No.	9	7	80	6	10	11	12	13	14	15	16	17	18	19	20

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

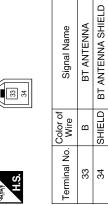


Signal Name	BATT	ACC	IGN	GND	AUDIO OUT SHIELD	
Color of Wire	B/B	G/Y	M/G	В	SHIELD	
Terminal No. Wire	l	7	3	7	9	

Signal Name	BATT	ACC	IGN	GND	AUDIO OUT SHIELD	
Color of Wire	B/B	G/Y	M/G	В	SHIELD	
Terminal No.	1	2	3	4	2	

Connector No.	B142
Connector Name	Connector Name BLUETOOTH CONTROL UNIT
Connector Color BLACK	BLACK





Signal Name

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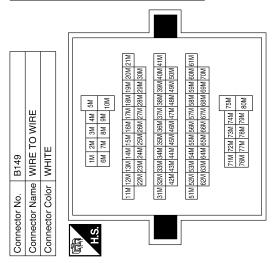
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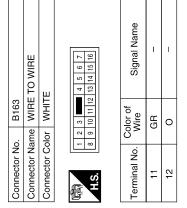
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Signal Name	I	1	1	1	I	1	I
Color of Wire	Ν	0	LG	Т	G	SB	G
Terminal No.	42M	43M	44M	45M	46M	47M	20M

Signal Name	1	I	1	1	I	1	Ι	I	1	-	ı
Color of Wire	B/B	G/Y	В	SHIELD	н	۸	BR	M/G	SHIELD	٦	>
Terminal No.	5M	10M	31M	32M	33M	34M	35M	37M	39M	40M	41M



Connector No.		
Connector Name		WIRE TO WIRE
Connector Color		WHITE
所 H.S. [12] [11]	10 9 8 8 22 21 20	7 6 5 4 3 2 1 1 19 18 17 16 15 14 13
Terminal No.	Color of Wire	Signal Name
-	>	ı
13	SHIELD	1
14	Э	_
15	٦	1



Connector No. Connector Name Connector Color H.S. H.S.		B150 REAR DOOR SPEAKER RH (KING CAB WITH PREMIUM AUDIO SYSTEM) WHITE
-	GR	1
2	0	ı

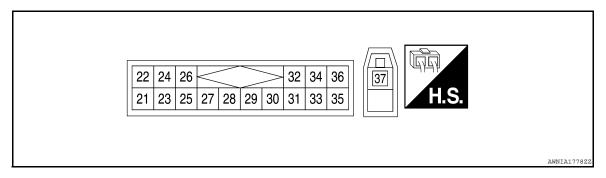
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<u></u>	
WHITE Or of Signal Name NAME AUDIO SYSTEM) WHITE	
│ 	
Connector N Connector N Terminal No.	
WER HA	
WIRE TO WIRE BROWN 2 3	
Connector Name Connector Name 2	
Signal Name MIC OUT + MIC OUT - MIC POWER O WIRE Signal Name	
MICROPHONE	ı
Connector Name MICROPHONE Connector Name MICROPHONE 2 L MIC 4 Y MIC Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color of 6 7 8 9 10 11 12 Terminal No. Wire 4 L/B 11 W/B Signa 11 W/B Signa 11 W/B	
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Revision: October 2009 AV-75 2010 Frontier

SATELLITE RADIO TUNER

Reference Value



PHYSICAL VALUES

Terminal		Description				Reference value		
+	_	Signal name	Input/ Output		Condition	(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		
25	_	Shield			_	_		
26	_	Shield			_	_		
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 -10 -10 -10 -10		

SATELLITE RADIO TUNER

< ECU DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

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	
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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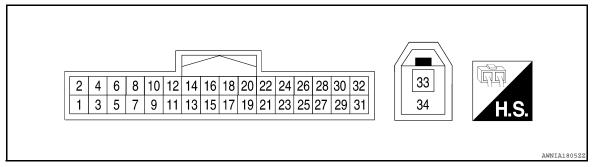
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BLUETOOTH CONTROL UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

Term (wire		Description		Condition		Reference value	
+	_	Signal name	Input/ output		Condition	(Approx.)	
1 (R/B)	Ground	Battery power	Input	_	-	Battery voltage	
2 (G/Y)	Ground	ACC power	Input	Ignition switch ACC/ON	_	Battery voltage	
3 (W/G)	Ground	IGN power	Input	Ignition switch ON/ START	_	Battery voltage	
4 (B)	Ground	Ground	-	_	_	0V	
5	_	Shield	_	_	_	-	
6	_	Shield	_	_	_	-	
7 (G)	8 (L)	MIC in signal	Input	_	_	-	
9 (W)	10 (B)	Audio out	Output	Ignition switch ACC/ON	Bluetooth control unit sends audio signal	(V) 1 0 -1 + 2ms SKIB3609E	
11 (R)	_	Mute control	-	_	_	-	
					Pressing switch	0V	
12	14 (G)	Steering switch sig-	Input	lgnition switch ON	Pressing Δ switch	0.75	
(BR)		(G) nal A input	прис		Pressing VOL up switch	2V	
					Except for above	5V	

BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

	ninal color)	Description	n	Condition		Reference value	
+	_	Signal name	Input/ output	Condition		(Approx.)	
				Ignition switch ON	Pressing MODE switch	0V	
13	14	Steering switch sig-			Pressing ∇ switch	0.75V	
(L)	(G)	nal B	Input		Pressing VOL down switch	2V	
					Except for above	5 V	
					Pressing 🗸 🕦	OV	
17	19	Steering switch sig-	Output	Ignition switch	Pressing △ switch	0.75	
(V)	(O)	nal A	•	ON	Pressing VOL up switch	2V	
					Except for above	5V	
				Ignition switch ON	Pressing MODE switch	0V	
18	19 (O)		Output		Pressing ∇ switch	0.75V	
(LG)					Pressing VOL down switch	2V	
					Except for above	5V	
20 (B)	Ground	Ground	ı	_	_	0V	
21 (B)	Ground	Ground	_	_	_	0V	
22 (B)	Ground	Ground	-	_	_	0V	
28 (SB)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	(V) 15 10 5 0 +-20ms PKIA1935E	
29 (Y)	Ground	Microphone power	Output	Ignition switch ON	_	5V	
33 (B)	_	Bluetooth antenna	_	_	_	-	
34	_	Shield	-	_	_	-	

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SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000005274914

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	Audio unit power circuit Audio unit	• <u>AV-43</u> • <u>AV-41</u>
Steering wheel audio control switch does not operate	Steering wheel audio control switch Audio unit	• <u>AV-53</u> • <u>AV-41</u>
All speakers do not sound	Audio unit Audio unit power circuit	• <u>AV-41</u> • <u>AV-43</u>
One or several speakers do not sound	Front door speaker Front tweeter Rear door speaker	• <u>AV-47</u> • <u>AV-49</u> • <u>AV-51</u>

CD

Symptom	Possible cause	Reference page
CD cannot be inserted.		
CD cannot be ejected.	Audio unit	<u>AV-41</u>
The CD cannot be played.	- Addio driit	
The sound skips, stops suddenly, or is distorted.		

SATELLITE RADIO

Symptom	Possible cause	Reference page
Inoperative	Satellite radio tuner power or ground circuit Satellite radio tuner communication circuit Satellite radio tuner	AV-43AV-55AV-58
Right or left channel does not sound	 Satellite radio tuner right channel audio signal circuit Satellite radio tuner left channel audio signal circuit Satellite radio tuner 	• <u>AV-58</u>

HANDS-FREE PHONE

Symptom	Possible cause	Reference page
Inoperative	Bluetooth control unit power circuit Bluetooth control unit	AV-44AV-42
Steering wheel audio switch does not operate	Steering wheel audio control switch Bluetooth control unit	AV-53AV-42
Voice activated control does not activate	Microphone Steering wheel audio control switch Bluetooth control unit	AV-60AV-53AV-42

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

NORMAL OPERATING CONDITION

Description INFOID:0000000005274915

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 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.	Poor ground of antenna feeder line
A cracking or snapping sound occit is vibrating excessively.	urs while the vehicle is being driven, especially when	Ground wire of body parts Ground due to improper part installation Wiring connections or a short circuit

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Revision: October 2009 AV-81 2010 Frontier

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.

PREPARATION

< PREPARATION >

[PREMIUM AUDIO (KING CAB)]

PREPARATION

PREPARATION

Commercial Service Tools

Tool name		Description
		Loosening bolts and nuts
Power tool		
	PBIC0191E	

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ON-VEHICLE REPAIR

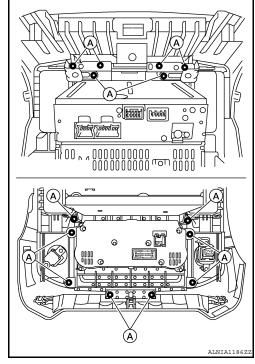
AUDIO UNIT

Removal and Installation

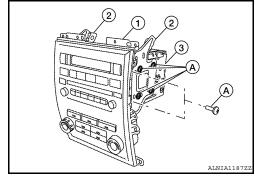
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REMOVAL

- 1. Remove the cluster lid C. Refer to IP-11, "Removal and Installation".
- 2. Remove the center ventilator ducts. Refer to VTL-21, "Removal and Installation".
- 3. Remove the audio unit control screws (A), then remove the audio unit assembly, from cluster lid C.



- 4. Remove the audio unit (3) from the audio control panel (1).
- 5. Remove the audio unit screws (A), using power tool, then remove the audio unit brackets (2).
- 6. Pull out the audio unit (3) from the audio control panel (1).



INSTALLATION

Installation is in the reverse order of removal.

FRONT TWEETER

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (KING CAB)]

FRONT TWEETER

Removal and Installation

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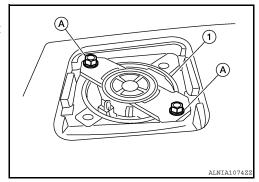
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REMOVAL

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

[PREMIUM AUDIO (KING CAB)]

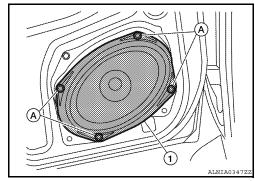
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000005274920

REMOVAL

- 1. Remove the front door finisher. Refer to INT-14, "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

< ON-VEHICLE REPAIR >

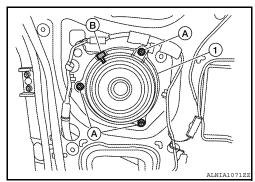
[PREMIUM AUDIO (KING CAB)]

REAR DOOR SPEAKER

Removal and Installation

REMOVAL

- 1. Remove the rear door finisher. Refer to INT-14, "Removal and Installation".
- 2. Remove the rear door speaker screws (A).
- 3. Remove the rear door speaker (1) and disconnect rear door speaker connector (B).



INSTALLATION

Installation is in the reverse order of removal.

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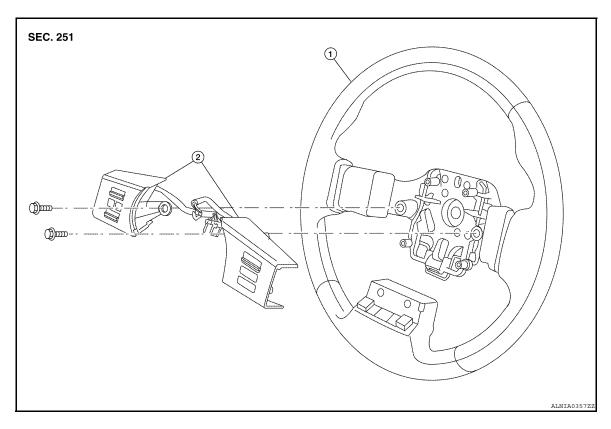
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STEERING SWITCH

Removal and Installation

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Removal and Installation



1. Steering wheel

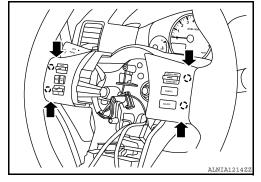
2. Steering wheel audio control switches

REMOVAL

- 1. Remove the driver air bag module. Refer to SR-4, "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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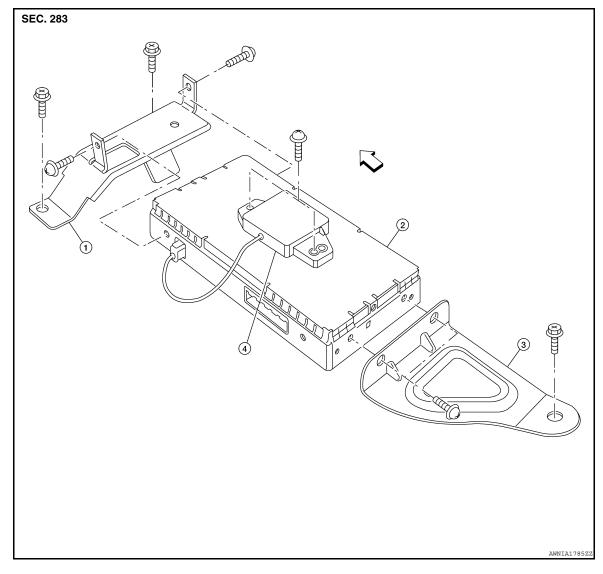
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TEL ANTENNA

Removal and Installation



1. Bluetooth control unit front bracket 2.

Bluetooth antenna

- 2. Bluetooth control unit
- 3. Bluetooth control unit rear bracket

REMOVAL

- 1. Remove the RH front seat. Refer to SE-28, "Removal and Installation".
- 2. Disconnect the Bluetooth antenna harness connector.
- 3. Remove the Bluetooth antenna screws, then remove the Bluetooth antenna.

INSTALLATION

Installation is in the reverse order of removal.

