

SECTION **AV**

AUDIO, VISUAL & NAVIGATION SYSTEM

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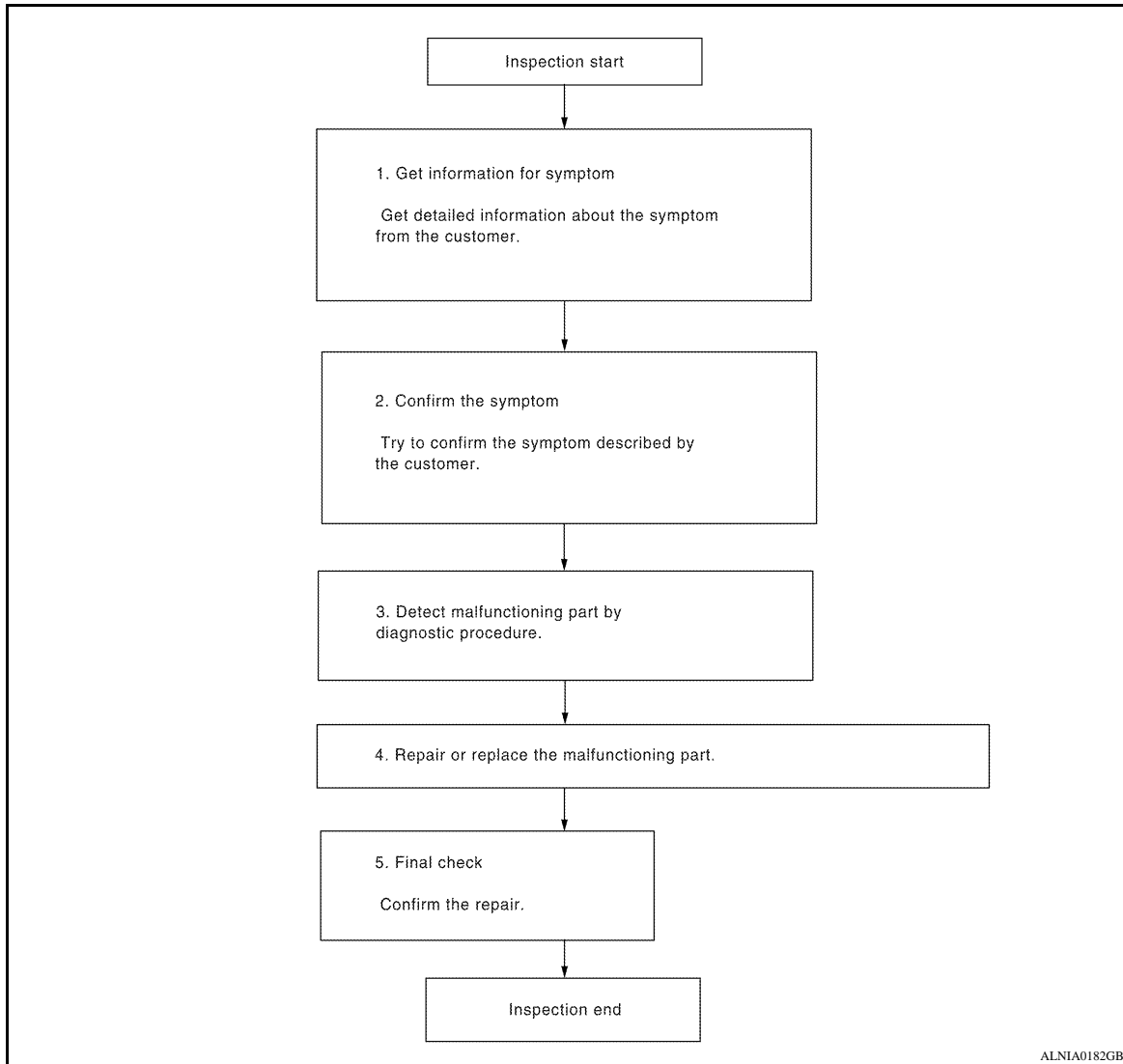
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000004057017

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2

2.CONFIRM THE SYMPTOM

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

>> GO TO 3

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[BASE AUDIO]

Is malfunctioning part detected?

YES >> GO TO 4

NO >> GO TO 2

4.REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5

5.FINAL CHECK

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

Has the symptom been repaired?

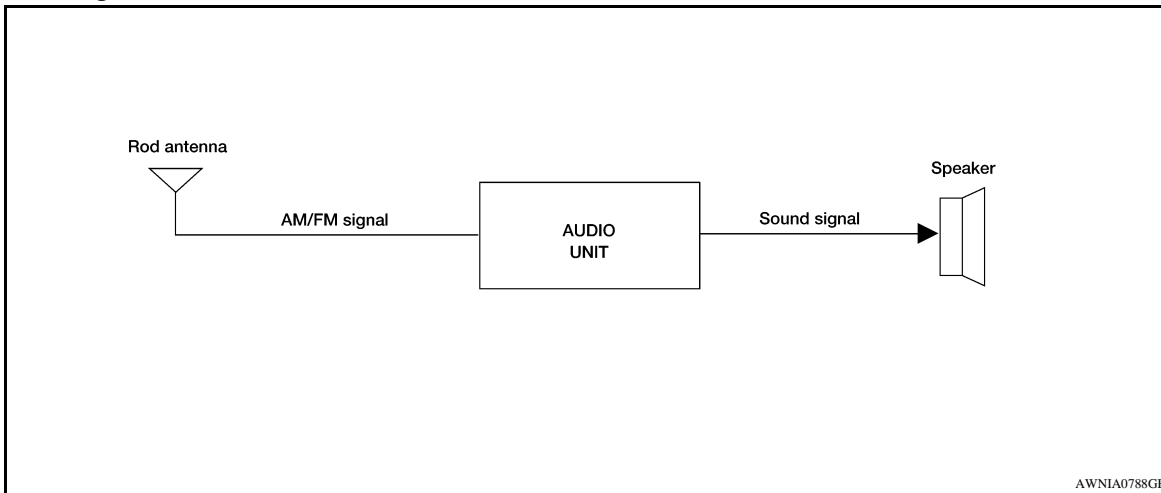
YES >> Inspection End.

NO >> GO TO 2

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram



System Description

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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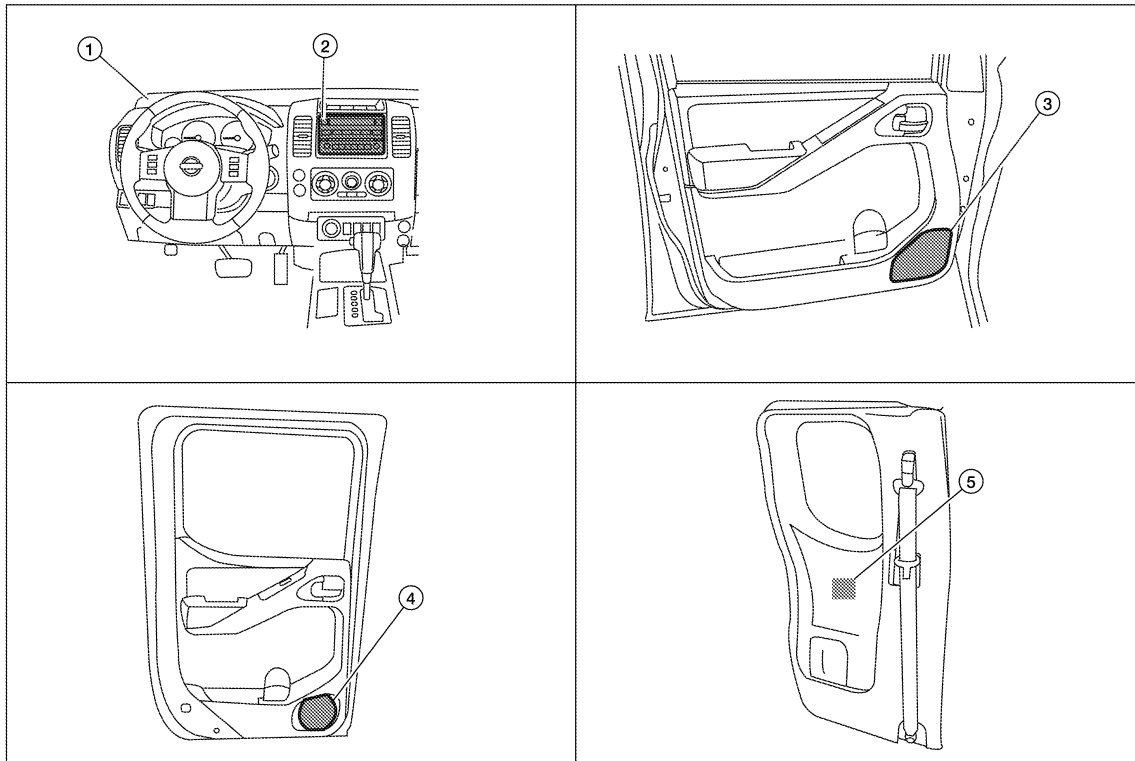
AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[BASE AUDIO]

Component Parts Location

INFOID:000000004057020



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- | | | |
|---|--|--|
| 1. Front tweeter (crew cab)
LH M109
RH M111 | 2. Audio unit M43 | 3. Front door speaker
LH D12
RH D112 |
| 4. Rear door speaker (crew cab)
LH D207
RH D307 | 5. Rear door speaker (king cab)
LH B76
RH B160 | |

Component Description

INFOID:000000004057021

Part name	Description
Audio unit	Controls audio system functions
Front door speakers	<ul style="list-style-type: none"> Outputs audio signal from audio unit Outputs high, mid and low range sounds
Front tweeters	<ul style="list-style-type: none"> Outputs audio signal from audio unit Outputs high range sounds
Rear door speakers	<ul style="list-style-type: none"> Outputs audio signal from audio unit Outputs high, mid and low range sounds

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:000000004057022

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
	7	Ignition switch ACC or ON	4

Are the fuses OK?

