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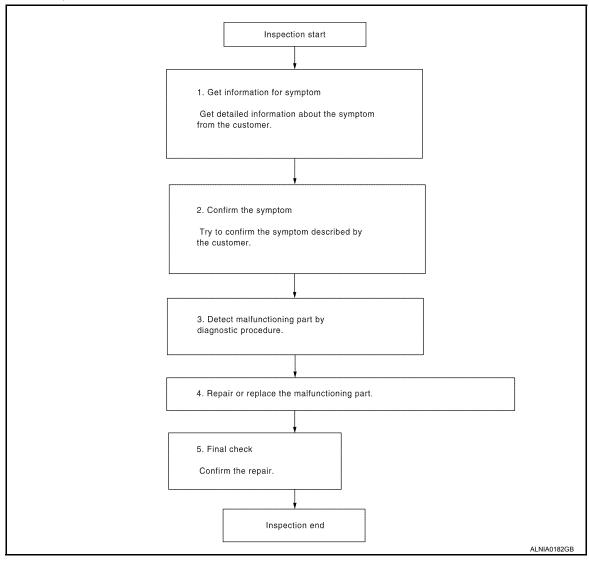
[BASE AUDIO] < BASIC INSPECTION >

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow INFOID:0000000007328162 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.

AV-5 Revision: October 2015 2012 Frontier NAM ΑV

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION > [BASE AUDIO]

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5

5. FINAL CHECK

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

Has the symptom been repaired?

YES >> Inspection End.

NO >> GO TO 2

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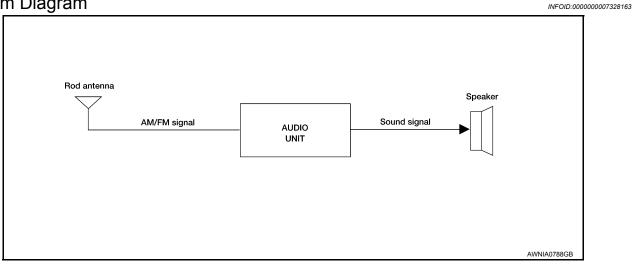
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SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram



System Description

INFOID:0000000007328164

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.

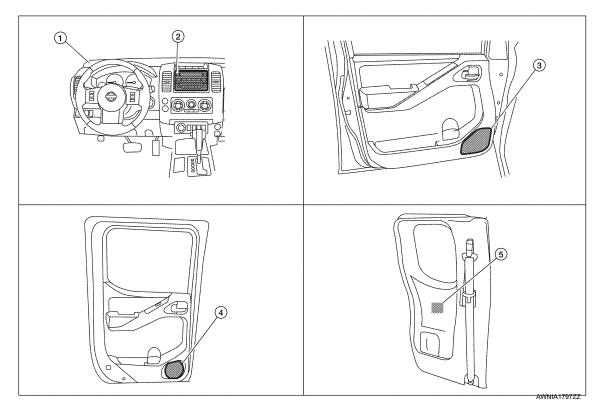
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Component Parts Location

INFOID:0000000007328165



- 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:0000000007328166

Part name	Description
Audio unit	Controls audio system functions
Front door speakers	Outputs audio signal from audio unit Outputs 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

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000007328167

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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?

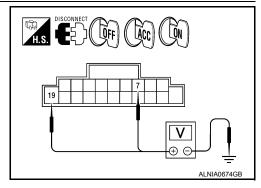
YES >> GO TO 2

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	ACC	ON
M43	7	Ground	0V	Battery voltage	Battery voltage
W43	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 or replace 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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INFOID:0000000007328169

FRONT DOOR SPEAKER

Description

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.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

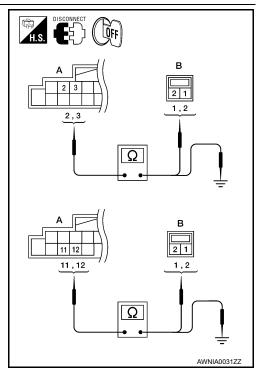
2. HARNESS CHECK

- Disconnect audio unit connector 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	Terminal	Continuity	
M43 2 3 11 12	2	D12	1		
	3	DIZ	2	Yes	
	D112	1	165		
	12	DIIZ	2		

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

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



Are continuity results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

3.FRONT SPEAKER SIGNAL CHECK

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

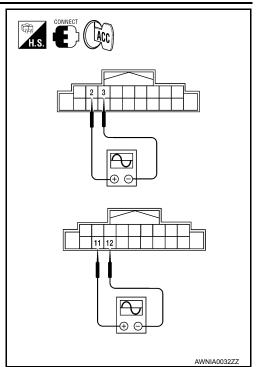
- 1. Connect audio unit connector M43 and front speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio unit harness connector M43 terminals with CONSULT or oscilloscope.

	(+)	(-)			
Con- nector	Terminal	Terminal	Condition	Reference signal	
	2	3			
M43	11	12	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	

Is the audio signal voltage as specified?

YES >> Replace speaker. Refer to <u>AV-32, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-30, "Removal and Installation"</u>.



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FRONT TWEETER

DescriptionINFOID:0000000007328170

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

Diagnosis Procedure

INFOID:0000000007328171

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

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

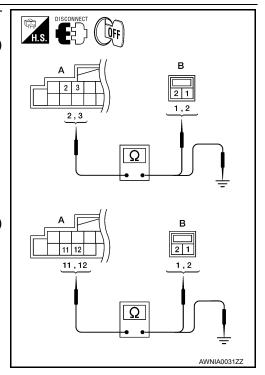
2. HARNESS CHECK

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

A		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M43	2	M109	1	
	3	WITU9	2	Yes
	11	M111	1	165
	12	IVIIII	2	

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

	Α	ı <u> </u>	Continuity	
Connector	Terminal		Continuity	
M43	2			
	3	Ground	No	
	11	Giouna		
	12			



Are the continuity results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

3.FRONT TWEETER SIGNAL CHECK

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

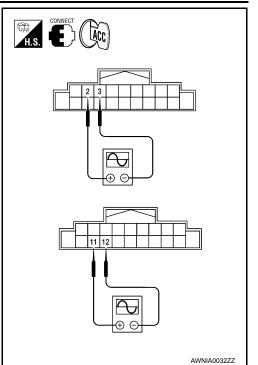
- 1. Connect audio unit connector M43 and front tweeter connector.
- 2. Turn ignition switch to ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio unit harness connector M43 terminals with CONSULT or oscilloscope.

	(+)	(-)		
Con- nector	Terminal	Terminal	Condition	Reference signal
	2	3		
M43	11	12	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E

Is the audio signal voltage as specified?

YES >> Replace the suspect front tweeter. Refer to <u>AV-31</u>, <u>"Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-30, "Removal and Installation"</u>.



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INFOID:0000000007328173

REAR DOOR SPEAKER

DescriptionINFOID:0000000007328172

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.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

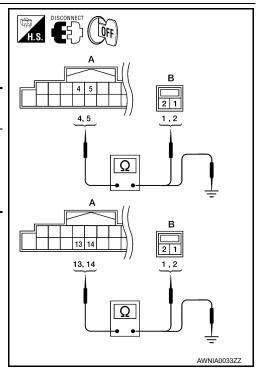
2. HARNESS CHECK

- 1. Disconnect audio unit connector 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
	4	D207 (crew cab)	1	
M43	5	B76 (king cab)	2	Yes
10143	13	D307 (crew cab)	1	165
	14	B160 (king cab)	2	

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

	Α	_	Continuity
Connector	Terminal		Continuity
	4		
M43	5	Ground	No
IVI+3	13	Giouna	INO
	14		



Are the continuity results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

3.rear door speaker signal check

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

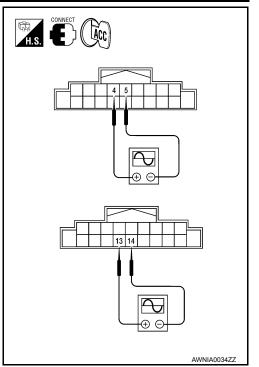
- 1. Connect audio unit connector and rear door speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio unit harness connector M43 terminals with CONSULT or oscilloscope.

Connector	(+)	(-)	Condition	Reference signal
00111100101	Terminal	Terminal	Condition	r toloronoo olginal
	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-33</u>, <u>"Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-30, "Removal and Installation"</u>.



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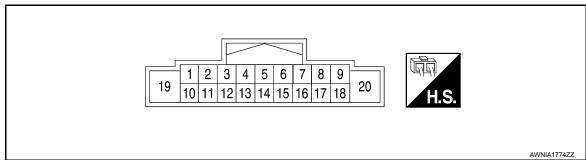
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ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
2 (BR)	3 (L)	Sound signal front door speaker and front tweeter LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E
4 (G)	5 (B)	Sound signal rear door speaker 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 INFORMATION >

[BASE AUDIO]

	minal 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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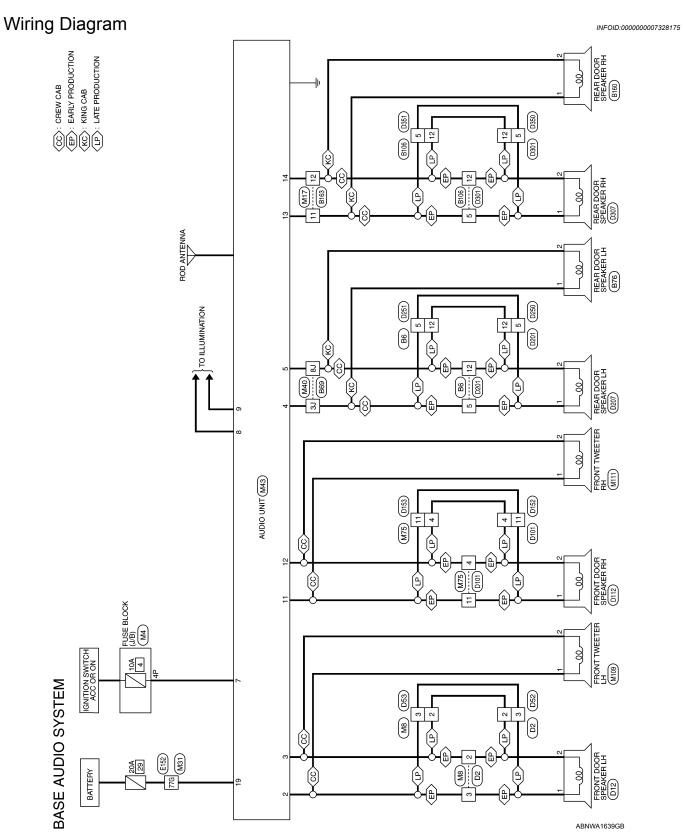
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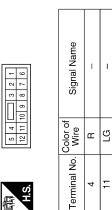
WIRING DIAGRAM

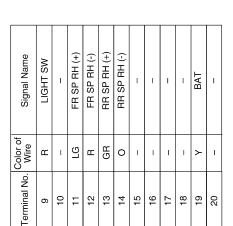
BASE AUDIO SYSTEM



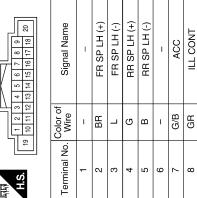
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Connector No. MAT	WIRE	3 2 1 10 9 8 Signal Name	ignal Name	
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Connector No. M44 Connector No. M41 Connector No. M31 Connector No. M41TE Connector No. M41TE Connector No. M41TE Connector No. M41TE Signal Name A.S. M32 Connector No. M33 Connector No. M34 Connector No. M41TE Signal Name A.S. M35 Toolor of Signal Name T7G Y T7G Y T7G Y TAG TAG TAG TAG TAG TAG TAG	Connector N Connector C	H.S. Terminal No.	Terminal No.	
Connector No. M44 Connector Name FUSE BLOCK (J/B) Connector Name FUSE BLOCK (J/B) Connector Color WHITE AP G/B Signal Name Terminal No. Wire Signal Name Connector No. M31 No. M31 Connector No. M31 Connector No. M31 Connector No. M31 Color of Signal Name T7G Y — —				
Connector No. M44 Connector No. M41 Connector No. M31 Connector No. M41TE Connector No. M41TE Connector No. M41TE Connector No. M41TE Signal Name A.S. M32 Connector No. M33 Connector No. M34 Connector No. M41TE Signal Name A.S. M35 Toolor of Signal Name T7G Y T7G Y T7G Y TAG TAG TAG TAG TAG TAG TAG		nal Name	F	
Connector No. Connector No. Connector No. Terminal No. Connector No. M31 Connector No. Connector No. Connector No. M31 Connector No. Connector No. Connector No. Connector No. Connector No. Co	E TO WIR	<u>π</u> ω	LE TO WIR Sol 41 30 100 90 80 101 90 80 102 90 80 103 100 103 100 10	
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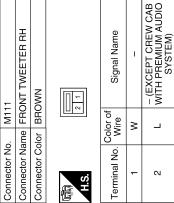
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Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE

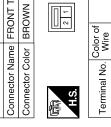












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nector Na	ame FR0	Connector Name FRONT TWEETER LH	
Connector Color BROWN	olor BR0	NWC	
哥 H.S.		2	
Terminal No.	Color of Wire	Signal Name	
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		- (EXCEPT CREW CAB	

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- (EXCEPT CREW CAB WITH PREMIUM AUDIO SYSTEM)

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	Connector No. Connector Name		E152 WIRE TO WI	IRE		Connector No. Connector Nar Connector Col	Connector No. B6 Connector Name WIRE T Connector Color WHITE	Connector No. B6 Connector Name WIRE TO WIRE Connector Color WHITE	IRE		Connector No. B69 Connector Name WIRE T Connector Color WHITE	Vo. B69 Name WIRI	Connector No. B69 Connector Name WIRE TO WIRE Connector Color WHITE		
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H.S.	5 4 (3 2 1

9 3 7 6 7 6	Signal Name	- (EXCEPT CREW CAB WITH MID AUDIO SYSTEM)	- (EXCEPT CREW CAB WITH MID AUDIO SYSTEM)
5 4 12 11 10 9	Color of Wire	L	0
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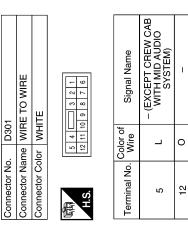
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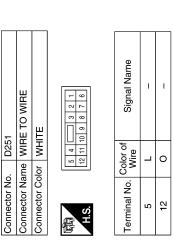
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Connector No.). D307	
Connector Name	me RE/	REAR DOOR SPEAKER RH
Connector Color	olor WHITE	III.
赋利 H.S.		
Terminal No.	Color of Wire	Signal Name
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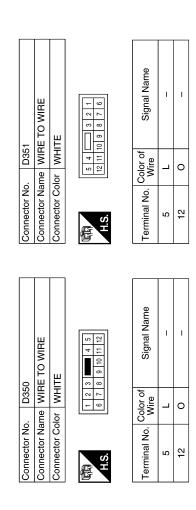
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AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[BASE AUDIO]

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

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AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	Audio unit power circuit Audio unit	• <u>AV-9</u> • <u>AV-30</u>
All speakers do not sound	Speaker circuit shorted to ground Audio unit	• <u>AV-18</u> • <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>
Poor reception	 Rod antenna is not fully connected to antenna base. Base antenna/rod connection (thread zone) has foreign material or corrosion inside. 	_
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAG- NOSIS" in the ap- propriate interior trim section.

CD

Symptom	Possible cause	Reference page
CD cannot be inserted		
CD cannot be ejected	Audia unit	A) / 20
The CD cannot be played	Audio unit	<u>AV-30</u>
The sound skips, stops suddenly, or is distorted		

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[BASE AUDIO]

NORMAL OPERATING CONDITION

Description INFOID:0000000007328177

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

NOISE

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

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

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

NOTE:

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

Type of Noise and Possible Cause

C	Occurrence condition	Possible cause
Occurs only when engine is ON.	A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed.	Ignition components
The occurrence of the noise is lin	ked with the operation of the fuel pump.	Fuel pump condenser
Noise only occurs when various electrical components are oper-	A cracking or snapping sound occurs with the operation of various switches.	Relay malfunction, audio unit malfunction
ating.	The noise occurs when various motors are operating.	Motor case ground Motor
The noise occurs constantly, not j	Rear defogger coil malfunctionOpen circuit in printed heaterPoor 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

[BASE AUDIO] < PRECAUTION >

PRECAUTION

PRECAUTIONS

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

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

WARNING:

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

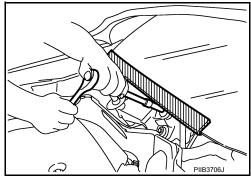
PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

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

Precaution for Procedure without Cowl Top Cover

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc.



Precaution for Work

 When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.

 When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.

- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:

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PRECAUTIONS

< PRECAUTION > [BASE AUDIO]

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

PREPARATION

< PREPARATION > [BASE AUDIO]

PREPARATION

PREPARATION

Special Service Tool

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

Commercial Service Tools

INFOID:0000000007831519

Tool name		Description	`
Power tool		Loosening nuts, screws and bolts	
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[BASE AUDIO]

REMOVAL AND INSTALLATION

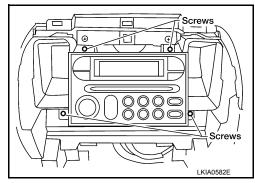
AUDIO UNIT

Removal and Installation

INFOID:0000000007328182

REMOVAL

- 1. Remove the cluster lid C. Refer to IP-19, "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

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

FRONT TWEETER

Removal and Installation

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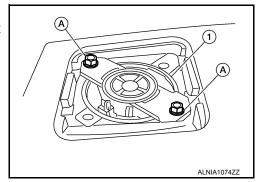
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REMOVAL

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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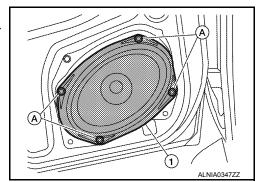
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000007328184

REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

REAR DOOR SPEAKER

Removal and Installation

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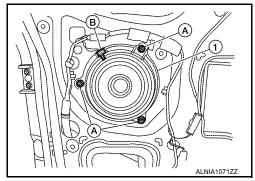
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REMOVAL

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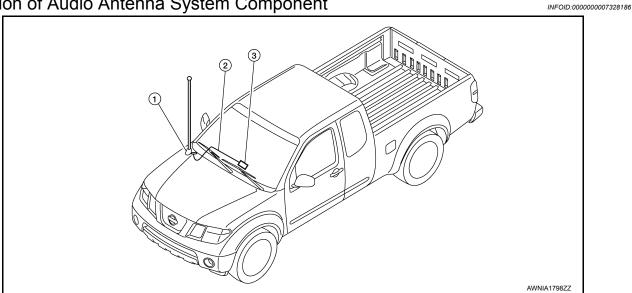
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AUDIO ANTENNA

Location of Audio Antenna System Component



Audio antenna

Antenna feeder

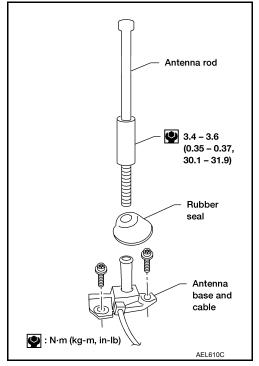
Audio unit M43

Removal and Installation

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REMOVAL

- Remove instrument lower panel RH and glove box. Refer to IP-24, "Removal and Installation".
- Disconnect audio antenna cable from antenna feeder.
- Remove antenna rod.
- 4. Remove rubber seal.
- 5. Remove cowl top. Refer to EXT-24, "Removal and Installation".
- Remove fender protector. Refer to EXT-27, "Removal and Installation of Front Fender Protector".
- Remove antenna base bolts. 7.
- Remove antenna base and cable.



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

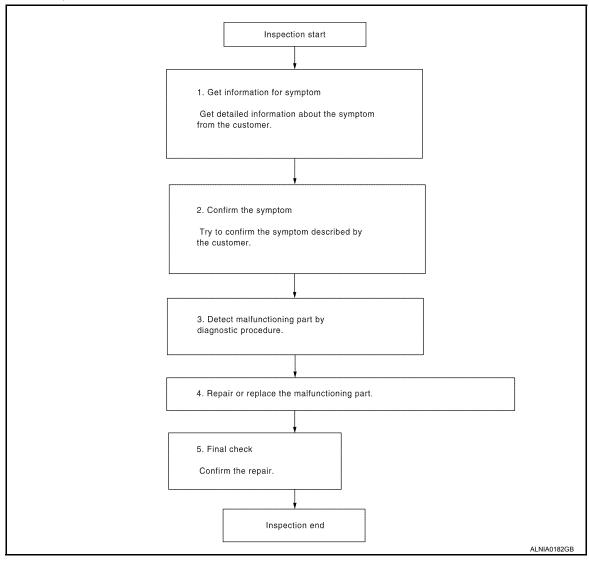
Always properly tighten the antenna rod during installation or the antenna rod may bend or break during vehicle operation.

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow INFOID:0000000007328188

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 >

[MID (CC), PREMIUM (KC) AUDIO]

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5

5. FINAL CHECK

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

Was the repair confirmed?

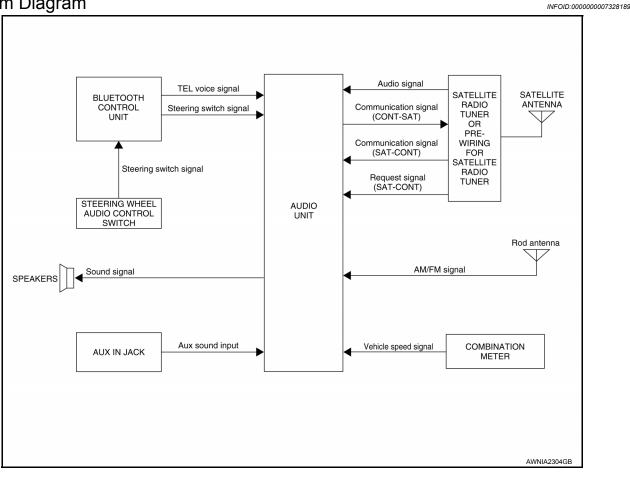
YES >> Inspection End.

NO >> GO TO 2

SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram



System Description

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Rod antenna
- Steering wheel audio control switch
- 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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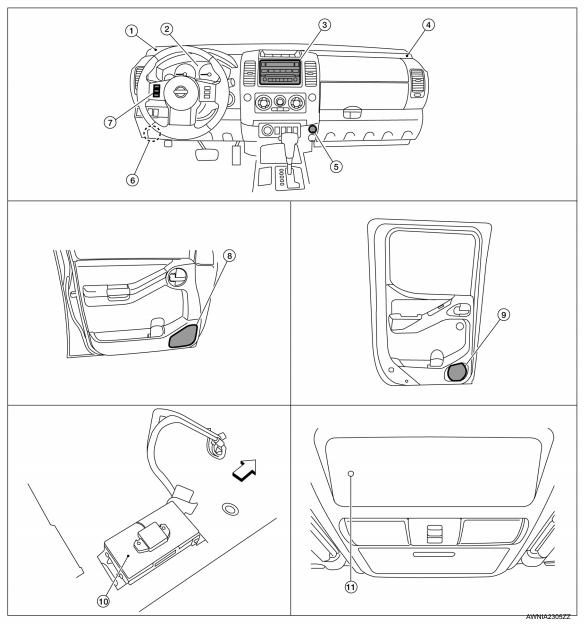
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Component Parts Location (Crew Cab)

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⟨□:FRONT

- 1. Front tweeter LH M109
- 4. Front tweeter RH M111
- Steering wheel audio control switches
- 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 D12 RH D112
- 11. Microphone R8

- 3. Audio unit M86, M87, M88, M89
- 6. Satellite radio tuner or pre-wiring for satellite radio tuner M41, M129
- 9. Rear door speaker LH D207 RH D307

Component Parts Location (King Cab)

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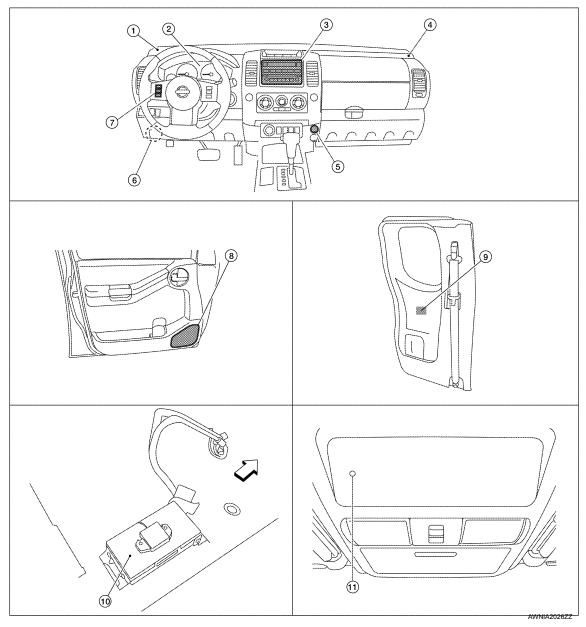
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⟨□:FRONT

- 1. Front tweeter LH M109
- 4. Front tweeter RH M111
- 7. Steering wheel audio control switches
- Bluetooth control unit B141, B142 (view with passenger front seat removed)
- 2. Combination meter M24
- 5. Aux in jack M85
- Front door speaker LH D12 RH D112
- 11. Microphone R8

- 3. Audio unit M42, M44, M45, M64
- 6. Satellite radio tuner or pre-wiring for satellite radio tuner M41, M129
- 9. Rear door speaker LH B76 RH B160

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AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[MID (CC), PREMIUM (KC) AUDIO]

Component Description

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Part name	Description
Audio unit	Controls audio system and satellite radio system functions
Rod antenna	Audio signal (AM/FM) is received
Steering wheel audio control switch	Start a voice recognition session Answer and end telephone calls Adjust 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
Rear door speakers	Outputs audio signal from audio unitOutputs high, mid and low range sounds
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

HANDS-FREE PHONE SYSTEM

System Diagram

INFOID:0000000007328194 Sound signal STEERING started (TEL voice signal) SWITCH TEL voice (Voice guidance signal AUDIO signal) TEL voice signal UNIT BLUETOOTH BLUETOOTH ANTENNA CONTROL **SPEAKER** UNIT TEL voice MICROsignal PHONE AWNIA2022GE

System Description

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

NOTE:

Cellular telephones must have their wireless connection set up (connected) 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 connected with the Bluetooth control unit. Different cellular telephones may have different connecting 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 connected 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.