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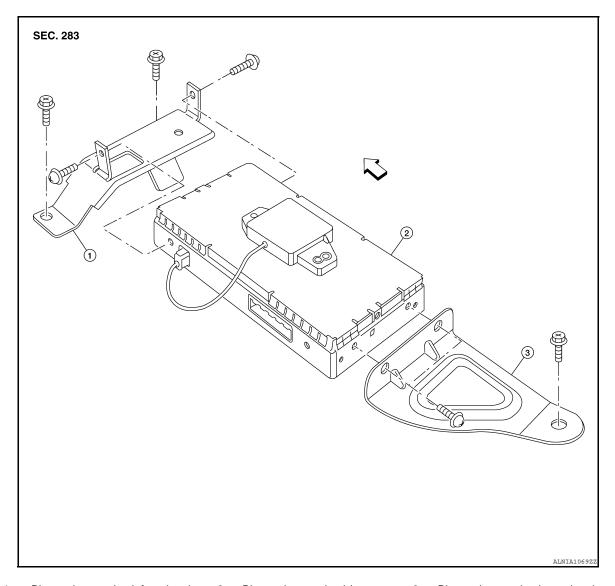
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BLUETOOTH CONTROL UNIT

Removal and Installation

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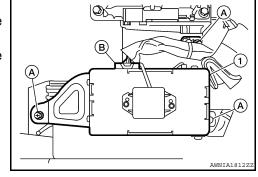


- Bluetooth control unit front bracket 2. Bluetooth control unit/antenna

Bluetooth control unit rear bracket

REMOVAL

- 1. Remove the RH front seat. Refer to SE-28, "Removal and Installation".
- 2. Disconnect the Bluetooth control unit harness connector (B).
- 3. Remove the Bluetooth control unit screws (A), then remove the Bluetooth control unit assembly.
- Remove the Bluetooth control unit bracket screws and remove the Bluetooth control unit (1) front and rear brackets.



BLUETOOTH CONTROL UNIT

ON-VEHICLE REPAIR >	[PREMIUM AUDIO (KING CAB)]		
nstallation is in the reverse order of removal.			

[PREMIUM AUDIO (KING CAB)]

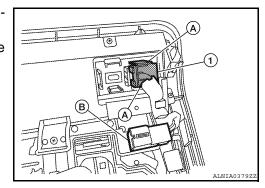
MICROPHONE

Removal and Installation

INFOID:0000000005274925

REMOVAL

- 1. Remove the front roof console finisher. Refer to INT-24, "Removal and Installation".
- 2. Detach the Bluetooth microphone (1) from the front console finisher tabs (A).
- 3. Detach the Bluetooth microphone connector (B) and remove the Bluetooth microphone (1).



INSTALLATION

Installation is in the reverse order of removal.

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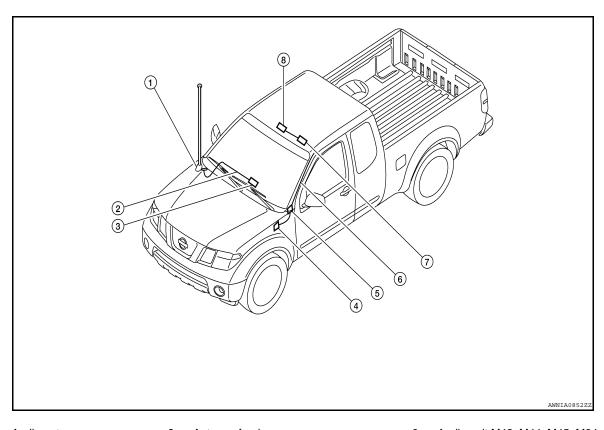
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AUDIO ANTENNA

Location of Antenna



- 1. Audio antenna
- 4. Satellite radio tuner M41, M129
- 7. Harness connector M251
- 2. Antenna feeder
- 5. Harness connector M250, M68
- 8. Satellite antenna

- 3. Audio unit M42, M44, M45, M64
- 6. Satellite antenna feeder

Removal and Installation

REMOVAL

- 1. Remove lower glove box. Refer to IP-11, "Removal and Installation".
- 2. Disconnect audio antenna cable from antenna feeder.

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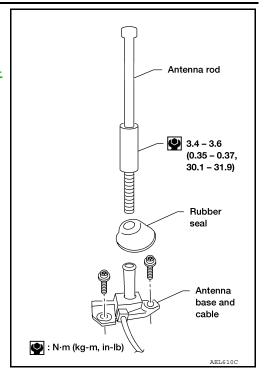
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AUDIO ANTENNA

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (KING CAB)]

- 3. Remove antenna rod.
- 4. Remove rubber seal.
- 5. Remove cowl top. Refer to EXT-19, "Removal and Installation".
- 6. Remove fender protector. Refer to <u>EXT-22</u>, "Removal and Installation of Front Fender Protector".
- 7. Remove antenna base bolts.
- 8. Remove antenna base and cable.



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Always properly tighten the antenna rod during installation or the antenna rod may bend or break during vehicle operation.

AUXILIARY INPUT JACK

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (KING CAB)]

AUXILIARY INPUT JACK

Removal and Installation

INFOID:0000000005571028

Removal

- 1. Remove the cluster lid D. Refer to IP-11, "Removal and Installation".
- 2. Remove the auxiliary input jack.

Installation

Installation is in the reverse order of removal.

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SATELLITE RADIO ANTENNA

[PREMIUM AUDIO (KING CAB)]

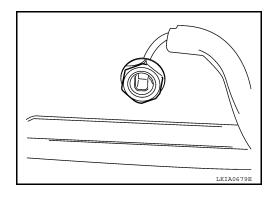
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SATELLITE RADIO ANTENNA

Removal and Installation

REMOVAL

- 1. Remove the roof console. Refer to INT-24, "Removal and Installation".
- 2. Disconnect the satellite radio antenna connector.
- 3. Remove the satellite radio antenna nut.
- 4. Remove the satellite radio antenna.



INSTALLATION

Installation is in the reverse order of removal.

SATELLITE RADIO TUNER

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (KING CAB)]

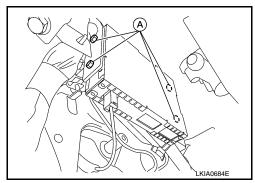
SATELLITE RADIO TUNER

Removal and Installation

Temoval and installation

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.



INSTALLATION

Installation is in the reverse order of removal.

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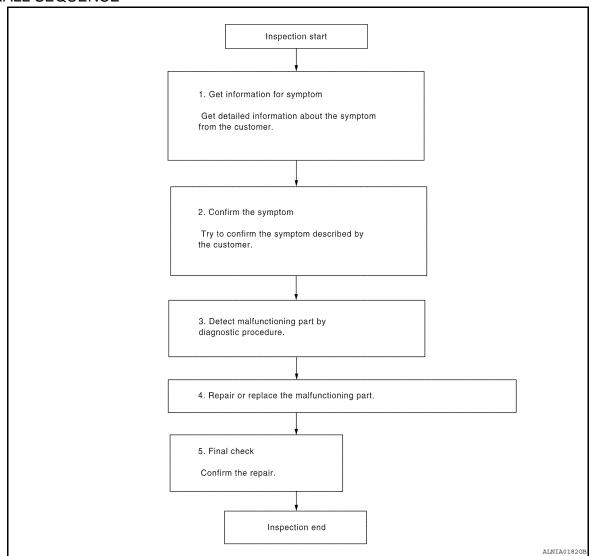
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BASIC INSPECTION

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.

DIA ONOGIO AND DEDAID WORKELOW	
DIAGNOSIS AND REPAIR WORKFLOW < BASIC INSPECTION > [PREMIUM AUDIO (CREW (CAB)]
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. NO >> GO TO 2	

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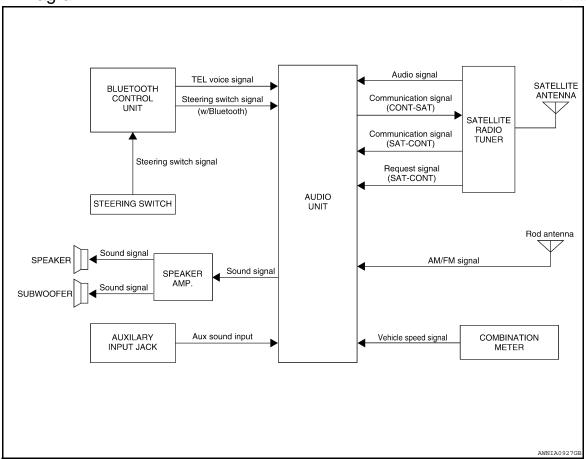
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FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram

INFOID:0000000005274931



System Description

INFOID:0000000005274932

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Audio amp.
- Rod antenna
- Steering wheel audio control switches
- Front door speakers
- Front tweeters
- · Rear door speakers
- Rear door tweeters
- Subwoofer

When the audio system is on, radio signals are received by the rod antenna. The audio unit then sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the front door speakers, front tweeters, rear door speakers, rear door 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
- Satellite radio tuner

When the satellite radio system is on, radio signals are supplied to the satellite radio tuner from the satellite antenna. The satellite radio tuner then sends audio signals to the audio unit.

Refer to Owner's Manual for satellite radio system operating instructions.

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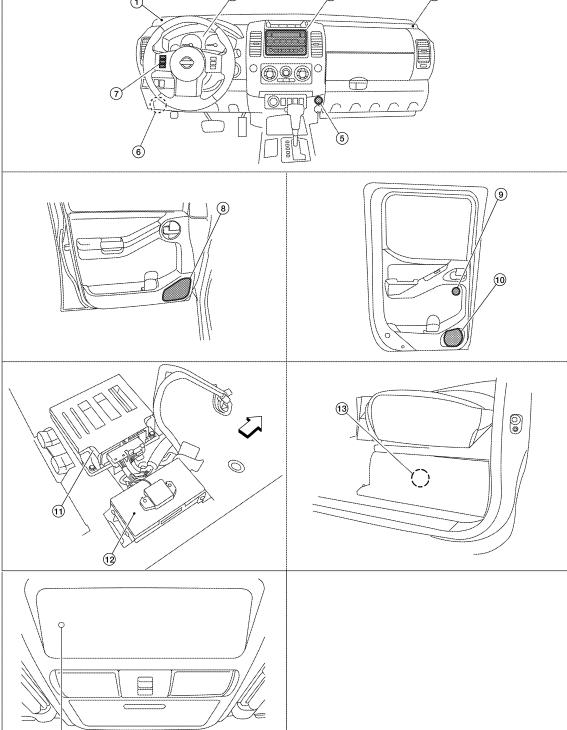
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SPEED SENSITIVE VOLUME SYSTEM

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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AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

⟨□:FRONT

- 1. Front tweeter LH M107
- 4. Aux in jack M85
- 7. Steering wheel audio control switch- 8.

13. Subwoofer B72 (under driver's seat) 14. Microphone R8

10. Rear door speaker LH D206 **RH D306**

- 2. Combination meter M24
- 5. Front tweeter RH M108
- Front door speaker LH D15 RH D110
- 11. Audio amp. B158, B159 (view under 12. Bluetooth control unit B141, B142 passenger front seat)
- Audio unit M46, M48, M65, M66
- 6. Satellite radio tuner M41, M129
- Rear tweeter LH D208 **RH D308**

Component Description

INFOID:0000000005274934

Part name	Description
Audio unit	Controls audio system and satellite radio system functions
Audio amp.	Receives power (amp ON) and audio signals from Audio unit and outputs audio signals to each speaker.
Steering wheel audio control switches	 Start a voice recognition session Answer and end telephone calls Adjust the volume level
Front door speakers	Outputs audio signal from audio amp.Outputs high, mid and low range sounds
Front tweeters	Outputs audio signal from audio amp.Outputs high range sounds
Rear door speakers	Outputs audio signal from audio amp.Outputs high, mid and low range sounds
Rear door tweeters	Outputs audio signal from audio amp.Outputs high range sounds
Subwoofer	Outputs audio signal from audio amp.Outputs low range sounds
Satellite radio tuner	Receives radio signals from satellite antenna Sends audio signals to Audio unit
Satellite antenna	Audio signal (satellite radio) is received and output to Audio unit.

HANDS-FREE PHONE SYSTEM

System Diagram

INFOID:0000000005274935 Sound signal Sound signal STEERING started (TEL voice signal) (TEL voice signal) SWITCH TEL voice (Voice guidance (Voice guidance signal signal) TEL voice signal AUDIO signal) ALIDIO UNIT AMP. **BLUETOOTH** BLUETOOTH ANTENNA CONTROL **SPEAKER** UNIT TFL voice MICROsignal PHONE

System Description

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

NOTE:

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

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

MICROPHONE

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

AUDIO UNIT

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

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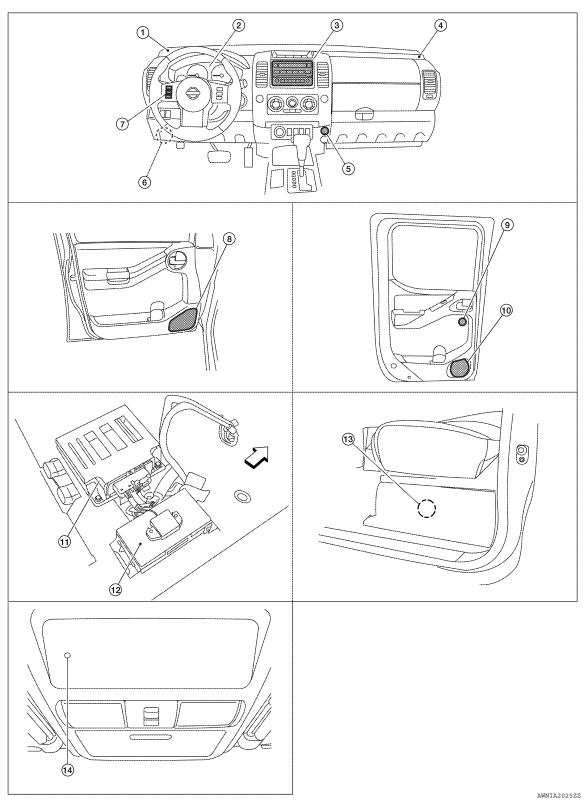
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Component Parts Location

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⟨□:FRONT

- 1. Front tweeter LH M107
- 4. Aux in jack M85
- 7. Steering wheel audio control switches.

Revision: October 2009

- 2. Combination meter M24
- 5. Front tweeter RH M108
- 8. Front door speaker LH D15 RH D110
- 3. Audio unit M46, M48, M65, M66
- 6. Satellite radio tuner M41, M1299. Rear tweeter

9. Rear tweete LH D208 RH D308

HANDS-FREE PHONE SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

10. Rear door speaker LH D206 **RH D306**

- 11. Audio amp. B158, B159 (view under 12. Bluetooth control unit B141, B142 passenger front seat)

13. Subwoofer B72 (under driver's seat) 14. Microphone R8

Component Description

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Part name	Description			
Audio unit	 Receives telephone voice signal from Bluetooth control unit Sends telephone voice and voice guidance signals to the speakers 			
Audio amp.	Receives audio signals from the audio unitOutputs amplified audio signals to the speakers.			
Front door speaker	Descrives telephone voice and voice guidence signals from the guide amp			
Front tweeter	Receives telephone voice and voice guidance signals from the audio 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 control unit	Controls hands-free phone functions			
Bluetooth antenna	Sends telephone voice signal to Bluetooth control unit			

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[PREMIUM AUDIO (CREW CAB)]

DIAGNOSIS SYSTEM (AUDIO UNIT)

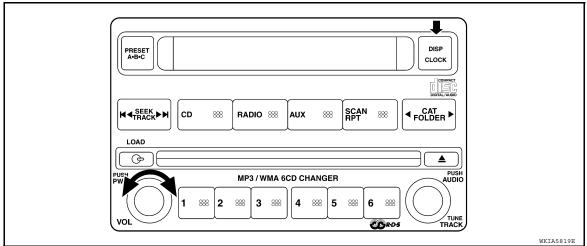
Component Function Check

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2010 Frontier

STARTING THE SELF-DIAGNOSIS MODE

- 1. Turn ignition switch from OFF to ACC.
- 2. Press and hold the "DISP/CLOCK" switch and turn the volume control dial clockwise or counterclockwise for 30 clicks or more.