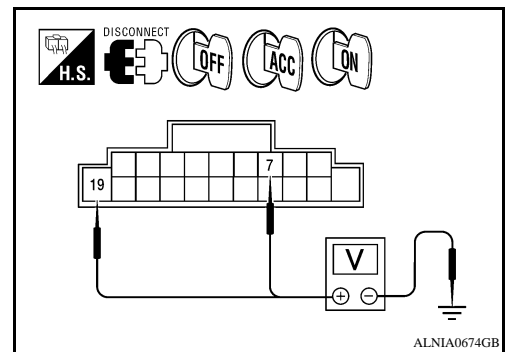
YES >> GO TO 2

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

2. POWER SUPPLY CIRCUIT CHECK

1. Disconnect audio unit connector M43.
2. Check voltage between the audio unit connector M43 ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M43	7	Ground	0V	Battery voltage	Battery voltage
	19	Ground	Battery voltage	Battery voltage	Battery voltage



Are the voltage results as specified?

YES >> GO TO 3

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

3. GROUND CIRCUIT CHECK

Inspect audio unit case ground.

Does case ground pass inspection?

YES >> Inspection end.

NO >> Repair audio unit case ground.

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FRONT DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[BASE AUDIO]

FRONT DOOR SPEAKER

Description

INFOID:000000004057023

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

Diagnosis Procedure

INFOID:000000004057024

1. HARNESS CHECK

1. 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		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	2	D12	1	Yes
	3		2	
	11	D112	1	
	12		2	

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

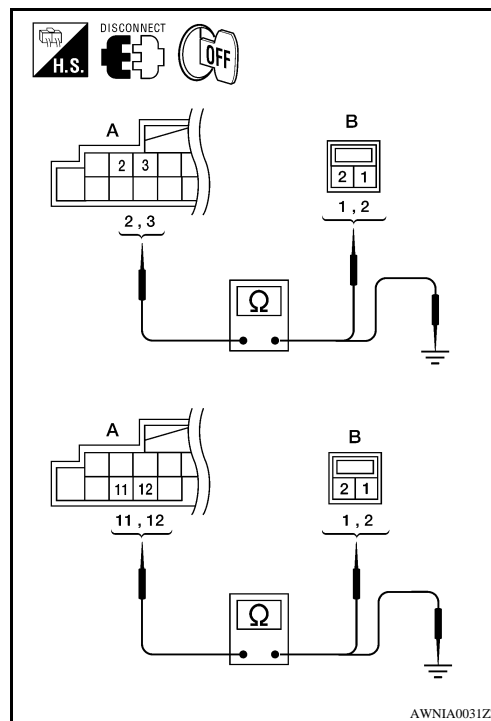
A		—	Continuity
Connector	Terminal		
M43	2	Ground	No
	3		
	11		
	12		

Are continuity results as specified?

YES >> GO TO 2

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

2. FRONT SPEAKER SIGNAL CHECK



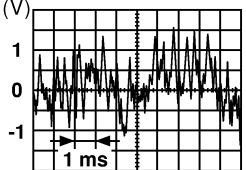
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FRONT DOOR SPEAKER

[BASE AUDIO]

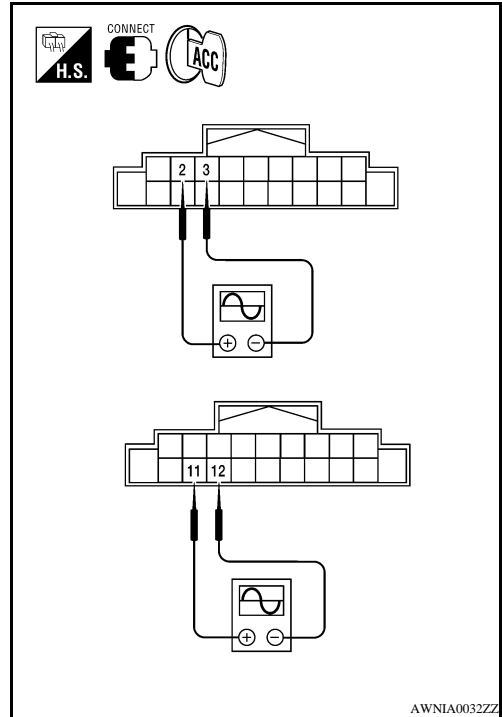
< COMPONENT DIAGNOSIS >

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

Con- nector	(+) (-)		Condition	Reference signal
	Terminal	Terminal		
M43	2	3	Receive audio signal	 <small>SKIA0177E</small>
	11	12		

Is the audio signal voltage as specified?

- YES >> Replace speaker. Refer to [AV-30, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-28, "Removal and Installation"](#).



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FRONT TWEETER

< COMPONENT DIAGNOSIS >

[BASE AUDIO]

FRONT TWEETER

Description

INFOID:000000004057025

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

Diagnosis Procedure

INFOID:000000004057026

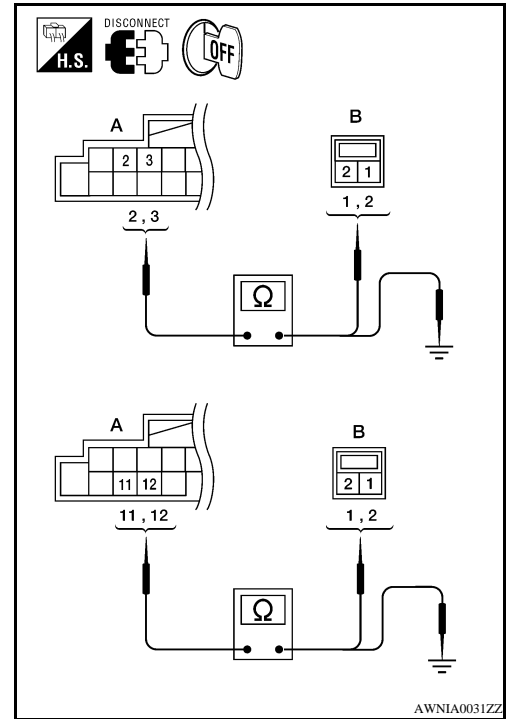
1. HARNESS CHECK

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	2	M109	1	Yes
	3		2	
	11	M111	1	
	12		2	

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

A		—	Continuity
Connector	Terminal		
M43	2	Ground	No
	3		
	11		
	12		



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Are the continuity results as specified?

YES >> GO TO 2

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

2. FRONT TWEETER SIGNAL CHECK

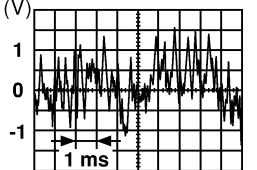
FRONT TWEETER

< COMPONENT DIAGNOSIS >

[BASE AUDIO]

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

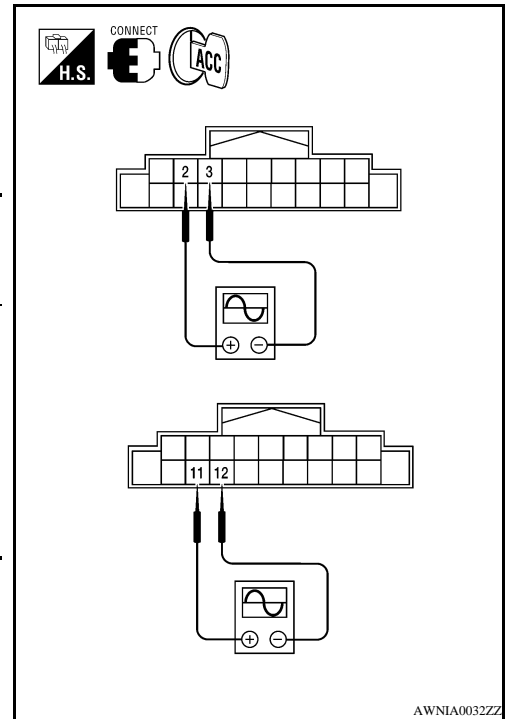
(+)		(-)		Condition	Reference signal
Con- nector	Terminal	Terminal	Terminal		
M43	2	3	11	12	Receive audio signal
	11	12			



SKIA0177E

Is the audio signal voltage as specified?