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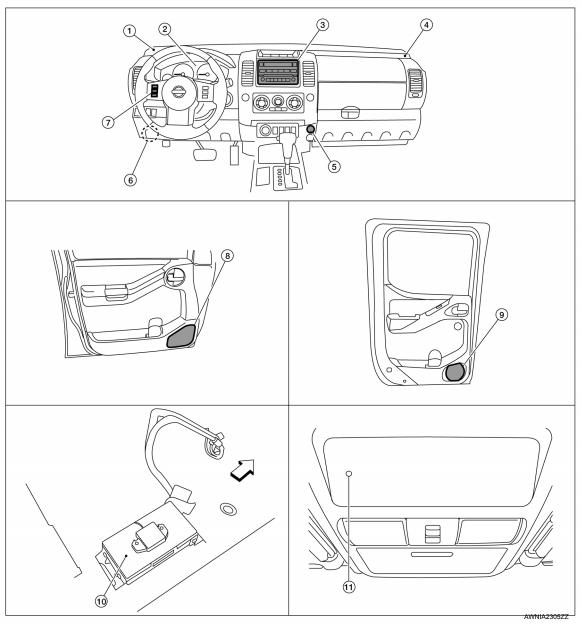
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INFOID:0000000007328195

Component Parts Location (Crew Cab)

INFOID:0000000007328196



⟨□:FRONT

- 1. Front tweeter LH M109
- 4. Front tweeter RH M111
- 7. Steering wheel audio control switches
- 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 D12 RH D112
- 11. Microphone R8

- 3. Audio unit M86, M87, M88, M89
- Satellite radio tuner or pre-wiring for satellite radio tuner M41, M129
- 9. Rear door speaker LH D207 RH D307

Component Parts Location (King Cab)

INFOID:0000000007328197

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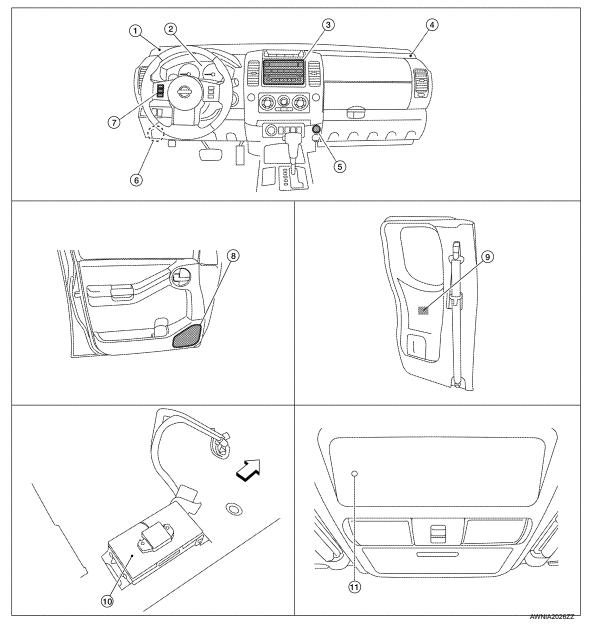
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⟨□:FRONT

- 1. Front tweeter LH M109
- 4. Front tweeter RH M111
- 7. Steering wheel audio control switches
- Bluetooth control unit B141, B142 (view with passenger front seat removed)
- 2. Combination meter M24
- 5. Aux in jack M85
- Front door speaker LH D12 RH D112
- 11. Microphone R8

- 3. Audio unit M42, M44, M45, M64
- 6. Satellite radio tuner or pre-wiring for satellite radio tuner M41, M129
- 9. Rear door speaker LH B76 RH B160

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HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[MID (CC), PREMIUM (KC) AUDIO]

Component Description

INFOID:0000000007328198

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 speakers	Receives telephone voice and voice guidance signals from the audio amp.
Front tweeters	Receives telephone voice and voice guidance signals from the additionally.
Steering wheel audio control switch	 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)

< SYSTEM DESCRIPTION >

[MID (CC), PREMIUM (KC) AUDIO]

DIAGNOSIS SYSTEM (AUDIO UNIT)

Component Function Check

INFOID:0000000007328199

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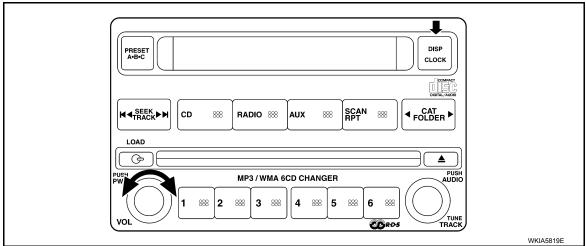
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STARTING THE SELF-DIAGNOSIS MODE

- 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 wheel audio control switch is pressed.
- It can check for continuity of harness between audio unit switch and steering wheel audio control switch.

EXITING THE SELF-DIAGNOSIS MODE

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

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DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

< SYSTEM DESCRIPTION >

[MID (CC), PREMIUM (KC) AUDIO]

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description

INFOID:0000000007328200

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 switch prior to trouble diagnosis.

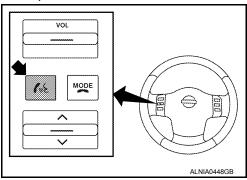
BLUETOOTH CONTROL UNIT AUTOMATIC INITIALIZATION CHECKS

- · Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switch [phone operation button (
 (♥ √)/POWER on and MODE select button (MODE)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth inquiry check

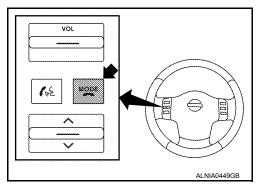
Work Flow

TECHNICIAN PERFORMED DIAGNOSTIC CHECK PROCEDURE

- 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 phone operation button () located within the steering wheel audio control switch 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 POWER on and MODE select button (MODE) located within the steering wheel audio control switch 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 POWER on and MODE select button (MODE) located within the steering wheel audio control switch 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-46, "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-46, "Work Flow".
- 8. Self-diagnosis mode is complete when the voice prompt says "All diagnostic functions completed".



INFOID:000000000732820

Failure Message	Action
"Internal failure"	Replace Bluetooth control unit. Refer to AV-120, "Removal and Installation".
"Bluetooth antenna open"	Inspect harness connection.
"Bluetooth antenna shorted"	2. Replace Bluetooth antenna. Refer to AV-120, "Removal and Installation".

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

< SYSTEM DESCRIPTION >

[MID (CC), PREMIUM (KC) AUDIO]

Failure Message	Action		
"Phone operation button for Hands Free System is stuck"	Check steering wheel audio control switch. Refer to AV-62, "Description".		
"POWER on and MODE select button for the Hands Free System is stuck"	Check Steering wheel addition Switch. Release to Av-62. Description.		
"Microphone test" (failed interactive test)	 Inspect harness between Bluetooth control unit and microphone. Replace microphone. Refer to AV-122, "Removal and Installation". 		

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[MID (CC), PREMIUM (KC) AUDIO]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT: Diagnosis Procedure (King Cab)

INFOID:0000000007328202

Regarding Wiring Diagram information, refer to AV-96, "Wiring Diagram - King Cab".

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?

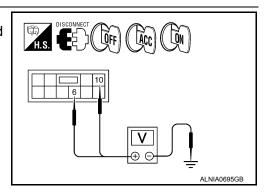
YES >> GO TO 2

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse GI-49, "Circuit Inspection".

2. POWER SUPPLY CIRCUIT CHECK

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

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



INFOID:0000000007328203

Are the voltage results as specified?

YES >> GO TO 3

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

· Repair or replace 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.

AUDIO UNIT : Diagnosis Procedure (Crew Cab)

Regarding Wiring Diagram information, refer to AV-82, "Wiring Diagram - Crew Cab".

1.CHECK FUSES

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

< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

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?

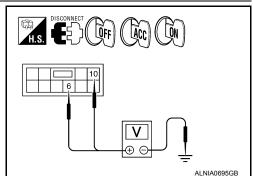
YES >> GO TO 2

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse GI-49. "Circuit Inspection".

2.power supply circuit check

- Disconnect audio unit connector M88.
- 2. Check voltage between the audio unit connector M88 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal	(-)	OH	700	ON
M88	6	Ground	Battery voltage	Battery voltage	Battery voltage
WIOO	10	Ground	0V	Battery voltage	Battery voltage



Are the voltage results as specified?

YES >> GO TO 3

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

· Repair or replace harness or connector.

3.ground circuit check

Inspect audio unit case ground.

Does case ground pass inspection?

>> Inspection End. YES

NO >> Repair audio unit case ground.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-82, "Wiring Diagram - Crew Cab" or AV-96, "Wiring Diagram - King Cab".

1.CHECK FUSES

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

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

Are the fuses OK?

YES >> GO TO 2

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse GI-49, "Circuit Inspection".

2.power supply circuit check

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

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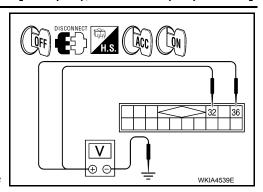
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< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

(+)		()	0.55		- ON
Connector	Terminal	(-)	OFF	ACC	ON
M41	32	Ground	Battery voltage	Battery voltage	Battery voltage
1714 1	36	Ground	0V	Battery voltage	Battery voltage



INFOID:0000000007328205

Are the voltage readings as specified?

YES >> GO TO 3

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

· Repair or replace 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

Regarding Wiring Diagram information, refer to <u>AV-82, "Wiring Diagram - Crew Cab"</u> or <u>AV-96, "Wiring Diagram - King Cab"</u>.

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?

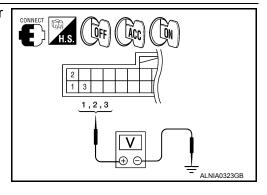
YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse GI-49, "Circuit Inspection".

2.CHECK POWER SUPPLY CIRCUIT

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

(+)		(-)	OFF	ON	ACC
Connector	Terminal	(-)	011	OIT	7,00
	1	Ground	Battery voltage	Battery voltage	Battery voltage
B141	2		0V	Battery voltage	Battery voltage
	3	0V	Battery voltage	0V	



Are the voltage readings as specified?

YES >> GO TO 3.

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

· Repair or replace harness or connector.

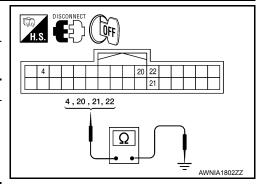
< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

3.CHECK GROUND CIRCUIT

- 1. 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	
D141	21 (King Cab)	Ground	165	
	22			



Are continuity results as specified?

YES >> Inspection End.

NO >> Repair or replace harness or connector.

MICROPHONE

MICROPHONE : Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>AV-82, "Wiring Diagram - Crew Cab"</u> or <u>AV-96, "Wiring Diagram - King Cab"</u>.

1. CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

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

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

Is approximately 5V present?

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

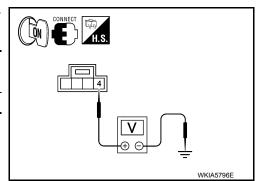
2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

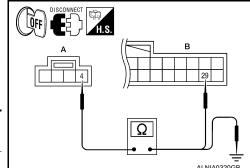
- 1. Turn ignition switch OFF.
- Disconnect microphone and Bluetooth control unit harness connectors.
- Check continuity between microphone harness connector R8

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

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

 Check continuity between microphone harness connector R8 (A) terminal 4 and ground.





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< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

	A		Continuity
Connector	Terminal	_	Continuity
R8	4	Ground	No

Are the continuity test results as specified?

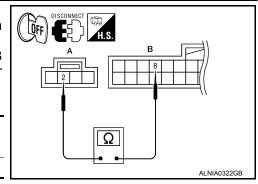
YES >> Replace the Bluetooth control unit. Refer to AV-120, "Removal and Installation".

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect microphone harness connector R8 and Bluetooth control unit harness connector B141.
- 3. Check continuity between microphone harness connector R8 (A) terminal 2 and Bluetooth control unit harness connector B141 (B) terminal 8.

	A		В	
Connector	Terminal	Connector	Terminal	Continuity
R8	2	B141	8	Yes



Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness or connector.

FRONT DOOR SPEAKER

Description INFOID:0000000007328207

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

Diagnosis Procedure (Crew Cab)

INFOID:0000000007328208

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Regarding Wiring Diagram information, refer to AV-82, "Wiring Diagram - Crew Cab".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

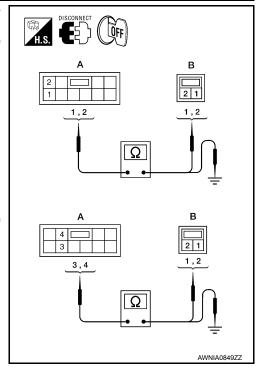
2.SPEAKER HARNESS CHECK

- Disconnect audio unit connector M88 and suspect speaker connector.
- 2. Check continuity between audio unit harness connector M88 (A) and suspect speaker harness connector (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	1	D12	2	
M88	2	DIZ	1	Yes
	3	D440	2	res
	4	D112	1	

 Check continuity between audio unit harness connector M88 (A) and ground.

	Α		Continuity	
Connector	Terminal			
-	1		No	
M88	2	Ground		
IVIOO	3	Giouna	NO	
-	4			



Are continuity test results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

3. SPEAKER SIGNAL CHECK

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FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

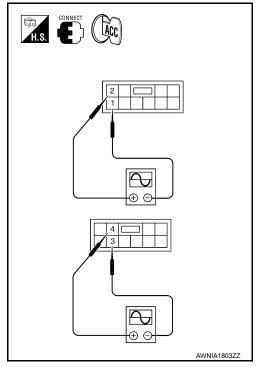
- 1. Connect audio unit connector and suspect speaker connector.
- 2. Turn ignition switch ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio unit harness connector M88 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	2	1			
M88	4	3	Receive audio sig- nal	1 0 -1 1 ms SKIA0177E	

Are the audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to <u>AV-117, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-115. "Removal and Installation".</u>



INFOID:0000000007328209

Diagnosis Procedure (King Cab)

Regarding Wiring Diagram information, refer to AV-96, "Wiring Diagram - King Cab".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. SPEAKER HARNESS CHECK

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

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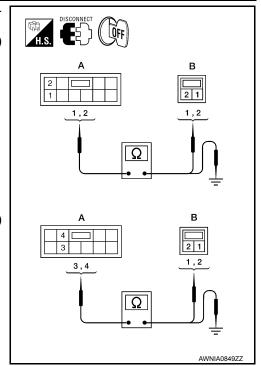
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- Disconnect audio unit connector M64 and suspect speaker connector.
- 2. Check continuity between audio unit harness connector M64 (A) and suspect speaker harness connector (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M64	1	D12	2	
	2	DIZ	1	Yes
	3	D440	2	ies
	4	D112	1	

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

	A		Continuity	
Connector	Terminal	_	Continuity	
	1	- Ground	No	
M64	2			
IVIO	3			
	4			



Are continuity test results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

3. SPEAKER SIGNAL CHECK

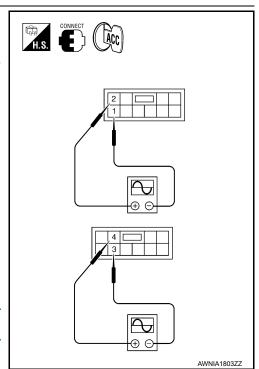
- 1. Connect audio unit connector and suspect speaker connector.
- 2. Turn ignition switch ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio unit harness connector M64 terminals with CONSULT or oscilloscope.

Connector	Tern	ninals	Condition	Reference
Connector	(+)	(-)	Condition	signal
	2	1		
M64	4	3	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to <u>AV-117, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-115, "Removal and Installation".</u>



Revision: October 2015 AV-55 2012 Frontier NAM

FRONT TWEETER

DescriptionINFOID:0000000007328210

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

Diagnosis Procedure (Crew Cab)

INFOID:0000000007328211

Regarding Wiring Diagram information, refer to AV-82, "Wiring Diagram - Crew Cab".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

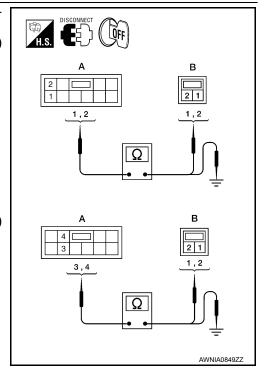
2. SPEAKER HARNESS CHECK

- Disconnect audio unit connector M88 and suspect speaker connector.
- 2. Check continuity between audio unit harness connector M88 (A) and suspect speaker harness connector (B).

	A B		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	1	M109	2	
M88	2		1	Yes
	3	M111	2	res
	4		1	

 Check continuity between audio unit harness connector M88 (A) and ground.

	Α		Continuity	
Connector	Terminal			
-	1	Ground	No	
M88	2			
IVIOO	3	Giouna	INO	
•	4			



Are continuity test results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

3. SPEAKER SIGNAL CHECK

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

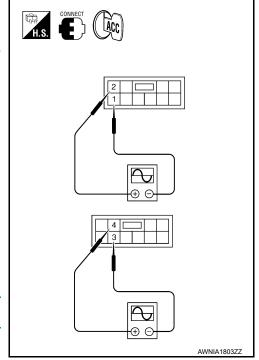
- 1. Connect audio unit connector and suspect speaker connector.
- 2. Turn ignition switch ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio unit harness connector M88 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	2	1			
M88	4	3	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	

Are the audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to <u>AV-116, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-115, "Removal and Installation"</u>.



INFOID:0000000007328212

Diagnosis Procedure (King Cab)

Regarding Wiring Diagram information, refer to AV-96, "Wiring Diagram - King Cab".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.SPEAKER HARNESS CHECK

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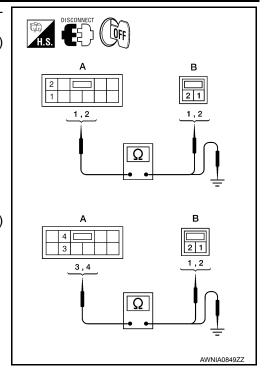
[MID (CC), PREMIUM (KC) AUDIO]

- 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).

Α		В		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
	1	M109	2		
M64	2	WITOS	1	Yes	
	3	M111	2	165	
	4	IVIIII	1		

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

	A		Continuit	
Connector	Terminal	_	Continuity	
	1	Ground	No	
M64	2			
WO4	3			
•	4			



Are continuity test results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

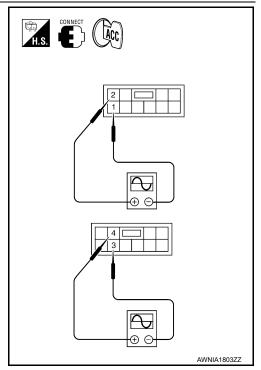
3. SPEAKER SIGNAL CHECK

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

Connector	Terminals		Condition	Reference
Connector	(+)	(-)	Condition	signal
	2	1		
M64	4	3	Receive audio sig- nal	1 0 -1 1 ms SKIA0177E

Are the audio signal voltage readings as specified?

- YES >> Replace suspect speaker. Refer to <u>AV-116, "Removal and Installation"</u>.
- NO >> Replace audio unit. Refer to <u>AV-115</u>, "Removal and Installation".



REAR DOOR SPEAKER

Description INFOID:0000000007328213

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

Diagnosis Procedure (Crew Cab)

INFOID:0000000007328214

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Regarding Wiring Diagram information, refer to AV-82, "Wiring Diagram - Crew Cab".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

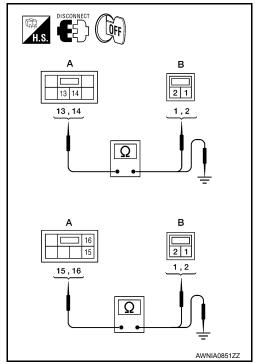
2.SPEAKER HARNESS CHECK

- 1. Disconnect audio unit connector M87 and the suspect speaker connector.
- 2. Check continuity between audio unit harness connector M87 (A) and suspect speaker harness connector (B).

Α		!	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
	13	D207	2		
M87	14	DZUI	1	Yes	
	15	D307	2	165	
	16	D307	1		

 Check continuity between audio unit harness connector M87 (A) and ground.

	Α		Continuity	
Connector	Terminal			
	13	Ground	No	
M87	14			
IVIO /	15	Giouna	INO	
	16			
			•	



Are the continuity test results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

3. SPEAKER SIGNAL CHECK

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

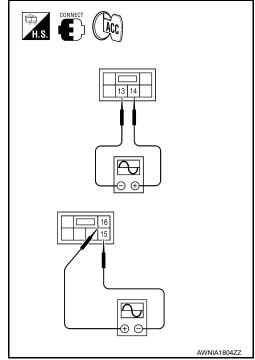
- Connect audio unit connector M87 and suspect speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio unit harness connector M87 terminals with CONSULT or oscilloscope.

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

Is the audio signal voltage reading as specified?

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

NO >> Replace audio unit. Refer to <u>AV-115, "Removal and Installation".</u>



INFOID:0000000007328215

Diagnosis Procedure (King Cab)

Regarding Wiring Diagram information, refer to AV-96, "Wiring Diagram - King Cab".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.SPEAKER HARNESS CHECK

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

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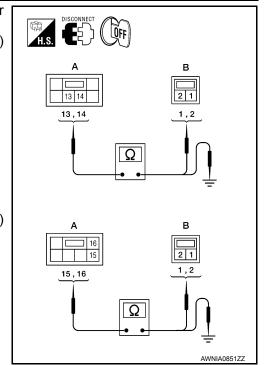
0

- 1. 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			Continuity	
Connector	Terminal	Connector	Terminal	Continuity
	13	B76	2	
M44	14	670	1	Yes
	15	B160	2	165
	16	D 100	1	

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

	Α		Continuity	
Connector	Terminal	_	Continuity	
	13	Ground	No	
M44	14			
10144	15	Giouna		
	16			



Are the continuity test results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

3. SPEAKER SIGNAL CHECK

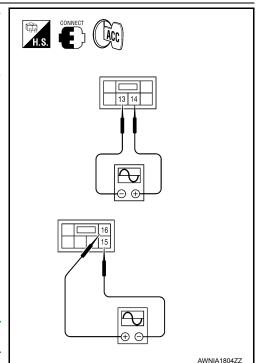
- Connect audio unit connector M44 and suspect speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio unit harness connector M44 terminals with CONSULT or oscilloscope.

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

Is the audio signal voltage reading as specified?

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

NO >> Replace audio unit. Refer to AV-115, "Removal and Installation".



STEERING SWITCH

Description INFOID:0000000007328216

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

Diagnosis Procedure

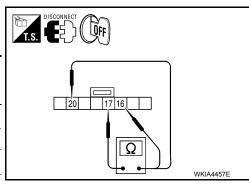
INFOID:0000000007328217

Regarding Wiring Diagram information, refer to AV-82, "Wiring Diagram - Crew Cab" or AV-96, "Wiring Diagram - King Cab".

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

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

Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
		Seek (down)	Depress ∇ button.	165
16	17	Volume (down)	Depress VOL down button.	652
		Mode/end	Depress MODE button.	0
		Seek (up)	Depress △ button.	165
20	17	Volume (up)	Depress VOL up button.	652
		Phone/send	Depress ℰ ¼≤ button.	0



Do the steering wheel audio control switch buttons check OK?

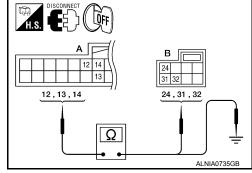
YES >> GO TO 2

NO >> Replace steering wheel audio control switch. Refer to AV-119, "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).

Α		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	_	Continuity
	12		
B141	13	Ground	No
	14		

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

Are the continuity results as specified?

YES >> GO TO 3

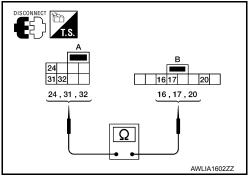
NO >> Repair or replace harness or connector.

3. SPIRAL CABLE CHECK

- 1. Disconnect spiral cable connector M102.
- 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-13, "Removal and Installation"</u>.

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COMMUNICATION SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER: Description

INFOID:0000000007328218

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

SATELLITE RADIO TUNER : Diagnosis Procedure (Crew Cab)

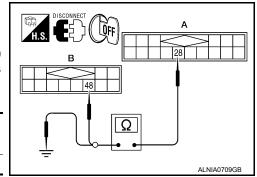
INFOID:0000000007328219

Regarding Wiring Diagram information, refer to AV-82, "Wiring Diagram - Crew Cab".

1. CHECK HARNESS - REQ1

- 1. Turn ignition switch OFF.
- 2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M86.
- 3. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and audio unit harness connector M86 (B) terminal 48.

-	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	28	M86	48	Yes



4. Check continuity between satellite radio tuner (factory installed) 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 or replace 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 M86 (B) terminal 49.

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	29	M86	49	Yes

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

H.S. DISCONNECT OFF A B 129
49
 Ω
ALNIA0707GB

	A	_	Continuity
Connector	Terminal		Continuity
M41	29	Ground	No

Are continuity results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

3.CHECK HARNESS - RXD

1. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and audio unit harness connector M86 (B) terminal 50.

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	30	M86	50	Yes

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

H.S. DISCONNECT OFF	A 30
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	ALNIA0708GB

	4		Continuity	
Connector	Terminal			
M41	30	Ground	No	

Are continuity results as specified?

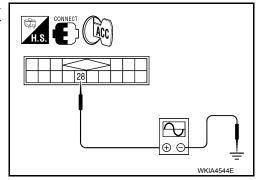
YES >> GO TO 4

NO >> Repair or replace 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 or oscilloscope.

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



Are voltage readings as specified?

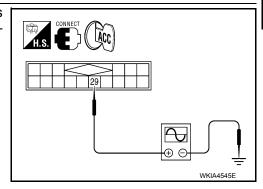
YES >> GO TO 5

NO >> Replace audio unit. Refer to AV-115, "Removal and Installation".

5. CHECK TXD SIGNAL

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

(-	(+)		Deference signal
Connector	Terminal	(-)	Reference signal
M41	29	Ground	(V) 15 10 5 0 + 20ms SKiB3824E



Revision: October 2015 AV-65 2012 Frontier NAM

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< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

Are the voltage readings as specified?