Then the self-diagnosis operates. A single beep indicates self-diagnosis mode is active.

- 3. Initially, all display segments will be illuminated.
- Press each switch. When each switch is pressed, its name and communication code will be displayed NOTE:

CD player LOAD and EJECT buttons are not included in this test and will not change the display when pressed.

DIAGNOSIS FUNCTION

- It can check for continuity of the switches by sounding the beep when each audio unit switch and steering switch is pressed.
- It can check for continuity of harness between audio unit switch and steering switch.

EXITING THE SELF-DIAGNOSIS MODE

Turn ignition switch OFF. Then the self-diagnosis ends.

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

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DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description

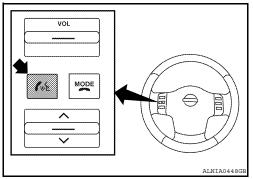
The Bluetooth control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

BLUETOOTH CONTROL UNIT INITIALIZATION CHECKS

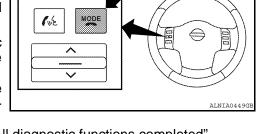
- · Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switches [SEND(♥ √€)/END(MODE)] stuck closed
- Vehicle speed pulse count
- · Microphone connection test (with playback to operator)
- Bluetooth inquiry check

OPERATION PROCEDURE

- 1. Turn ignition switch to ACC or ON.
- 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 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-107</u>, "Work Flow".
- After the failure records are reported, an interactive microphone test will be performed. Follow the voice prompt. If the microphone test fails refer to <u>AV-107</u>, "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-175, "Removal and Installation".			
"Bluetooth antenna open"	Inspect harness connection.			
"Bluetooth antenna shorted"	2. Replace Bluetooth antenna. Refer to AV-175, "Removal and Installation".			
"Phone/Send for Hands Free System is stuck"	Check steering wheel audio control switches. Refer to AV-53, "Diagnosis Procedure".			
"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-177</u>, "<u>Removal and Installation</u>". 			

Revision: October 2009 AV-107 2010 Frontier

[PREMIUM AUDIO (CREW CAB)]

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT: Diagnosis Procedure

INFOID:0000000005274942

Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

1. CHECK FUSES

Check that the following fuses of the audio unit are not are not blown.

Unit	Terminals	Signal name	Fuse No.
Audio unit	6	Battery power	29
Addio driit	10	Ignition switch ACC or ON	4

Are the fuses OK?

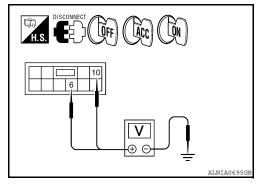
YES >> GO TO 2

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

2. POWER SUPPLY CIRCUIT CHECK

- 1. Disconnect audio unit connector M65.
- 2. Check voltage between the audio unit connector M65 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal	(-)	OH	ACC	ON
M65	6	Ground	0V	Battery voltage	Battery voltage
	10	Ground	Battery voltage	Battery voltage	Battery voltage



Are the voltage results as specified?

YES >> GO TO 3

NO

>> • Check connector housing 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.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER: Diagnosis Procedure

INFOID:0000000005274943

Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

1. CHECK FUSES

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

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

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

Are the fuses OK?

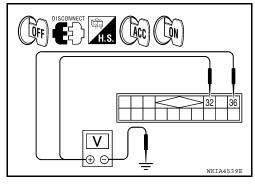
YES >> GO TO 2

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

2. POWER SUPPLY CIRCUIT CHECK

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

(+)	(-)	OFF	ACC	ON
Connector	Terminal	(-) OFF		ACC	ON
M41	32	Ground	Battery voltage	Battery voltage	Battery voltage
	36		0V	Battery voltage	Battery voltage



Are the voltage readings as specified?

YES >> GO TO 3

NO

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

3.GROUND CIRCUIT CHECK

Inspect satellite radio tuner (factory installed) case ground.

Does case ground pass inspection?

YES >> Inspection End.

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

AUDIO AMP

AUDIO AMP: Diagnosis Procedure

INFOID:0000000005274944

Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

1.CHECK FUSE

Check that the audio amp. fuses are not blown.

Unit	Terminal	Signal name	Fuse No.
Audio amp.	1	Battery power	17
Addio amp.	17	Battery power	17

Are the fuses OK?

YES >> GO TO 2

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

2.CHECK POWER SUPPLY CIRCUIT

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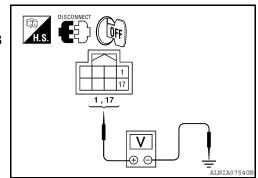
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< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

- 1. Turn ignition switch OFF.
- 2. Disconnect audio amp. connector.
- Check voltage between audio amp. harness connector B158 and ground.

(+)		(-)	Voltage (approx.)	
Connector	Terminal	(-)	voltage (approx.)	
B158	1	Ground	Battery voltage	
2100	17	Cidana	Battory Voltage	



Is battery voltage present?

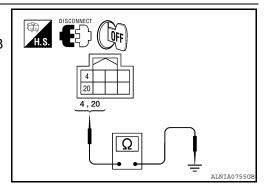
YES >> GO TO 3

NO >> Check harness between audio amp. and fuse.

3. CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect audio amp. connector.
- 3. Check continuity between audio amp. harness connector B158 and ground.

(+)		(-)	Continuity	
Connector	Connector Terminal		Continuity	
B158	4	Ground	Yes	
	20	Ground	res	



Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

BLUETOOTH CONTROL UNIT

BLUETOOTH CONTROL UNIT: Diagnosis Procedure

INFOID:0000000005274945

Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

1. CHECK FUSE

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

Unit	Terminal Signal name		Fuse No.
Bluetooth control unit	1	Battery power	29
	2	Ignition switch ACC or ON	4
	3	Ignition switch ON or START	12

Is inspection result OK?

YES >> GO TO 2.

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

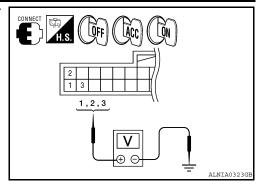
2.CHECK POWER SUPPLY CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

Check voltage between Bluetooth control unit harness connector B141 and ground.

(+)		(-)	OFF	ON	ACC
Connector	Terminal	(-)	OH	ON	ACC
	1	Ground	Battery voltage	Battery voltage	Battery voltage
B141	2		0V	Battery voltage	Battery voltage
	3		0V	Battery voltage	0V



Is battery voltage present as specified?

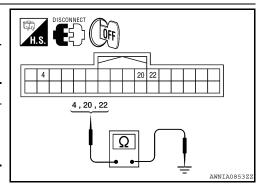
YES >> GO TO 3.

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

3. CHECK GROUND CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect Bluetooth control unit connector.
- Check continuity between Bluetooth control unit harness connector B141 and ground.

Connector	Terminal	_	Continuity
	4		
B141	20	Ground	Yes
	22		



Are continuity results as specified?

YES >> Inspection End.

NO >> Repair harness or connector.

MICROPHONE

MICROPHONE: Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

1. CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

- 1. Turn ignition switch ON.
- Check voltage between microphone harness connector R8 terminal 4 and ground.

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

CONNECT HS. WKIA5796E

Is approximately 5V present?

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

2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

Revision: October 2009 AV-111 2010 Frontier

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[PREMIUM AUDIO (CREW CAB)]

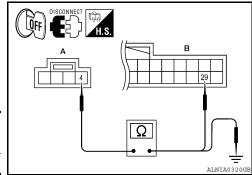
- 1. Turn ignition switch OFF.
- Disconnect microphone and Bluetooth control unit harness connectors.
- Check continuity between microphone harness connector R8

 (A) terminal 4 and Bluetooth control unit harness connector B141 (B) terminal 29.

A		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
R8	4	B141	29	Yes

Check continuity between microphone harness connector R8

 (A) terminal 4 and ground.



Α			Continuity	
Connector	Connector Terminal		Continuity	
R8	4	Ground	No	

Are the continuity test results as specified?

YES >> Replace the Bluetooth control unit. Refer to AV-175, "Removal and Installation".

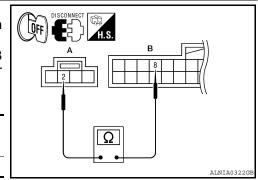
NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect microphone harness connector R8 and Bluetooth control unit harness connector B141.
- Check continuity between microphone harness connector R8

 (A) terminal 2 and Bluetooth control unit harness connector B141 (B) terminal 8.

,	А		В	
Connector	Terminal	Connector	Terminal	Continuity
R8	2	B141	8	Yes



Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

FRONT DOOR SPEAKER

Description INFOID:0000000005274947

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

Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

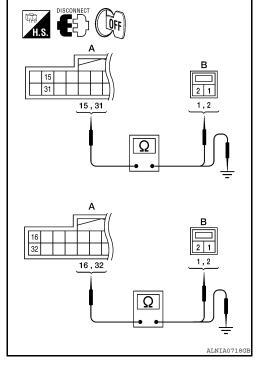
1.SPEAKER HARNESS CHECK

- 1. Disconnect audio amp. connector B159 and suspect speaker connector.
- Check continuity between audio amp. harness connector B159
 (A) and suspect speaker harness connector (B).

	А		В	
Connector	Terminal	Connector	Terminal	Continuity
	15	D15	1	
B159	31	D13	2	Yes
	16	D110	1	165
	32	סווט	2	

Check continuity between audio amp. harness connector B159
 (A) and ground.

	A		Continuity
Connector	Terminal	_	Continuity
	15		No
B159	31	Ground	
D139	16		
	32		



Are continuity test results as specified?

YES >> GO TO 2

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

· Repair harness or connector.

2.FRONT DOOR SPEAKER SIGNAL CHECK

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< COMPONENT DIAGNOSIS >

- Connect audio amp. connector B159 and suspect speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio amp. harness connector B159 terminals with CONSULT-III or oscilloscope.

Connec-	Terr	ninal	Condition	Reference
tor	(+)	(-)	Condition	signal
	15	31		
B159	16	32	Receive audio sig- nal	1 0 1 ms 5 SK FRO 277 E

Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to <u>AV-169</u>, "Removal <u>and Installation"</u>.

NO >> GO TO 3

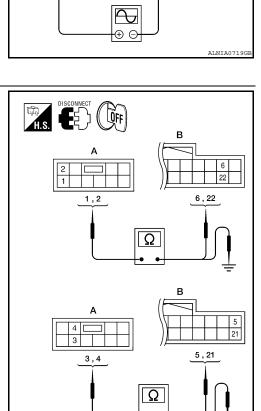
3. PRE-AMP HARNESS CHECK

- 1. Disconnect audio unit connector M65 and audio amp. connector B159.
- 2. Check continuity between audio unit harness connector M65 (A) and audio amp. harness connector B159 (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	1		6	
M65	2	B159	22	Yes
	3		5	165
	4		21	

Check continuity between audio unit harness connector M65 (A) and ground.

	А		Continuity	
Connector	Terminal	_	Continuity	
	1			
M65	2	Ground	No	
IVIOS	3			
	4			



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Are continuity test results as specified?

YES >> GO TO 4

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

• Repair harness or connector.

4.PRE-AMP SIGNAL CHECK

FRONT DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

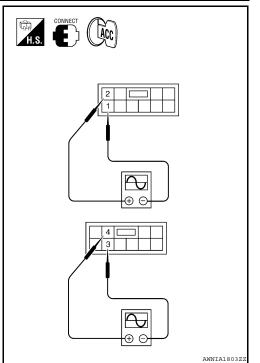
- 1. Connect audio unit connector and audio amp. connector.
- 2. Turn ignition switch ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio unit harness connector M65 terminals with CONSULT-III or oscilloscope.

Connector	Tern	ninals	Condition	Reference
Connector	(+)	(-)	Condition	signal
	2	1		
M65	4	3	Receive audio sig- nal	(V) 1 0 -1 1 ms

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to <u>AV-167, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-166, "Removal and Installation"</u>.



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FRONT TWEETER

Description INFOID:0000000005274949

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

Diagnosis Procedure

INFOID:0000000005274950

Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

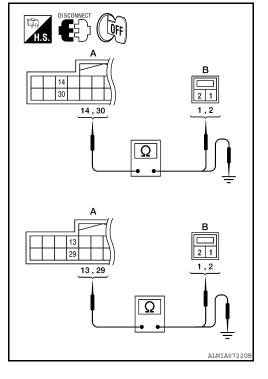
1. HARNESS CHECK

- 1. Disconnect audio amp. connector B159 and suspect tweeter connector.
- 2. Check continuity between audio amp. harness connector B159 (A) and suspect tweeter harness connector (B).

	А		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	14	M107	1	
B159	30	IVI IO7	2	Yes
	13	M108	1	163
	29		2	

3. Check continuity between audio amp. harness connector B159 (A) and ground.

	А		Continuity
Connector	Terminal		Continuity
	14		No
B159	30	Ground	
	13		
	29		



Are continuity test results as specified?

YES >> GO TO 2

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

· Repair harness or connector.

2.FRONT TWEETER SIGNAL CHECK

FRONT TWEETER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

(Acc)

- Connect audio amp. connector B159 and suspect tweeter connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio amp. harness connector B159 terminals with CONSULT-III or oscilloscope.

Connec-	Terr	minal	Condition	Reference
tor	(+)	(-)	Condition	signal
	14	30		
B159	13	29	Receive audio sig- nal	1 0 -1 1 ms skinol775

Is audio signal voltage as specified?

YES >> Replace suspect tweeter. Refer to <u>AV-168, "Removal and Installation"</u>.

NO >> GO TO 3

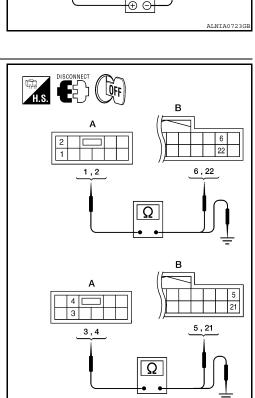
3. PRE-AMP HARNESS CHECK

- 1. Disconnect audio unit connector M65 and audio amp. connector B159.
- 2. Check continuity between audio unit harness connector M65 (A) and audio amp. harness connector B159 (B).