- YES >> Replace the suspect front tweeter. Refer to [AV-29, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-28, "Removal and Installation"](#).



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REAR DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[BASE AUDIO]

REAR DOOR SPEAKER

Description

INFOID:000000004057027

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

Diagnosis Procedure

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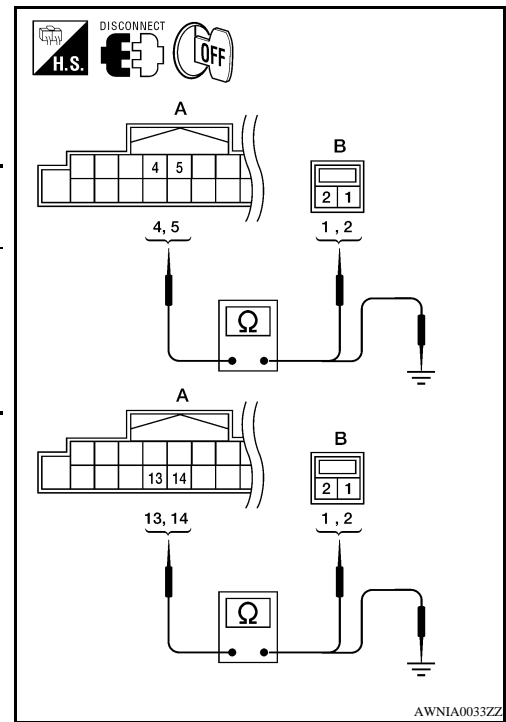
1. HARNESS CHECK

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).

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

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

A		—	Continuity
Connector	Terminal		
M43	4	Ground	No
	5		
	13		
	14		



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Are the continuity results as specified?

YES >> GO TO 2

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

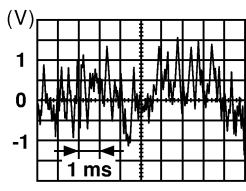
2. REAR DOOR SPEAKER SIGNAL CHECK

REAR DOOR SPEAKER

[BASE AUDIO]

< COMPONENT DIAGNOSIS >

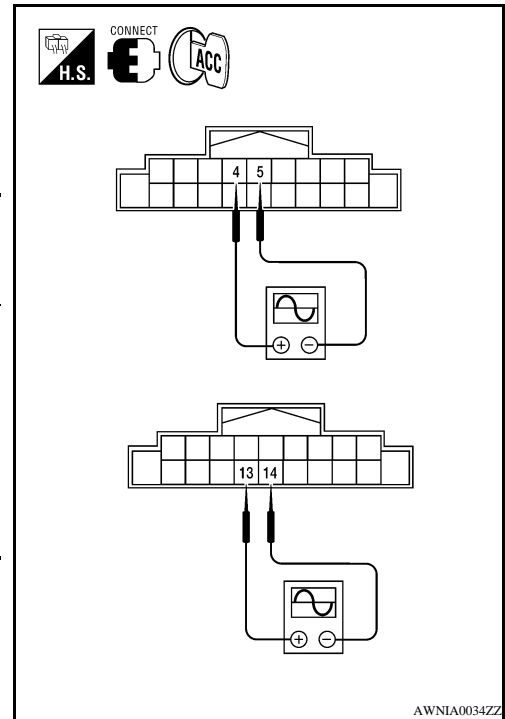
1. Connect audio unit connector and rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M43 terminals with CONSULT-III or oscilloscope.

Connector	(+)	(-)	Condition	Reference signal
	Terminal	Terminal		
M43	4	5	Receive audio signal	
	13	14		

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Is the audio signal voltage as specified?

- YES >> Replace the suspect rear door speaker. Refer to [AV-31, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-28, "Removal and Installation"](#).



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AUDIO UNIT

< ECU DIAGNOSIS >

[BASE AUDIO]

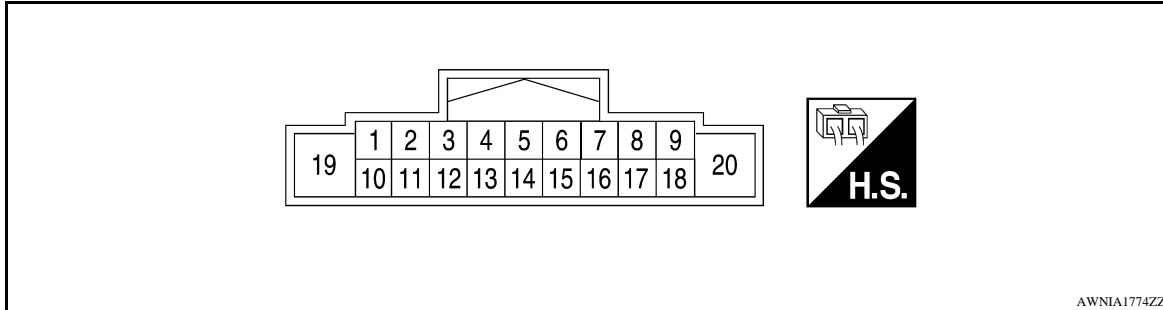
ECU DIAGNOSIS

AUDIO UNIT

Reference Value

INFOID:000000004057029

TERMINAL LAYOUT



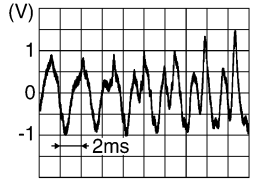
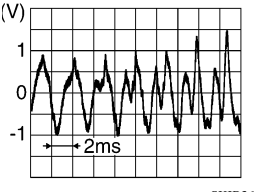
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
2 (BR)	3 (L)	Sound signal front door speaker and front tweeter LH	Output	Ignition switch ON	Audio output	
4 (G)	5 (B)	Sound signal rear door speaker LH	Output	Ignition switch ON	Audio output	
7 (G/B)	Ground	ACC power supply	Input	Ignition switch ACC or ON	—	Battery voltage
8 (GR)	Ground	ILL control	Input	Ignition switch ACC or ON	—	0V
9 (R)	Ground	Light switch	Input	Ignition switch ACC or ON	—	Battery voltage

AUDIO UNIT

< ECU DIAGNOSIS >

[BASE AUDIO]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
11 (LG)	12 (R)	Sound signal front door speaker and front tweeter RH	Output	Ignition switch ON	Voice output	
13 (GR)	14 (O)	Sound signal rear door speaker RH	Output	Ignition switch ON	Voice output	
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage

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AUDIO UNIT

< ECU DIAGNOSIS >

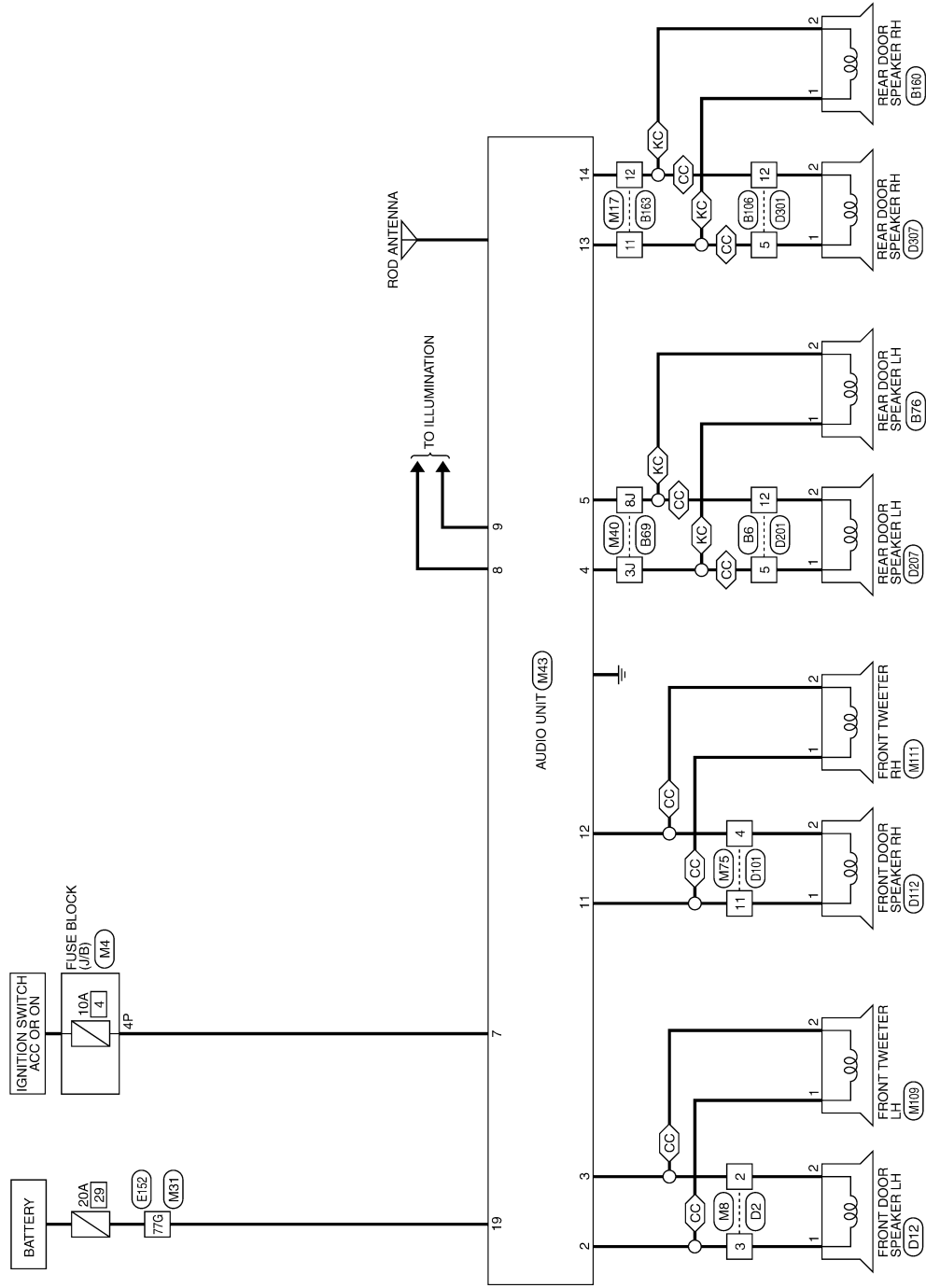
[BASE AUDIO]