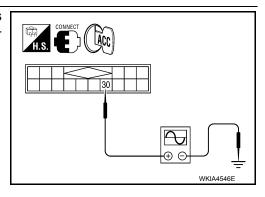
YES >> GO TO 6

NO >> Replace satellite radio tuner. Refer to AV-128, "Removal and Installation"

6.CHECK RXD SIGNAL

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

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



Are the voltage readings as specified?

YES >> Replace satellite radio tuner. Refer to AV-128. "Removal and Installation".

NO >> Replace audio unit. Refer to AV-115, "Removal and Installation".

SATELLITE RADIO TUNER: Diagnosis Procedure (King Cab)

INFOID:0000000007328220

Regarding Wiring Diagram information, refer to AV-96, "Wiring Diagram - King Cab".

1.CHECK HARNESS - REQ1

- 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) harness connector M41 (A) terminal 28 and audio unit harness connector M42 (B) terminal 48.

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

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

H.s. DISCONNECT OFF	
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	A	_	Continuity	
Connector	Terminal			
M41	28	Ground	No	

Are continuity results as specified?

YES >> GO TO 2

NO >> Repair or replace harness or connector.

2.CHECK HARNESS - TXD

< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

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

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

Connector	Ierminal	Connector	Ierminal			
M41	29	M42	49	Yes		
	ntinuity betwe connector M41	<u> </u>	\(\sigma\)			
	A			Continuity		
Connector	Termir	nal	_	Continuity		

No

Ground

Are continuity results as specified?

YES >> GO TO 3

M41

NO >> Repair or replace harness or connector.

3.CHECK HARNESS - RXD

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

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

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

	4	_	Continuity	
Connector	Terminal			
M41	30	Ground	No	

Are continuity results as specified?

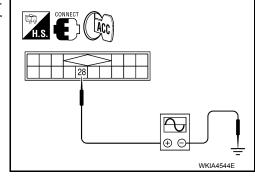
YES >> GO TO 4

NO >> Repair or replace harness or connector.

4.CHECK REQ1 SIGNAL

- 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 or oscilloscope.

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



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Are voltage readings as specified?

< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

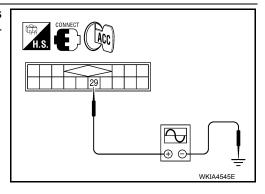
YES >> GO TO 5

NO >> Replace audio unit. Refer to AV-115, "Removal and Installation".

5. CHECK TXD SIGNAL

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

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



Are the voltage readings as specified?

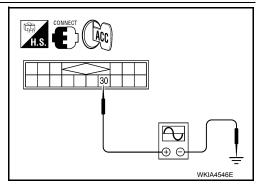
YES >> GO TO 6

NO >> Replace satellite radio tuner. Refer to AV-128, "Removal and Installation"

6. CHECK RXD SIGNAL

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

(+)		()	Reference signal
Connector	Terminal	(-)	Neierence signal
M41	30	Ground	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10 10 10 10 1



Are the voltage readings as specified?

YES >> Replace satellite radio tuner. Refer to AV-128, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-115, "Removal and Installation".

SOUND SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER: Description

INFOID:0000000007328221

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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 (Crew Cab)

INFOID:0000000007328222

Regarding Wiring Diagram information, refer to AV-82, "Wiring Diagram - Crew Cab".

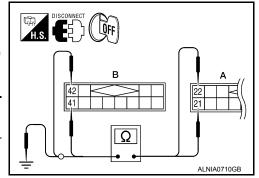
LEFT CHANNEL

1. CHECK HARNESS

1. Turn ignition switch OFF.

- 2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M86.
- 3. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and audio unit connector M86 (B).

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	21	M86	41	Yes
101-4-1	22	IVIOU	42	163



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

Α			Continuity
Connector	Terminal	_	Continuity
M41	21	Ground	No
	22	Orbana	110

Are continuity results as specified?

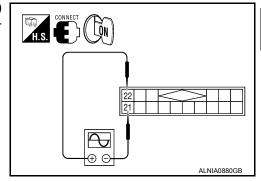
YES >> GO TO 2

NO >> Repair or replace harness or connector.

2. CHECK LEFT 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 21 and 22 with CONSULT or oscilloscope.

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



Are voltage readings as specified?

YES >> Replace audio unit. Refer to AV-115, "Removal and Installation".

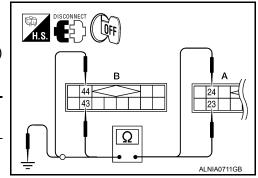
NO >> Replace satellite radio tuner. Refer to AV-128, "Removal and Installation".

RIGHT CHANNEL

1. CHECK HARNESS

- 1. Turn ignition switch OFF.
- 2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M86.
- 3. Check continuity between satellite radio tuner (factory installed) M41 (A) and audio unit M86 (B).

A		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	23	M86	43	Yes
1014-1	24	IVIOO	44	165



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

	Α		Continuity
Connector	Terminal		Continuity
M41	23	Ground	No
IVI4 I	24	Giouna	NO

Are continuity results as specified?

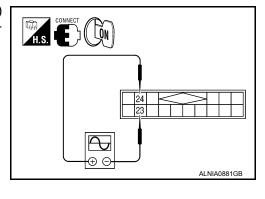
YES >> GO TO 2

NO >> Repair or replace 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 or oscilloscope.

(+)		(-)	Deference 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-115, "Removal and Installation".

NO >> Replace satellite radio tuner. Refer to AV-128, "Removal and Installation".

SATELLITE RADIO TUNER: Diagnosis Procedure (King Cab)

INFOID:0000000007328223

Regarding Wiring Diagram information, refer to AV-96, "Wiring Diagram - King Cab".

LEFT CHANNEL

1. CHECK HARNESS

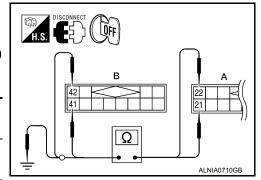
SOUND SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

- Turn ignition switch OFF.
- 2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
- 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
IVI 4 I	W41 22	IVI42	42	res



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

	А		Continuity
Connector	Terminal		Continuity
M41	21	Ground	No
IVI 4 I	22	Giouna	INO

Are continuity results as specified?

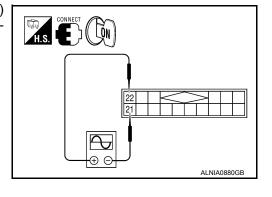
YES >> GO TO 2

NO >> Repair or replace harness or connector.

2.CHECK LEFT CHANNEL AUDIO SIGNAL

- 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 21 and 22 with CONSULT or oscilloscope.

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



Are voltage readings as specified?

>> Replace audio unit. Refer to AV-115, "Removal and Installation". YES

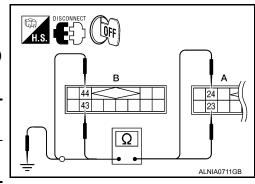
NO >> Replace satellite radio tuner. Refer to AV-128, "Removal and Installation".

RIGHT CHANNEL

1. CHECK HARNESS

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

A		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41	23	M42	43	Yes
IVI + I	24	IVI+Z	44	163



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SOUND SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

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

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

Are continuity results as specified?

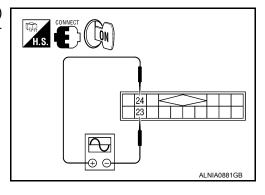
YES >> GO TO 2

NO >> Repair or replace 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 or oscilloscope.

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



Are voltage readings as specified?

YES >> Replace audio unit. Refer to <u>AV-115, "Removal and Installation"</u>.

NO >> Replace satellite radio tuner. Refer to AV-128, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description INFOID:0000000007328224

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

Diagnosis Procedure

INFOID:0000000007328225

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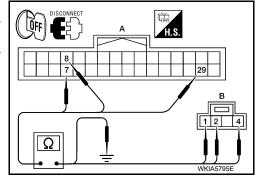
Regarding Wiring Diagram information, refer to <u>AV-82, "Wiring Diagram - Crew Cab"</u> or <u>AV-96, "Wiring Diagram - King Cab"</u>.

1. CHECK HARNESS BETWEEN BLUETOOTH CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.

- Disconnect Bluetooth control unit connector B141 and microphone connector R8.
- 3. Check continuity between Bluetooth control unit harness connector B141 (A) and microphone harness connector R8 (B).

	A		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	_	Continuity
	7		
B141	8	Ground	No
	29		

Are the continuity test results as specified?

YES >> GO TO 2

NO >> Repair or replace harness or connector.

2.CHECK MICROPHONE POWER SUPPLY

- Connect Bluetooth control unit connector B141 and microphone connector R8.
- Turn ignition switch ON.
- Check voltage between microphone harness connector R8 terminal 4 and ground.

4 - Ground : Approx. 5V

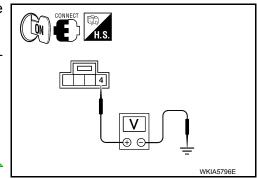
Is voltage reading approx. 5 volts?

YES >> GO TO 3

NO >> Replace Bluetooth control unit. Refer to <u>AV-120</u>, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

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AV-73 2012 Frontier NAM

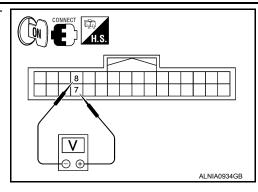
MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

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

Connector	(+)	(-)	Reference signal
Connector	Terminal	Terminal	received digital
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-120, "Removal and Installation".

NO >> Replace microphone. Refer to AV-122, "Removal and Installation".

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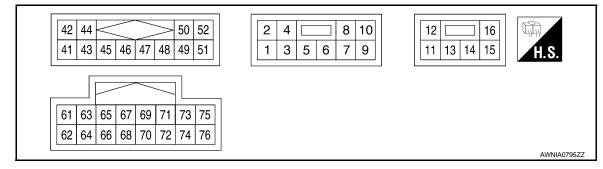
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ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal e color)	Item	Signal input/		Condition	Reference value	
+	_	item	output		Condition	(Approx.)	
2 (BR)	1 (L)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	
4 (LG)	3 (R)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E	
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	lanut	OFF	Lighting switch is in 1st position.	Battery voltage	
(R)	Ground	Illumination signal	Input	UFF	Lighting switch is OFF.	0V	
10 (G/B)	Ground	ACC signal	Input	Ignition switch ON	-	Battery voltage	

[MID (CC), PREMIUM (KC) AUDIO]

< ECU DIA	<u> </u>	NFORMATION >	,		חווויו	(CC), FILLINION (RC) ADDIO
(Wire	minal e color)	Item	Signal input/		Condition	Reference value (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 signal	(V) 1 0 -1 1 ms SKIA0177E
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
48 (O)	-	REQ (SAT → audio unit)	Input	Ignition switch ON	-	_
49 (P)	-	RX (SAT → audio unit)	Input	Ignition switch ON	-	_
50 (L)	-	TX (audio 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	_	_	_	
67	_	Shield	_	Ignition switch ON	-	0V
	1	II.	<u> </u>	<u> </u>		<u> </u>

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[MID (CC), PREMIUM (KC) AUDIO]

	minal e color)	Item	Signal input/		Condition	Reference value (Approx.)
+	_		output			(, (Ab.(OV.)
					Pressing 🗸 🌾	0V
69	71	Steering switch sig-	Input	Ignition switch	Pressing △ button	0.75
(V)	(O)	nal A	mput	ON	Pressing VOL up button	2V
					Except for above	5V
					Pressing MODE button	0V
70	71	Steering switch sig-		Ignition	Pressing ∇ button	0.75V
(LG)	(O)	nal B	Input	switch ON	Pressing VOL down button	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
74 (W)	Ground	Auxiliary audio in- put RH (+)	Input	Ignition switch ON	Receive audio sig- nal (AUX input)	(V) 1 0 -1 1 ms SKIA0177E
75 (B)	Ground	Auxiliary audio in- put LH (+)	Input	Ignition switch ON	Receive audio signal (AUX input)	(V) 1 0 -1 1 ms
76 (R)	_	Shield	_	_	_	0V

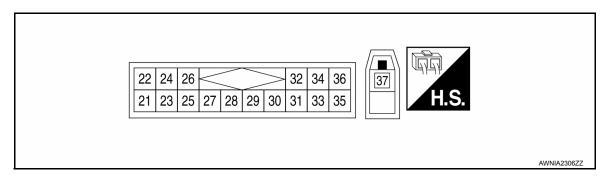
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SATELLITE RADIO TUNER

Reference Value



PHYSICAL VALUES

Terr	minal	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
28 (O)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 → +10ms SKIA9299J
29 (P)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 + 1ms SKIA9300J

SATELLITE RADIO TUNER

< ECU DIAGNOSIS INFORMATION >

[MID (CC), PREMIUM (KC) AUDIO]

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

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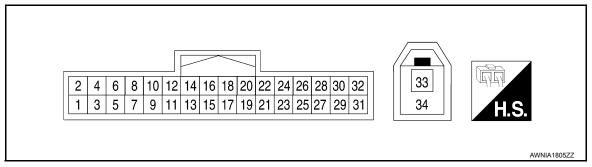
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BLUETOOTH CONTROL UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

Tern (wire	ninal color)	Description	า		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
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 🗸 🌾	0V
12	14	Steering switch sig-	Input	Ignition switch	Pressing △ switch	0.75
(BR)	(G)	nal A	πραι	ON	Pressing VOL up switch	2V
					Except for above	5V

BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[MID (CC), PREMIUM (KC) AUDIO]

	ninal color)	Description	า		O and it is a	Reference value
+	_	Signal name	Input/ output		Condition	(Approx.)
					Pressing MODE switch	0V
13	14	Steering switch sig-		Ignition	Pressing ∇ switch	0.75V
(L)	(G)	nal B	Input	switch ON	Pressing VOL down switch	2V
					Except for above	5 V
					Pressing 🗸 💉	0V
17	19	Steering switch sig-	Output	Ignition switch	Pressing △ switch	0.75
(V)	(O)	nal A	2	ON	Pressing VOL up switch	2V
					Except for above	5V
					Pressing MODE switch	0V
18	19	Steering switch sig-	0	Ignition	Pressing ∇ switch	0.75V
(LG)	(O)	nal B	Output	switch ON	Pressing VOL down switch	2V
					Except for above	5V
20 (B)	Ground	Ground	-	_	_	0V
*21 (B)	Ground	Ground	-	_	-	0V
22 (B)	Ground	Ground	_	_	-	0V
28 (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 PKIA1935E
29 (Y)	Ground	Microphone power	Output	Ignition switch ON	_	5V
33 (B)	_	Bluetooth antenna	-	-	_	-
34	_	Shield	-	_	_	-

^{*:} King cab only

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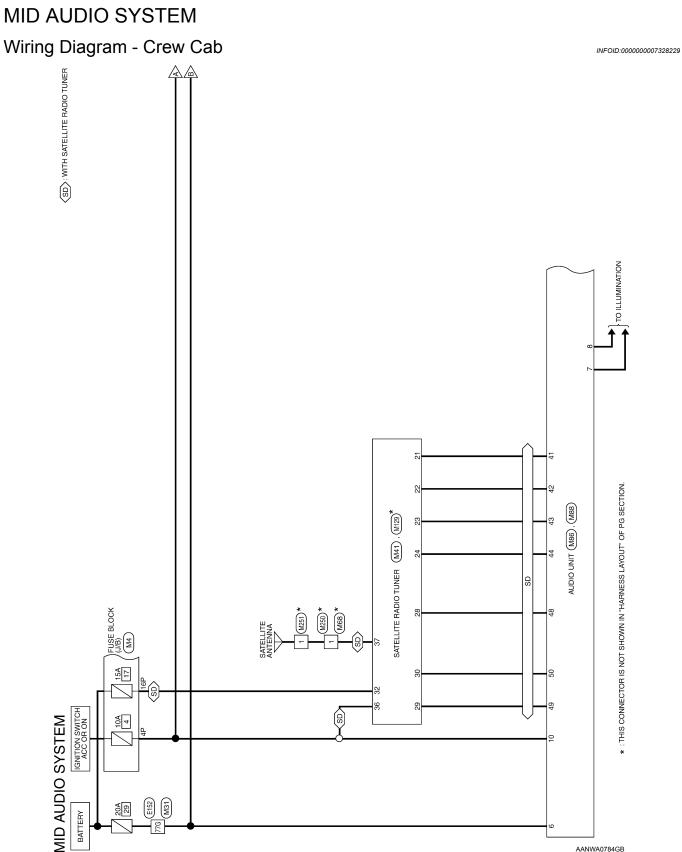
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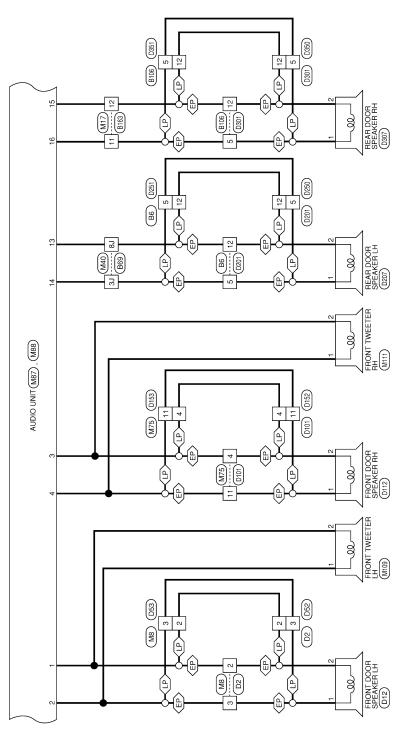
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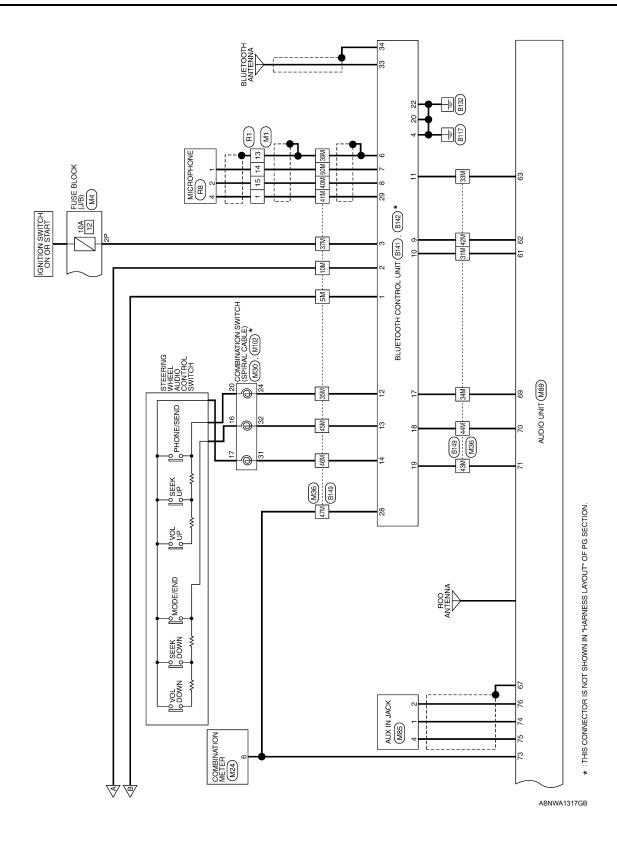
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		Signal Name -		SWITCH		Name	V A (UP)	W GND 3 (DOWN)
Connector No. M8 Connector Name WIRE TO WIRE Connector Color BROWN	10 9 8 7 6			Connector No. M30 Connector Name COMBINATION SWITCH Connector Color GRAY	31 22 35 37 37 38 38	Signal Name	STRG SW A (UP)	STRG SW B (DOWN)
No. M8 Name WIF	2 4 11 .	0	- BR	No. M30 Name COM Color GRA	31 32	Color of Wire	HH (
Connector No. Connector Name	H.S.	Terminal No.	က	Connector No. Connector Name Connector Color	是 H.S.	Terminal No.	24	32
					23 22 1			
M4 FUSE BLOCK (J/B) WHITE	7P (6P 5P 4P	Signal Name	1 1	M24 COMBINATION METER WHITE	11 10 9 8 7 6 5 4 8 13 30 29 28 27 26 25 24	Signal Name	SPEED OUT 8	
	7P 6P 5P 4P 5P 15P 14P 13P	0	G/B R/B		16 15 14 13 12 88 88 84 83 82 82 82 84 83 82 82 83 84 83 82 83 84 84 85 85 85 85 85 85 85 85 85 85 85 85 85	Color of Wire	SB	
Connector No. Connector Name Connector Color	H.S.	Terminal No. 2P	4P 16P	Connector No. Connector Name Connector Color	H.S. 120 19 18 17 16 15 14 13 12 12 14 13 12 12 14 13 12 12 14 13 12 12 14 13 12 12 14 13 12 12 14 13 12 12 14 13 12 12 14 13 12 12 14 13 12 12 14 13 12 12 14 13 12 12 14 13 12 12 14 13 12 12 14 13 13 13 13 13 13 13 13 13 13 13 13 13	Terminal No.	9	
E TO WIRE	3 4 5 6 7 8 9 10 11 12 15 16 17 18 19 20 21 22 23 24	Signal Name	1 1 1	E TO WIRE	11 0 0 1 1 1 0 0 0 1 1 1 1 0 0 0 0 1 1 1 1 0	Signal Name	1	1
ame WIRE	2 4		SHIELD G	o. M17 ame WIRE 1 olor WHITE	7 6 5 4 1 15 1 14 13 7	Color of Wire	GR G	0
Connector No. M1 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No.	13	Connector No. M17 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No.	- 5	<u>N</u>
								ABNIA3344GI

AV-85 Revision: October 2015 2012 Frontier NAM

Connector No. M31 Connector Name WIRE TO WIRE	Connector No.	Connector No. M36 Connector Name WIRE TO WIRE		Terminal No.	Color of Wire	Signal Name	
- 1	Compostor Name	Inc. WHITE	T	44M	LG	1	
_		MI F		45M	_	Î	
				46M	ŋ	ı	_
56 46 36 26 16		5M AM 3M 3M 1M		47M	SB	1	
10G 9G 8G	L.O.	MZ M8 M9		20M	g	I	
216 206 196 186 176 166 156 146 136 126 116 30 126 116 30 126 126 126 126 126 126 126 126 126 126		21M[20M[59M[58M[77M [58M[55M[44M[53M[22M[71M] 30M[259M[25M[27M[35M[35M[35M[35M[35M[35M[35M] 33M[35M] 31M] 31M]	M11M W31M				
		50M 49M 48M 47M 48M 45M 44M 43M 42M 61M 60M 59M 58M 57M 58M 55M 54M 53M 52M 51M 70M 69M 68M 67M 66M 65M 63M 63M 62M	W S1M				
75G 74G 73G 72G 71G 80G 79G 78G 77G 78G		75M 74M 72M 72M 71M 80M 79M 78M 77M 76M					
Terminal No. Wire Signal Name	Terminal No.	Color of Signal Name					
77G Y –	2M	R/B –					
	10M	- A/D					
	31M	- В					
	33M	ا د					
	34M	^					
	35M	BR -					
	37M	- M/G					
	39M	SHIELD -					
	40M						
	41M	- \					
	42M	- M					
	43M	0					

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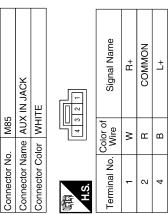
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Connector No. M44 Connector No. M41 Connector No. M42 Connector No. M43 Connector No. M44 Connector No. M45 Connector No. M45					1																
Sector No. M40 Connector Name M41 No. M41	TO WIRE		Signal Name	1																	
Sector No. M40 Connector Name M41 No. M41	M68 ne WIRE or VIOLE		Solor of Wire	1																	
Sector No. M40 Connector Name M41 No. M41	nector No.	Ø		-																	
State Stat	Con	E E	Tern																		
State Stat	<u> </u>																				
State Stat	DIO TUNE	38 38	al Name	CH (-)	(+) HOT	RCH (-)	RCH (+)	1		1	EQ1	QX.	3XD	1	CKUP	1	1		CC		
State Stat	LLITE RA	29 33	Signa	SAT	SAT	SAT	SAT				<u>د</u>				BA				1		
State Stat	M41 ne SATE or WHIT	11\/ [5]	Solor of Wire	ŋ	Ж	M	В	1	1	ı	0	۵	_	1	R/B	1	1	ı	G/B		
State Stat	nector No.		ninal No.	21	22	23	24	25	56	27	28	29	30	31	32	33	34	35	36		
M40 M40 M40 MHE TO WIRE MHITE MHIT			Ter																		
M40 M40 M40 MHE TO WIRE MHITE MHIT																					
M40 M40 M40 MHE TO WIRE MHITE MHIT			101	727	32.1 31.1	450	201	927 310]												
nector No. nector Colo	IRE	7 7	151 141 131	25, 24, 23			62 64 69	65, 64, 63		31 721 71J	BJ 77J 76J				ignal Nam	1	ı				
nector No. nector Colo	0 RE TO W	5. 4.1.3	100 90 8	28J 27J 26J	38.1 37.1 36.1	48.1 47.1 46.0	22 22	96 573 964 681 673 664	}] [75J 74J 7	80, 79, 78										
By B	Vo. M4 Vame WII		21.1 20.1 19.1	300 290	41.1 40.1 39.1	50. 49.	1 1 20 1 20	000 C10							Color of Wire	G	<u>م</u>	<u> </u>			
	onnector Nonnector Nonnector Connector Connect	H.S.													rminal Nc	33	- 2	3			

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Revision: October 2015 AV-87 2012 Frontier NAM

		_												
M88 AUDIO UNIT (CREW CAB	WITH MID AUDIO SYSTEM) WHITE	1	8 10	Signal Name	FRSP LH (-)	FRSP LH (+)	FRSP RH (-)	FRSP RH (+)	_	BAT (BACK UP)	ILL CONT	MS THBIL	-	ACC
<u>e</u>	- 1	_	2 1 3 5	Color of Wire	_	BB	œ	ГG	1	>	GR	æ	ı	G/B
Connector No.	Connector Color		H.S.	Terminal No.	-	2	3	4	5	9	7	8	6	10



Signal Name	B+	COMMON	F+	
Color of Wire	M	В	В	
Terminal No. Wire	1	2	4	

Connector No.	M87
Connector Name	Connector Name AUDIO UNIT (CREW or WITH MID AUDIO SY:
Connector Color WHITE	WHITE