A		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	1		6	
M65	2	B159	22	Yes
	3		5	res
	4	•	21	

Check continuity between audio unit harness connector M65 (A) and ground.

	А	_	Continuity
Connector	Terminal	_	Continuity
	1	- Ground	No
M65	2		
WOS	3		
	4		



Are continuity test results as specified?

YES >> GO TO 4

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

Repair harness or connector.

4.PRE-AMP SIGNAL CHECK

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FRONT TWEETER

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[PREMIUM AUDIO (CREW CAB)]

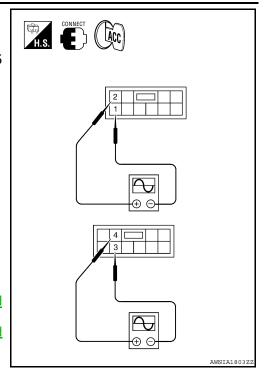
- 1. Connect audio unit connector and audio amp. connector.
- 2. Turn ignition switch ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio unit harness connector M65 terminals with CONSULT-III or oscilloscope.

Connector	Tern	ninals	Condition	Reference
Connector	(+)	(-)	Condition	signal
	2	1		
M65	4	3	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to <u>AV-167, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-166, "Removal and Installation"</u>.



REAR DOOR SPEAKER

Description INFOID:000000005274951

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

Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

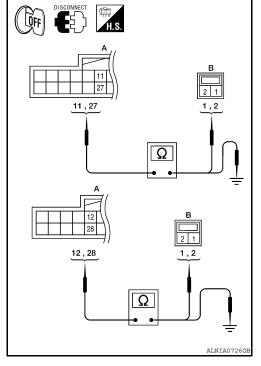
1.SPEAKER HARNESS CHECK

- Disconnect audio amp. connectors B159 and suspect speaker connector.
- 2. Check continuity between audio amp. harness connectors B159 (A) and suspect speaker harness connector (B).

А		В	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
	11	Dane	1	
B159	27	D206	2	Yes
	12	D306	1	res
	28	D300	2	

Check continuity between audio amp. harness connectors B159
 (A) and ground.

Connector	Terminal	-	Continuity	
	11			
B159	27	Ground	No	
B139	12	Glound	NO	
	28			



Are the continuity test results as specified?

YES >> GO TO 2

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

· Repair harness or connector.

2. SPEAKER SIGNAL CHECK

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INFOID:0000000005274952

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- Connect audio amp. connectors and suspect speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio amp. harness connectors B159 terminals with CONSULT-III or oscilloscope.

Connector	Term	ninals	Condition	Reference
Connector	(+)	(-)	Condition	signal
	11	27		
B159	12	28	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to <u>AV-170, "Removal and Installation"</u>.

NO >> GO TO 3

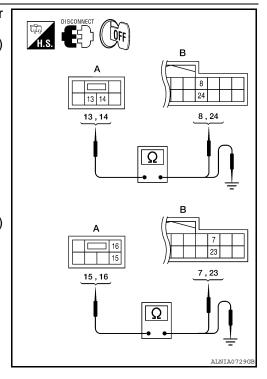
3. PRE-AMP HARNESS CHECK

- 1. Disconnect audio unit connector M66 and audio amp. connector B159.
- 2. Check continuity between audio unit harness connector M66 (A) and audio amp. harness connector B159 (B).

A		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	13		8	
M66	14	D450	24	Yes
IVIOO	15	B159	7	162
	16		23	

Check continuity between audio unit harness connector M66 (A) and ground.

	А	_	Continuity	
Connector	Terminal		Continuity	
	13		No	
M66	14	Ground		
IVIOO	15	Giodila		
	16			



Are the continuity test results as specified?

YES >> GO TO 4

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

· Repair harness or connector.

4.PRE-AMP SIGNAL CHECK

REAR DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

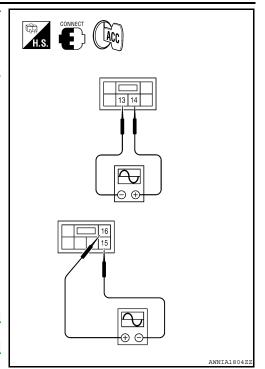
- Connect audio unit connector M66 and audio amp. connector B159.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio unit harness connector M66 terminals with CONSULT-III or oscilloscope.

Connector	Term	ninals	Condition	Reference
Comilector	(+)	(-)	Condition	signal
	14	13		
M66	16	15	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to <u>AV-167, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-166, "Removal and Installation"</u>.



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REAR DOOR TWEETER

Description

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

Diagnosis Procedure

INFOID:0000000005274954

Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

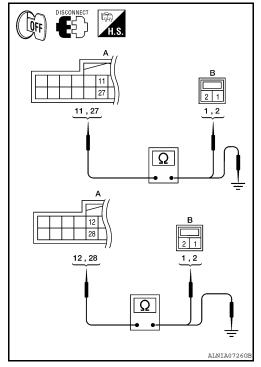
1. SPEAKER HARNESS CHECK

- 1. Disconnect audio amp. connectors B159 and suspect speaker connector.
- Check continuity between audio amp. harness connectors B159
 (A) and suspect speaker harness connector (B).

А		В	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
	11	D208	1	
B159	27	D206	2	Yes
	12	D308	1	res
	28	D306	2	

3. Check continuity between audio amp. harness connectors B159 (A) and ground.

Connector	Terminal	-	Continuity	
	11			
B159	27	Ground	No	
B139	12	Giodila	NO	
	28			



Are the continuity test results as specified?

YES >> GO TO 2

NO

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

• Repair harness or connector.

2. SPEAKER SIGNAL CHECK

REAR DOOR TWEETER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

- Connect audio amp. connectors and suspect speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio amp. harness connectors B159 terminals with CONSULT-III or oscilloscope.

Connector	Term	ninals	Condition	Reference
Connector	(+)	(-)	Condition	signal
	11	27		
B159	12	28	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-171</u>, "Removal and Installation".

NO >> GO TO 3

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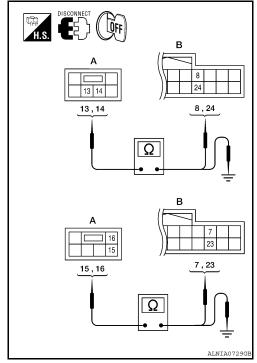
3. PRE-AMP HARNESS CHECK

- 1. Disconnect audio unit connector M66 and audio amp. connector B159.
- 2. Check continuity between audio unit harness connector M66 (A) and audio amp. harness connector B159 (B).

A		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	13		8	
M66	14	D450	24	Yes
	15	B159	7	res
	16		23	

Check continuity between audio unit harness connector M66 (A) and ground.

	А		Continuity
Connector	Terminal		Continuity
	13	Ground	No
M66	14		
IVIOO	15	Ground	NO
	16		



Are the continuity test results as specified?

YES >> GO TO 4

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

Repair harness or connector.

4.PRE-AMP SIGNAL CHECK

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REAR DOOR TWEETER

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[PREMIUM AUDIO (CREW CAB)]

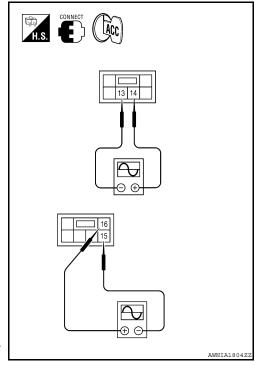
- Connect audio unit connector M66 and audio amp. connector B159.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio unit harness connector M66 terminals with CONSULT-III or oscilloscope.

Connector	Term	ninals	Condition	Reference
Connector	(+)	(-)	Condition	signal
	14	13		
M66	16	15	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to <u>AV-167, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-166, "Removal and Installation"</u>.



[PREMIUM AUDIO (CREW CAB)]

SUBWOOFER

Description

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

Diagnosis Procedure

INFOID:0000000005274956

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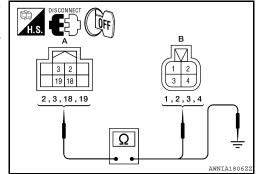
Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

1. SPEAKER HARNESS CHECK

- 1. Disconnect audio amp. connector B158 and subwoofer connector B72.
- Check continuity between audio amp. harness connector B158

 (A) and subwoofer harness connector B72 (B).

A		В		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
	2	B72	1		
B158	18		2	Yes	
	3	DIZ	3	162	
	19		4		



3. Check continuity between audio amp. harness connector B158 (A) and ground.

	Α		Continuity
Connector	Terminal	_	Continuity
	2		No
B158	18	Ground	
D136	3		
	19		

Are the continuity test results as specified?

YES >> GO TO 2

NO

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

• Repair harness or connector.

2. SPEAKER SIGNAL CHECK

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Revision: October 2009 AV-125 2010 Frontier

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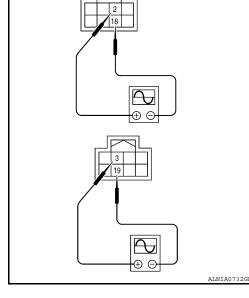
- Connect audio amp. connector B158 and subwoofer connector B72.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio amp. harness connector B158 terminals with CONSULT-III or oscilloscope.

Connector	Term	ninals	Condition	Reference
Connector	(+)	(-)	Condition	signal
	2	18		
B158	3	19	Receive au- dio signal	(V) 1 0 -1 1 ms

Is the audio signal voltage as specified?

YES >> Replace subwoofer. Refer to <u>AV-173, "Removal and Installation"</u>.

NO >> GO TO 3



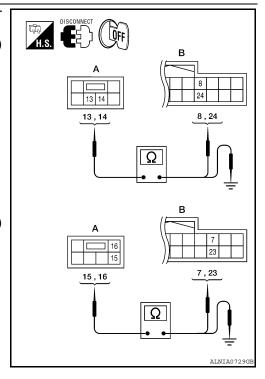
3. PRE-AMP HARNESS CHECK

- Disconnect audio unit connector M66 and audio amp. connector B159.
- 2. Check continuity between audio unit harness connector M66 (A) and audio amp. harness connector B159 (B).

А		В		Continuity
Connector	Terminal	Connector Terminal		Continuity
	13	B159	8	
M66	14		24	Yes
IVIOO	15		7	res
	16		23	

Check continuity between audio unit harness connector M66 (A) and ground.

	А	_	Continuity	
Connector	Terminal			
	13		No	
M66	14	Ground		
IVIOO	15	Ground		
•	16		l	



Are the continuity test results as specified?

YES >> GO TO 4

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

• Repair harness or connector.

4.PRE-AMP SIGNAL CHECK

SUBWOOFER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

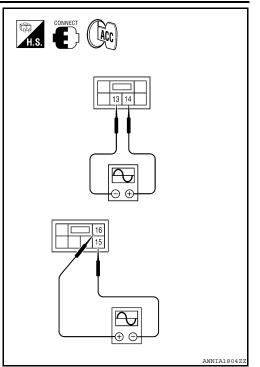
- Connect audio unit connector M66 and audio amp. connector B159.
- 2. Turn ignition switch to ACC.
- 3. Push "POWER" switch.
- 4. Check the signal between audio unit harness connector M66 terminals with CONSULT-III or oscilloscope.

Connector	Term	ninals	Condition	Reference
Connector	(+)	(-)	Condition	signal
	14	13		
M66	16	15	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to <u>AV-167, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-166, "Removal and Installation"</u>.



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AMP ON SIGNAL CIRCUIT

Description

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

Diagnosis Procedure

INFOID:0000000005274958

Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

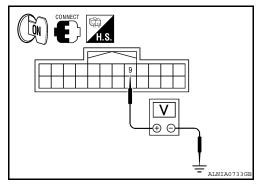
1. CHECK AMP ON SIGNAL

- 1. Turn audio system ON.
- 2. Check voltage between audio amp. harness connector B159 terminal 9 and ground.

9 - Ground : More than 6.5V

Is battery voltage present?

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



2. CHECK AMP ON SIGNAL (AUDIO UNIT)

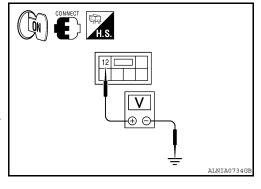
Check voltage between audio unit harness connector M66 terminal 12 and ground.

12 - Ground : More than 6.5V

Is battery voltage present?

YES >> Repair harness or connector.

NO >> Replace audio unit. Refer to <u>AV-166, "Removal and</u> Installation".



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INFOID:0000000005274960

STEERING SWITCH

Description

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.

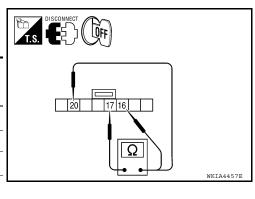
Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

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.

Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
		Seek (down)	Depress ∇ switch.	165
16	17	Volume (down)	Depress VOL down switch.	487
		Mode/end	Depress MODE switch.	0
		Seek (up)	Depress △ switch.	165
20	17	Volume (up)	Depress VOL up switch.	487
		Phone/send	Depress € w≥ switch.	0



Do the steering wheel audio control switches check OK?

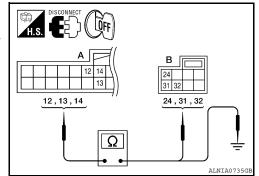
YES >> GO TO 2

NO >> Replace steering wheel audio control switch. Refer to AV-172, "Removal and Installation".

2. CHECK HARNESS

- 1. Disconnect Bluetooth control unit harness connector B141 and spiral cable harness connector M30.
- 2. Check continuity between Bluetooth control unit harness connector B141 (A) and spiral cable harness connector M30 (B).

	١		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	12		24	
B141	13	M30	32	Yes
	14		31	



3. Check continuity between Bluetooth control unit connector B141 (A) and ground.

	A	_	Continuity
Connector	Terminal		
	12		
B141	13	Ground	No
	14		

Are the continuity results as specified?

< COMPONENT DIAGNOSIS >

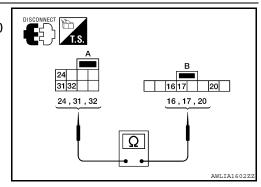
YES >> GO TO 3

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).

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



Does the spiral cable check OK?

YES >> Inspection End.

NO >> Replace spiral cable. Refer to <u>SR-6</u>, "Removal and Installation".

COMMUNICATION SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

COMMUNICATION SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER: Description

INFOID:0000000005274961

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

SATELLITE RADIO TUNER: Diagnosis Procedure

INFOID:0000000005274962

Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

1. CHECK HARNESS - REQ1

- 1. Turn ignition switch OFF.
- Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M48.
- 3. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and audio unit harness connector M48 (B) terminal 48.