Wiring Diagram

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CC : CREW CAB
KC : KING CAB

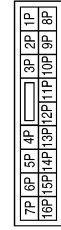
BASE AUDIO SYSTEM



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BASE AUDIO SYSTEM CONNECTORS

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



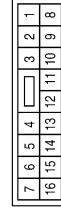
Terminal No.	Color of Wire	Signal Name
4P	G/B	-

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



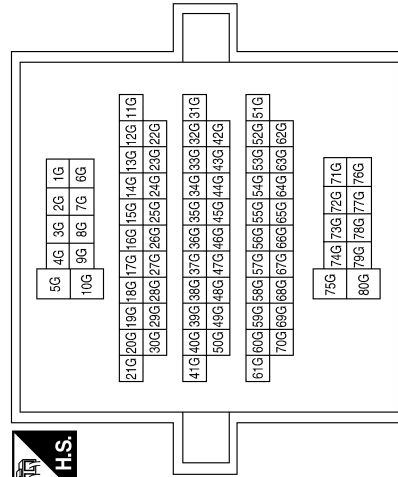
Terminal No.	Color of Wire	Signal Name
2	L	-
3	BR	-

Connector No.	M17
Connector Name	WIRE TO WIRE
Connector Color	WHITE



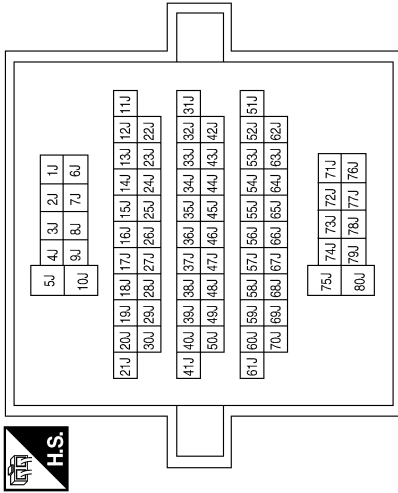
Terminal No.	Color of Wire	Signal Name
11	GR	-
12	O	-

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



Terminal No.	Color of Wire	Signal Name
77G	Y	-

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



Terminal No.	Color of Wire	Signal Name
3J	G	-
8J	B	-

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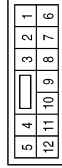


AUDIO UNIT

< ECU DIAGNOSIS >

[BASE AUDIO]

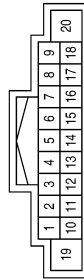
Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
4	R	-
11	LG	-

Terminal No.	Color of Wire	Signal Name
9	R	LIGHT SW
10	-	-
11	LG	FR SP RH (+)
12	R	FR SP RH (-)
13	GR	RR SP RH (+)
14	O	RR SP RH (-)
15	-	-
16	-	-
17	-	-
18	-	-
19	Y	BAT
20	-	-

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



Terminal No.	Color of Wire	Signal Name
1	-	-
2	BR	FR SP LH (+)
3	L	FR SP LH (-)
4	G	RR SP LH (+)
5	B	RR SP LH (-)
6	-	-
7	G/B	ACC
8	GR	ILL CONT

Connector No.	M111
Connector Name	FRONT TWEETER RH (CREW CAB)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	W	- (WITH BASE AUDIO SYSTEM)
2	L	- (WITH BASE AUDIO SYSTEM)

Connector No.	M109
Connector Name	FRONT TWEETER LH (CREW CAB)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	G	- (WITH BASE AUDIO SYSTEM)
2	L	- (WITH BASE AUDIO SYSTEM)

ABNIA0512GB

AUDIO UNIT

< ECU DIAGNOSIS >

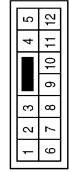
[BASE AUDIO]

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



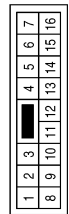
Terminal No.	Color of Wire	Signal Name
1	L/W	-
2	L/R	-

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



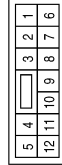
Terminal No.	Color of Wire	Signal Name
2	L/R	-
3	L/W	-

Connector No.	B163
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
11	GR	-
12	O	-

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



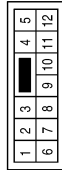
Terminal No.	Color of Wire	Signal Name
5	L	-
12	O	-

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



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

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



Terminal No.	Color of Wire	Signal Name
4	L/B	-
11	W/B	-

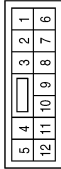
ABNIA0514GB

Connector No.	D307
Connector Name	REAR DOOR SPEAKER RH (CREW CAB)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	-
2	O	-

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



Terminal No.	Color of Wire	Signal Name
5	L	-
12	O	-

Connector No.	D207
Connector Name	REAR DOOR SPEAKER LH (CREW CAB)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	-
2	O	-

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AANIA0054GB

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:000000004057031

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> • Audio unit power circuit • Audio unit 	<ul style="list-style-type: none"> • AV-9
All speakers do not sound	<ul style="list-style-type: none"> • Audio unit • Audio unit power circuit 	<ul style="list-style-type: none"> • AV-9
One or several speakers do not sound	<ul style="list-style-type: none"> • Front door speaker • Front tweeter • Rear door speaker 	<ul style="list-style-type: none"> • AV-10 • AV-12 • AV-14

CD

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

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BASE AUDIO]

NORMAL OPERATING CONDITION

Description

INFOID:000000004057032

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

NOISE

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

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

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

NOTE:

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

Type of Noise and Possible Cause

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

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AV

PRECAUTION

PRECAUTIONS

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

INFOID:000000004057033

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:

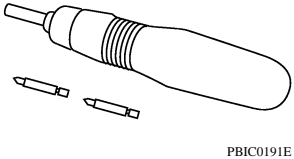
- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation 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.

PREPARATION

PREPARATION

Commercial Service Tools

INFOID:000000004057034

Tool name	Description
<p>Power tool</p>  <p>PBIC0191E</p>	<p>Loosening bolts and nuts</p>

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ON-VEHICLE REPAIR

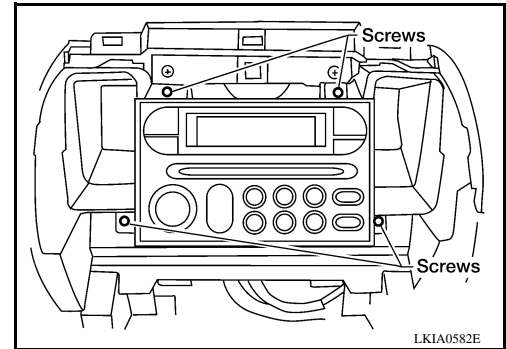
AUDIO UNIT

Removal and Installation

INFOID:000000004057035

REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

FRONT TWEETER

Removal and Installation

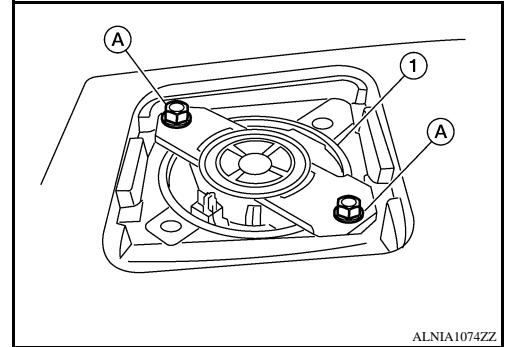
INFOID:000000004057036

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

< ON-VEHICLE REPAIR >

[BASE AUDIO]