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-		G & O M TOO THAT I ON
Connector Name		WITH MID AUDIO SYSTEN
Connector Color	or WHITE	TE
H.S.	11 13	13 14 15
Terminal No.	Color of Wire	Signal Name
Ξ	1	ı
12	ı	ı
13	В	RRSP LH (-)
41	5	RRSP LH (+)
15	0	RRSP RH (-)
16	GR	RRSP RH (+)

Connector No.). M75	2
Sonnector Name WIRE TO WIRE	me WIF	RE TO WIRE
Connector Color WHITE	olor WH	ITE
H.S.	5 4 11 10	8 3 7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
Terminal No.	Color of Wire	Signal Name
4	œ	ı
11	рη	ı

Connector No.	M86
Connector Name	AUDIO UNIT (CREW C, WITH MID AUDIO SYSTEM)
Connector Color	WHITE
H.S.	44 50 52 43 45 46 47 48 49 51

Signal Name	L (-)	L (+)	R (-)	R(+)	ı	1	ı	REQ	RX	XT	ı	1
Color of Wire	ŋ	В	×	В	-	ı	1	0	Д		ı	1
Terminal No.	41	42	43	44	45	46	47	48	49	20	51	52

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_		_			_	_	_
)2	Connector Name COMBINATION SWITCH	AY	17 18 19 19	Signal Name	I	I	ı
M102	on emi	lor GRAY	1415161	Color of Wire	_	BR	≥
Connector No.	Connector Na	Connector Color	H.S.	Terminal No.	16	17	20

Signal Name	SHIELD	I	REMOTE A SWC	REMOTE B SWC	REMOTE GND SWC	I	SPEED SIGNAL	AUX R+	AUX L+	AUX GND
Color of Wire	SHIELD	ı	>	p_	0	ı	SB	8	В	В
Terminal No.	29	89	69	70	71	72	73	74	75	9/

6	AUDIO UNIT (CREW CAB WITH MID AUDIO SYSTEM)	WHITE	67 69 71 73 75 68 70 72 74 76	Signal Name	TEL SIG INPUT (-)	TEL SIG INPUT (+)	TEL SIG ON TRIG	_	_	_
. M89			61 63 65 62 64 66 6	Color of Wire	В	Μ	Œ	1	1	-
Connector No.	Connector Name	Connector Color	原动 H.S.	Terminal No.	19	29	63	64	65	99

			1		_
59	Connector Name SATELLITE RADIO TUNER	LET		Signal Name	1
. M129	me SA	lor VIC		Color of Wire	ı
Connector No.	Connector Na	Connector Color VIOLET	雨 H.S.	Terminal No. Wire	37

Connector No.). M111	
Connector Name		FRONT TWEETER RH
Connector Color	olor BROWN	N
H.S.		
Terminal No.	Color of Wire	Signal Name
-	>	ı
2	٦	CAB WITH PREMIUM

_		_				
	FRONT TWEETER LH	NN		Signal Name	– (EXCEPT CREW CAB WITH PREMIUM AUDIO SYSTEM)	– (EXCEPT CREW CAB WITH PREMIUM AUDIO SYSTEM)
M109		BROWN	2	Color of Wire	В	Т
	ıme	힏		O T		
Connector No.	Connector Name	Connector Color	၏ H.S.	Terminal No.	1	2

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	ABN	NIA3292GB

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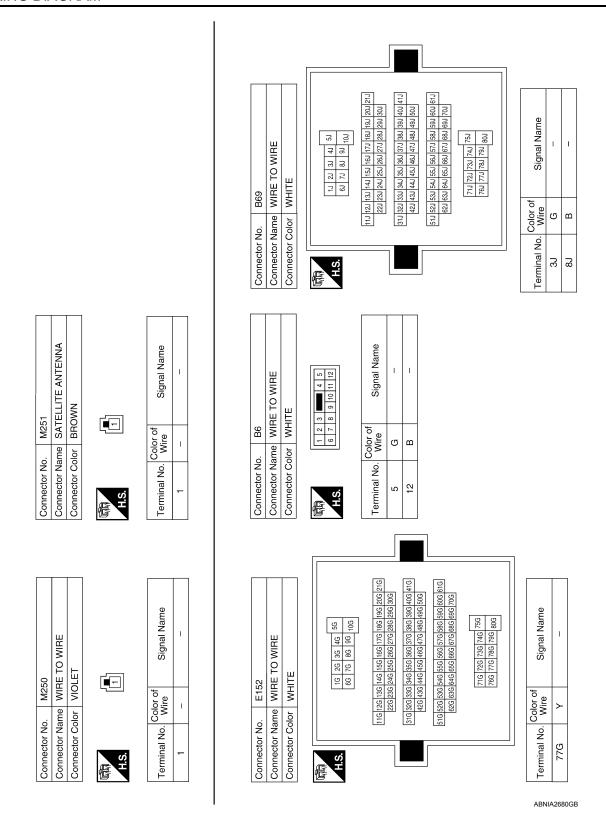
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					Signal Name	-	CONT 3	ı	ı	1	1	1	SPEED SIGNAL	MIC POWER	ı	ı	ı				
				Color of	Wire	_	В	1	1	1	1	1	SB	Y	-	_	-				
					Terminal No.	21	22	23	24	25	26	27	28	29	30	31	32				
					Signal Name	MIC SHIELD	MIC IN+	MIC IN-	AUDIO OUT+	AUDIO OUT-	MUTE CONTROL	LADDER IN 1	LADDER IN 2	LADDER IN GND	1	1	LADDER OUT 1	LADDER OUT 2	LADDER OUT GND	CONT 1	
				Color of	Wire	SHIELD	ŋ	_	Μ	В	Œ	BB	7	В	1	ı	>	LG	0	В	
					Terminal No.	9	2	8	6	10	11	12	13	14	15	16	17	18	19	20	
_			1					1										T			1
	1	1		-	ETOOTH CONTROL	UNIT	TE					20 22 24 26	17 19 21 23 25 27 29 31		Signal Name	BATT	ACC	IGN	GND	1	
5	<u>r</u> 5	0		B141	e e	IN O	olor WHITE					12 14 16 18 20	9 11 13 15 17	Color of	Wire	B/B	G/Y	W/G	В	-	
ц	ဂ	12		Connector No	Connector Name		Connector Color		E	H.S.		9	1 3 5 7 9		Terminal No.	-	2	က	4	5	

Revision: October 2015

Connector No. B106 Connector Name WIRE TO WIRE

Connector Color WHITE

Signal Name

Color of Wire

Terminal No.

ABNIA2681GB

10M 10M	Connector Name BLUETOOTH	DOTH CONTROL UNIT	Connector Nam	Connector Name WIRE TO WIRE	VIRE		Terminal No.)	Signal Name
The connector Color WHITE Signal Name Signal Name	or Color BLACK		Connector Cole	or WHITE			2W	B/B	I
Signal Name				_			10M	G/Y	ı
Signal Name							31M	В	ı
Signal Name	8		S H	1M 2M 3I	M 4M 5M		33M	æ	I
Time Signal Name Signal	34			6M 7M 8I	M 9M 10M		34M	^	ı
Signal Name				1000			35M	BB	I
Signal Name	_		=	22M 23M 24M 25M 2	16M 17M 18M 19M 20M 21M		37M	M/G	ı
STANTENNA SHIELD	_						39M	SHIELD	ı
ELD BTANTENNA SHIELD			<u>:</u>	1M 32M 33M 34M 35M ;	36M 37M 38M 39M 40M 41M		40M		ı
Signal Name							41M	λ	I
1 1 1 1 1 1 1 1 1 1			<u>[]</u>	1M 52M 53M 54M 55M 5	56M 57M 58M 59M 60M 61M		42M	W	ı
Trim				Semi Comi Cotto			43M	0	ı
Paris Tele				71M 72M 73I	M 74M 75M		44M	LG	I
Signal Name Connector No. File File				76M 77M 78i	M 79M 80M		45M		ı
Signal Name Color of the signal Name Colo							46M	5	I
Signal Name Connector No. R1 Connector No. R1 Connector No. R2 Connector Name MICROPH Connector Name MICROPH Connector Color WHITE Connector Color Connector Color WHITE Connector Color Connector Connector Color Connector Connect						1	47M	SB	ı
Signal Name							50M	ŋ	ı
B163 Connector No. R1 Connector Name WIRE TO WIRE Connector Name MICROPH WHITE Connector Name WIRE TO WIRE Connector Name MICROPH Signal Name Signal Name Terminal No. Color of Vire Signal Name Terminal No. Color of Vire Terminal No. Color of Vire Terminal No. Color of Vire Terminal No. Terminal No. Color of Vire Terminal No. Terminal No. Color of Vire Terminal No. <						'			
B163 Connector No. R1 Connector No. R8 WHITE Connector Name WIRE TO WIRE Connector Name MICROPH WHITE Connector Name MICROPH Signal Name Interview of the signal Name Signal Name Interview of the signal Name <									
WIRE TO WIRE Connector Name WIRE TO WIRE Connector Name MICROPH WHITE Connector Color WHITE Connector Color WHITE 3			Connector No.				Connector No	R8	
WHITE Connector Color WHITE Connector Color WHITE Stand Name Connector Color WHITE Stand Name Color of Signal Name Color of		O WIRE	Connector Naı		WIRE		Connector Na	ame MICR	OPHONE
	-		Connector Col	-			Connector Co	-	E.
2 3 1 1 1 1 1 1 1 1 1	11-		J.		F				F
Color of Wire Signal Name Terminal No. Wire Color of Wire Signal Name Color of Wire GR - 1 Y - 1 G O - 13 SHIELD - 2 L Y 14 G - 4 Y Y Y	9 10 11 12	14 15	ν;	9 8	4 3 2 16 15 14		H.S.	1 2 3	
Color of C	بار پرادر			o rolo					
- 1 Y - 13 SHIELD - 2 L 14 G - 4 Y	_	Signal Name	Terminal No.		Signal Name		Terminal No.	Color of Wire	Signal Name
- 13 SHIELD - 2 L 14 G - 4 Y	GR	1		>	1		-	G	MIC OUT +
- P	0	1		SHIELD	1		2	7	MIC OUT -
			14	5	-	•	4	>	MIC POWER

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W/B

L/B W/B

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H.S. H.S. Col Terminal No. Www. W.	2 3	Signal Name	H.S. Terminal No.	Color of Wire L/R	Signal Name	H.S. Terminal No.	5 4 12 11 12 14	10 9 8 7 6 1 Signal Name
		Signal Name		Color of Wire L/W	Signal Name -	Terminal No.	Color of Wire L BR	Signal Name
	/R //w	1 1	2	L/R	1 1	N M	L	1 1
	W	1	22	L/R	ı	ဇ	BB	ı
Connector No.	D53		Connector No.	D101		Connector No.	Vo. D112	
Connector Name WIRE TO WIRE	WIRE TO WI	IRE	Connector Name		WIRE TO WIRE	Connector N	Jame FRON	Connector Name FRONT DOOR SPEAKER RH
Connector Color	BROWN		Connector Color	or WHITE	lu l	Connector Color WHITE	Solor WHIT	
H.S.	1 2 3 6 10 1	11 4 11 2	原 说。S.	6 7 8 9	9 10 11 12	斯 H.S.	Q	
Terminal No. Color of		Signal Name	Terminal No.	Color of	Signal Name	Terminal No.	Color of	Signal Name
M		2	\rightarrow	רע ווע אווע			-	

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

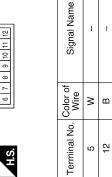
9 7 7 8 8 6 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Signal Name	- (CREW CAB WITH MID AUDIO SYSTEM)	- (CREW CAB WITH
12 11 10 9 8 7	Color of Wire	5	В
H.S.	Ferminal No.	5	12



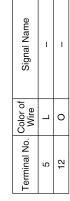
D251	Sonnector Name WIRE TO WIRE	WHITE	0
Connector No.	Connector Name	Connector Color WHITE	

Signal Name	1	1
Color of Wire	_	0
Terminal No.	5	12

D153	WIRE TO WIRE	WHITE	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	



D250	WIRE TO WIRE	WHITE	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	



Conne	Conne	

D152	WIRE TO WIRE	WHITE	12 11 10 9 8 7 6	30 20 20
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	-

Signal Name	1	1
Color of Wire	8	В
Terminal No.	5	12

Connector No. D207	Connector Name REAR SPEAKER LH	Connector Color WHITE	
Conn	Conn	Conn	唇

Signal Name	- (CREW CAB WITH MID AUDIO SYSTEM)	- (CREW CAB WITH MID AUDIO SYSTEM)
Color of Wire	В	В
erminal No.	1	2

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Connector No. D350 Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No. Color of Signal Name 5 L		
Connector No. D307 Connector Name REAR DOOR SPEAKER RH Connector Color WHITE	Signal Name - (CREW CAB WITH MID AUDIO SYSTEM) -		
ame REAF	Color of Wire GR		
Connector No. D307 Connector Name REAR IC Connector Color WHITE H.S.	Terminal No.		
TO WIRE E	Signal Name - (CREW CAB WITH MID AUDIO SYSTEM) -	1 E TO WIRE TE	Signal Name
300 D301 ame WIRE TG Jor WHITE 5 4 3 3 3 12 11 10 9 8	Color of Wire OO	5. D351 Mame WIRE Jor WHIT 12 11 11	Color of Wire
Connector No. D301 Connector Name WIRE TO WIRE Connector Color WHITE 5 4 3 2 1 1 1 1 1 1 1 1 1	Terminal No. 5	Connector No. D351 Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No. 5

Connector No. D351 Connector Name WIRE TO WIRE Connector Color WHITE
Connector No. D351 Connector Name WIRE TO WIRE Connector Color WHITE
Connector No. D351 Connector Name WIRE TO WIRE

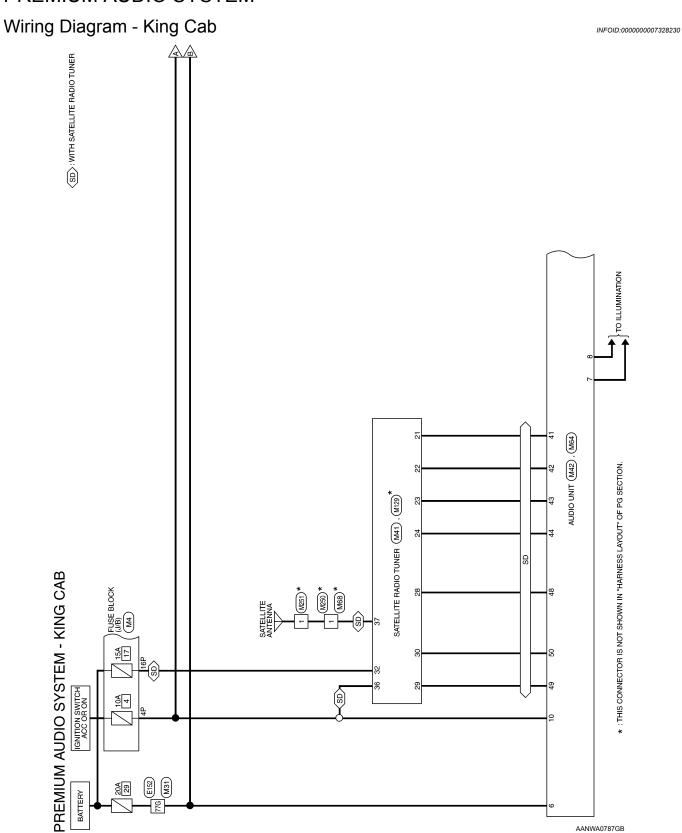
Signal N	1	_	
Color of Wire	_	0	
Terminal No.	5	12	

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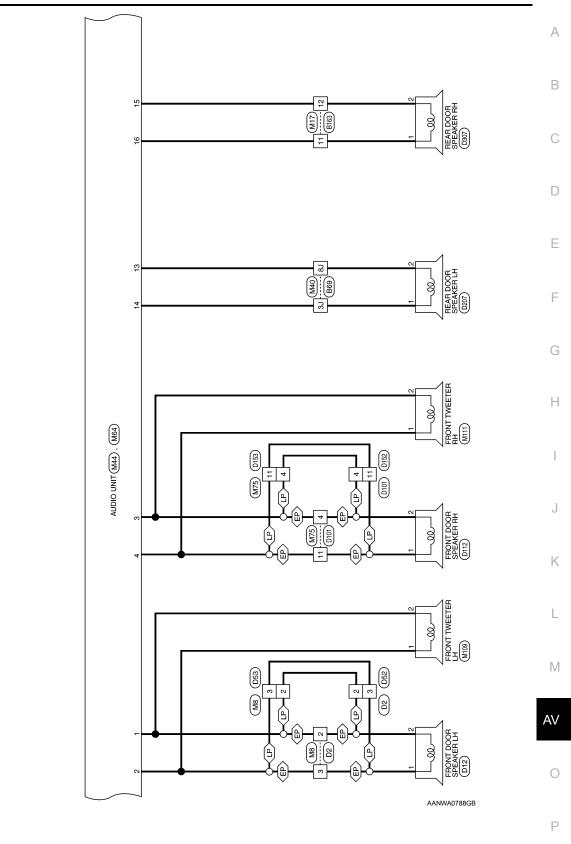
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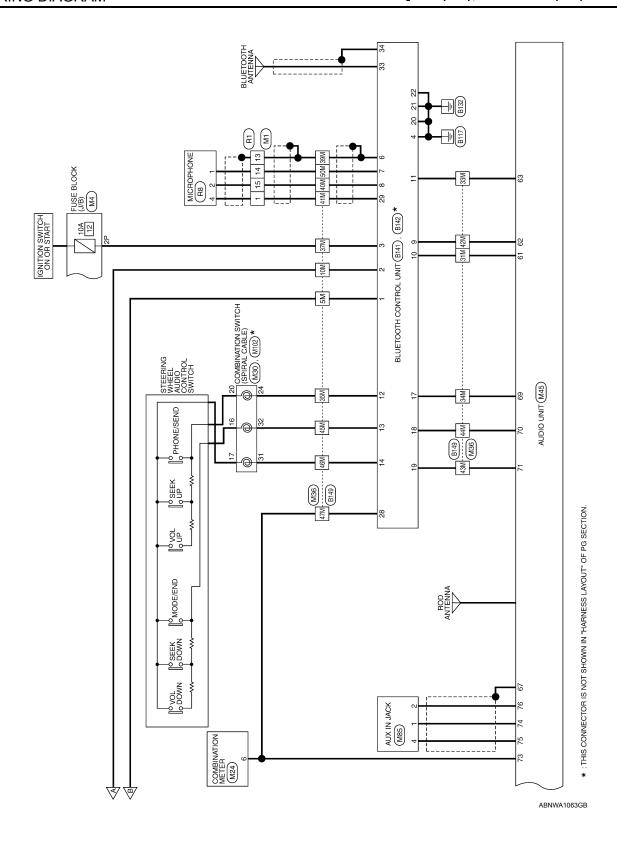
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PREMIUM AUDIO SYSTEM



⟨EP⟩: EARLY PRODUCTION⟨LP⟩: LATE PRODUCTION





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PREMIUM AUDIO SYSTEM CONNECTORS - KING CAB

Connector No.	M1	Connector No.	M		Connector No.	No. M8	8
Connector Name WIRE	WIRE TO WIRE	Connector Na	me FUSE	Connector Name FUSE BLOCK (J/B)	Connector	Name W	Connector Name WIRE TO WIRE
Connector Color WHITE	WHITE	Connector Color WHITE	lor WHIT	Ę	Connector Color BROWN	Color BI	NMOS
H.S. 13 14 1	3 4 5 6 7 8 9 10 11 12 15 16 17 18 19 20 21 22 23 24	(77) H.S.	7P 6P 5P 4P 6	PP 68P 5P 4P (高 H.S.	12 11	0 9 8 7 6
Terminal No. Wire	lor of Signal Name	Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Wire	Color Wire	of Signal Name
-	- Α	2P	W/G	1	2	_	ı
13 SH	SHIELD –	4P	G/B	1	က	BB	ı
14	- 5	16P	B/B	1			
15	-						

Connector Name Connector Color GRAY Terminal No. Wire 7 6 5 4 4 3 2 1 1 10 9 8 7 6 5 4 3 2 2 1 2 1 10 10 9 8 7 8 3 2 1 3 0 2 2 2 1 2 2 2 2 1 2 2 2 2 2 2 2 2 2 2		M17		Connector No.		M24	Connector No.	No. M30	0
Connector Color WHITE Connector Color WHITE Connector Color GRAN	onnector Nam	ne WIR	E TO WIRE	Connector N	ame C	OMBINATION METER	Connector	Vame CO	MBINATION SWITCH
T 6 5 4	onnector Colc	Jr WHI		Connector Co	olor	VHITE	Connector	Color GR	AY
Color of Wire Signal Name Color of GR Signal Name	ري 19	5 4 13	3 2 10 9	H.S.			H.S.	24 25 31 32	26 27 33 27 33 44 34
Color of Wire Signal Name Color of GR Signal Name 24 BR GR - 6 SB SPEED OUT 8 31 G O - - 6 SB SPEED OUT 8 SPEED OUT 8 C				20 19 18 17 16	3 15 14 1	10 9 8 7 6 5 4 3 30 20 28 27 26 25 28 23		Color of Wire	Signal Name
Color of Wire Signal Name Terminal No. Wire Color of Wire Signal Name 31 G GR - 6 SB SPEED OUT 8 O - - -				3	15 25			BB	STRG SW A (UP)
Wife Ognativation Wife Ognativation 32 L GR - 6 SB SPEED OUT 8 O - - - -		olor of	ı ⊱	Todimor			31	В	STRG SW GND
GR - 6 SB SPEED OUT 8 O - 0		wire	- 1	י מוווומו			32	_	STRG SW B (DOWN)
0	Ξ	GR	ı	9	SB				
	12	0	1						
	12	0	1						

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Connector No.	Connector No. M31		Connector No. M36	. M36	TO MIDE	Terminal No.	Color of Wire	Signal Name	
Connector Color	Golor WHITE		Connector Color WHITE			44M	FG	1	
						45M	_	ı	
		F				46M	ŋ	ı	
2	56 46 36 26 16			Į tr	5M 4M 3M 9M 1M	47M	SB	I	
ó.	8G 7G		ю. П	<u> </u>	M 8M 7M	50M	g	I	
	216 206 196			21M 20M 19M 18N	21M 20M 19M 18M 17M 16M 15M 14M 13M 12M 11M				
				30M 29M 28h	30M29M28M27M26M25M24M23M22M				
				50M 49M 48h	50M 49M 48M 47M 46M 45M 44M 43M 42M				
	61G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G 70G 69G 68G 67G 66G 65G 64G 63G 62G			61M 60M 59M 58N 70M 69M 68N	61M 60M 59M 58M 57M 56M 55M 54M 53M 52M 51M 70M 69M 68M 67M 66M 65M 64M 63M 62M				
	75G 74G 73G 72G 71G 80G 79G 78G 76G			7 80 80	75M 74M 73M 72M 71M 80M 79M 78M 77M 76M				
		7]							
Terminal No.	Color of Signal Name		Terminal No.	Color of Wire	Signal Name				
77G			2M	B/B	1				
			10M	G/Y	_				
			31M	В	1				
			33M	Œ	ı				
			34M	>	ı				
			35M	BB	ı				
			37M	M/G	1				
			39M	SHIELD	-				
			40M	_	ı				
			41M	>	1				
			42M	×	ı				
			43M	0	-				

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2	AUDIO UNIT (KING CAB WITH PREMIUM AUDIO SYSTEM)	WHITE	46 47 48 49 51	Signal Name	(-)	(+) 7	R (-)	R(+)	1	I	_	REQ	RX	XT	1	ı
. M42			41 43 45	Color of Wire	უ	ш	Ν	В	ı	ı	ı	0	۵	٦	ı	1
Connector No.	Connector Name	Connector Color	所 H.S.	Terminal No.	41	42	43	44	45	46	47	48	49	20	51	52

M41	Connector Name SATELLITE RADIO TUNER	or WHITE	
Connector No. M4	Connector Name SA	Connector Color WHITE	

Signal Name	SAT LCH (-)	SAT LCH (+)	SAT RCH (-)	SAT RCH (+)	ı	ı	1	REQ1	TXD	RXD	1	BACKUP	_	-	I	ACC
Color of Wire	G	œ	>	В	ı	ı	1	0	۵	_	ı	B/B	I	I	I	G/B
Terminal No.	21	22	23	24	25	56	27	28	29	30	31	32	33	34	35	98



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	5J 4J 3J 2J 1J	18J 17J 16J 15J 14J 13J 12J 11J 28J 27J 26J 25J 24J 23J 22J	41.1 40.3 39.0 38.0 37.1 36.0 35.0 34.0 33.0 32.0 31.0 35.0 48.0 48.0 47.1 46.0 45.0 44.0 43.0 42.0	60. 581 582 557 561 553 544 533 523 513 701 683 683 683 683 683 683	75J 74J 72J 77J 76J 80J 77SJ 775J 76J	Signal Name	ı	ı
		21, 20, 19, 18, 30, 29, 28,	10 400 390 380 500 490 480	61J 60J 59J 58J 70J 69J 68J		Color of Wire	ŋ	В
	H.S.	[8]	4			Terminal No.	33	8