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	28	M48	48	Yes

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

	H.S. CE OFF
	В [] [28]]]
	148
	$\overline{\Box}$
L	ALNIA0709GB

DISCONNECT (

Α			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 - TXD

 Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 29 and audio unit harness connector M48 (B) terminal 49.

Α		В		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
M41	29	M48	49	Yes	

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

)	H.S. DISCONNECT OFF
	B 49
)	
	AT NITA OZOZER

А			Continuity	
Connector	Terminal		Continuity	
M41	29	Ground	No	

Are continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

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3.CHECK HARNESS - RXD

1. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and audio unit harness connector M48 (B) terminal 50.

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	30	M48	50	Yes

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

H.S. DISCONNECT OFF
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A		_	Continuity	
Connector	Terminal		Continuity	
M41	30	Ground	No	

Are continuity results as specified?

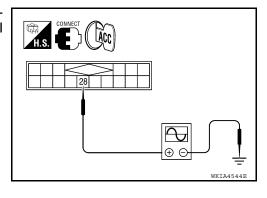
YES >> GO TO 4

NO >> Repair harness or connector.

4. CHECK REQ1 SIGNAL

- 1. Connect satellite radio tuner (factory installed) connector and audio unit connector.
- 2. Turn ignition switch to ACC
- 3. Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 28 and ground with CONSULT-III or oscilloscope.

(+)		()	D. farmania and	
Connector	Terminal	(-)	Reference signal	
M41	28	Ground	(V) 15 10 5 0 ** 20ms SKIB3825E	



Are voltage readings as specified?

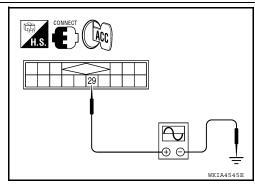
YES >> GO TO 5

NO >> Replace audio unit. Refer to AV-84, "Removal and Installation".

5. CHECK TXD SIGNAL

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

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



2010 Frontier

COMMUNICATION SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

Are the voltage readings as specified?

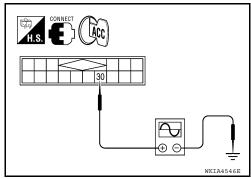
YES >> GO TO 6

NO >> Replace satellite radio tuner.

6.CHECK RXD SIGNAL

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

(+)		()	Potoronoo 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-97, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-84, "Removal and Installation".

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SOUND SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER: Description

INFOID:0000000005274963

Left and right channel audio signals are supplied from the satellite radio tuner to the audio unit through the sound signal circuits.

SATELLITE RADIO TUNER: Diagnosis Procedure

INFOID:0000000005274964

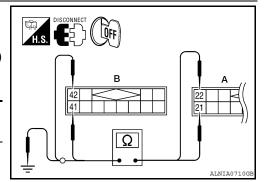
Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

LEFT CHANNEL

1. CHECK HARNESS

- 1. Turn ignition switch OFF.
- 2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M48.
- 3. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and audio unit connector M48 (B).

A	\	E	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M41	21	M48	41	Yes
1014-1	22	10140	42	165



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

А			Continuity
Connector	Terminal	_	Continuity
M41	21	Ground	No
10141	22	Giodila	NO

Are continuity results as specified?

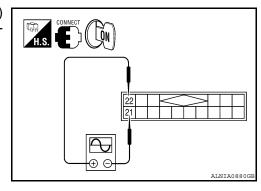
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK LEFT CHANNEL AUDIO SIGNAL

- 1. Connect satellite radio tuner (factory installed) and audio unit.
- 2. Turn ignition switch ON.
- 3. Check signal between satellite radio tuner (factory installed) connector M41 terminals 21 and 22 with CONSULT-III or oscilloscope.

(+)		(-) Reference signal		
Connector	Terminal	Terminal	Telerence signal	
M41	22	21	(V) 1 0 -1 + 2ms SKIB3609B	



Are voltage readings as specified?

SOUND SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

YES >> Replace audio unit. Refer to AV-84, "Removal and Installation".

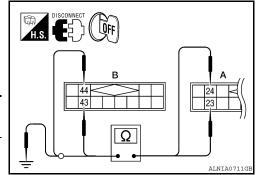
NO >> Replace satellite radio tuner. Refer to AV-97, "Removal and Installation".

RIGHT CHANNEL

1. CHECK HARNESS

- 1. Turn ignition switch OFF.
- 2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M48.
- 3. Check continuity between satellite radio tuner (factory installed) M41 (A) and audio unit M48 (B).

	1	E	Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
M41	23	M48	43	Yes	
1714 1	24	10140	44	163	



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

	А		Continuity	
Connector	Terminal		Continuity	
M41	23	Ground	No	
1014 1	24	Giouna	INO	

Are continuity results as specified?

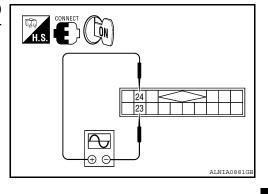
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK RIGHT CHANNEL AUDIO SIGNAL

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

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



Are voltage readings as specified?

YES >> Replace audio unit. Refer to AV-84, "Removal and Installation".

NO >> Replace satellite radio tuner. Refer to AV-97, "Removal and Installation".

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MICROPHONE SIGNAL CIRCUIT

Description INFOID.000000005274965

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

Diagnosis Procedure

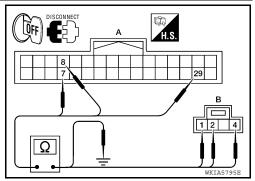
INFOID:0000000005274966

Regarding Wiring Diagram information, refer to AV-141, "Wiring Diagram".

1. CHECK HARNESS BETWEEN BLUETOOTH CONTROL UNIT AND MICROPHONE

- 1. Turn ignition switch OFF.
- 2. Disconnect Bluetooth control unit connector and microphone connector.
- 3. Check continuity between Bluetooth control unit harness connector B141 (A) and microphone harness connector R8 (B).

	A		Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
	7		1		
B141	8	R8	2	Yes	
	29		4		



4. Check continuity between Bluetooth control unit harness connector B141 (A) and ground.

	Α	_	Continuity	
Connector	Terminal		Continuity	
	7			
B141	8	Ground	No	
	29			

Are the continuity test results as specified?

YES >> GO TO 2

NO >> Repair harness or connector.

2. CHECK MICROPHONE POWER SUPPLY

- 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.

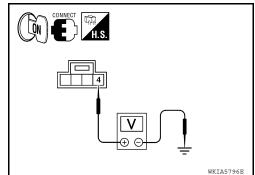
4 - Ground : Approx. 5V

Is voltage reading approx. 5 volts?

YES >> GO TO 3

NO >> Replace Bluetooth control unit. Refer to <u>AV-90</u> "Removal and Installation".

3.CHECK MICROPHONE SIGNAL



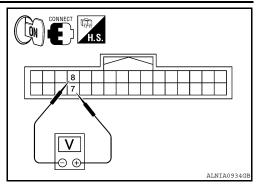
MICROPHONE SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

Check signal between Bluetooth control unit harness connector B141 terminals 7 and 8 with CONSULT-III or and oscilliscope.

Connector	(+) Terminal	Reference signal	
B141	7	8	While speaking into MIC (V) 2.5 2.0 1.5 1.0 0.5 0 PKIB5037J



Are voltage readings as specified?

YES >> Replace Bluetooth control unit. Refer to AV-90, "Removal and Installation".

NO >> Replace microphone. Refer to AV-92, "Removal and Installation".

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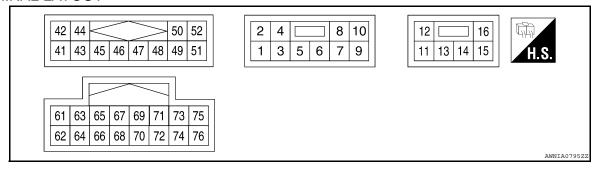
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ECU DIAGNOSIS

AUDIO UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal color)	Item	Signal input/		Condition	Reference value (Approx.)		
+	_		output			(, (p), (s, s)		
2 (W)	1 (B)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms :		
4 (Y)	3 (BR)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms		
6 (Y)	Ground	Battery power	Input	_	_	Battery voltage		
7 (GR)	Ground	Illumination control signal	Input	Ignition switch ON	Illumination control switch is operated by lighting switch in 1st position.	Changes between 0 and 12V		
8	Ground	Illumination circus	lancis.	OFF	Lighting switch is in 1st position.	Battery voltage		
(R)	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	0V		
9	_	Shield	_	_	_	0V		
10 (G/B)	Ground	ACC signal	Input	Ignition switch ON	-	Battery voltage		
12 (G/W)	Ground	Amp ON signal	Output	Ignition switch ON	-	Battery voltage		

[PREMIUM AUDIO (CREW CAB)]

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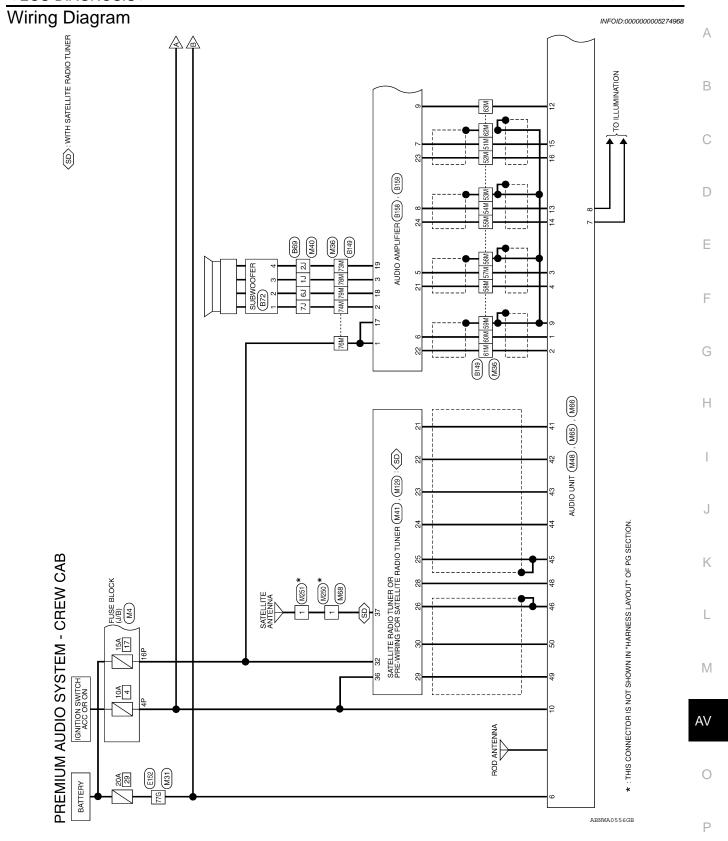
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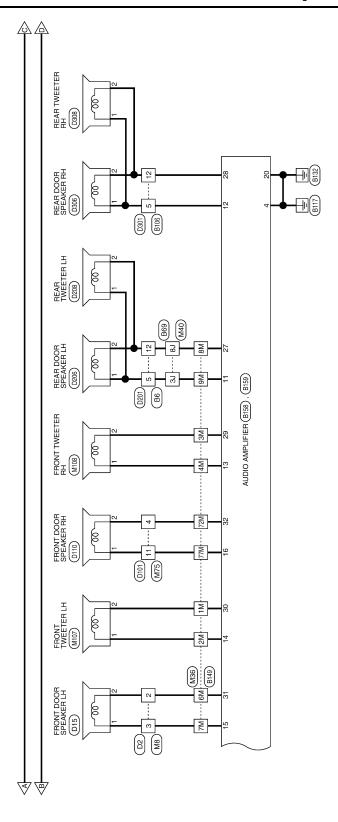
ΑV

	GNUSIS					LEMICHI AGDIG (CREW GAD)
	ninal color)	Item	Signal input/		Condition	Reference value (Approx.)
+	_		output			V 11 - 7
14 (BR)	13 (B/R)	Audio sound signal rear LH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E
16 (L)	15 (B/W)	Audio sound signal rear RH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms
42 (R)	41 (G)	Satellite radio audio signal LH	Input	Ignition switch ON	Satellite radio tuner operating	(V) 1 0 -1 + 2ms SKIB3609E
44 (B)	43 (W)	Satellite radio audio signal RH	Input	Ignition switch ON	Satellite radio tuner operating	(V) 1 0 -1 + 2ms SKIB3609E
45	_	Ground	_	_	_	0V
46	_	Data ground	_	_	_	0V
48 (O)	-	REQ (SAT→AV control unit)	Input	Ignition switch ON	_	_
49 (P)	-	RX (SAT→AV control unit)	Input	Ignition switch ON	_	_
50 (L)	_	TX (AV control unit→SAT)	Input	Ignition switch ON	-	_
62 (W)	61 (B)	Telephone signal input	Input	Ignition switch ACC/ON	Bluetooth control unit sends audio signal	(V) 1 0 -1 + 2ms SKIB3609E
63 (R)	-	Mute control	-	_	_	-
64	_	Shield	_	_	_	0V

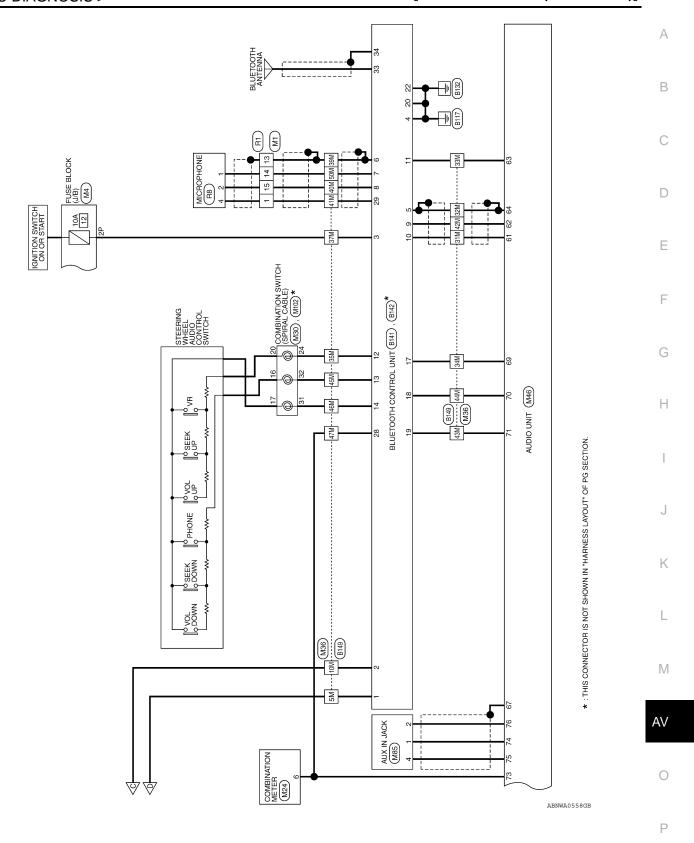
[PREMIUM AUDIO (CREW CAB)]

	ninal color)	Item	Signal input/ output		Condition	Reference value (Approx.)
67	_	Shield	_	Ignition switch ON	_	0V
					Pressing 🗸 🎺	0V
69	71	Steering switch sig-	Input	Ignition switch	Pressing △ switch	0.75
(V)	(O)	nal A	прис	ON	Pressing VOL up switch	2V
					Except for above	5V
					Pressing MODE switch	0V
70	71	Steering switch sig-		Ignition	Pressing ∇ switch	0.75V
(LG)	(O)	nal B	Input	switch ON	Pressing VOL down switch	2V
					Except for above	5 V
73 (SB)	Ground	Vehicle speed sig- nal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	(V) 15 10 5 0 + + 20ms
74 (W)	Ground	Auxiliary audio in- put RH (+)	Input	Ignition switch ON	Receive audio signal (AUX input)	(V) 1 0 -1 1 ms
75 (B)	Ground	Auxiliary audio input LH (+)	Input	Ignition switch ON	Receive audio signal (AUX input)	(V) 1 0 -1 1 ms
76 (R)	-	Shield	ı	-	_	0V