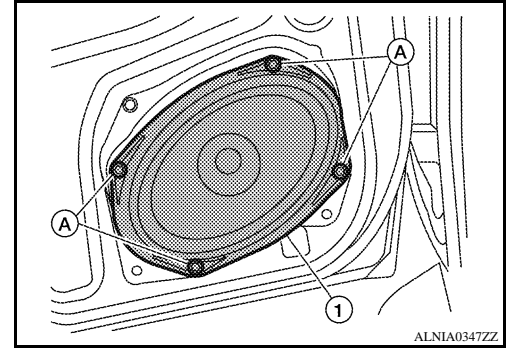
FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000004057037

REMOVAL

1. Remove the front door finisher. Refer to [INT-13. "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

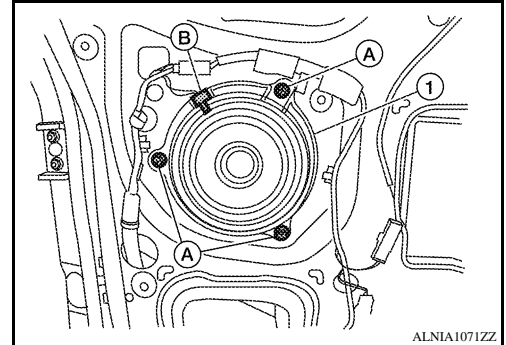
INFOID:000000004057038

REMOVAL

1. Remove the rear door finisher. Refer to [INT-13, "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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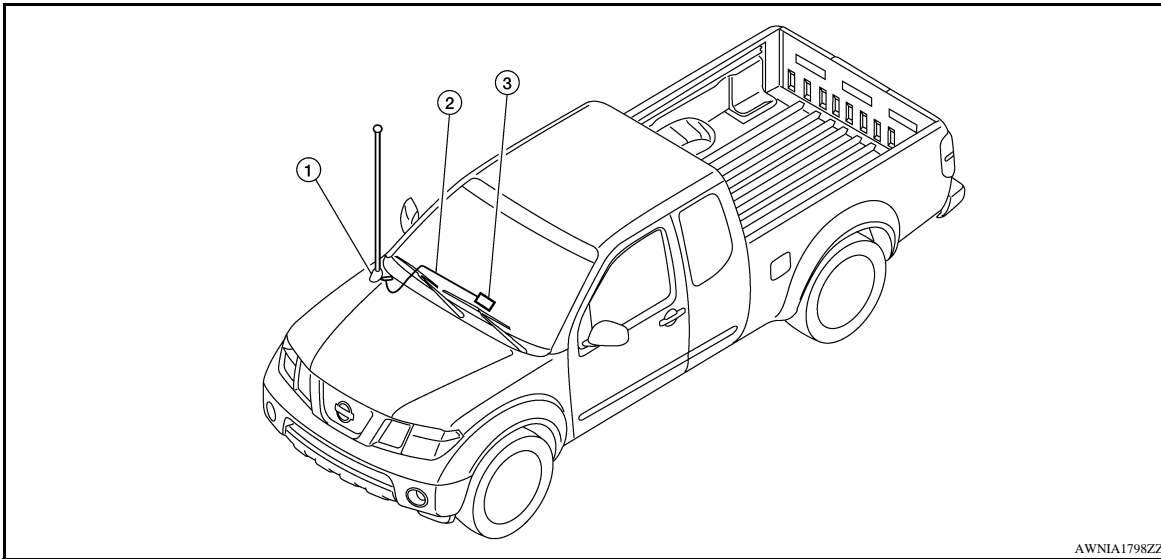
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AUDIO ANTENNA

Location of Audio Antenna System Component

INFOID:000000004057039



AWNIA1798ZZ

1. Audio antenna

2. Antenna feeder

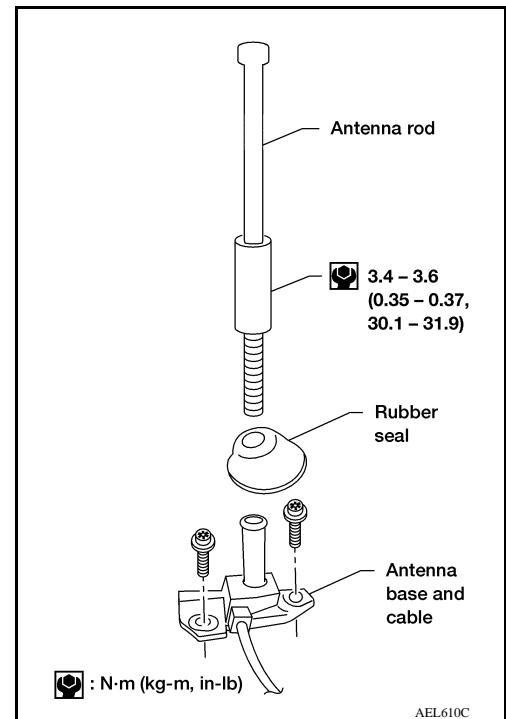
3. Audio unit M43

Removal and Installation

INFOID:000000004057040

REMOVAL

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



AEL610C

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.

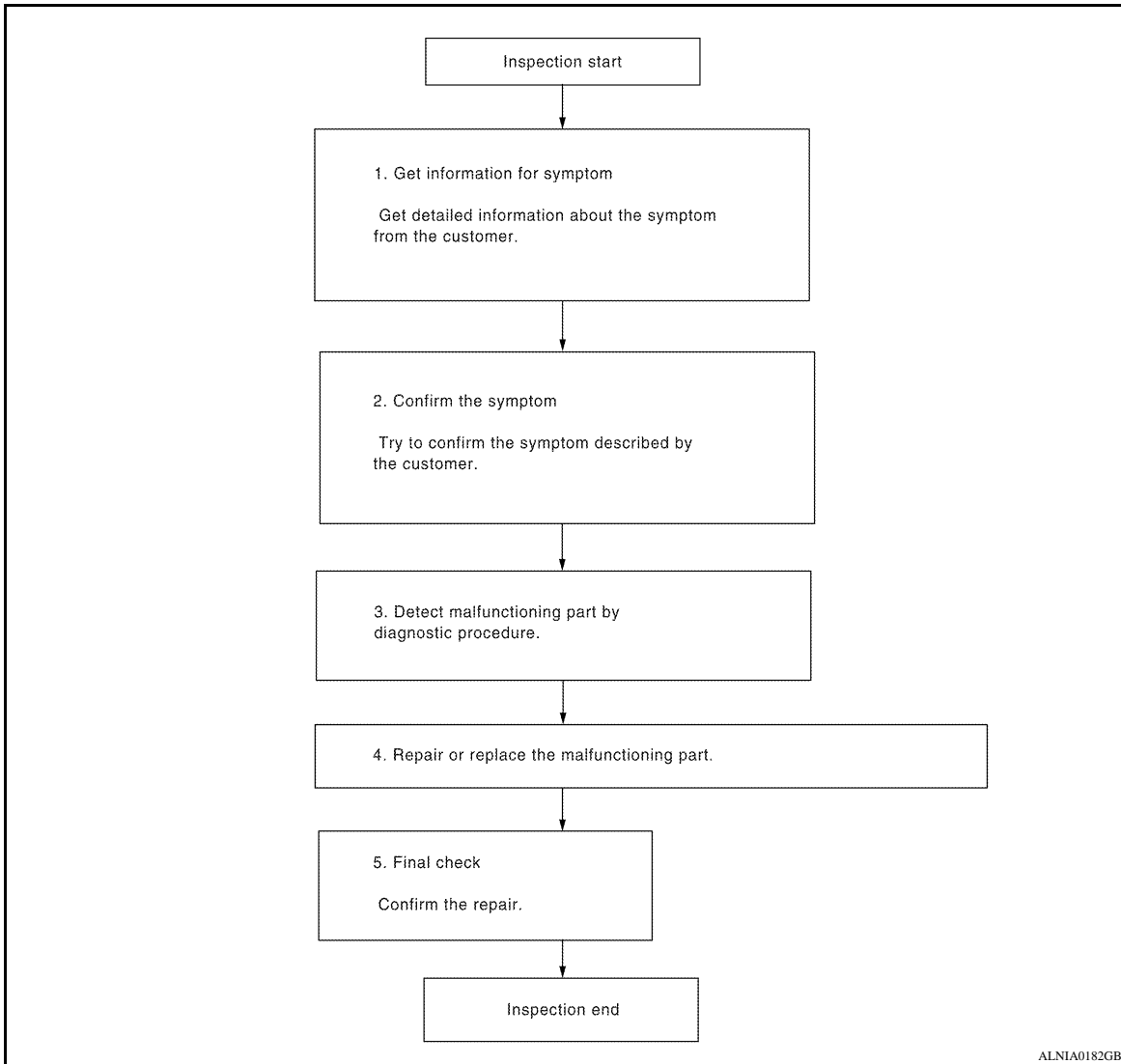
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000004057041

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 (KING CAB)]

Is malfunctioning part detected?