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						_					_	_			_												-	
C C C C C C C C C C C C C C C C C C C	AUDIO UNII (KING CAB WITH PREMIUM AUDIO SYSTEM)	TE	8 10 8 10 8 2 9	Signal Name	FRSP LH (-)	FRSP LH (+)	FRSP RH (-)	FRSP RH (+)	1	BAT (BACK UP)	ILL CONT	LIGHT SW		ACC								IN JACK	<u> </u>		2 1	Signal Name	#±	COMMON
		lor WHITE	2 4 1 3 5 6	Color of Wire		BB	œ	LG	ı	>	GR	œ	1	G/R	2 5						. M85	me AUX	lor WHI		4 3 2	Color of Wire	>	<u>م</u> م
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	-	2	က	4	2	9	7	80	o	Ç	2						Connector No.	Connector Name AUX IN JACK	Connector Color WHITE		H.S.	Terminal No.	-	2 -
GAO CINIXI TIMI I CI	AUDIO UNII (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	1	ĺ	ı	SHIELD	I	REMOTE A SWC	REMOTE B SWC	REMOTE GND SWC	ı	SPEED SIGNAL	AUX R+	AUX L+	AUX GND		E TO WIRE	E E	•	9 8 7 6	Signal Name	ı	I
H		or WHITE	61 63 65 67 69 62 64 66 68 70	Color of Wire	В	3	<u> </u>	1	ı	ı	SHIELD	ı	>	ГG	0	_	SB	>	В	۳	M75	ne WIRE	or WHITE			Color of Wire	œ	5
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	61	62	63	64	65			89	69	70	7.1	72	73	74	75	92	Connector No.	Connector Name WIRE TO WIRE	Connector Color		H.S.	Terminal No.	4	+
							•	·	•		•	•	•															
GAO CINIXI FINITO	AUDIO UNIT (KING CAB WITH PREMIUM AUDIO SYSTEM)	Ë	4 15	Signal Name	ı	ı	RRSP LH (-)	RRSP LH (+)	RRSP RH (-)	RRSP RH (+)												E TO WIRE	ET	-		Signal Name	1	
M44		or WHITE	12 16 16 11 13 14 15	Color of Wire		1	В	5	0	GR											M68	ne WIRE	or VIOLET	Ę		Color of Wire	1	
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	11	12	13	41	15	16											Connector No.	Connector Name WIRE T	Connector Color		H.S.	Terminal No.	-	
							•	•		•	_																BNIA	2734G

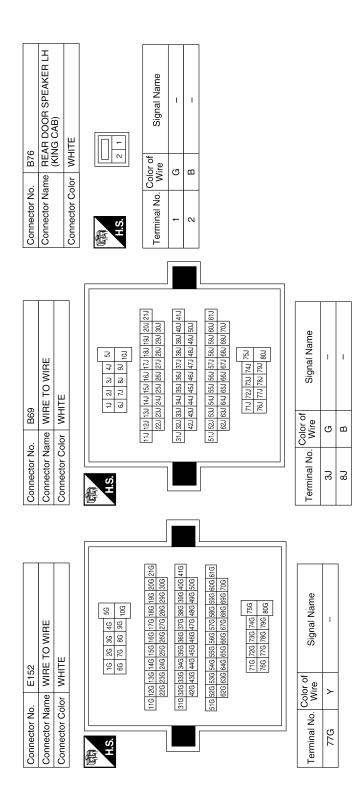
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2012 Frontier NAM

Revision: October 2015

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HH	Name T CREW PREMIUM YSTEM)	NNA	аше	В
M111 FRONT TWEETER RH BROWN	Signal Name (EXCEPT CREW CAB WITH PREMIUM AUDIO SYSTEM)	M251 SATELLITE ANTENNA BROWN	Signal Name	С
	Color of Wire W		Color of Wire	D
Connector No. Connector Name Connector Color	Terminal No.	Connector No. Connector Name Connector Color H.S.	Terminal No.	Е
				F
ETER LH	Signal Name - (EXCEPT CREW CAB WITH PREMIUM AUDIO SYSTEM) AUDIO SYSTEM)	뀙	Signal Name	G
M109 FRONT TWEETER LH BROWN		M250 WIRE TO WIRE VIOLET		Н
	lo. Color of Wire G		Color of Wire	I
Connector No. Connector Color Connector Color	Terminal No.	Connector No. Connector Color Connector Color	Terminal No.	J
				K
Connector No. M102 Connector Name COMBINATION SWITCH Connector Color GRAY THIS THE	Signal Name	E RADIO TUNER	Signal Name	L
M102 or GRAY III		M129 SATELLIT VIOLET		M
Connector No. Connector Color Connector Color	al No. Color of Wire of L L BR	9 5	Color of Wire	AV
Connector No. Connector Col	Terminal No. 16 17 20	Connector No. Connector Colc	Terminal No.	0

AV-103



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

ſ		
Terminal No.	Color of Wire	Signal Name
9	SHIELD	MIC SHIELD
7	5	MIC IN+
8	٦	MIC IN-
6	Μ	AUDIO OUT+
10	В	AUDIO OUT-
11	ш	MUTE CONTROL
12	88	LADDER IN 1
13	٦	LADDER IN 2
14	9	LADDER IN GND
15	1	1
16	_	1
17	۸	LADDER OUT 1
18	57	LADDER OUT 2
19	0	LADDER OUT GND
20	В	CONT 1

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



Signal Name	BATT	ACC	IGN	GND	ı	
Color of Wire	B/B	G/Y	M/G	В	_	
Terminal No. Wire	-	2	ဇ	4	5	

Connector No. B142 Connector Name BLUET	Connector No. B142 Connector Name BLUETOOTH CONTROL Connector Color BLACK
E	

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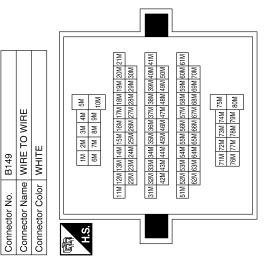
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Terminal No. Wire	Color of Wire	Signal Name
42M	8	ı
43M	0	1
44M	ЫL	1
45M	٦	1
46M	В	ı
47M	SB	-
20M	G	ı

Signal Name	I	ı	ı	ı	ı	1	1	I	1	_
Color of Wire	B/B	G/Y	В	Œ	>	BR	M/G	SHIELD	Т	٨
Terminal No. Wire	5M	10M	31M	33M	34M	M28	37M	39M	40M	M14



Connector No.	R	
Connector Name		WIRE TO WIRE
Connector Color	olor WHITE	ІТЕ
H.S. 24 23	11 10 9 8 23 22 21 20	7 6 5 4 3 2 1 19 18 17 16 15 14 13
Terminal No.	Color of Wire	Signal Name
-	>	ı
13	SHIELD	ı
14	g	1
15	٦	1

### ### ### #########################	B163 B163	Connector No. Connector Color Connector Color H.S. Fig. 8 9
1	С	12
1	GR	11
Signal Name	Solor of Wire	erminal No.
12 13 14 15 16	9 10 11	\(\sigma\)
TE		onnector Cold
E TO WIRE		onnector Nan
3	B16;	onnector No.

Г
Connector Name
Connector Color
Color of Wire
GR

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	А
	В
P12 FRONT DOOR SPEAKER LH WHITE or of Signal Name W	С
Color of WHITE Wire Signa L/M L/B Color of WHITE WHE TO WIRE I 2 3	D
	Е
Connector Ni Conne	F
	G
Signal Name Signal Name Signal Name Signal Name Signal Name Signal Name	Н
D2	1
Connector No. D2 Connector Name WIRE TO WIRE Connector Color of E 7 18 9 10 11 12 2 L/R 3 L/W Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color of E 7 8 9 10 11 12 Terminal No. Wire Signa 2 L/R 3 L/W Connector Name WIRE TO WIRE Connector Name WIRE Connector Name WIRE TO	J
	К
Signal Name MIC OUT + MIC OUT - MIC POWER MIRE Signal Name	L
R8 MICROPHG WHITE	M
No. R8 MICF WHITE No. R8 MICF No. Mare WIRF No. D52 MICF M	AV
Connector No. R8 Connector Color WHITE Terminal No. Wire Signa Terminal No. Wire Signa 2 L MIC 4 Y MICF Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color of Signa Terminal No. Wire Signa 2 L Signa 2 L MICF 3 BR	0
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				ıme			
53	RE TO WIRE	ITE	8 9 10 11 12	Signal Name	I	1	
). DI33	ıme WIF	olor WH	1 2 4 7 2	Color of Wire	>	В	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	是 H.S.	Terminal No. Wire	5	12	
N	E TO WIRE		00 8 8 7 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Signal Name	I	ı	
ZG1U .	me WIR	lor WHI	12 11 11	Color of Wire	>	В	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	所 H.S.	Terminal No. Wire	5	12	
	I						
	Connector Name FRONT DOOR SPEAKER RH			Signal Name	-	-	
, D112	me FRON	lor WHITE	2	Color of Wire	M/B	L/B	
Connector No.	Connector Na	Connector Color WHITE	可 H.S.	Terminal No.	1	2	

	IRE		11 4 12 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Signal Name	1	1
D350	connector Name WIRE TO WIRE	v WHITE	6 7 8 9 10			0
Connector No. D350	Connector Nan	Connector Color WHITE	所 H.S.	Terminal No. Color of Wire	5	12
	IRE		0 0	Signal Name	1	1
Connector No. D251	Connector Name WIRE TO WIRE	Connector Color WHITE	5 4 12 11 10 9 8 7		7	0
Connector	Connector	Connector (S.H	Terminal No. Color of Wire	2	12
				ne		
50	ame WIRE TO WIRE	нте	3	Signal Name	1	1
o. D250	ame WI	olor WHITE	1 2 6 7	Color of Wire	_	0

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Connector No.	D351
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE

Signal Name	I	ı
Color of Wire	٦	0
Terminal No.	2	12

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NIIe		
2 2		
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SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000007328231

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	Audio unit power circuit Audio unit	 AV-48 or AV-48 AV-45
Steering wheel audio control switch does not operate	Steering wheel audio control switch Audio unit	• <u>AV-62</u> • <u>AV-45</u>
All speakers do not sound	Speaker circuit shorted to groundAudio unitAudio unit power circuit	 AV-82 or AV-96 AV-45 AV-48 or AV-48
One or several speakers do not sound	Front door speaker Front tweeter Rear door speaker	 AV-53 or AV-54 AV-56 or AV-57 AV-59 or AV-60
Poor reception	 Rod antenna is not fully connected to antenna base. Base antenna/rod connection (thread zone) has foreign material or corrosion inside. 	_
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAG- NOSIS" in the ap- propriate interior trim section.

CD

Symptom	Possible cause	Reference page	
CD cannot be inserted			
CD cannot be ejected	- Audio unit	AV-45	
The CD cannot be played	Audio unit	<u>AV-45</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-49AV-64 or AV-66AV-128
Right or left channel does not sound	Satellite radio tuner right or left channel audio signal circuit Satellite radio tuner	• <u>AV-69</u> or <u>AV-70</u> • <u>AV-128</u>

HANDS-FREE PHONE

Symptom	Possible cause	Reference page
Inoperative	Bluetooth control unit power circuit Bluetooth control unit	AV-50AV-46
Steering wheel audio switch does not operate	Steering wheel audio control switch Bluetooth control unit	AV-62AV-46
Voice activated control does not activate	Microphone Steering wheel audio control switch Bluetooth control unit	• AV-73 • AV-62 • AV-46

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[MID (CC), PREMIUM (KC) AUDIO]

NORMAL OPERATING CONDITION

Description INFOID:0000000007328232

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. A continuous growling noise occurs. The speed the noise varies with changes in the engine speed		Ignition components
The occurrence of the noise is lin	Fuel pump condenser	
Noise only occurs when various	A cracking or snapping sound occurs with the operation of various switches.	Relay malfunction, audio unit malfunction
electrical components are operating.	The noise occurs when various motors are operating.	Motor case ground Motor
The noise occurs constantly, not	Poor ground of antenna feeder line	
A cracking or snapping sound occit is vibrating excessively.	Ground wire of body partsGround due to improper part installationWiring connections or a short circuit	

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PRECAUTION

PRECAUTIONS

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

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

WARNING:

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

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

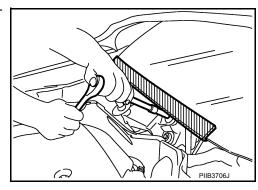
WARNING:

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

Precaution for Procedure without Cowl Top Cover

INFOID:0000000007831517

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc.



Precaution for Work

INFOID:0000000007328234

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

PRECAUTIONS

< PRECAUTION >

[MID (CC), PREMIUM (KC) AUDIO]

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

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PREPARATION

< PREPARATION >

[MID (CC), PREMIUM (KC) AUDIO]

PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000007328235

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

Commercial Service Tools

INFOID:0000000007831520

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

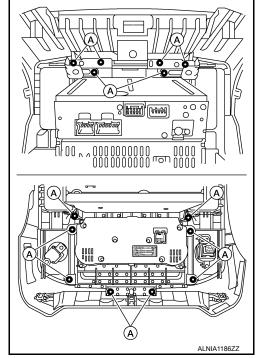
REMOVAL AND INSTALLATION

AUDIO UNIT

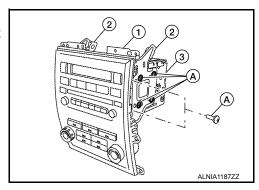
Removal and Installation

REMOVAL

- 1. Remove the cluster lid C. Refer to IP-19, "Removal and Installation".
- 2. Remove the center ventilator grilles (RH/LH). Refer to VTL-22, "Removal and Installation".
- 3. Remove the audio control panel screws (A), then remove the audio unit assembly from cluster lid C.



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



INSTALLATION

Installation is in the reverse order of removal.

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[MID (CC), PREMIUM (KC) AUDIO]

FRONT TWEETER

Removal and Installation

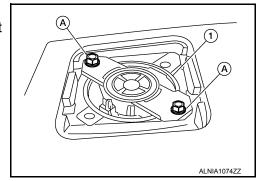
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REMOVAL

CAUTION:

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

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



INSTALLATION

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[MID (CC), PREMIUM (KC) AUDIO]

FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000007328239

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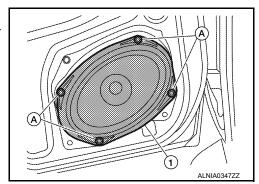
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REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

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REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[MID (CC), PREMIUM (KC) AUDIO]

REAR DOOR SPEAKER

Removal and Installation

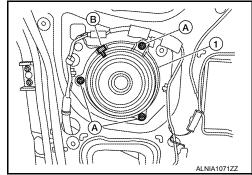
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REMOVAL

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

NOTE:

King cab shown, crew cab similar.



INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

Removal and Installation

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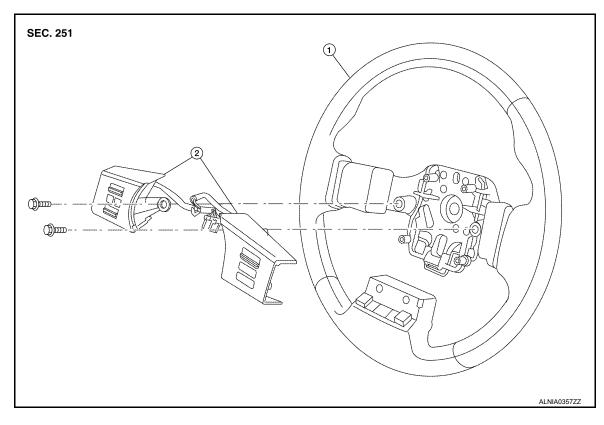
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Removal and Installation



1. Steering wheel

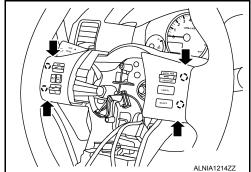
2. Steering wheel audio control switches

REMOVAL

- 1. Remove the driver air bag module. Refer to <u>SR-11, "Removal and Installation"</u>.
- 2. Remove the steering wheel audio control switch assembly screws.
- 3. Disconnect the steering wheel audio control switches connector.
- 4. Remove the steering wheel audio control switches by pulling on steering wheel audio control switches to release the pawls.

(_): Pawl CAUTION:

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



INSTALLATION

Installation is in the reverse order of removal.

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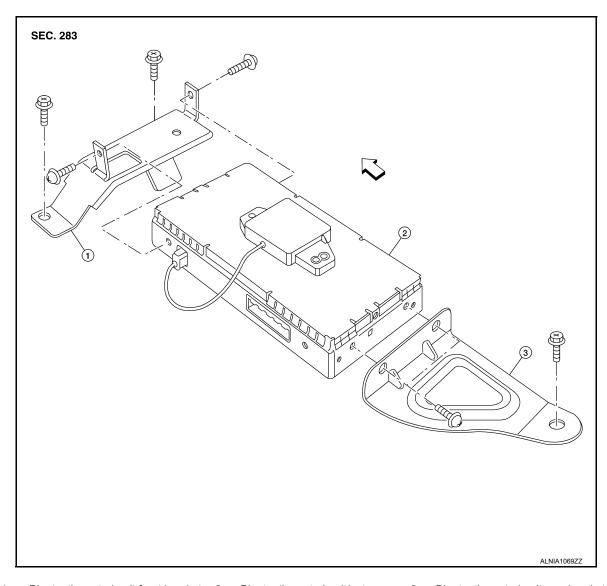
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BLUETOOTH CONTROL UNIT

Removal and Installation

INFOID:0000000007328242



- Bluetooth control unit front bracket 2. Bluetooth control unit/antenna 3. Bluetooth control unit rear bracket

REMOVAL

NOTE:

Do not remove the RH front seat from the vehicle.

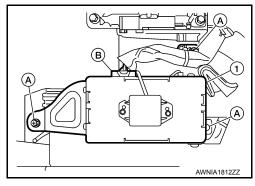
- Remove the RH front seat bolts, disconnect the RH front seat electrical connectors. Refer to SE-32. "Removal and Installation".
- Tilt the RH front seat back to access the bluetooth control unit.

BLUETOOTH CONTROL UNIT

< REMOVAL AND INSTALLATION >

[MID (CC), PREMIUM (KC) AUDIO]

- 3. Disconnect the Bluetooth control unit harness connector (B).
- 4. Remove the Bluetooth control unit screws (A), then remove the Bluetooth control unit assembly (1).
- 5. Remove the Bluetooth control unit bracket screws and remove the Bluetooth control unit front and rear brackets.



INSTALLATION

Installation is in the reverse order of removal.

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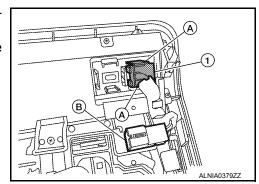
MICROPHONE

Removal and Installation

INFOID:0000000007328243

REMOVAL

- 1. Remove the roof console. Refer to INT-25, "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).

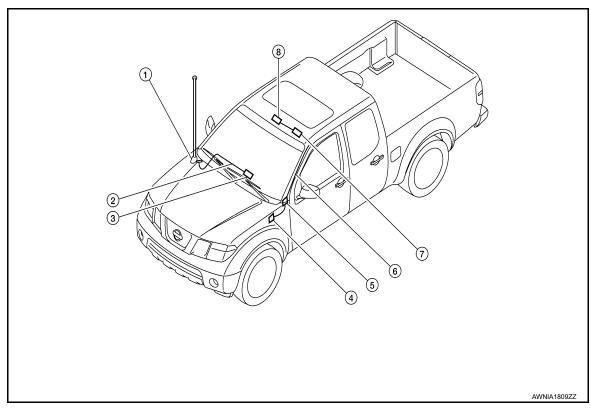


INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna (Crew Cab)



- 1. Rod antenna
- Satellite radio tuner or prewiring for satellite radio tuner M41, M129
- 7. Satellite antenna harness connector M251
- 2. Antenna feeder
- Satellite antenna in-line harness connector 6. M250, M68
- Satellite antenna

- 3. Audio unit M86, M87, M88, M89
 - Satellite antenna feeder

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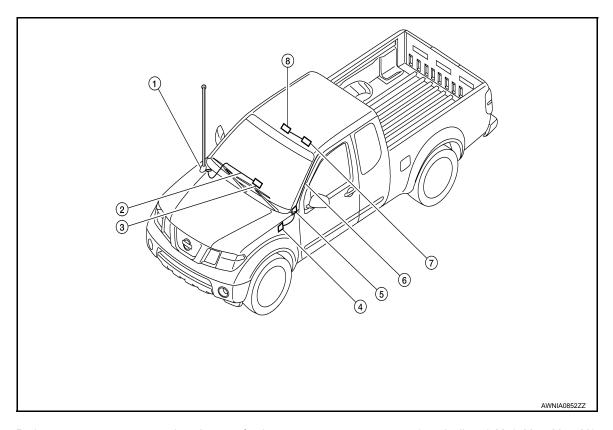
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Location of Antenna (King Cab)

INFOID:0000000007328245



- 1. Rod antenna
- Satellite radio tuner or prewiring for satellite radio tuner M41, M129
- 7. Satellite antenna harness connector M251
- 2. Antenna feeder
- Satellite antenna in-line harness connector 6. M250, M68
- 8. Satellite antenna

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

Removal and Installation

INFOID:0000000007328246

REMOVAL

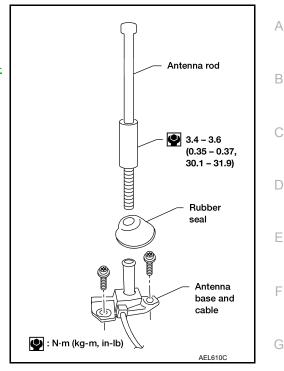
- 1. Remove instrument lower panel RH and glove box. Refer to IP-24, "Removal and Installation".
- Disconnect audio antenna cable from antenna feeder.

AUDIO ANTENNA

< REMOVAL AND INSTALLATION >

[MID (CC), PREMIUM (KC) AUDIO]

- 3. Remove antenna rod.
- 4. Remove rubber seal.
- 5. Remove cowl top. Refer to EXT-24, "Removal and Installation".
- 6. Remove fender protector. Refer to <u>EXT-27</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.

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AUXILIARY INPUT JACK

< REMOVAL AND INSTALLATION >

[MID (CC), PREMIUM (KC) AUDIO]

AUXILIARY INPUT JACK

Removal and Installation

INFOID:0000000007328247

Removal

- 1. Remove the instrument lower panel RH and glove box. Refer to IP-24, "Removal and Installation".
- 2. Remove the auxiliary input jack.

Installation

Installation is in the reverse order of removal.

SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[MID (CC), PREMIUM (KC) AUDIO]

SATELLITE RADIO ANTENNA

Removal and Installation

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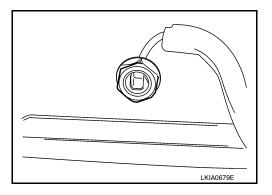
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REMOVAL

- 1. Remove the roof console. Refer to INT-25, "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.

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SATELLITE RADIO TUNER

< REMOVAL AND INSTALLATION >

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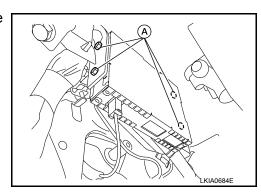
SATELLITE RADIO TUNER

Removal and Installation

INFOID:0000000007328249

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

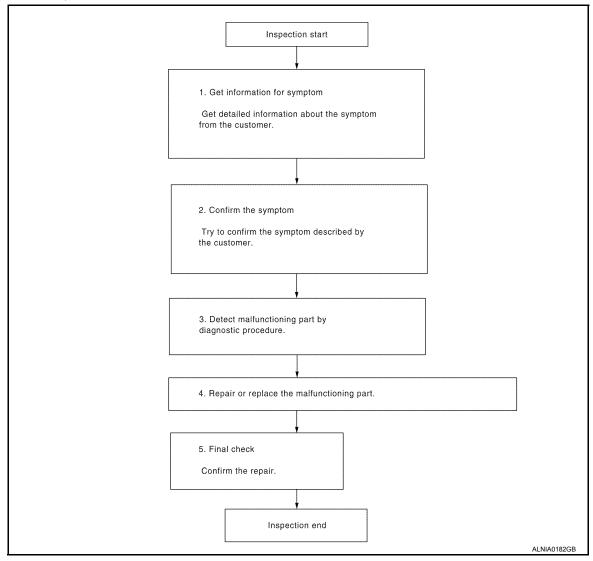
Installation is in the reverse order of removal.

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow INFOID:0000000007328250 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 >

[PREMIUM AUDIO (CREW 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?

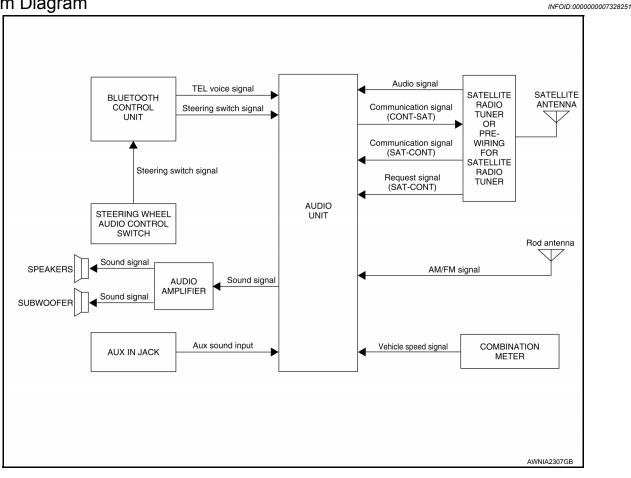
YES >> Inspection End.

NO >> GO TO 2

SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram



System Description

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Audio amplifier
- Rod antenna
- Steering wheel audio control switch
- Front door speakers
- · Front tweeters
- Rear door speakers
- · Rear 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 amplifier The audio amplifier amplifies the audio signals before sending them to the front door speakers, front tweeters, rear door speakers, rear tweeters and the subwoofer.