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PREMIUM AUDIO SYSTEM CONNECTORS - CREW CAB

							1	
	E TO WIRE	NN	1 3 2 1 8 4 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Signal Name	1	1		
M8	e WIRE	or BRO	5 4 1 10 9	Color of Wire	_	BR		
Connector No.	Connector Name WIRE TO WIRE	Connector Color BROWN	明.S.	Terminal No. Wire	2	က		
				е				
M4	Connector Name FUSE BLOCK (J/B)	VHITE	7P 6P 5P 4P 3P 12P 11P 10P 9P 8P 8P 1P	of Signal Name	1	-	I	
	ame F	olor	7P 6P 5P 4P C	Color o	M/G	G/B	B/B	
Connector No.	Connector N	Connector Color WHITE	H.S.	Terminal No. Wire	2P	4P	16P	
	E TO WIRE		6 7 8 9 10 11 12 18 19 20 21 22 23 24	Signal Name	1	I	I	1
M	ne WIRE	or WHIT	3 4 5 15 16 17	Solor of Wire	\	SHIELD	g	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No. Wire	1	13 8	14	15



Connector Name COMBINATION SWITCH

Connector Name | COMBINATION METER

M24

Connector No.

WHITE

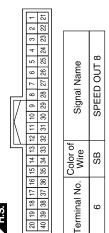
Connector Color

Connector No.

Connector Color GRAY

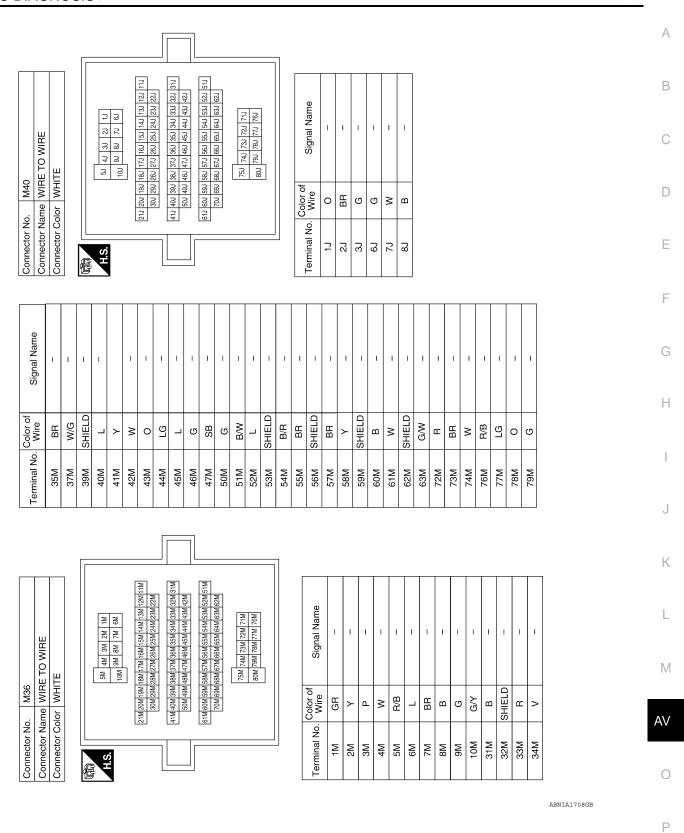


Signal Name	STRG SW A (UP)	STRG SW GND	STRG SW B (DOWN)
Color of Wire	BR	В	٦
Terminal No.	24	31	32



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Revision: October 2009

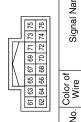


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Connector No.	M48
Connector Name	Connector Name WITH PREMIUM AUDIO SYSTEM)
Connector Color WHITE	WHITE

Signal Name	(-)	(+)	R (-)	R(+)	EARTH (SIG)	DATA EARTH	I	REQ	RX	ΤX	-	ı
Color of Wire	ŋ	Œ	8	В	SHIELD	SHIELD	-	0	۵	Т	_	1
Terminal No.	41	42	43	44	45	46	47	48	49	50	51	52





TEL SIG INPUT (+)

TEL SIG ON TRIG

TEL SIG GND

SHIELD

SHIELD

64 65 66 67 68 69 69 70

TEL SIG INPUT (-)

В ∣≥ α

62 63

Signal Name

Terminal No.





	O TUNER FOR IO TUNER		98	32]
	SATELLITE RADIO TUNER OR PRE-WIRING FOR SATELLITE RADIO TUNER	WHITE	32 34	23 25 27 28 29 30 31 33	
4			22 24 26	33 25	
	Name	Color	22	21 2	

M41

Connector No.

Connector I Connector (

36	35	
ਲ	33	
32	31	
Λ	30	
VΝ	29	
NΛ	28	
V	27	
56	25	
24	23	
ន	21	



Signal Name	SAT LCH (-)	SAT LCH (+)	SAT RCH (-)	SAT RCH (+)	EARTH (SIG)	DATA EARTH	I	REQ1	TXD	RXD	I	BACKUP	ı	I	-	ACC
Color of Wire	ŋ	œ	>	В	SHIELD	SHIELD	ı	0	Д	_	ı	R/B	ı	ı	ı	G/B
Terminal No.	21	22	23	24	25	56	27	28	29	30	31	32	33	34	35	36

REMOTE GND SWC

SPEED SIGNAL

SB

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AUX R+ AUX L+ **AUX GND**

REMOTE B SWC REMOTE A SWC

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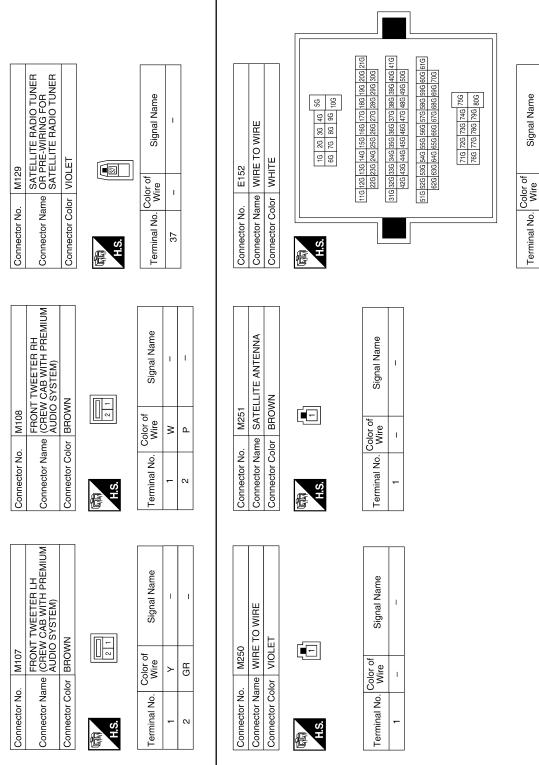
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Connector Color WHITE Signal Name FRSP HH (+) T2 GW AMP ON/OFF SIG T4 BR RRSP HH (+) T5 BR RRSP HH (+) T6 BR T6	,,	SYSTEM)			SYSTEM)	Connector Color	ame WIRE I	Connector Name WIRE TO WIRE
A	Connector Color	WHITE	Connector		1		Ę	<u>ح</u>
Signal Name	2 -	8 1	E H.S.	12 11 13	16 15 14 15 15 15 15 15 15 15 15 15 15 15 15 15	H.S. Terminal No.	Color c	
FRSP LH (+)	Terminal No. Wir		Terminal N	Color of Wire	Signal Name	-	ı	1
Marie Mari	В		1	_	I			
SP	*		12	G/W	AMP ON/OFF SIG			
Y FRSP RH (+) 14 BR RRSP RH (+) - - - 15 BW RRSP RH (+) GR ILL CONT R RRSP RH (+) Connector Number GRD GND GND Connector Name AUX IN JACK Connector Name AUX IN JACK Connector Name AUX IN JACK Connector Name CON JACK CON J	BF		13	B/B	RRSP LH (-)			
Factor F	>	FRSP	14	BR	RRSP LH (+)			
Y BAT (BACK UP) 16		1	15	B/W	RRSP RH (-)			
ILL CONT R	>		16	_	RRSP RH (+)			
HIELD GND GND GND GND GND GND GND GND GND GN	g	□						
III GND ACC Connector No. M85 Connector No. Connector No. Connector Name AUX IN JACK Connector Name AUX IN JACK Connector Name AUX IN JACK Connector Color Autre Connector Color Autre Connector Color Autre Autre Autre Autre Connector Color Autre	<u>«</u>							
M75 M85 Connector No. M85 Connector No. M85 Connector Name AUX IN JACK Connector Name AUX IN JACK Connector Color WHITE Connector Color WHITE Connector Color WHITE Connector Color White Signal Name Terminal No. Wire Signal Name Terminal No. Wire CoMMON Terminal No. Wire COMMON Terminal No. Wire COMMON Terminal No. Wire Termina	SHIE		T					
WITE Connector No. M85 Connector No. WITE Connector Name AUX IN JACK Connector Name Connector Name Connector Name Connector Name Connector Color MHITE Connector Name MHITE Connector Name MHITE Connector Color MHITE Connector Name MHITE Connector Name MHITE Connector Name MHITE Connector Name MHITE Connector Color MHITE Connector Name MHITE Connector Color MHITE Connector Name MHITE Connector Name MHITE Connector Color MHITE MHITE Connector Color MHITE MHITE Connector Color MHITE	ß							
WINE TO WINE		M75	Connector			Connector No		
WHITE Connector Color WHITE Connector Color GRAY 4 3 2 1	ne	WIRE TO WIRE	Connector		(IN JACK	Connector Na	Je J	BINATION SWITCH
Signal Name	1	WHITE	Connector		TE	Connector Co	_	>
Color of Wire Signal Name Terminal No. Wire Color of Wire Signal Name Terminal No. Wire R - 2 R COMMON Terminal No. Wire LG - 4 B L+ 16 L 17 BR 20 W	12 1	9 8 7	是 H.S.	4	2 1		14 15 16 17	18 19 20 21
1 W R+ Color of Color of Wire 16 L 17 BR 20 W 17 BR 17 BR	Terminal No. Wir	Signal	Terminal N			i.		
2 R COMMON Terminal No. Wire 4 B L+ 16 L 17 BR 20 W	α.	1	-	8	#		Color of	
16 L 17 BR 20 W	LG	ı	2	Œ	COMMON	Terminal No.	Wire	Signal Name
W W		-	4	В	L+	16	_	ı
M						17	BB	1
						20	8	ı

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Signal Name	ı	I	ı	I	ı	I																				
Color of Wire	0	BR	ŋ	5	>	В																				
Terminal No.	17	2J	3.1	9	7.1	81																				
													_													
Connector No. B69		-		11 20 31 41 50	6 7 8 9 10		11.1 12.1 13.1 14.1 15.1 16.1 17.1 18.1 19.1 20.0 21.1 21.1 22.1 23.1 24.1 25.1	[31] [32] [33] [34] [35] [35] [35] [35]	42J 43J 44J 45J 46J 47J 48J 49J 50J	57.1 52.1 53.1 54.1 55.1 56.1 57.1 56.1 59.1 69.0 67.1 (2.2 63.1 64.1 65.1 66.1 66.1 66.1 67.1 68.1 67.1	132	7.11 723 733 734 744 745 747 747 747 747 747 747 747 74				-	Connector Color WHITE	1 2 3 mm 4 5 6 7 8 9 10 11 12		Terminal No. Color of Signal Name	GR	12 0 -				
B6 WIRE TO WIRE	WHITE	1	3 4 5	8 9 10 11			r of Signal Name	-	ı					270	0/2	SUBWOOFER	GRAY		1 2		of Signal Name	REAR LEFT (+)	REAR LEFT (-)	REAR RIGHT (+)	REAR RIGHT (-)	
٩		_	1 2	-			Vo. Color of Wire	G	В							\rightarrow	$\overline{}$				No. Wire	3	g	0	BB	
Connector No.	Connector Color			SI			Terminal No.	9	12						Collinector No.	Connector Name	Connector Color		Σ. Σ.		Terminal No.	-	2	3	4	
									_					•												ABNIA1712GB

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_	_	_	1			
2	Connector Name BLUETOOTH CONTROL UNIT	CK		Signal Name	BT ANTENNA	
. B142	me BLL	lor BLA		Color of Wire	В	
Connector No.	Connector Na	Connector Color BLACK	南 H.S.	Terminal No.	33	

01	Connector Name BLUETOOTH CONTROL UNIT	OK		Signal Name	BT ANTENNA	BT ANTENNA SHIFLD
. B142	me BLU	lor BLACK		Color of Wire	В	SHIFID
Connector No.	Connector Na	Connector Color	H.S.	Terminal No.	33	34

Signal Name	MUTE CONTROL	LADDER IN 1	LADDER IN 2	LADDER IN GND	ı	ı	LADDER OUT 1	LADDER OUT 2	LADDER OUT GND	CONT 1	_	CONT 3	-	_	I	_	-	SPEED SIGNAL	MIC POWER	_	1	_
Color of Wire	œ	BR	_	ŋ	,	1	>	LG	0	В	1	В	1	_	ı	ı	ı	SB	٨	-	ı	1
Terminal No.	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