YES >> GO TO 4

NO >> GO TO 2

4.REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5

5.FINAL CHECK

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

Was the repair confirmed?

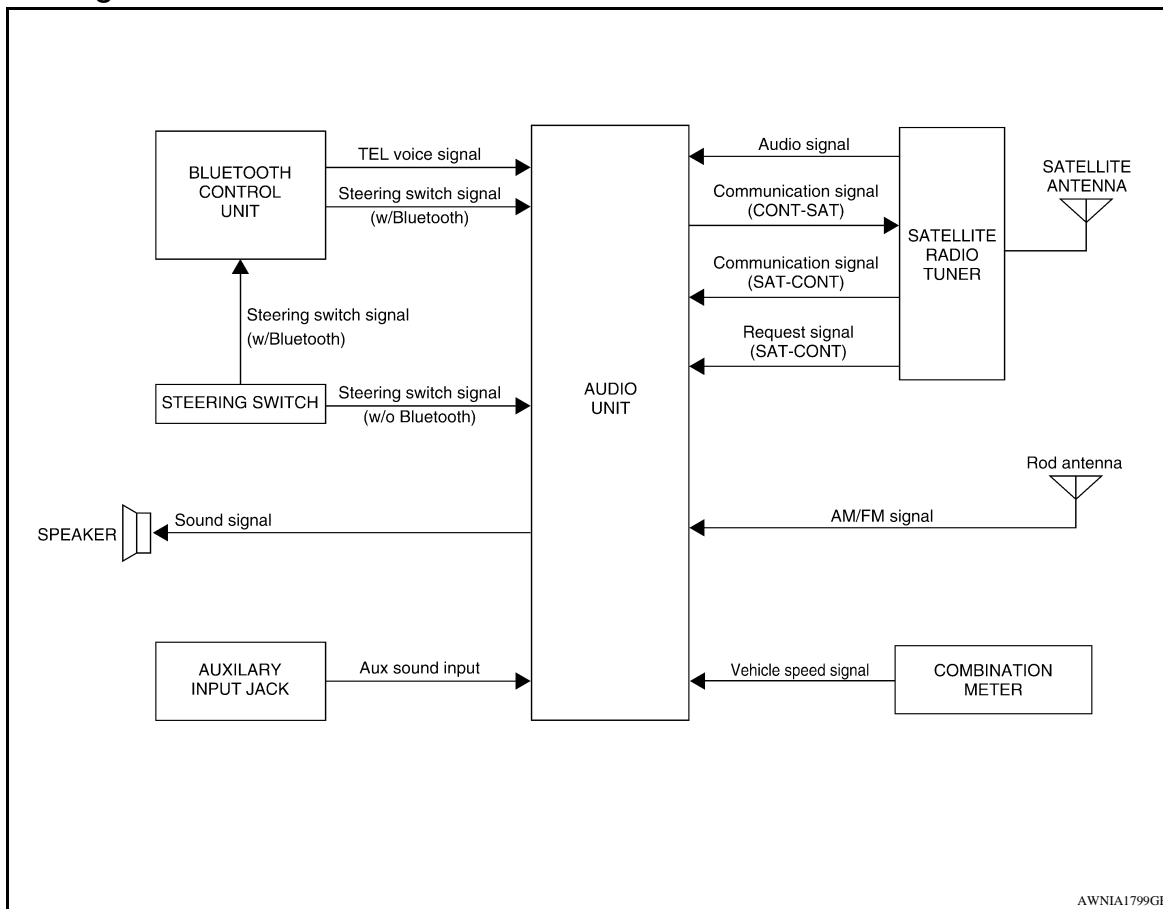
YES >> Inspection End.

NO >> GO TO 2

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram



System Description

INFOID:0000000004057043

AUDIO SYSTEM

The audio system consists of the following components

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

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

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AUDIO SYSTEM

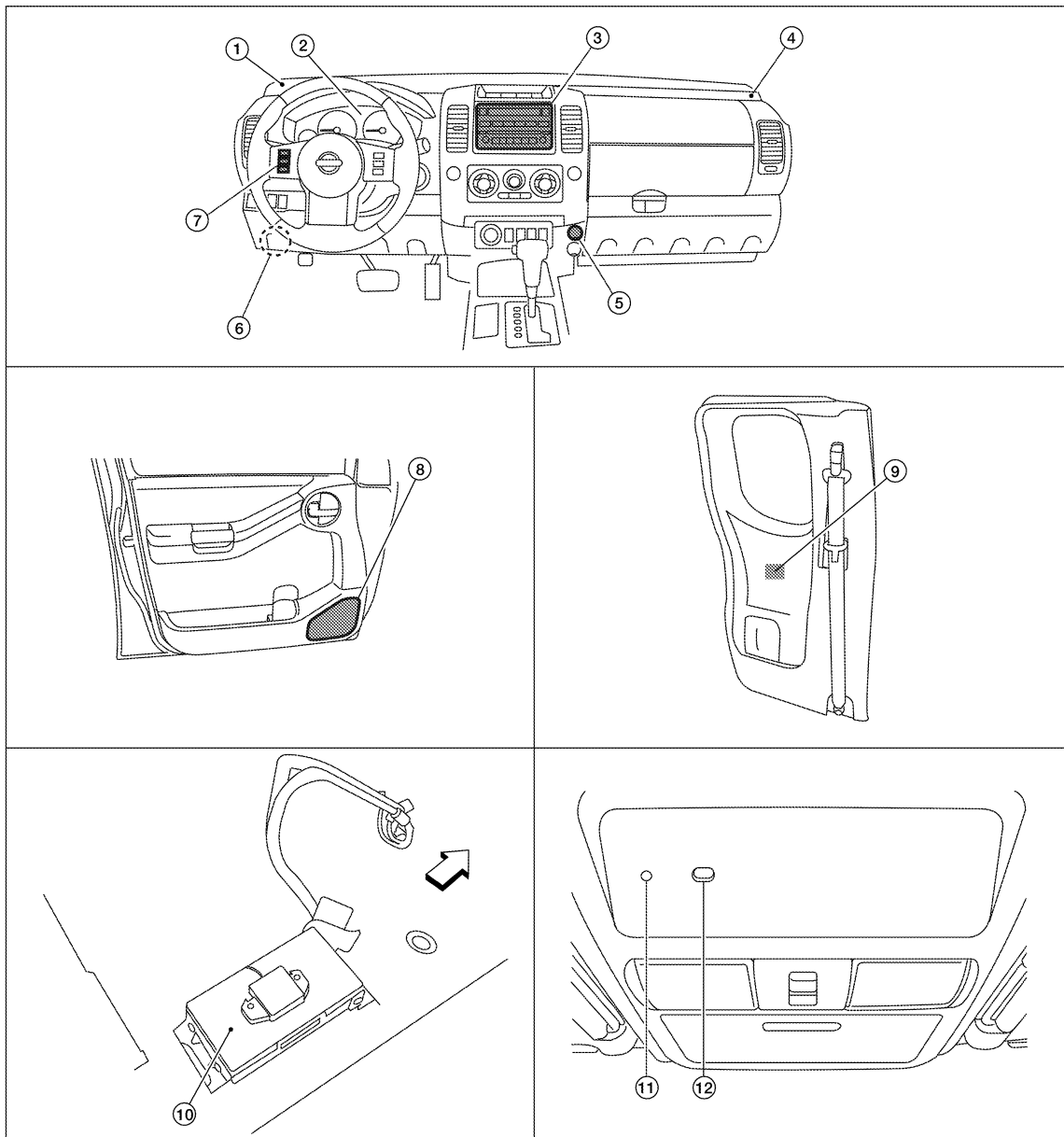
[PREMIUM AUDIO (KING CAB)]

< FUNCTION DIAGNOSIS >

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:000000004057044



←:FRONT

- | | | |
|---|--|---|
| 1. Front tweeter LH M110 | 2. Combination meter M24 | 3. Audio unit M42, M44, M45, M64 |
| 4. Front tweeter RH M112 | 5. Aux jack M85 | 6. Satellite radio tuner M41, M129 |
| 7. Steering wheel audio control switches | 8. Front door speaker
LH D12
RH D112 | 9. Rear door speaker
LH B76
RH B160 |
| 10. Bluetooth control unit B141, B142
(view with passenger front seat removed) | 11. Microphone R8 | 12. Bluetooth ON indicator R6 |

AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

Component Description

INFOID:000000004057045

Part name	Description
Audio unit	Controls audio system and satellite radio system functions
Audio amp.	Receives power (amp ON) and audio signals from Audio unit and outputs audio signals to each speaker.
Steering wheel audio control switches	<ul style="list-style-type: none">• Start a voice recognition session• Answer and end telephone calls• Adjust the volume level
Front door speakers	<ul style="list-style-type: none">• Outputs audio signal from audio amp.• Outputs high, mid and low range sounds
Front tweeters	<ul style="list-style-type: none">• Outputs audio signal from audio amp.• Outputs high range sounds
Rear door speakers	<ul style="list-style-type: none">• Outputs audio signal from audio amp.• Outputs high, mid and low range sounds
Satellite radio tuner	<ul style="list-style-type: none">• Receives radio signals from satellite antenna• Sends audio signals to Audio unit
Satellite antenna	Audio signal (satellite radio) is received and output to Audio unit.