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

SATELLITE RADIO SYSTEM

The satellite radio system consists of the following components

- Satellite antenna
- 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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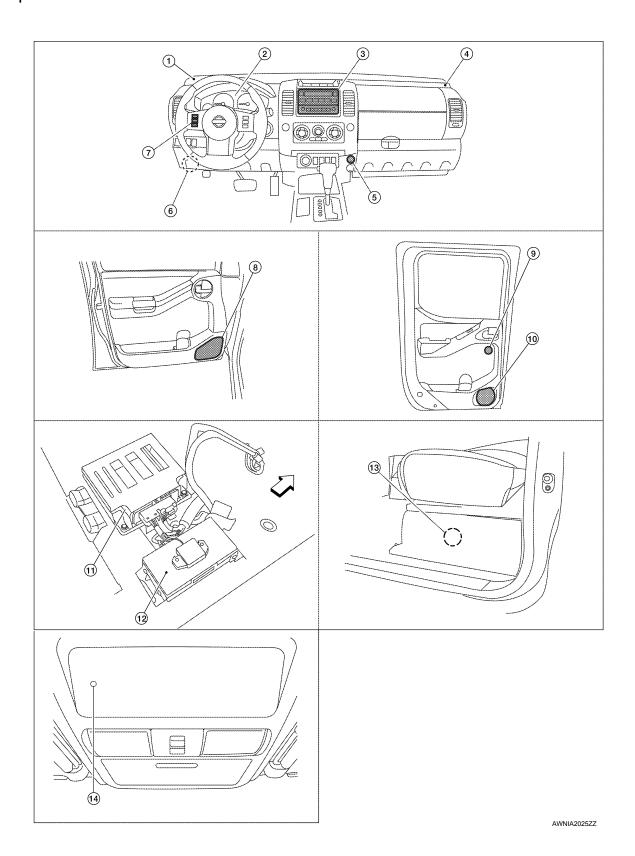
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SPEED SENSITIVE VOLUME SYSTEM

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

INFOID:0000000007328253



AUDIO SYSTEM

[PREMIUM AUDIO (CREW CAB)]

			AUDIO SYSTEM		
< SYS	STEM DESCRIPTION >			[PF	REMIUM AUDIO (CREW CAB)]
∵FR	ONT				
1.	Front tweeter LH M109	2.	Combination meter M24	3.	Audio unit M46, M48, M65, M66
4.	Aux in jack M85	5.	Front tweeter RH M111	6.	Satellite radio tuner or pre-wiring for satellite radio tuner M41, M129
7.	Steering wheel audio control switch	8.	Front door speaker LH D12 RH D112	9.	Rear tweeter LH D208 RH D308
10.	Rear door speaker LH D207 RH D307	11.	Audio amplifier B158, B159 (view under passenger front seat)	12.	Bluetooth control unit B141, B142
	Subwoofer B72 (under driver's seat)	14.	Microphone R8		

Component Description

INFOID:0000000007328254

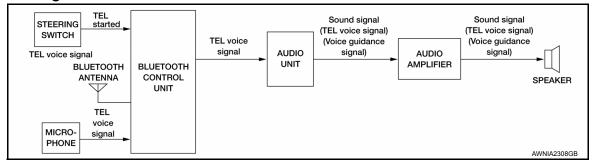
Part name	Description		
Audio unit	Controls audio system and satellite radio system functions		
Rod antenna	Audio signal (AM/FM) is received and output to audio unit		
Audio amplifier	Receives power (amp ON) and audio signals from audio unit and outputs audio signals to each speaker		
Steering wheel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

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HANDS-FREE PHONE SYSTEM

System Diagram

INFOID:0000000007328255



System Description

INFOID:0000000007328256

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

NOTE:

Cellular telephones must have their wireless connection set up (connected) 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 connected with the Bluetooth control unit. Different cellular telephones may have different connecting 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 connected 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 SWITCH

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 amplifier then on to the speakers.

Component Parts Location

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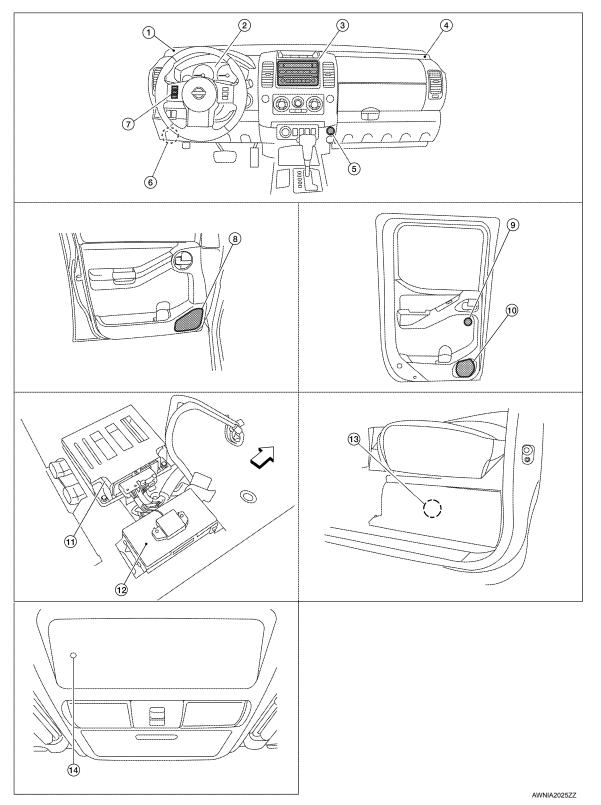
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⟨□:FRONT

- 1. Front tweeter LH M109
- 4. Aux in jack M85

- 2. Combination meter M24
- 5. Front tweeter RH M111
- 3. Audio unit M46, M48, M65, M66
- 6. Satellite radio tuner or pre-wiring for satellite radio tuner M41, M129

HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[PREMIUM AUDIO (CREW CAB)]

7. Steering wheel audio control switch

8. Front door speaker

LH D12 RH D112 Rear tweeter LH D208 **RH D308**

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

11. Audio amplifier B158, B159 (view un- 12. Bluetooth control unit B141, B142

der passenger front seat)

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

Component Description

INFOID:0000000007328258

Part name	Description	
Audio unit	 Receives telephone voice signal from Bluetooth control unit Sends telephone voice and voice guidance signals to the speakers 	
Audio amplifier	Receives audio signals from the audio unitOutputs amplified audio signals to the speakers	
Front door speakers	Descrives telephone vaice and vaice guidence signals from the guide amplifier	
Front tweeters	Receives telephone voice and voice guidance signals from the audio amplifier	
Steering wheel audio control switch	 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)

< SYSTEM DESCRIPTION >

[PREMIUM AUDIO (CREW CAB)]

DIAGNOSIS SYSTEM (AUDIO UNIT)

Component Function Check

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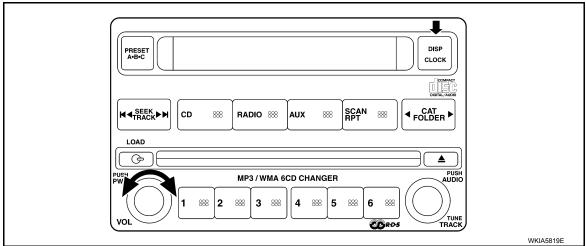
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STARTING THE SELF-DIAGNOSIS MODE

- 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 wheel audio control switch is pressed.
- It can check for continuity of harness between audio unit switch and steering wheel audio control switch.

EXITING THE SELF-DIAGNOSIS MODE

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

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DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

< SYSTEM DESCRIPTION >

[PREMIUM AUDIO (CREW CAB)]

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description

INFOID:0000000007328260

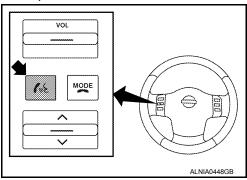
The Bluetooth control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switch prior to trouble diagnosis.

BLUETOOTH CONTROL UNIT AUTOMATIC INITIALIZATION CHECKS

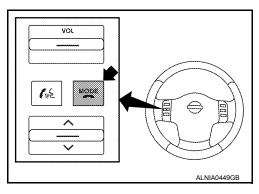
- · Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switch [phone operation button (♠ √ √)/POWER on and MODE select button (MODE)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth inquiry check

TECHNICIAN PERFORMED DIAGNOSTIC CHECK 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 phone operation button (♠ (♠) located within the steering wheel audio control switch 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 POWER on and MODE select button (MODE) located within the steering wheel audio control switch 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 POWER on and MODE select button (MODE) located within the steering wheel audio control switch 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-138, "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-138, "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-209, "Removal and Installation".	
"Bluetooth antenna open"	Inspect harness connection.	
"Bluetooth antenna shorted"	2. Replace Bluetooth antenna. Refer to <u>AV-215. "Removal and Installation"</u> .	

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

< SYSTEM DESCRIPTION >

[PREMIUM AUDIO (CREW CAB)]

Failure Message	Action	
"Phone operation button for Hands Free System is stuck"	Check steering wheel audio control switch. Refer to AV-161, "Diagnosis Proce-	
"POWER on and MODE select button for the Hands Free System is stuck"	dure".	
"Microphone test" (failed interactive test)	 Inspect harness between Bluetooth control unit and microphone. Replace microphone. Refer to <u>AV-211</u>, "<u>Removal and Installation</u>". 	

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DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT: Diagnosis Procedure

INFOID:0000000007328262

Regarding Wiring Diagram information, refer to AV-180, "Wiring Diagram - Crew Cab".

1. CHECK FUSES

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

Unit	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?

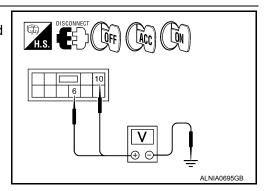
YES >> GO TO 2

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to GI-49, "Circuit Inspection".

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	(-) OFF		700	
M65	6	Ground	Battery voltage	Battery voltage	Battery voltage
NIOS	10	Ground	0V	Battery voltage	Battery voltage



INFOID:0000000007328263

Are the voltage results as specified?

YES >> GO TO 3

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

· Repair or replace 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-180, "Wiring Diagram - Crew Cab".

1.CHECK FUSES

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

< DTC/CIRCUIT 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?

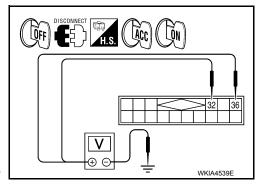
YES >> GO TO 2

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to GI-49, "Circuit Inspection".

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			
M41	32	Ground	Battery voltage	Battery voltage	Battery voltage
IVI# I	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 or replace 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

Regarding Wiring Diagram information, refer to AV-180, "Wiring Diagram - Crew Cab".

1.CHECK FUSE

Check that the audio amplifier fuses are not blown.

Unit	Terminal	Signal name	Fuse No.	
Audio amplifier	1	Battery power	17	
Addio amplinei	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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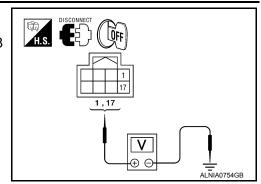
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< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

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

((+)		Voltage (approx.)	
Connector	Terminal	(-)	voilage (approx.)	
B158	1 17	Ground	Battery voltage	



Is battery voltage present?

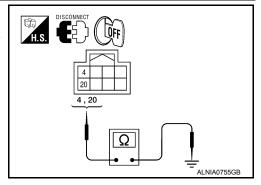
YES >> GO TO 3

NO >> Repair or replace harness or connector.

3. CHECK GROUND CIRCUIT

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

(+)		(-)	Continuity	
Connector	Terminal	(-)	Continuity	
B158	4	Ground	Yes	
B130	20	Ground	ies	



Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness or connector.

BLUETOOTH CONTROL UNIT

BLUETOOTH CONTROL UNIT: Diagnosis Procedure

INFOID:0000000007328265

Regarding Wiring Diagram information, refer to AV-180, "Wiring Diagram - Crew Cab".

1. CHECK FUSE

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

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

Is inspection result OK?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse. Refer to GI-49, "Circuit Inspection"

2.CHECK POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

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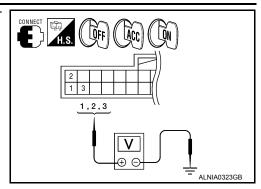
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Check voltage between Bluetooth control unit harness connector B141 and ground.

(+)		(-)	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?

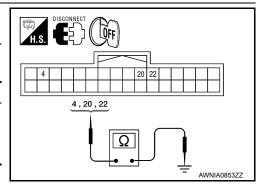
YES >> GO TO 3.

NO >> Repair or replace harness or connector.

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 or replace harness or connector.

MICROPHONE

MICROPHONE: Diagnosis Procedure

INFOID:0000000007328266

Regarding Wiring Diagram information, refer to AV-180. "Wiring Diagram - Crew Cab".

1. CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

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

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

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Is approximately 5V present?

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

2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

Revision: October 2015 AV-143 2012 Frontier NAM

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

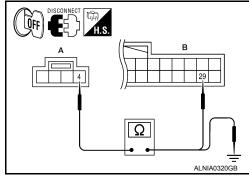
- 1. Turn ignition switch OFF.
- Disconnect microphone and Bluetooth control unit harness connectors.
- Check continuity between microphone harness connector R8

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

Α		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-209, "Removal and Installation".

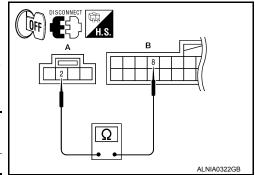
NO >> Repair or replace harness or connector.

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		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
R8	2	B141	8	Yes	



Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness or connector.

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INFOID:0000000007328268

FRONT DOOR SPEAKER

Description INFOID:000000007328267

The audio unit sends audio signals to the audio amplifier The audio amplifier 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-180, "Wiring Diagram - Crew Cab".

1.CONNECTOR CHECK

Check the audio unit, audio amplifier and speaker connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

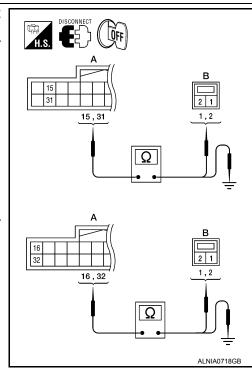
2. SPEAKER HARNESS CHECK

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

A		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B159	15	D12	1	
	31	D12	2	Voc
	16	D112	1	Yes
	32	שווע	2	

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

	Α		Continuity
Connector	Terminal	_	Continuity
	15		
B159	31	Cround	No
D 139	16	Ground	No
	32		



Are continuity test results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

3.FRONT DOOR SPEAKER SIGNAL CHECK

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

Connec-	Terr	ninal	Condition	Reference
tor	(+)	(-)	Condition	signal
	15	31		
B159	16	32	Receive audio sig- nal	1 0 1 1 ms 3 3KA0 177E

Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to <u>AV-204, "Removal and Installation"</u>.

NO >> GO TO 4

4.PRE-AUDIO AMPLIFIER HARNESS CHECK

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

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	1		6	
M65	2	B159	22	Yes
MOS	3	D 109	5	165
	4		21	

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

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

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Are continuity test results as specified?

YES >> GO TO 5

NO >> Repair or replace harness or connector.

5.PRE-AMP SIGNAL CHECK

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

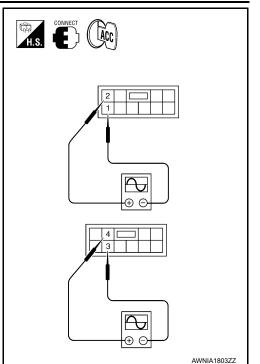
- 1. Connect audio unit connector and audio amplifier connector.
- 2. Turn ignition switch ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio unit harness connector M65 terminals with CONSULT or oscilloscope.

Connector	Terminals		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 amplifier Refer to <u>AV-202, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-201, "Removal and Installation"</u>.



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FRONT TWEETER

Description INFOID.000000007328269

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

Diagnosis Procedure

INFOID:0000000007328270

Regarding Wiring Diagram information, refer to AV-180, "Wiring Diagram - Crew Cab".

1. CONNECTOR CHECK

Check the audio unit, audio amplifier and speaker connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

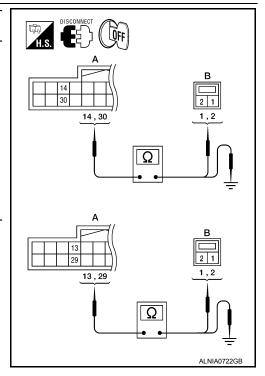
2. HARNESS CHECK

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

А		В		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
	14	M109	M100	1	
B159	30		2	Yes	
	13	N444	1	res	
	29	M111	2		

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

	Α		Continuity
Connector	Terminal	_	Continuity
	14		
B159	30	Cround	No
D 139	13	Ground	No
	29		



Are continuity test results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

3.front tweeter signal check

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

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

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

Is audio signal voltage as specified?

YES >> Replace suspect tweeter. Refer to <u>AV-203</u>, "<u>Removal and Installation</u>".

NO >> GO TO 4

4.PRE-AUDIO AMPLIFIER HARNESS CHECK

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

Α		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	- Ground	No
M65	2		
IVIOS	3		
	4		

Are continuity test results as specified?

YES >> GO TO 5

NO >> Repair or replace harness or connector.

5.PRE-AUDIO AMPLIFIER SIGNAL CHECK

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

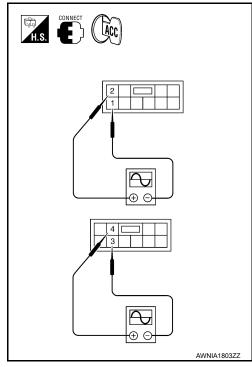
- 1. Connect audio unit connector and audio amplifier connector.
- 2. Turn ignition switch ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio unit harness connector M65 terminals with CONSULT or oscilloscope.

Connector	Tern	Terminals Condit		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 amplifier Refer to <u>AV-202, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-201, "Removal and Installation"</u>.



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INFOID:0000000007328272

REAR DOOR SPEAKER

Description INFOID:0000000007328271

The audio unit sends audio signals to the audio amplifier The audio amplifier 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-180, "Wiring Diagram - Crew Cab".

1.CONNECTOR CHECK

Check the audio unit, audio amplifier and speaker connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

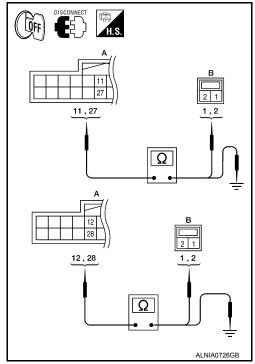
2. SPEAKER HARNESS CHECK

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

	A	В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	11	D207	1	
B159	27	D207	2	Yes
	12	D207	1	res
	28	D307	2	

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

Connector	Terminal	-	Continuity	
	11			
B159	27	Ground	No	
Б139	12	Glound	NO	
	28			



Are the continuity test results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

3.speaker signal check

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

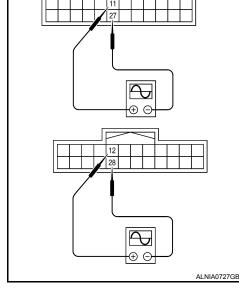
- Connect audio amplifier connectors and suspect speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio amplifier harness connectors B159 terminals with CONSULT or oscilloscope.

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-205, "Removal and Installation"</u>.

NO >> GO TO 4



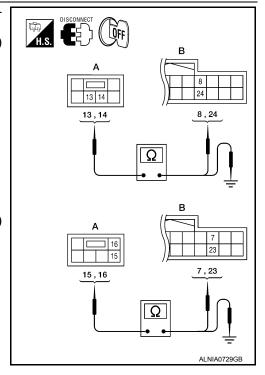
4.PRE-AUDIO AMPLIFIER HARNESS CHECK

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

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

3. 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 5

NO >> Repair or replace harness or connector.

5.PRE-AUDIO AMPLIFIER SIGNAL CHECK

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

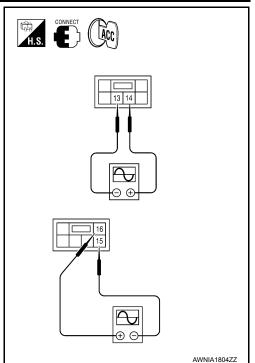
[PREMIUM AUDIO (CREW CAB)]

- 1. Connect audio unit connector M66 and audio amplifier connector B159.
- 2. Turn ignition switch to ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio unit harness connector M66 terminals with CONSULT 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 amplifier Refer to <u>AV-202, "Removal and Installation"</u>.
- NO >> Replace audio unit. Refer to <u>AV-201, "Removal and Installation"</u>.



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REAR DOOR TWEETER

Description INFOID:0000000007328273

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

Diagnosis Procedure

INFOID:0000000007328274

Regarding Wiring Diagram information, refer to AV-180, "Wiring Diagram - Crew Cab".

1.CONNECTOR CHECK

Check the audio unit, audio amplifier and speaker connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. SPEAKER HARNESS CHECK

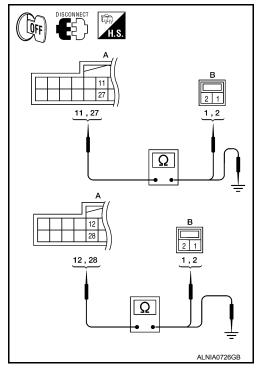
- Disconnect audio amplifier connectors B159 and suspect speaker connector.
- 2. Check continuity between audio amplifier harness connectors B159 (A) and suspect speaker harness connector (B).

А		В	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
	11	D208	1	
B159	27	D200	2	Yes
	12	D308	1	165
	28	D306	2	

Check continuity between audio amp. harness connectors B159

 (A) and ground.

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



Are the continuity test results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

3. SPEAKER SIGNAL CHECK

REAR DOOR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

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- Connect audio amplifier connectors and suspect speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio amplifier harness connectors B159 terminals with CONSULT 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-206, "Removal and Installation"</u>.

NO >> GO TO 4

4.PRE-AUDIO AMPLIFIER HARNESS CHECK

- 1. Disconnect audio unit connector M66 and audio amplifier connector B159.
- 2. Check continuity between audio unit harness connector M66 (A) and audio amplifier 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		
	16			

Are the continuity test results as specified?

YES >> GO TO 5

NO >> Repair or replace harness or connector.

PRE-AUDIO AMPLIFIER SIGNAL CHECK

REAR DOOR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

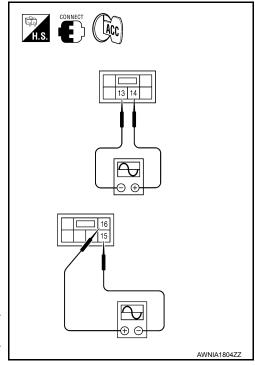
- 1. Connect audio unit connector M66 and audio amplifier connector B159.
- 2. Turn ignition switch to ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio unit harness connector M66 terminals with CONSULT or oscilloscope.

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

Is the audio signal voltage reading as specified?

YES >> Replace audio amplifier Refer to <u>AV-202, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-201, "Removal and Installation"</u>.



[PREMIUM AUDIO (CREW CAB)]

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INFOID:0000000007328276

SUBWOOFER

Description

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

Diagnosis Procedure

· ·

Regarding Wiring Diagram information, refer to AV-180, "Wiring Diagram - Crew Cab".

1.CONNECTOR CHECK

Check the audio unit, audio amplifier and subwoofer connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

Is the inspection result normal?

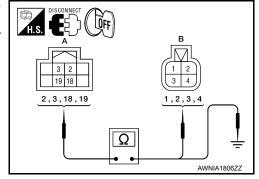
YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. SPEAKER HARNESS CHECK

- Disconnect audio amplifier connector B158 and subwoofer connector B72.
- 2. Check continuity between audio amplifier harness connector B158 (A) and subwoofer harness connector B72 (B).

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2	B72	1	
B158	18		2	Yes
	3		3	165
	19		4	



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

	Α		Continuity
Connector	Terminal		Continuity
	2		No
B158	18	Ground	
B130	3	Giodila	NO
	19		

Are the continuity test results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

3.SPEAKER SIGNAL CHECK

Revision: October 2015 AV-157 2012 Frontier NAM

[PREMIUM AUDIO (CREW CAB)]

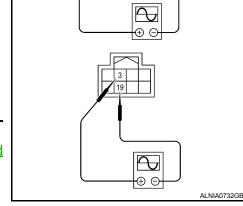
- Connect audio amplifier connector B158 and subwoofer connector B72.
- 2. Turn ignition switch to ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio amplifier harness connector B158 terminals with CONSULT or oscilloscope.

Connector	Term	ninals	Condition	Reference	
Connector	(+)	(-)	Condition	signal	
	2	18			
B158	3	19	Receive au- dio signal	(V) 1 0 -1 1 ms SKIA0177E	

Is the audio signal voltage as specified?

YES >> Replace subwoofer. Refer to <u>AV-208</u>, "Removal and <u>Installation"</u>.

NO >> GO TO 4



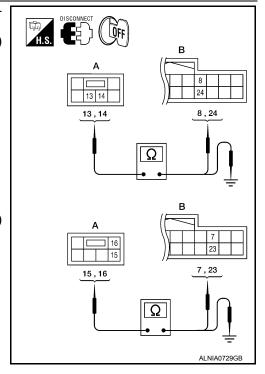
4.PRE-AUDIO AMPLIFIER HARNESS CHECK

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

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	13		8	
M66	14	B159	24	Yes
	15		7	165
	16		23	

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

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



Are the continuity test results as specified?

YES >> GO TO 5

NO >> Repair or replace harness or connector.

5.PRE-AUDIO AMPLIFIER SIGNAL CHECK

SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

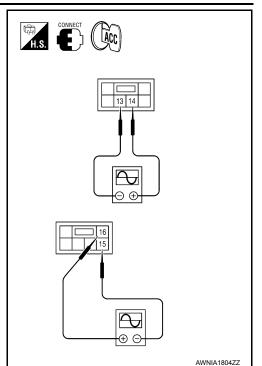
[PREMIUM AUDIO (CREW CAB)]

- 1. Connect audio unit connector M66 and audio amplifier connector B159.
- 2. Turn ignition switch to ACC.
- 3. Push audio unit "POWER" switch.
- 4. Check the signal between audio unit harness connector M66 terminals with CONSULT 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 amplifier Refer to <u>AV-202, "Removal and Installation"</u>.
- NO >> Replace audio unit. Refer to <u>AV-201, "Removal and Installation"</u>.



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AMP ON SIGNAL CIRCUIT

DescriptionINFOID:000000007328277

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

Diagnosis Procedure

INFOID:0000000007328278

Regarding Wiring Diagram information, refer to AV-180, "Wiring Diagram - Crew Cab".

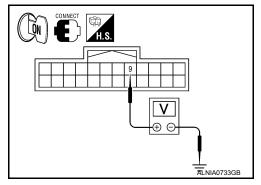
1. CHECK AMPLIFIER ON SIGNAL

- 1. Turn audio system ON.
- 2. Check voltage between audio amplifier 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 AMPLIFIER ON SIGNAL (AUDIO UNIT)

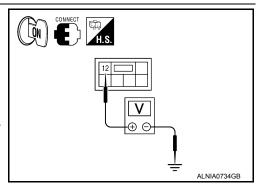
Check voltage between audio unit harness connector M66 terminal 12 and ground.

12 - Ground : More than 6.5V

Is battery voltage present?

YES >> Repair or replace harness or connector.

NO >> Replace audio unit. Refer to <u>AV-201, "Removal and</u> Installation".



STEERING SWITCH

Description INFOID:0000000007328279

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

Diagnosis Procedure

INFOID:0000000007328280

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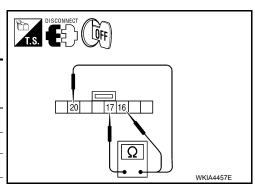
Р

Regarding Wiring Diagram information, refer to AV-180, "Wiring Diagram - Crew Cab".