	BLUETOOTH CONTROL UNIT	TE		18 20 22 24 26 28 30 32 17 19 21 23 25 27 29 31	Signal Name	BATT	ACC	IGN	GND	AUDIO OUT SHIELD	MIC SHIELD	MIC IN+	MIC IN-	+ TUO OIDA	AUDIO OUT -
. B141		lor WHITE		12 14 16 11 13 15	Color of Wire	B/B	G/Y	M/G	В	SHIELD	SHIELD	ŋ	_	Λ	В
Connector No.	Connector Name	Connector Color	南 H.S.	2 4 6 8 10 1 3 5 7 9	Terminal No.	-	2	ဗ	4	5	9	7	8	6	10

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Connector No B149			Color of			Color of	
Connector Name WIBF TO WIBF		Terminal No.		Signal Name	Terminal No.		Signal Name
		8M	В	ı	52M	_	1
1		M6	ŋ	1	53M	SHIELD	ı
		10M	G/Y	1	24M	B/B	ı
1M 2M 3M 4M 5M		31M	В	1	55M	BB	I
6M 7M 8M 9M 10M		32M	SHIELD	1	26M	SHIELD	1
		33M	Œ	ı	57M	BB	I
11M 12M 13M 14M 15M 16M 17M 18M 19M 20M 21M	9M 20M 21M	34M	>	ı	28M	>	I
		35M	BB	1	29M	SHIELD	I
31M 32M 33M 34M 35M 36M 37M 38M 39M 40M 41M	39M 40M 41M	37M	M/G	ı	W09	В	I
MOT MOT MOT		39M	SHIELD	ı	61M	>	I
51M 52M 53M 54M 55M 56M 57M 58M 59M 60M 61M	59M 60M 61M	40M	_	ı	62M	SHIELD	I
w perint both both by the point both it bin	Dain / Olivi	41M	>	1	WE9	G/W	ı
71M 72M 73M 74M 75M		42M	>	1	72M	Œ	ı
76M 77M 78M 79M 80M		43M	0	ı	73M	BB	I
		44M	P	ı	74M	>	ı
		45M		ı	76M	B/B	I
Wire Signal Name	ЭС	46M	ŋ	1	77M	P	I
ı		47M	SB	1	78M	0	ı
ı		20M	5	1	M62	ŋ	ı
ı		51M	B/W	1			
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Signal Name	FR TW (+)	FR TW (+)	FRSP LH OUT (+)	FRSP RH OUT (+)	FRSP RH (+) IN	FRSP LH (+) IN	RRSP RH (+) IN	RRSP LH (+) IN	I	-	RRSP LH OUT (-)	RRSP RH OUT (-)	FR TW (-)	(-) WT H	FRSP LH OUT (-)	FRSP RH OUT (-)
Color of Wire	8	>	BR	ГG	>	8	_	BR	ı	1	В	0	Д	GR	_	ш
erminal No.	13	14	15	16	21	22	23	24	25	26	27	28	29	30	31	32

FRSP RH (-) IN FRSP LH (-) IN RRSP RH (-) IN RRSP LH (-) IN

Connector No.	B159
Connector Name	Connector Name AUDIO AMPLIFIER
Connector Color WHITE	WHITE



	Signal Name
-	Color of Wire
]	Terminal No.

Connector No. Connector Name Connector Color		B158 AUDIO WHITE	ᅟᅟᅵ의비ᅵ[AN	B158 AUDIO AMPLIFIER WHITE
	Ī	/	7		
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Signal Name	BAT	WOOFER (+)1	WOOFER (+)2	GND	BAT	WOOFER (-)1	WOOFER (-)2	GND
Color of Wire	>	8	0	В	B/B	ŋ	BR	В
Terminal No.	-	2	က	4	17	18	19	20

AMP ON/OFF SIGNAL

B/W B/R Ø.

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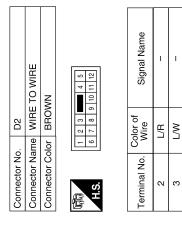
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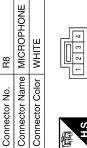
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RRSP RH OUT (+) RRSP LH OUT (+)

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	WIRE			5 4 3 2 1	24 23 22 21 20 19 18 17 16 15 14 13
	Æ TC	WHITE	(7 6	19 18
쮼	Ĭ	M	[7	8	8
	_		'	6	2
	1 e	5		유	8
9	lai	징		12 11 10 9	23
J.C	2	5		12	24
Connector No.	Connector Name WIRE TO WIRE	Connector Color	9		H.S.

Signal Name	-	1	-	1
Color of Wire	٨	SHIELD	g	٦
Terminal No. Wire	1	13	14	15

MIC POWER

MIC OUT -

Signal Name MIC OUT +

Color of Wire

Terminal No.

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Connector No.	D15	Connector No.	D101	Connector No. D110	D110
	FRONT DOOR SPEAKER	Connector Name	Connector Name WIRE TO WIRE	(FRONT DOOR SPEAKER RI
Connector Name	Connector Name LH (CREW CAB WITH PREMIUM AUDIO SYSTEM)	Connector Color WHITE	WHITE	Connector Ival	Connector Name (CHEW CAB WITH PHEMIUM AUDIO SYSTEM)
Connector Color WHITE	WHITE	[Connector Color WHITE	or WHITE
哥 H.S.	\[\bar{\alpha}{\bar{\alpha}}	H.S.	1 2 3	是 H.S.	\[\begin{aligned} \\ \\ \\ \qquad \qquad \qqq \qqq \qqq \qqq \qqq \qqq \qqq \qqq \qqq
0	Color of S	Terminal No. Wire	color of Signal Name		
erminal No.	Wire Signal Name		<u> </u>	Color of	
-		4	9/1	Terminal No.	Wire Signal Name
2		11			- W/B
				0	- W

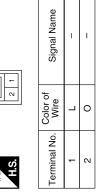
Connector No. D201	:01	Connector No.	D206	Connector No.	D208
Connector Name WIRE TO WIRE	RE TO WIRE		REAR DOOR SPEAKER LH	Connector Name	Connector Name REAR TWEETER LH
Connector Color WHITE	HTE	Connector Nam	Connector Name (CREW CAB WITH PREMIUM AUDIO SYSTEM)	Connector Color BROWN	BROWN
		Connector Color	WHITE	Q	
H.S. 12 11 10	3 2 1	H.S.		H.S.	2 1
					-
Terminal No. Wire	Signal Name	Terminal No. Miro	Color of Signal Name	Terminal No. Wire	e Signal Name
5 L	1	,		1 L	_
15	1	-	ı	2 0	1
		2	- 0		

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

I	Signal Name	1	1	
	Color of Wire	7	0	
	Terminal No.	1	2	

Connector No.	D306
Connector Name	Connector Name (CREW CAB WITH PREMIUM AUDIO SYSTEM)
Connector Color WHITE	WHITE



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

Signal Name	_	_
Color of Wire	Т	0
Terminal No.	5	12

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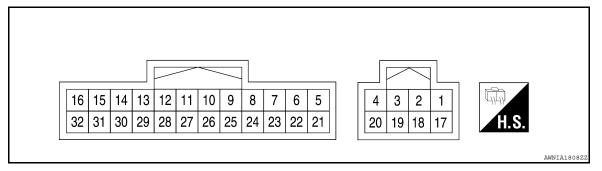
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AUDIO AMP

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (wire color)		Item	Signal input/	Condition		Reference value	
+	_		output	CONS.MOT		(Approx.)	
1 (Y)	Ground	Battery	Input	_	_	Battery voltage	
2 (W)	18 (G)	Subwoofer	Output	Ignition switch ON	Receive audio signal	(V) 1 0 -1 1 ms SKIA0177E	
3 (O)	19 (BR)	Subwoofer	Output	Ignition switch ON	Receive audio signal	(V) 1 0 -1 1 ms	
4 (B)	Ground	Ground	_	Ignition switch ON	_	_	
9 (G/W)	Ground	Amp. ON signal	Input	Ignition switch ON	_	More than 6.5V	
11 (G)	27 (B)	Rear door speak- er LH and rear door tweeter LH	Output	Ignition switch ON	Receive audio signal	(V) 1 0 -1 1 ms	

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	ninal color)	Item			Condition	Reference value (Approx.)	
+	_		output			、 11	
12 (GR)	28 (O)	Rear door speak- er RH and rear door tweeter RH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms	
13 (W)	29 (P)	Front door tweet- er RH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms	
14 (Y)	30 (GR)	Front tweeter LH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms	
15 (BR)	31 (L)	Front door speak- er LH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms	
16 (LG)	32 (R)	Front door speak- er RH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms	
17 (R/B)	Ground	Battery	Input	_	_	Battery voltage	
20 (B)	Ground	Ground	_	Ignition switch ON	_	-	
21 (Y)	5 (BR)	Audio sound sig- nal front RH	Input	Ignition switch ON	Receive audio signal	(V) 1 0 -1 1 ms	

AUDIO AMP

< ECU DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

Terminal (wire color)		Item	Signal input/	t/ Condition		Reference value (Approx.)
+	_		output			,
22 (W)	6 (B)	Audio sound sig- nal front LH	Input	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms
23 (L)	7 (B/W)	Audio sound sig- nal rear RH	Input	Ignition switch ON	Receive audio signal	(V) 1 0 -1 1 ms SKIA0177E
24 (BR)	8 (B/R)	Audio sound sig- nal rear LH	Input	Ignition switch ON	Receive audio signal	(V) 1 0 -1 1 ms

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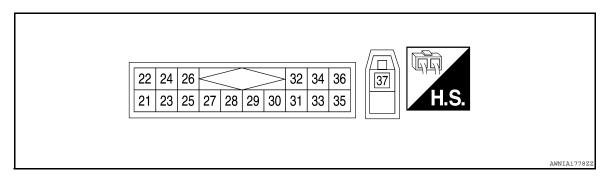
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SATELLITE RADIO TUNER

Reference Value



PHYSICAL VALUES

Terminal		Description				Reference value	
+	_	Signal name	Input/ Output	Condition		(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	
25	_	Shield			_	_	
26	_	Shield			_	_	
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 -10 -10 -10 -10	

SATELLITE RADIO TUNER

< ECU DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

Teri	minal	Description				Potoronoo valuo	
+	_	Signal name	Input/ Output	Condition		Reference value (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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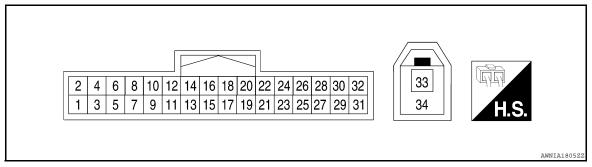
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BLUETOOTH CONTROL UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (wire color)		Description			Condition	Reference value	
+	_	Signal name	Input/ output	Condition		(Approx.)	
1 (R/B)	Ground	Battery power	Input	_	-	Battery voltage	
2 (G/Y)	Ground	ACC power	Input	Ignition switch ACC/ON	_	Battery voltage	
3 (W/G)	Ground	IGN power	Input	Ignition switch ON/ START	_	Battery voltage	
4 (B)	Ground	Ground	-	_	_	0V	
5	_	Shield	_	_	_	-	
6	_	Shield	_	_	_	-	
7 (G)	8 (L)	MIC in signal	Input	_	_	-	
9 (W)	10 (B)	Audio out	Output	Ignition switch ACC/ON	Bluetooth control unit sends audio signal	(V) 1 0 -1 + 2ms SKIB3609E	
11 (R)	_	Mute control	-	_	_	-	
					Pressing 🗸 🌾	OV	
12	14	Steering switch sig-	Input	Ignition switch	Pressing Δ switch	0.75	
(BR)	(G)	nal A	прис	switch ON	Pressing VOL up switch	2V	
					Except for above	5V	

BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

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Term (wire		Description	n	Condition		Reference value							
+	-	Signal name	Input/ output			(Approx.)							
					Pressing MODE switch	OV							
13	14	Steering switch sig-		Ignition	Pressing ∇ switch	0.75V							
(L)	(G)	nal B	Input		Pressing VOL down switch	2V							
					Except for above	5 V							
					Pressing 🗸 🌾 switch	OV							
17	19	Steering switch sig-	Output	Ignition switch	Pressing Δ switch	0.75							
(V)	(O)	nal A		ON	Pressing VOL up switch	2V							
					Except for above	5V							
												Pressing MODE switch	0V
18	19	Steering switch signal B					Ignition switch	Pressing ∇ switch	0.75V				
(LG)	(O)		Output	ON	Pressing VOL down switch	2V							
					Except for above	5V							
 20 (B)	Ground	Ground	-	_	_	OV							
 21 (B)	Ground	Ground	-	_	_	OV							
 22 (B)	Ground	Ground	ı	_	-	0V							
28 (SB)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	(V) 15 10 + 20ms PKIA1935E							
29 (Y)	Ground	Microphone power	Output	Ignition switch ON	_	5V							
 33 (B)	_	Bluetooth antenna	_	_	-								
34	-	Shield	_	_	_	-							

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SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000005274972

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	Audio unit power circuit Audio unit	• <u>AV-108</u> • <u>AV-108</u>
Steering wheel audio control switch does not operate	Steering wheel audio control switch Audio unit	• <u>AV-53</u> • <u>AV-108</u>
All speakers do not sound	 Audio unit Audio unit power circuit Audio amp. ON signal Audio amp. power/ground circuit Audio amp. 	 AV-108 AV-108 AV-128 AV-109 AV-109
One or several speakers do not sound	 Front door speaker Front tweeter Rear door speaker Rear door tweeter Subwoofer 	 AV-113 AV-116 AV-119 AV-122 AV-125

CD

Symptom	Possible cause	Reference page
CD cannot be inserted.		
CD cannot be ejected.	Audio unit	AV-108
The CD cannot be played.	- Addio driit	<u>AV-100</u>
The sound skips, stops suddenly, or is distorted.		

SATELLITE RADIO

Symptom	Possible cause	Reference page
Inoperative	Satellite radio tuner power or ground circuit Satellite radio tuner communication circuit Satellite radio tuner	AV-108AV-55AV-182
Right or left channel does not sound	 Satellite radio tuner right channel audio signal circuit Satellite radio tuner left channel audio signal circuit Satellite radio tuner 	• <u>AV-58</u>

HANDS-FREE PHONE

Symptom	Possible cause	Reference page
Inoperative	Bluetooth control unit power circuit Bluetooth control unit	AV-110AV-107
Steering wheel audio switch does not operate	Steering wheel audio control switch Bluetooth control unit	• <u>AV-53</u> • <u>AV-107</u>
Voice activated control does not activate	Microphone Steering wheel audio control switch Bluetooth control unit	• AV-111 • AV-53 • AV-107

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

NORMAL OPERATING CONDITION

Description INFOID:0000000005274973

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 malfunction Open circuit in printed heater Poor ground of antenna feeder line
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		 Ground wire of body parts Ground due to improper part installation Wiring connections or a short circuit

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Revision: October 2009 AV-163 2010 Frontier

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.