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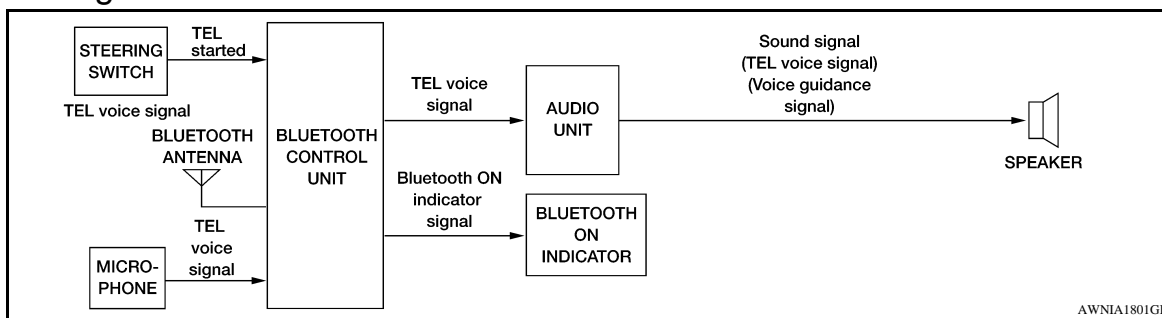
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HANDS-FREE PHONE SYSTEM

System Diagram



System Description

INFOID:000000004057047

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

NOTE:

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

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

BLUETOOTH CONTROL UNIT

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

STEERING WHEEL AUDIO CONTROL SWITCHES

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

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

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

MICROPHONE

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

AUDIO UNIT

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

BLUETOOTH ON INDICATOR

The Bluetooth ON indicator is located in the overhead console. The indicator will flash during power up while the Bluetooth control unit is initializing. This process may take up to 10 seconds. If a phone is present in the vehicle and paired with the Bluetooth control unit, the indicator will remain on to indicate that the system is ready for voice commands. The indicator flashes during self-diagnosis.

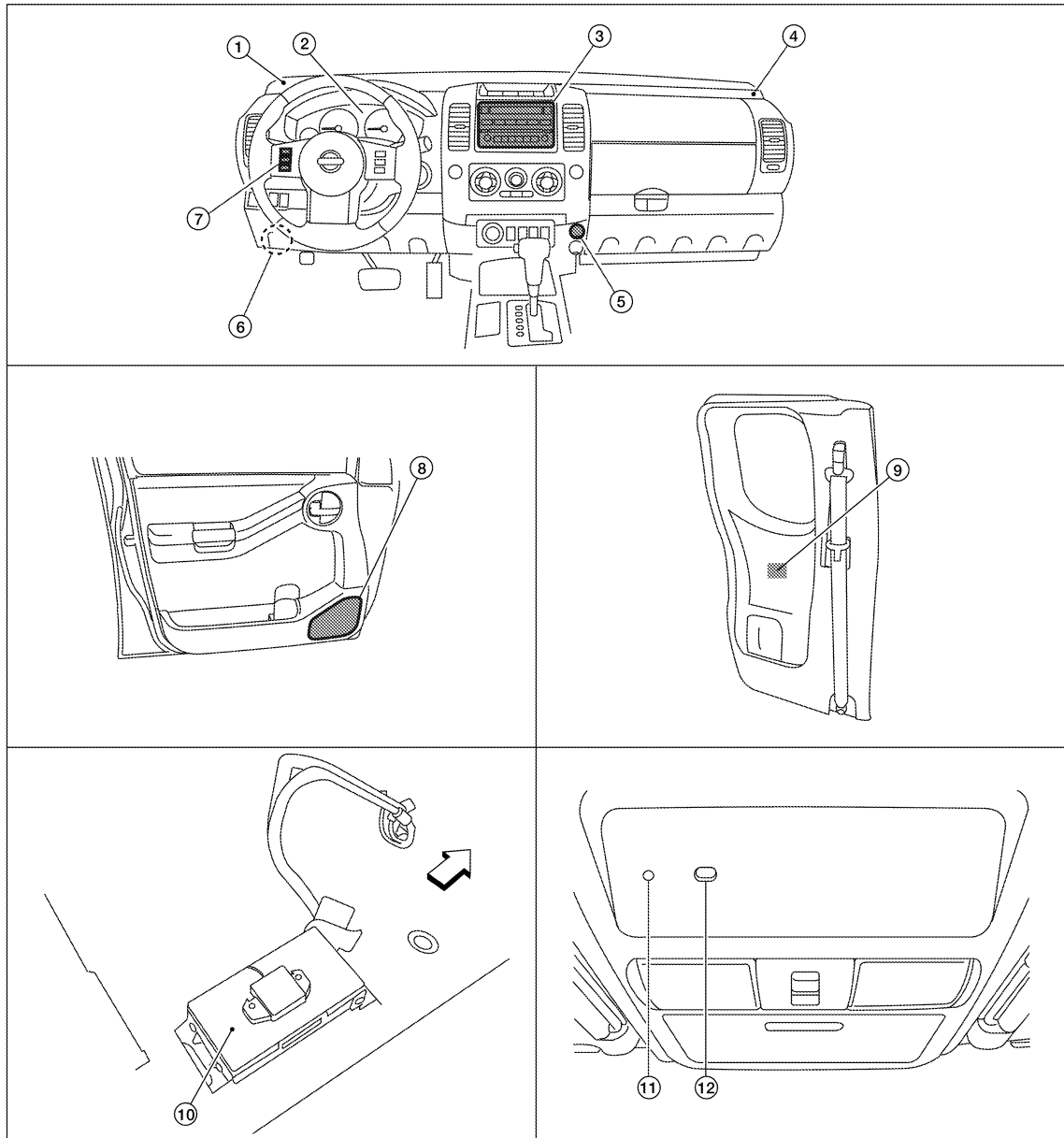
HANDS-FREE PHONE SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

Component Parts Location

INFOID:000000004449385



←:FRONT

- | | | |
|---|--|---|
| 1. Front tweeter LH M110 | 2. Combination meter M24 | 3. Audio unit M42, M44, M45, M64 |
| 4. Front tweeter RH M112 | 5. Aux jack M85 | 6. Satellite radio tuner M41, M129 |
| 7. Steering wheel audio control switches | 8. Front door speaker
LH D12
RH D112 | 9. Rear door speaker
LH B76
RH B160 |
| 10. Bluetooth control unit B141, B142
(view with passenger front seat removed) | 11. Microphone R8 | 12. Bluetooth ON indicator R6 |

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HANDS-FREE PHONE SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

Component Description

INFOID:000000004057049

Part name	Description
Audio unit	<ul style="list-style-type: none">• Receives telephone voice signal from Bluetooth control unit• Sends telephone voice and voice guidance signals to the speakers
Front door speaker	Receives telephone voice and voice guidance signals from the audio amp.
Front tweeter	
Steering wheel audio control switches	<ul style="list-style-type: none">• 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
Bluetooth ON indicator	Controlled by the Bluetooth control unit

DIAGNOSIS SYSTEM (AUDIO UNIT)

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

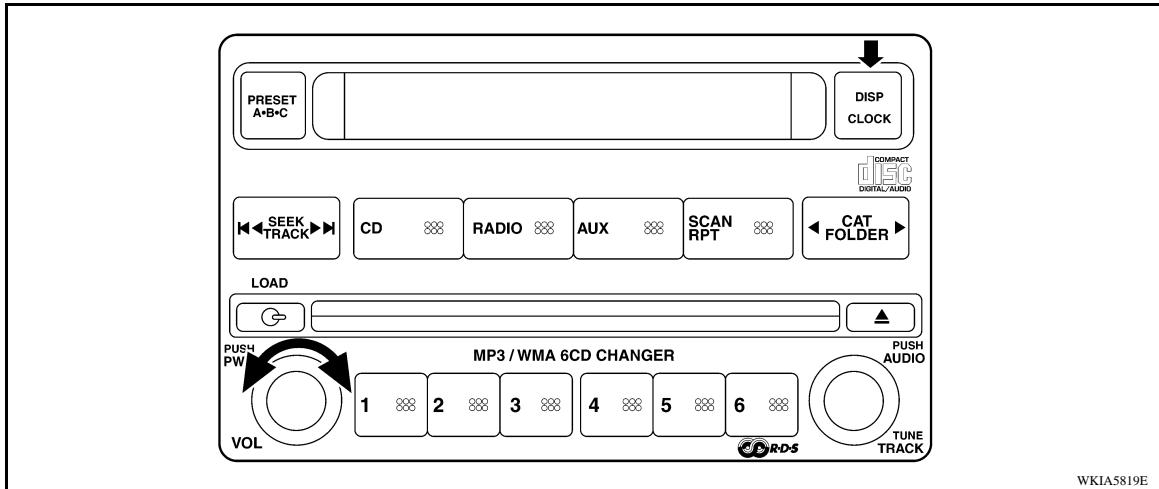
DIAGNOSIS SYSTEM (AUDIO UNIT)