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.

Ten	minal	Signal name	Condition	Resistance (Ω) (Approx.)
		Seek (down)	Depress	165
16	17	Volume (down)	Depress VOL down button.	652
		Mode/end	Depress MODE button.	0
		Seek (up)	Depress △ button.	165
20	17	Volume (up)	Depress VOL up button.	652
		Phone/send	Depress € w≤ button.	0



Do the steering wheel audio control switch buttons check OK?

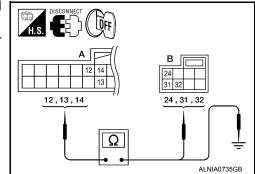
YES >> GO TO 2

NO >> Replace steering wheel audio control switch. Refer to AV-207, "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).

Α		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?

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

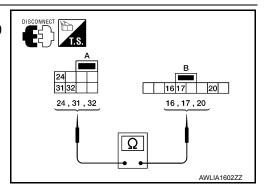
YES >> GO TO 3

NO >> Repair or replace harness or connector.

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-13</u>, "Removal and Installation".

COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

COMMUNICATION SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER: Description

INFOID:0000000007328281

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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:0000000007328282

Regarding Wiring Diagram information, refer to AV-180, "Wiring Diagram - Crew Cab".

1. CHECK HARNESS - REQ1

- 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) harness connector M41 (A) terminal 28 and audio unit harness connector M48 (B) terminal 48.

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

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

	A		Continuity
Connector	Connector Terminal		Continuity
M41	28	Ground	No

Are continuity results as specified?

YES >> GO TO 2

NO >> Repair or replace harness or connector.

2.CHECK HARNESS - TXD

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

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

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

H.S. DISCONNECT OFF A	
49	
Ω	
	ALNIA0707GB

	A		Continuity
Connector	Terminal		Continuity
M41	29	Ground	No

Are continuity results as specified?

YES >> GO TO 3

NO >> Repair or replace 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.

A A A A A A A A A A A A A A A A A A A
B 30 130 150
Ω
ALNIA0708GB

Α		_	Continuity
Connector	Terminal		Continuity
M41	30	Ground	No

Are continuity results as specified?

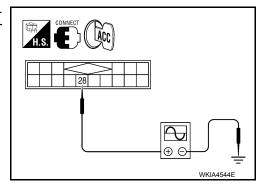
YES >> GO TO 4

NO >> Repair or replace 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 or oscilloscope.

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



Are voltage readings as specified?

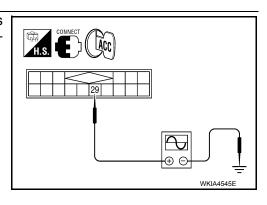
YES >> GO TO 5

NO >> Replace audio unit. Refer to AV-201, "Removal and Installation".

5. CHECK TXD SIGNAL

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

(+)		(-)	Reference signal
Connector	Terminal	(-)	reference signal
M41	29	Ground	(V) 15 10 5 0 SKIB3824E



COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

Are the voltage readings as specified?

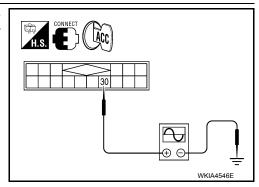
YES >> GO TO 6

NO >> Replace satellite radio tuner. Refer to AV-216, "Removal and Installation"

6.CHECK RXD SIGNAL

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

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



Are the voltage readings as specified?

YES >> Replace satellite radio tuner. Refer to AV-216, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-201, "Removal and Installation".

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SOUND SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER: Description

INFOID:0000000007328283

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:0000000007328284

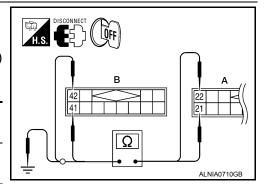
Regarding Wiring Diagram information, refer to AV-180, "Wiring Diagram - Crew Cab".

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).

Α		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M41 21		M48	41	Yes
IVI41	22	10140	42	165



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

	A		Continuity
Connector	Terminal	_	Continuity
M41	21	Ground	No
IVI -1 I	22	Giouna	NO

Are continuity results as specified?

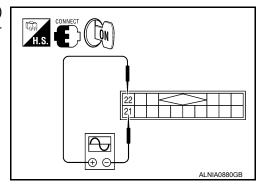
YES >> GO TO 2

NO >> Repair or replace harness or connector.

2.CHECK LEFT 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 21 and 22 with CONSULT 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

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

YES >> Replace audio unit. Refer to AV-201, "Removal and Installation".

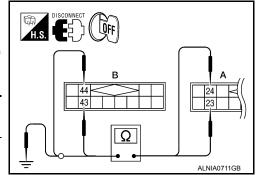
NO >> Replace satellite radio tuner. Refer to AV-216, "Removal and Installation".

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		43	Yes	
101-4-1	24	M48	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
IVI 4 I	24	Giouna	NO

Are continuity results as specified?

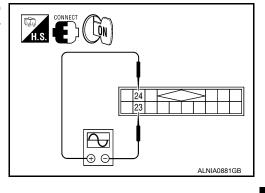
YES >> GO TO 2

NO >> Repair or replace 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 or oscilloscope.

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



Are voltage readings as specified?

YES >> Replace audio unit. Refer to AV-201, "Removal and Installation".

NO >> Replace satellite radio tuner. Refer to AV-216, "Removal and Installation".

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MICROPHONE SIGNAL CIRCUIT

Description INFOID.000000007328285

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

Diagnosis Procedure

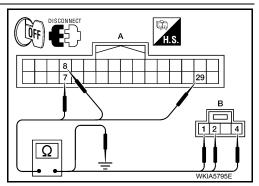
INFOID:0000000007328286

Regarding Wiring Diagram information, refer to AV-180, "Wiring Diagram - Crew Cab".

1. CHECK HARNESS BETWEEN BLUETOOTH CONTROL UNIT AND MICROPHONE

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

	A		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	_	Continuity	
	7			
B141	8	Ground	No	
	29			

Are the continuity test results as specified?

YES >> GO TO 2

NO >> Repair or replace harness or connector.

2. CHECK MICROPHONE POWER SUPPLY

- 1. Connect Bluetooth control unit connector B141 and microphone connector R8.
- 2. Turn ignition switch ON.
- Check voltage between microphone harness connector R8 terminal 4 and ground.

4 - Ground

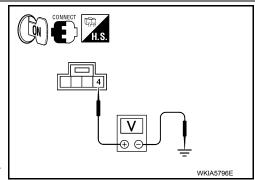
: Approx. 5V

Is voltage reading approx. 5 volts?

YES >> GO TO 3

NO >> Replace Bluetooth control unit. Refer to <u>AV-209</u>, "Removal and Installation".

${f 3.}$ CHECK MICROPHONE SIGNAL



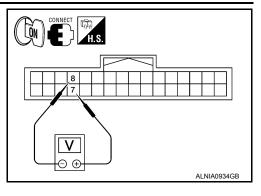
MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

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

Connector	(+)	(-)	Reference signal
Connector	Terminal	Terminal	Neterence signal
			While speaking into MIC
B141	7	8	(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-209, "Removal and Installation".

NO >> Replace microphone. Refer to AV-211, "Removal and Installation".

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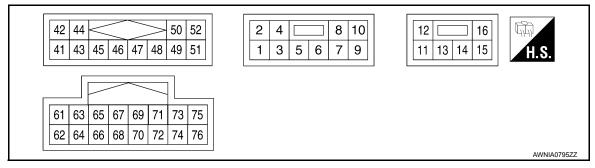
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ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal e color)	Item	Signal input/		Condition	Reference value (Approx.)
+	-		output			````
2 (W)	1 (B)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E
4 (Y)	3 (BR)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E
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 signal	lanut	OFF	Lighting switch is in 1st position.	Battery voltage
(R)	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	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

AUDIO UNIT

[PREMIUM AUDIO (CREW CAB)]

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	ninal color)	Item	Signal input/		Condition	Reference value
+	_		output			(Approx.)
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 au- dio 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
48 (O)	-	REQ (SAT → audio unit)	Input	Ignition switch ON	_	_
49 (P)	_	RX (SAT → audio unit)	Input	Ignition switch ON	_	_
50 (L)	_	TX (audio 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	_	_	_	-
67	_	Shield	-	Ignition switch ON	-	0V

[PREMIUM AUDIO (CREW CAB)]

200 5	0.100.0	INI ORIMATION >			-	,
	minal e color)	Item	Signal input/ output		Condition	Reference value (Approx.)
<u>.</u>			<u> </u>		Pressing 🗸 🌿 button	0V
69	71	Steering switch sig-	Input	Ignition switch	Pressing △ button	0.75
(V)	(O)	nal A	iliput	ON	Pressing VOL up button	2V
					Except for above	5V
					Pressing MODE button	0V
70	71	Steering switch sig-		Ignition	Pressing ∇ button	0.75V
(LG)	(O)	nal B	Input	switch ON	Pressing VOL down button	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 signal (AUX input)	(V) 1 0 -1 1 ms SKIA0177E
75 (B)	Ground	Auxiliary audio in- put 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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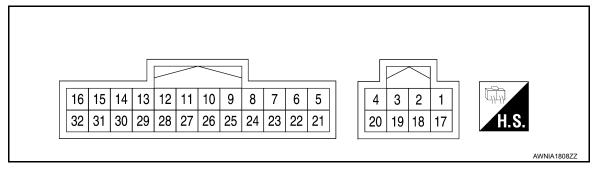
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AUDIO AMP

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal color)	Item	Signal input/		Condition	Reference value (Approx.)
+	_		output			(.pp. 3.4)
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
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

	ninal color)	Item	Signal input/		Condition	Reference value (Approx.)
+	_		output			(Арргох.)
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 SKIA0177E
14 (Y)	30 (GR)	Front tweeter LH	Output	Ignition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms \$\frac{1}{2} \text{SKIA0177E}
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	lgnition switch ON	Receive audio sig- nal	(V) 1 0 -1 1 ms SKIA0177E
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

[PREMIUM AUDIO (CREW CAB)]

	ninal color) –	Item	Signal input/ output		Condition	Reference value (Approx.)
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 SKIA0177E

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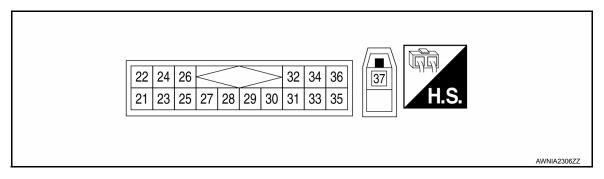
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SATELLITE RADIO TUNER

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	
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	10 0 -10 -10 -10	

SATELLITE RADIO TUNER

< ECU DIAGNOSIS INFORMATION >

[PREMIUM AUDIO (CREW CAB)]

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

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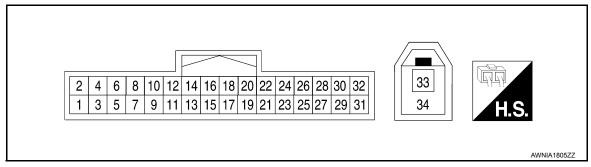
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BLUETOOTH CONTROL UNIT

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
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	-	-	-	-
12 (BR)	14 (G)	Steering switch signal A	Input	Ignition switch ON	Pressing ℰ √≤ switch	0V
					Pressing △ switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V

BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[PREMIUM AUDIO (CREW CAB)]

1	Terminal (wire color)		Description		Condition		Reference value	
•	+	_	Signal name	Input/ output	Condition		(Approx.)	
		14 (G)	Steering switch signal B	Input	Ignition switch ON	Pressing MODE switch	0V	
	13					Pressing ∇ switch	0.75V	
	(L)					Pressing VOL down switch	2V	
						Except for above	5 V	
			Steering switch signal A	Output	Ignition switch ON	Pressing 🗸 🌾	0V	
	17	19				Pressing △ switch	0.75	
	(V)	(O)				Pressing VOL up switch	2V	
						Except for above	5V	
		19 (O)	Steering switch signal B	Output	Ignition switch ON	Pressing MODE switch	0V	
	18					Pressing ∇ switch	0.75V	
	(LG)					Pressing VOL down switch	2V	
						Except for above	5V	
	20 (B)	Ground	Ground	ı	ı	_	0V	
	22 (B)	Ground	Ground	-	1	-	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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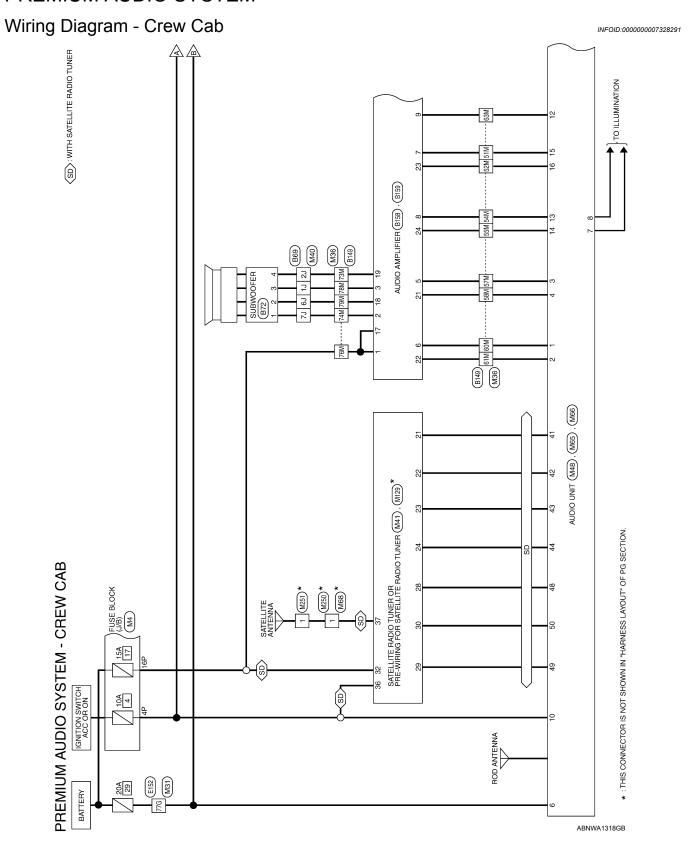
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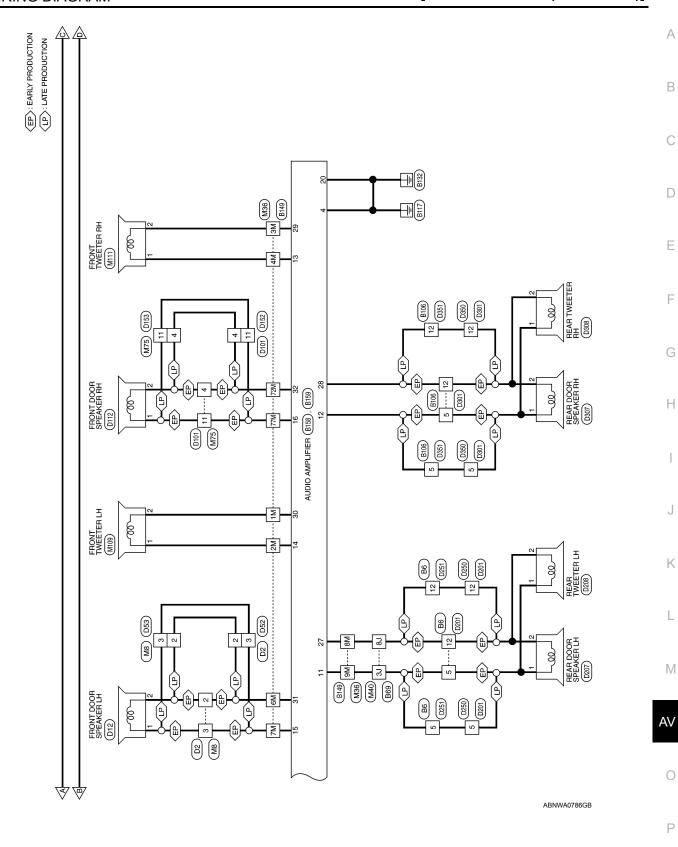
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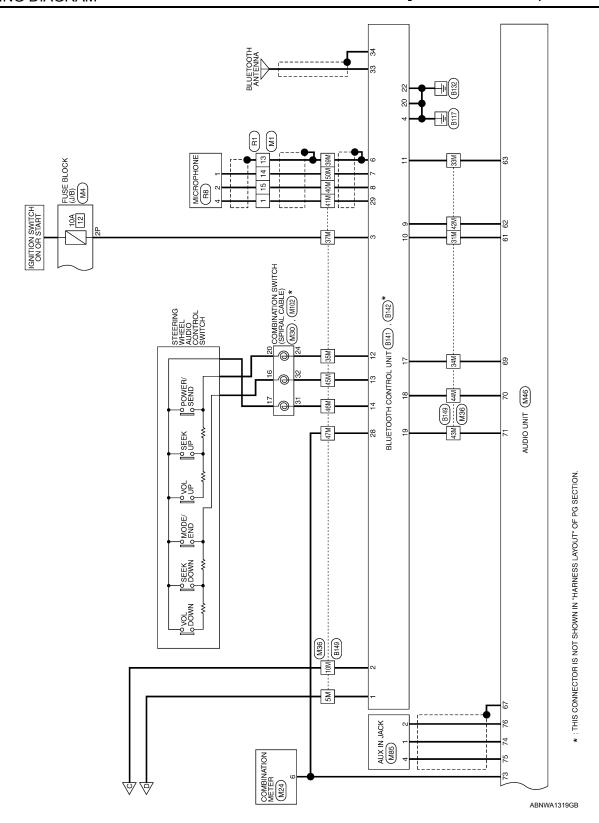
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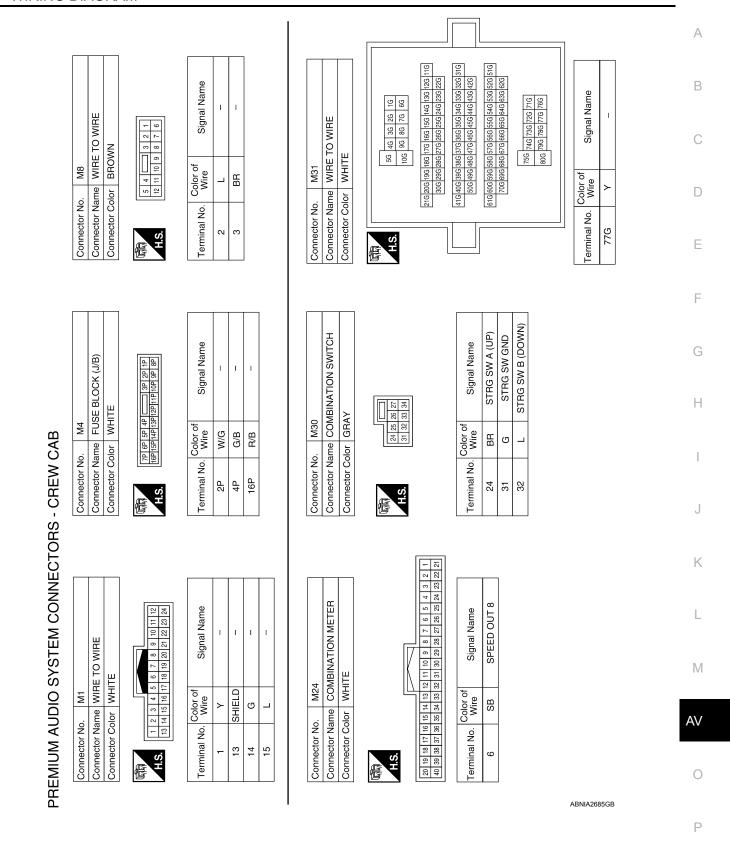
WIRING DIAGRAM

PREMIUM AUDIO SYSTEM





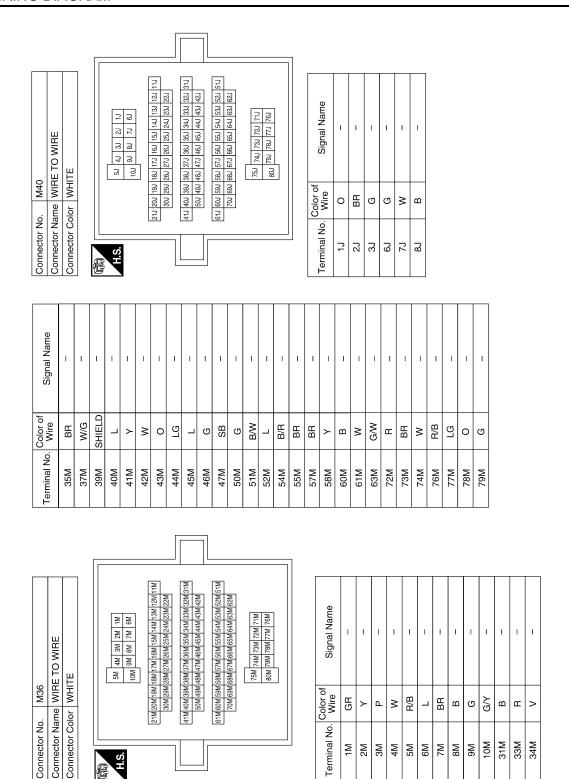




Connector Color WHITE

H.S.

Connector No.



ABNIA3293GB

Color of Wire

Terminal No.

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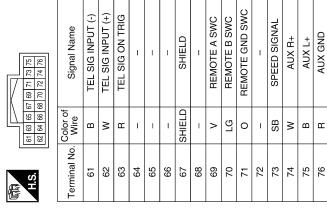
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M48	Connector Name WITH PREMIUM AUDIO SYSTEM)	vr WHITE	U2 U3 V7 V7 V7 V7 V7 V7 V7 V
Connector No.	Connector Nam	Connector Color WHITE	

Signal Name	(-)	L (+)	R (-)	R(+)	ı	1	-	REQ	RX	XT	-	ı
Color of Wire	σ	œ	>	В	1	1	-	0	Ь	Г	_	1
Terminal No.	41	42	43	44	45	46	47	48	49	50	51	52

Connector No.	M46
Connector Name	Connector Name WITH PREMIUM AUDIO SYSTEM)
Connector Color WHITE	WHITE





Signal Name	SAT LCH (-)	SAT LCH (+)	SAT RCH (-)	SAT RCH (+)	1	1	1	REQ1	TXD	RXD	ı	BACKUP	1	I	ı	ACC	
Color of Wire	ŋ	ж	Μ	В	1	_	_	0	Д	_	-	R/B	_	1	ı	G/B	
Terminal No.	21	22	23	24	25	56	27	28	29	30	31	32	33	34	35	36	

Connector Color WHITE M41 Connector No.

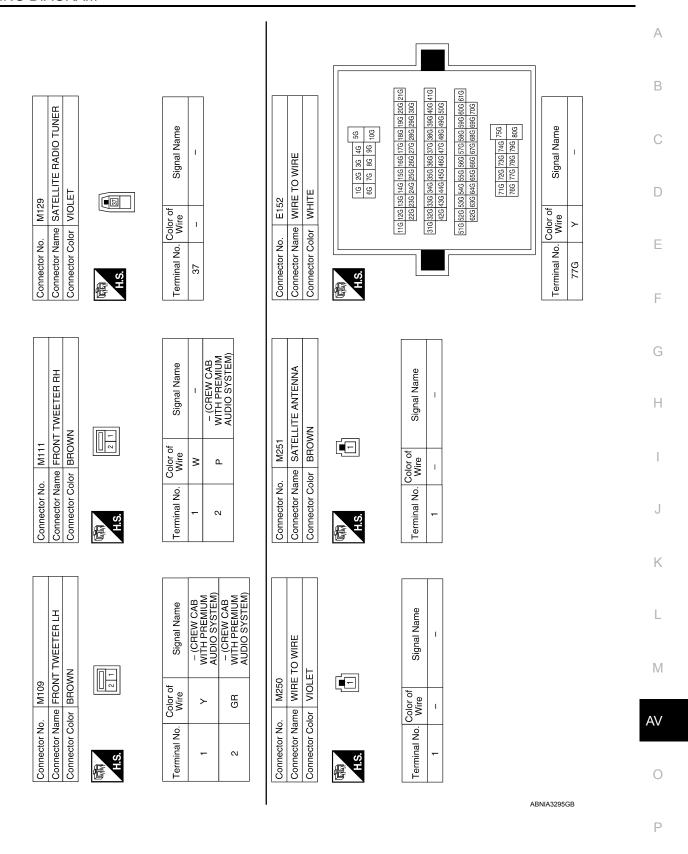


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AV-185 Revision: October 2015 2012 Frontier NAM

	ET TO WIRE			Signal Name	1												Connector Name COMBINATION SWITCH	\	18 19 20 21	Signal Name	_	1	I
Mea	me WIRE T	[[Color of Wire	ı											M102	ne COM	or GRAY	1415161718192021	Color of Wire	Г	BR	>
Connector No	Connector Color VIOLET	Œ	H.S.	Terminal No.	-											Connector No.	Connector Na	Connector Color	H.S.	Terminal No.	16	17	20
	AUDIO UNIT (CREW CAB WITH PREMIUM AUDIO SYSTEM)	Щ	16	Signal Name	1	AMP ON/OFF SIG	RRSP LH (-)	RRSP LH (+)	RRSP RH (-)	RRSP RH (+)							AUX IN JACK	2	3 2	Signal Name	R+	COMMON	r+
Mee	le le	or WHITE	12 16 11 18 14 15	Color of Wire	ı	G/W	B/R	BR	B/W	_						M85	ne AUX	or WHITE	4	Color of Wire	W	Œ	В
Connector No	Connector Name	Connector Color	H.S.	Terminal No.	11	12	13	14	15	16						Connector No.	Connector Name	Connector Color	斯 H.S.	Terminal No.	-	2	4
															-								
	AUDIO UNIT (CREW CAB WITH PREMIUM AUDIO SYSTEM)	ш	0	Signal Name	FRSP LH (-)	FRSP LH (+)	FRSP RH (-)	FRSP RH (+)	1	BAT (BACK UP)	ILL CONT	LIGHT SW	I	ACC			Name WIRE TO WIRE	Щ	3 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Signal Name	1	_	
M65	<u>e</u>	Color WHITE	2 4 1 3 5 6	Color of Wire	В	M	BB	>	1	>	GR	œ	ı	G/B	Ī	M75	ne WIRE	Color WHITE	12 11 10 9	Color of Wire	æ	LG	
2	Sa Sa	181		<u>o</u>										H		No.	Nar	징		o ·			

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Connector No.	lo. B6	1	Connector No.	B69	Terminal No.	Color of Wire	Signal Name	
Connector Name	lame WIRE I	Connector Name WIRE TO WIRE	Connector Name	Connector Name WIRE TO WIRE	7	0	1	
	_			_	22	BB	1	
E	1				8	G	I	
	_	9 10 11		1,1 2,1 3,1 4,1 5,0	79	G	I	
Ġ.			K.H.	8 8	7	>	ı	
					8	В	ı	
Terminal No.	Color of Wire	f Signal Name		11.1 12.1 13.1 14.1 15.1 16.1 17.1 18.1 19.1 20.1 21.1]
5	g	ı		31.132.133.134.135.136.137.138.139.140.141.1				
12	В	ı		42.1 43.1 44.1 45.1 46.1 47.1 48.1 49.1 50.1				
				51.1 52.1 53.1 54.1 55.1 56.1 57.1 58.1 59.1 60.0 61.1 62.1 62.1 63.1 64.1 65.1				
				71.1 72.1 73.1 74.1 75.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78				
				M8 20 10 10 10 10 10 10 10 10 10 10 10 10 10				
Connector No.	lo. B72		Connector No.	B106				
Connector Name		SUBWOOFER	Connector Nami	Connector Name WIRE TO WIRE				
Connector Color	olor GRAY	AY	Connector Color	WHITE				
南 H.S.			是 SH	6 7 8 9 10 11 12				
		4						
Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Signal Name				
-	Μ	REAR LEFT (+)	2	GR -				
2	В	REAR LEFT (-)	12	- 0				
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Connector No.). B142	01
Connector Na	tme BLU	Connector Name BLUETOOTH CONTROL UNIT
Connector Color BLACK	olor BLA	OK
H.S.		(I) B
Terminal No.	Color of Wire	Signal Name
33	В	BT ANTENNA
78	CHIELD	C ITILIO AININITEINA FO

Signal Name	MUTE CONTROL	LADDER IN 1	LADDER IN 2	LADDER IN GND	I	I	LADDER OUT 1	LADDER OUT 2	LADDER OUT GND	CONT 1	_	CONT 3	ı	-	1	_	-	SPEED SIGNAL	MIC POWER	_	-	_
Color of Wire	Œ	HH.	_	ŋ	ı	ı	>	LG	0	В	ı	В	ı	ı	ı	ı	ı	SB	٨	-	-	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

Connector No.	B141							
Connector Name BLUETOOTH CONTROI UNIT	BLUE UNIT	ĮĎ	T	0	N N	臣	ડ	
Connector Color WHITE	WHITE	ш						
H.S.								
		厅						
2 4 6 8 10 12 14	10 12 14 16 18 20 22 24 26 28	20	22	4 26	28	30	32	
1 3 5 7 9 11 13	15 17	19 21		23 25	27	29	31	
							1	

6 SHIELD MIC SHIELD 7 G MIC IN+ 8 L MIC IN- 9 W AUDIO OUT +	- 2			Terminal No. 2 3 3 5 7 7 7 9 9 9
10 B AUDIO OUT -	SHIELD G W	AUDIO OUT -	В	10
		GND	В	4
В .		IGN	M/G	3
W/G B	W/G B	ACC	G/Y	2
W/G W/G	β/W B	BATT	B/B	-
R/B G/Y W/G	R/B G/γ W/G			erminal No.