PREPARATION

< PREPARATION >

[PREMIUM AUDIO (CREW CAB)]

PREPARATION

PREPARATION

Commercial Service Tools

Tool name		Description
Power tool		Loosening bolts and nuts
	PBIC0191E	

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ON-VEHICLE REPAIR

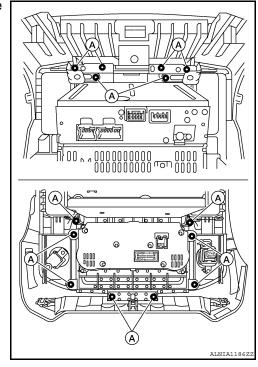
AUDIO UNIT

Removal and Installation

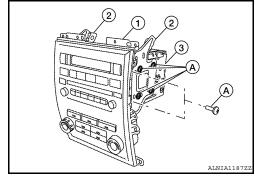
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REMOVAL

- 1. Remove the cluster lid C. Refer to IP-11, "Removal and Installation".
- 2. Remove the center ventilator ducts. Refer to VTL-21, "Removal and Installation".
- 3. Remove the audio unit control screws (A), then remove the audio unit assembly, from cluster lid C.



- 4. Remove the audio unit (3) from the audio control panel (1).
- 5. Remove the audio unit screws (A), using power tool, then remove the audio unit brackets (2).
- 6. Pull out the audio unit (3) from the audio control panel (1).



INSTALLATION

AUDIO AMP

Removal and Installation

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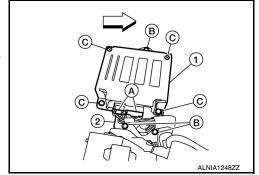
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REMOVAL

NOTE:

Do not remove the RH front seat from the vehicle.

- 1. Remove the RH front seat bolts, disconnect the RH front seat electrical connectors. Refer to SE-28, "Removal and Installation".
- 2. Tilt the RH front seat back to access the audio amp (1) and remove the audio amp. kick shield screws (C).
 - ✓⊃:Vehicle front
- 3. Disconnect the audio amp. connectors (A) and remove the audio amp. (1) from the bracket (2).
- 4. Then remove the audio amp. bracket screws (B) and remove bracket (2).



INSTALLATION

Installation is in the reverse order of removal.

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[PREMIUM AUDIO (CREW CAB)]

FRONT TWEETER

Removal and Installation

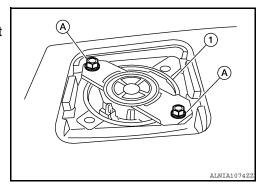
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REMOVAL

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

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

FRONT DOOR SPEAKER

Removal and Installation

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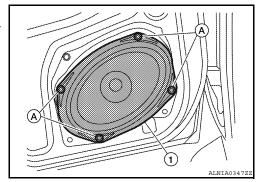
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REMOVAL

- 1. Remove the front door finisher. Refer to INT-14, "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

[PREMIUM AUDIO (CREW CAB)]

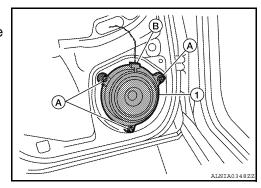
REAR DOOR SPEAKER

Removal and Installation

INFOID:0000000005274980

REMOVAL

- 1. Remove the rear door finisher. Refer to INT-14, "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

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

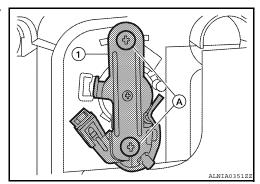
REAR DOOR TWEETER

Removal and Installation

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REMOVAL

- 1. Remove the rear door finisher. Refer to INT-14, "Removal and Installation".
- 2. Remove the rear door tweeter screws (A) and remove the rear door tweeter (1).



INSTALLATION

Installation is in the reverse order of removal.

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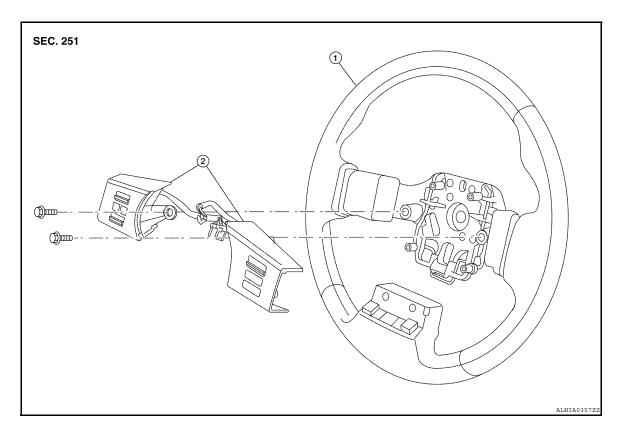
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STEERING SWITCH

Removal and Installation

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Removal and Installation



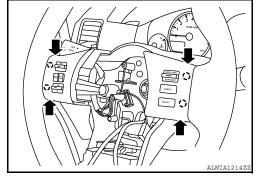
- 1. Steering wheel
- 2. Steering wheel audio control switches

REMOVAL

- 1. Remove the driver air bag module. Refer to SR-4, "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.

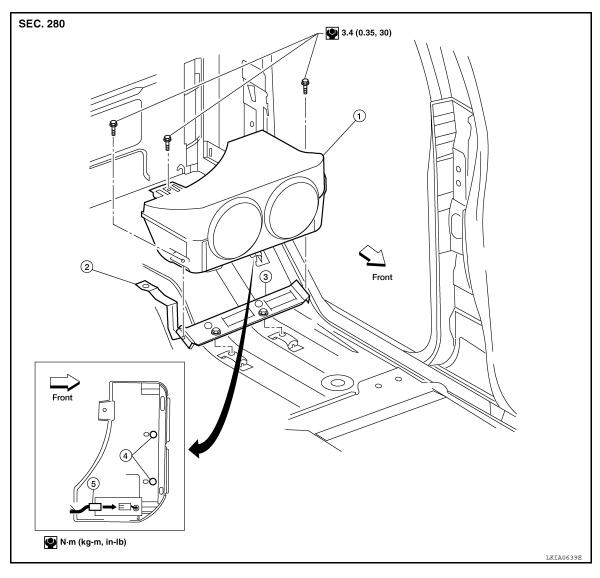
• ():Pawl



INSTALLATION

SUBWOOFER

Removal and Installation



- 1. Subwoofer
- 1. Locating pin

- 2. Bracket
- 5. Connector

3. Locating pin plate

REMOVAL

- 1. Position the LH rear seat cushion in the folded up position.
- 2. Remove storage box RH (crew cab). Refer to INT-22, "Removal and Installation".
- 3. Remove the subwoofer screws.
- 4. Disconnect the connector and remove the subwoofer.

INSTALLATION

Installation is in the reverse order of removal.

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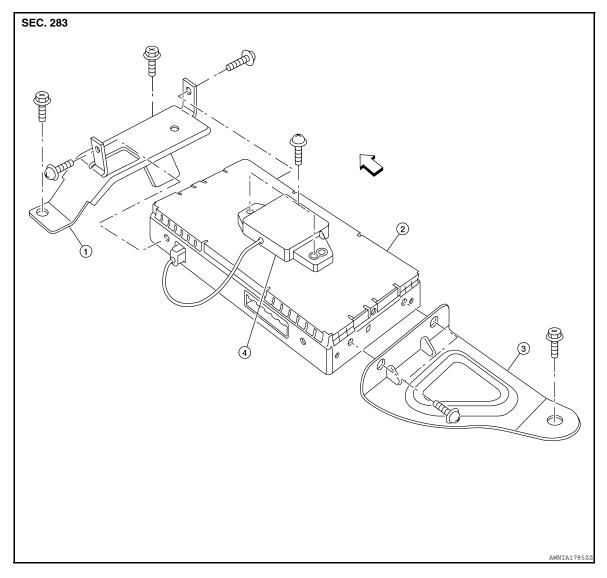
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TEL ANTENNA

Removal and Installation

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1. Bluetooth control unit front bracket 2.

Bluetooth antenna

- . Bluetooth control unit
- 3. Bluetooth control unit rear bracket

REMOVAL

4.

- 1. Remove the RH front seat. Refer to SE-28, "Removal and Installation".
- 2. Disconnect the Bluetooth antenna harness connector.
- 3. Remove the Bluetooth antenna screws, then remove the Bluetooth antenna.

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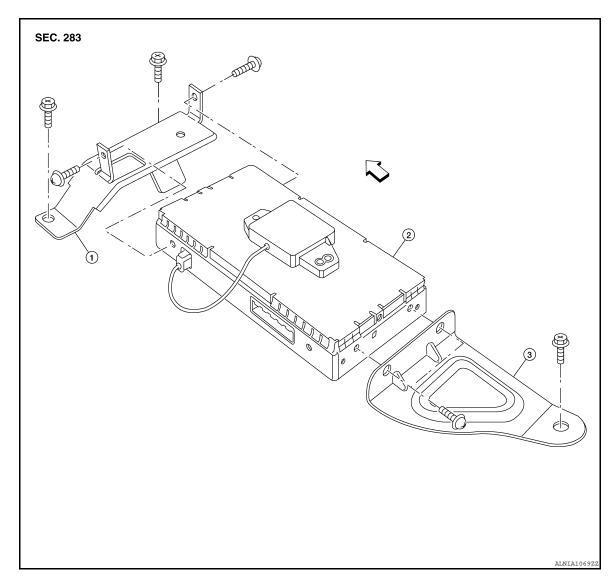
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BLUETOOTH CONTROL UNIT

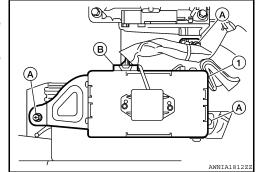
Removal and Installation



- 1. Bluetooth control unit front bracket 2. Bluetooth control unit/antenna 3. Bluetooth control unit rear bracket
- ⟨
 ⇒ Vehicle front

REMOVAL

- 1. Remove the RH front seat. Refer to SE-28, "Removal and Installation".
- 2. Disconnect the Bluetooth control unit harness connector (B).
- 3. Remove the Bluetooth control unit screws (A), then remove the Bluetooth control unit assembly.
- 4. Remove the Bluetooth control unit bracket screws and remove the Bluetooth control unit (1) front and rear brackets.



INSTALLATION

Revision: October 2009 AV-175 2010 Frontier

BLUETOOTH CONTROL UNIT

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

MICROPHONE

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

MICROPHONE

Removal and Installation

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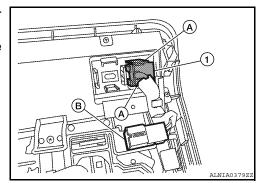
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REMOVAL

- 1. Remove the front roof console finisher. Refer to INT-24, "Removal and Installation".
- 2. Detach the Bluetooth microphone (1) from the front console finisher tabs (A).
- 3. Detach the Bluetooth microphone connector (B) and remove the Bluetooth microphone (1).



INSTALLATION

Installation is in the reverse order of removal.

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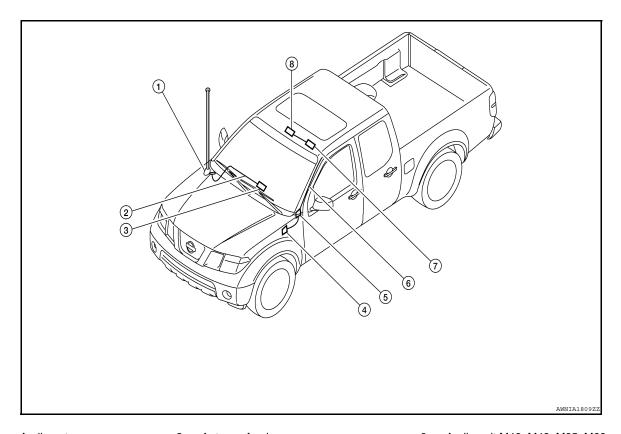
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AUDIO ANTENNA

Location of Antenna



- 1. Audio antenna
- 4. Satellite radio tuner M41, M129
- 7. Harness connector M251
- 2. Antenna feeder
- 5. Harness connector M250, M68
- 8. Satellite antenna

- 3. Audio unit M46, M48, M65, M66
- 6. Satellite antenna feeder

Removal and Installation

REMOVAL

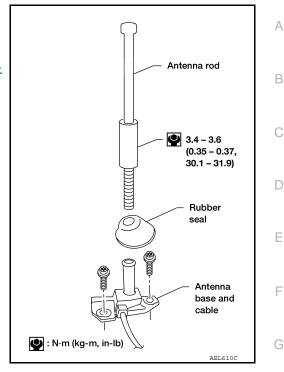
- 1. Remove lower glove box. Refer to IP-11, "Removal and Installation".
- 2. Disconnect audio antenna cable from antenna feeder.

AUDIO ANTENNA

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

- Remove antenna rod.
- 4. Remove rubber seal.
- Remove cowl top. Refer to EXT-19, "Removal and Installation".
- 6. Remove fender protector. Refer to EXT-22, "Removal and Installation of Front Fender Protector".
- 7. Remove antenna base bolts.
- 8. Remove antenna base and cable.



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Always properly tighten the antenna rod during installation or the antenna rod may bend or break during vehicle operation.

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AUXILIARY INPUT JACK

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

AUXILIARY INPUT JACK

Removal and Installation

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Removal

- 1. Remove the cluster lid D. Refer to IP-11, "Removal and Installation".
- 2. Remove the auxiliary input jack.

Installation

SATELLITE RADIO ANTENNA

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

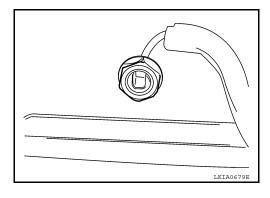
SATELLITE RADIO ANTENNA

Removal and Installation

Nemovai and installation

1. Remove the roof console. Refer to INT-24, "Removal and Installation".

- 2. Disconnect the satellite radio antenna connector.
- 3. Remove the satellite radio antenna nut.
- 4. Remove the satellite radio antenna.



INSTALLATION

REMOVAL

Installation is in the reverse order of removal.

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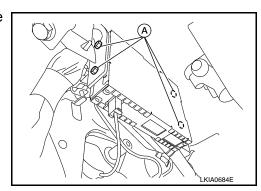
SATELLITE RADIO TUNER

Removal and Installation

INFOID:0000000005274990

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.



INSTALLATION