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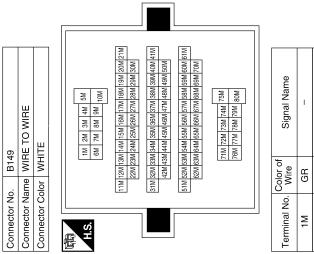
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Signal Name	1	1	ı	ı	ı	ı	1	1	ı	ı	ı	1	ı	ı	ı
Color of Wire	_	B/R	BR	BR	>	В	Μ	G/W	В	BR	Μ	B/B	LG	0	G
Terminal No.	52M	24M	55M	27M	28M	M09	61M	ME9	72M	73M	74M	76M	M27	78M	M67

Signal Name	1	1	1	1	1	ı	ı	1	1	1	1	1	1	I	1	1	1	1	1
Color of Wire	В	g	G/Y	В	н	>	BR	M/G	SHIELD	_	\	8	0	ГG	٦	g	SB	G	B/W
Terminal No.	8M	M6	10M	31M	33M	34M	35M	37M	39M	40M	41M	42M	43M	44M	45M	46M	47M	20M	51M



Signal Name	_	1	-	1	1	1	I
Color of Wire	GR	\	Ь	Μ	B/B	٦	BR
Terminal No. Wire	1M	2M	3M	4M	5M	M9	M2

ABNIA2690GB

MIC POWER

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									l							
Signal Name	FR RH TW (+)	FR LH TW (+)	FRSP LH OUT (+)	FRSP RH OUT (+)	FRSP RH (+) IN	FRSP LH (+) IN	RRSP RH (+) IN	RRSP LH (+) IN	I	I	RRSP LH OUT (-)	RRSP RH OUT (-)	FR RH TW (-)	FR LH TW (-)	FRSP LH OUT (-)	FRSP RH OUT (-)
Color of Wire	8	>	BR	LG	>	*		BR	1	1	В	0	Ь	GR	_	ш
Terminal No.	13	14	15	16	21	22	23	24	25	56	27	28	29	30	31	32

Connector No. B159 Connector Name AUDIO AMPLIFIER	No. Name	B159 AUDI	165 DIG	A	I₩			ے ا			
Connector Color WHITE	Color	≱	Ë	1							
E			[[
	16 15 14 13 12 11 10 9	14 13	12	Ξ	9	8	_		9	2	
Š	32 31 30 29 28 27 26 25 24 23 22 21	30	58	27	56	25	4	23	81	2	
											_



Color of Wire 5 BR 6 B B/W 8 B/R 9 G/W 10 C C C C C C C C C C C C C C C C C C	Signal Name	FRSP RH (-) IN	FRSP LH (-) IN	RRSP RH (-) IN	RRSP LH (-) IN	AMP ON/OFF SIGNAL	I	RRSP LH OUT (+)	RRSP RH OUT (+)
5 6 6 7 7 9 9 9 11 11 12 12	Color of Wire	BR	В	B/W	B/R	G/W	ı	В	GR
	Terminal No.	5	9	7	8	6	10	11	12

B158	Connector Name AUDIO AMPLIFIER	WHITE	
Connector No.	Connector Name	Connector Color WHITE	





Signal Name	BAT	WOOFER (+)1	WOOFER (+)2	GND	BAT	WOOFER (-)1	WOOFER (-)2	GND
Color of Wire	>	M	0	В	B/B	g	BR	В
Terminal No.	-	2	3	4	17	18	19	20

	WIRE TO WIRE	۸N	9 112	Signal Name	ı	ı
D5		or BROWN	1 2 3 6 7 8 9	Color of Wire	L/R	L/W
Connector No.	Connector Name	Connector Color	in H.S.	Terminal No.	2	3

	MICROPHONE	ш	4	Signal Name	MIC OUT +	MIC OILT.
R8		WHITE	1 2 3	Color of Wire	G	-
	ame	흔		ŏ-		
Connector No.	Connector Name	Connector Color	赋 H.S.	Terminal No.	-	c

Connector N	Connector C	唇	SH
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Connector No.	. No.	쮼	_									
Connector Name WIRE TO WIRE	. Name	>	≝	ш	잍	>	≝	Щ				
Connector Color WHITE	Color	>	₹		اا							
				- 11\	- 11	- 17	- 17					
	12 11 10 9	0		œ	7	g	LC.	4	er.	~	[-	
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or		= 8	1
Color		12 24	12
connector	'		
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Signal Name	1	1	1	I
Color of Wire	Y	SHIELD	g	٦
Terminal No. Wire	1	13	14	15

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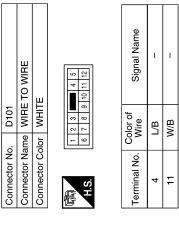
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Connector No.	D12	Connector No. D52	. D52		Connector No.	o. D53	
Connector Nar	Connector Name FRONT DOOR SPEAKER LI	H Connector Name WIRE TO WIRE	me WIRE	TO WIRE	Connector Name WIRE TO WIRE	ame WIF	RE TO WIRE
Connector Color WHITE	or WHITE	Connector Color BROWN	lor BROW	Z	Connector Color BROWN	olor BR	NMC
	<u>-</u>		12 11 10 9	8 8 7 Z Z Q	E	1 2 3 6 7 8	9 10 11 12
2							
Terminal No. Wire	Color of Signal Name	Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name
-	W	2	_	1	2	7	I
2	L/R -	က	BB	ı	3	BR	1

3		-	г	
D112		Connector No.	. D152	Ŋ
No.	ame FRONT DOOR SPEAKER RH	Connector Name WIRE TO WIRE	me WIF	RE TO WIRE
olor WHITE		Connector Color	lor WHITE	ITE
	احتما	 所 H.S.	12 11 10	12 11 10 9 8 7 6
Color of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name
M/B	1	2	8	I
L/B	I	12	В	ı

Connector Name Connector Color

Connector No.



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Connector Color WHITE	Connector Name WIRE TO WIRE Connector Color WHITE	Connector Name WIRE TO WIRE Connector Color WHITE 5 4 3 2 1	ame WIRE olor WHIT	TO WIRE E 3 2 1 8 7 6	Connector Name REAR Connector Color WHITE	me REAF	Connector Name REAR DOOR SPEAKER LH Connector Color WHITE TH.S. 2 1
Terminal No. Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name
3	1	ц	_	- (EXCEPT CREW	-	_	- (EXCEPT CREW
В	1	·	_	AUDIO SYSTEM)	-	ı	AUDIO SYSTEM)
		12	0	- (EXCEPT CREW CAB WITH MID	2	0	- (EXCEPT CREW CAB WITH MID

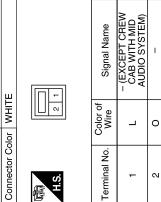
_	E TO WIRE	里	8 3 7 2 8 3	Signal Name	I	_
). D25	ame WIR	olor WHI	5 4 4 11 10	Color of Wire	Г	0
Connector No. D251	Connector Name WIRE TO WIRE	Connector Color WHITE	原 H.S.	Terminal No. Wire	2	12
0	E TO WIRE	ITE .	9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Signal Name	1	ı
D25	ne WIR	or WHI	6 7 8	Color of Wire	_	0
Connector No. D250	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No. Wire	ည	12
	TWEETER LH	N		Signal Name	ı	ı
. D208	me REAR	or BROW		Color of Wire	_	0
Connector No.	Connector Name REAR TWEETER	Connector Color BROWN	H.S.	Terminal No. Wire	-	2

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Revision: October 2015 AV-193 2012 Frontier NAM

Connector Color BROWN	SPEAKER RH	Connector Name REAR TWEETER RH
		Connector Color BROWN

	Signal Name	1	1
 2	Color of Wire	Τ	0
 所 H.S.	Ferminal No.	1	2



	RE TO WIRE	ITE	8 3 2 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Signal Name
. D351	me WIF	lor WH	12 11 10 9 8	Color of Wire
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	·····································	Terminal No.

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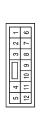
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Connector No.	. D350	09
Connector Name	me WIF	WIRE TO WIRE
Connector Color	lor WHITE	ITE
H.S.	6 7 8	9 10 11 12
Terminal No. Wire	Color of Wire	Signal Name

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

Connector Name REAR DOOR

Connector No. D307







Signal Name	- (EXCEPT CREW CAB WITH MID AUDIO SYSTEM)	ı
Color of Wire	7	0
Terminal No.	2	12

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AUDIO SYSTEM

[PREMIUM AUDIO (CREW CAB)]

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

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AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	Audio unit power circuit Audio unit	• <u>AV-140</u> • <u>AV-137</u>
Steering wheel audio control switch does not operate	Steering wheel audio control switch Audio unit	• <u>AV-161</u> • <u>AV-137</u>
All speakers do not sound	Speaker circuit shorted to ground Audio unit Audio unit power circuit Audio amplifier ON signal Audio amplifier power/ground circuit Audio amplifier	• AV-180 • AV-137 • AV-140 • AV-160 • AV-141 • AV-202
One or several speakers do not sound	Front door speaker Front tweeter Rear door speaker Rear door tweeter Subwoofer	 AV-145 AV-148 AV-151 AV-154 AV-157
Poor reception	 Rod antenna is not fully connected to antenna base. Base antenna/rod connection (thread zone) has foreign material or corrosion inside. 	_
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAG- NOSIS" in the ap- propriate interior trim section.

CD

Symptom	Possible cause	Reference page
CD cannot be inserted		AV-137
CD cannot be ejected	Audio unit	
The CD cannot be played	Audio unit	
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	<u>AV-140</u><u>AV-163</u><u>AV-216</u>
Right or left channel does not sound	Satellite radio tuner right or left channel audio signal circuit Satellite radio tuner	• <u>AV-166</u> • <u>AV-216</u>

HANDS-FREE PHONE

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AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

Symptom	Possible cause	Reference page
Inoperative	Bluetooth control unit power circuit Bluetooth control unit	• <u>AV-142</u> • <u>AV-138</u>
Steering wheel audio switch does not operate	Steering wheel audio control switch Bluetooth control unit	• <u>AV-161</u> • <u>AV-138</u>
Voice activated control does not activate	Microphone Steering wheel audio control switch Bluetooth control unit	• <u>AV-143</u> • <u>AV-161</u> • <u>AV-138</u>

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

NORMAL OPERATING CONDITION

Description INFOID:0000000007328293

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

NOISE

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

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

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

NOTE:

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

Type of Noise and Possible Cause

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

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PRECAUTION

PRECAUTIONS

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

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

WARNING:

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

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

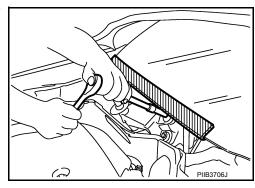
WARNING:

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

Precaution for Procedure without Cowl Top Cover

INFOID:0000000007831518

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc.



Precaution for Work

INFOID:0000000007328295

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

PRECAUTIONS

< PRECAUTION >

[PREMIUM AUDIO (CREW CAB)]

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

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PREPARATION

< PREPARATION >

[PREMIUM AUDIO (CREW CAB)]

PREPARATION

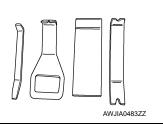
PREPARATION

Special Service Tool

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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.		
Tool number	Description	
(Kent-Moore No.)		
Tool name		

(J-46534) Trim Tool Set



Removing trim components

Commercial Service Tools

INFOID:0000000007831521

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

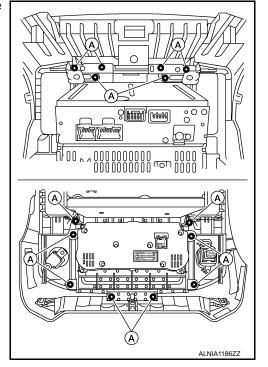
REMOVAL AND INSTALLATION

AUDIO UNIT

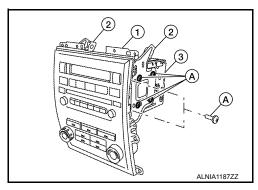
Removal and Installation

REMOVAL

- 1. Remove the cluster lid C. Refer to IP-19, "Removal and Installation".
- 2. Remove the center ventilator grilles (RH/LH). Refer to VTL-22, "Removal and Installation".
- 3. Remove the audio control panel screws (A), then remove the audio unit assembly from cluster lid C.



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



INSTALLATION

Installation is in the reverse order of removal.

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AUDIO AMP

Removal and Installation

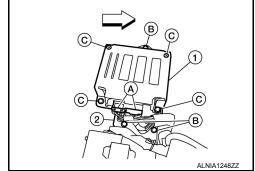
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REMOVAL

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 <u>SE-32</u>. "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. Remove the audio amp. bracket screws (B) and remove bracket (2).



INSTALLATION

FRONT TWEETER

< REMOVAL AND INSTALLATION >

[PREMIUM AUDIO (CREW CAB)]

FRONT TWEETER

Removal and Installation

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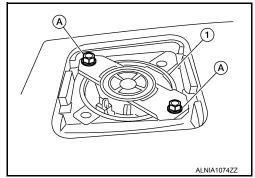
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REMOVAL

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

< REMOVAL AND INSTALLATION >

[PREMIUM AUDIO (CREW CAB)]

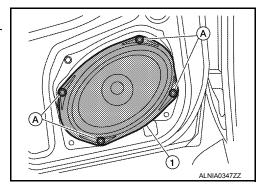
FRONT DOOR SPEAKER

Removal and Installation

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REMOVAL

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



INSTALLATION

REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[PREMIUM AUDIO (CREW CAB)]

REAR DOOR SPEAKER

Removal and Installation

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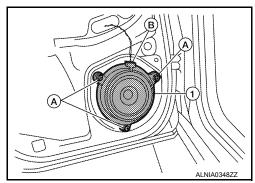
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REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

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REAR DOOR TWEETER

< REMOVAL AND INSTALLATION >

[PREMIUM AUDIO (CREW CAB)]

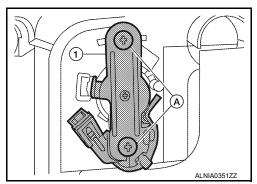
REAR DOOR TWEETER

Removal and Installation

INFOID:0000000007328303

REMOVAL

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



INSTALLATION

[PREMIUM AUDIO (CREW CAB)]

STEERING SWITCH

Removal and Installation

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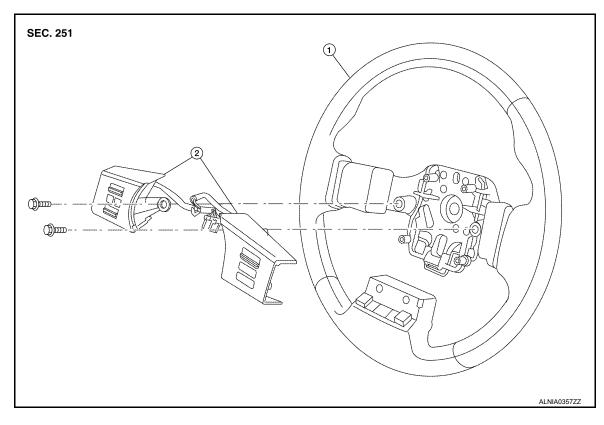
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Removal and Installation



1. Steering wheel

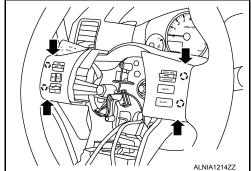
2. Steering wheel audio control switches

REMOVAL

- 1. Remove the driver air bag module. Refer to SR-11, "Removal and Installation".
- 2. Remove the steering wheel audio control switch assembly screws.
- 3. Disconnect the steering wheel audio control switches connector.
- 4. Remove the steering wheel audio control switches by pulling on steering wheel audio control switches to release the pawls.

(): Pawl CAUTION:

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



INSTALLATION

Installation is in the reverse order of removal.

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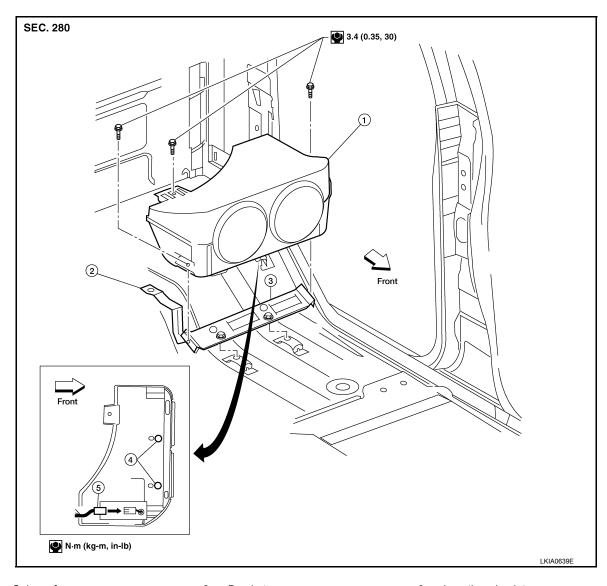
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SUBWOOFER

Removal and Installation

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1. Subwoofer

Bracket

4. Locating pin

5. Connector

3. Locating pin plate

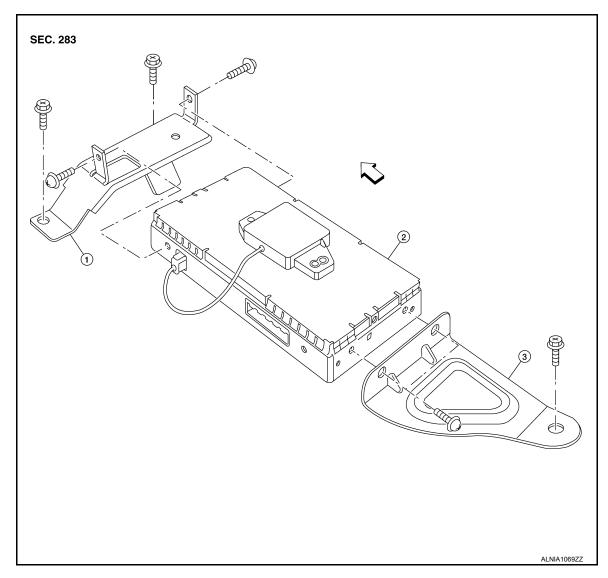
REMOVAL

- 1. Position the LH rear seat cushion in the folded up position.
- 2. Remove storage box RH (crew cab). Refer to INT-23, "Removal and Installation".
- 3. Remove the subwoofer screws.
- 4. Disconnect the connector and remove the subwoofer.

INSTALLATION

BLUETOOTH CONTROL UNIT

Removal and Installation



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

REMOVAL

NOTE:

Do not remove the RH front seat from the vehicle.

- Remove the RH front seat bolts, disconnect the RH front seat electrical connectors. Refer to <u>SE-32</u>. "Removal and Installation".
- 2. Tilt the RH front seat back to access the bluetooth control unit.

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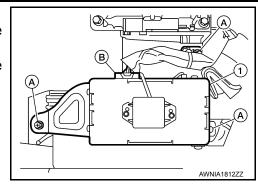
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BLUETOOTH CONTROL UNIT

< REMOVAL AND INSTALLATION >

[PREMIUM AUDIO (CREW CAB)]

- 3. Disconnect the Bluetooth control unit harness connector (B).
- 4. Remove the Bluetooth control unit screws (A), then remove the Bluetooth control unit assembly (1).
- 5. Remove the Bluetooth control unit bracket screws and remove the Bluetooth control unit front and rear brackets.



INSTALLATION

MICROPHONE

[PREMIUM AUDIO (CREW CAB)]

MICROPHONE

Removal and Installation

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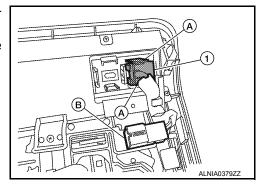
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REMOVAL

- 1. Remove the roof console. Refer to INT-25, "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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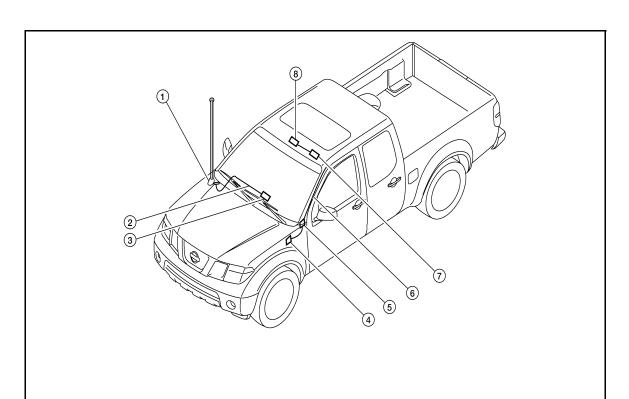
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AUDIO ANTENNA

Location of Antenna



- 1. Rod antenna
- Satellite radio tuner or prewiring for satellite radio tuner M41, M129
- 7. Satellite antenna harness connector M251
- 2. Antenna feeder
- Satellite antenna in-line harness connector 6.
 M250, M68
- 8. Satellite antenna

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

Removal and Installation

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REMOVAL

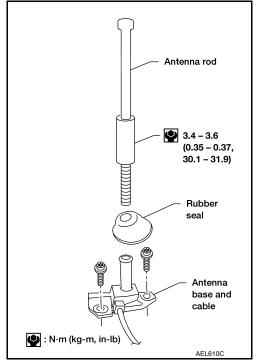
- 1. Remove instrument lower panel RH and glove box. Refer to IP-24, "Removal and Installation".
- Disconnect audio antenna cable from antenna feeder.

AUDIO ANTENNA

< REMOVAL AND INSTALLATION >

[PREMIUM AUDIO (CREW CAB)]

- 3. Remove antenna rod.
- 4. Remove rubber seal.
- 5. Remove cowl top. Refer to EXT-24, "Removal and Installation".
- 6. Remove fender protector. Refer to <u>EXT-27</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.

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AUXILIARY INPUT JACK

< REMOVAL AND INSTALLATION >

[PREMIUM AUDIO (CREW CAB)]

AUXILIARY INPUT JACK

Removal and Installation

INFOID:0000000007328310

Removal

- 1. Remove the instrument lower panel RH and glove box. Refer to IP-24, "Removal and Installation".
- 2. Remove the auxiliary input jack.

Installation

SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[PREMIUM AUDIO (CREW CAB)]

SATELLITE RADIO ANTENNA

Removal and Installation

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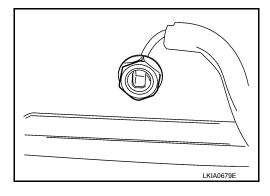
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REMOVAL

- 1. Remove the roof console. Refer to INT-25, "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.

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SATELLITE RADIO TUNER

< REMOVAL AND INSTALLATION >

[PREMIUM AUDIO (CREW CAB)]

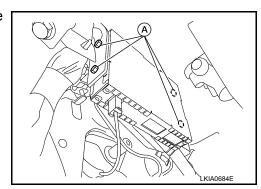
SATELLITE RADIO TUNER

Removal and Installation

INFOID:0000000007328312

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