Component Function Check

INFOID:000000004057050

STARTING THE SELF-DIAGNOSIS MODE

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



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

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

NOTE:

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

DIAGNOSIS FUNCTION

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

EXITING THE SELF-DIAGNOSIS MODE

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

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DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description


INFOID:000000004057051

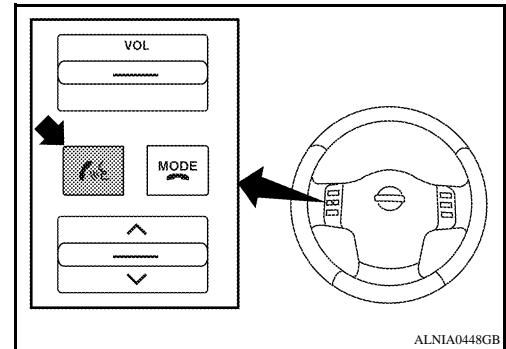
The Bluetooth control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.



BLUETOOTH CONTROL UNIT INITIALIZATION CHECKS

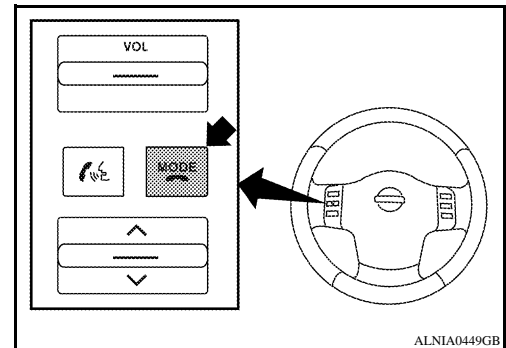
- Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switches [SEND(📞)/END(MODE)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth inquiry check

OPERATION PROCEDURE

1. Turn ignition switch to ACC or ON.
2. Wait for the Bluetooth system to complete initialization. This may take up to 10 seconds.
3. Press and hold the steering wheel audio control switch  button for at least 5 seconds. The Bluetooth system will begin to play a verbal prompt.



4. While the prompt is playing, press and hold the steering wheel audio control switch  button until you hear the “Diagnostics mode” prompt. The Bluetooth system will sound a 5 second beep.
5. While the beep is sounding, press and hold the steering wheel audio control switch  button again until you hear prompts.
6. The Bluetooth system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician and the Bluetooth ON indicator will flash. Refer to [AV-42. "Work Flow"](#).
7. After the failure records are reported, an interactive microphone test will be performed. Follow the voice prompt. If the microphone test fails refer to [AV-42. "Work Flow"](#).



8. Self-diagnosis mode is complete when the voice prompt says “All diagnostic functions completed”.

Work Flow

INFOID:000000004057052

Failure Message	Action
“Internal failure”	Replace Bluetooth control unit. Refer to AV-90. "Removal and Installation" .
“Bluetooth antenna open”	1. Inspect harness connection.
“Bluetooth antenna shorted”	2. Replace Bluetooth antenna. Refer to AV-90. "Removal and Installation" .
“Phone/Send for Hands Free System is stuck”	Check steering wheel audio control switches. Refer to AV-53. "Description" .
“Phone/End for the Hands Free System is stuck”	
“Microphone test” (failed interactive test)	1. Inspect harness between Bluetooth control unit and microphone. 2. Replace microphone. Refer to AV-92. "Removal and Installation" .

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:000000004057053

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
	10	Ignition switch ACC or ON	4

Are the fuses OK?

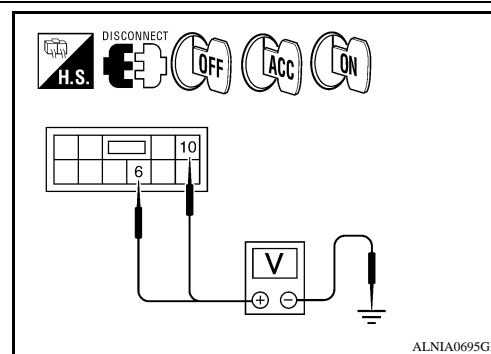
YES >> GO TO 2

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

2.POWER SUPPLY CIRCUIT CHECK

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

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



Are the voltage results as specified?

YES >> GO TO 3

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

3.GROUND CIRCUIT CHECK

Inspect audio unit case ground.

Does case ground pass inspection?

YES >> Inspection End.

NO >> Repair audio unit case ground.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000004057054

1.CHECK FUSES

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

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

Are the fuses OK?

YES >> GO TO 2

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

2.POWER SUPPLY CIRCUIT CHECK

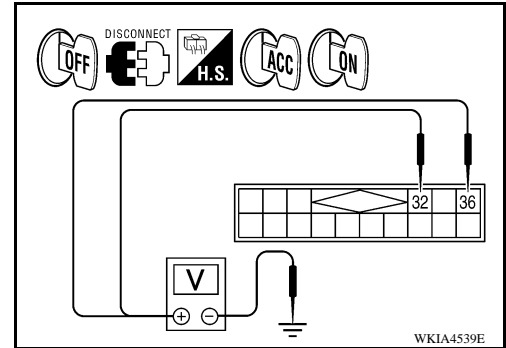
POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM AUDIO (KING CAB)]

< COMPONENT DIAGNOSIS >

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				
M41	32	Ground	Battery voltage	Battery voltage	Battery voltage
	36		0V	Battery voltage	Battery voltage



Are the voltage readings as specified?

YES >> GO TO 3

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

3. GROUND CIRCUIT CHECK

Inspect satellite radio tuner (factory installed) case ground.

Does case ground pass inspection?

YES >> Inspection End.

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

BLUETOOTH CONTROL UNIT

BLUETOOTH CONTROL UNIT : Diagnosis Procedure

INFOID:000000004057055

1. CHECK FUSE

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

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

Is inspection result OK?

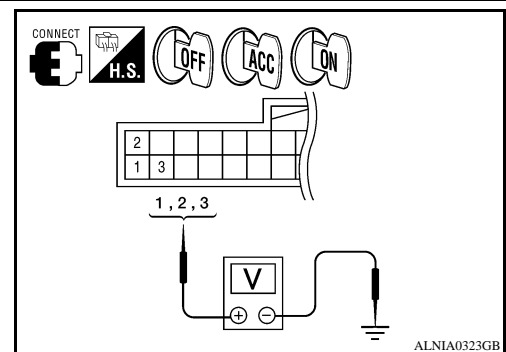
YES >> GO TO 2.

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

2. CHECK POWER SUPPLY CIRCUIT

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

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



Is battery voltage present as specified?

YES >> GO TO 3.

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

3. CHECK GROUND CIRCUIT

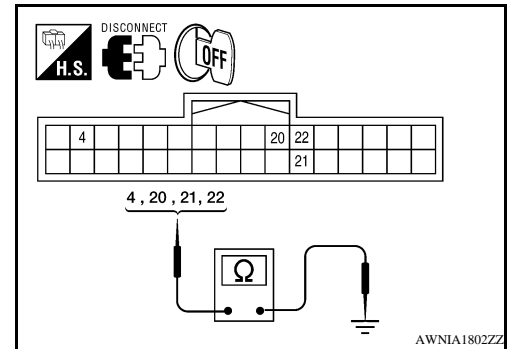
POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM AUDIO (KING CAB)]

< COMPONENT DIAGNOSIS >

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

Connector	Terminal	—	Continuity
B141	4	Ground	Yes
	20		
	21		
	22		



Are continuity results as specified?

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

MICROPHONE

MICROPHONE : Diagnosis Procedure

INFOID:000000004057056

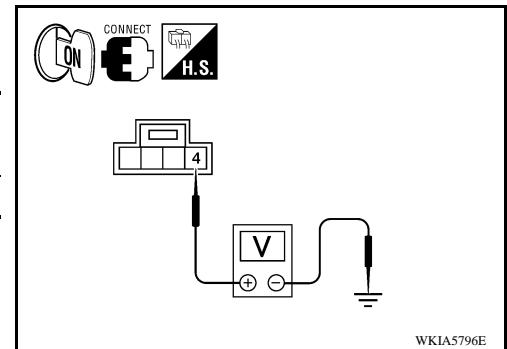
1. CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

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

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

Is approximately 5V present?

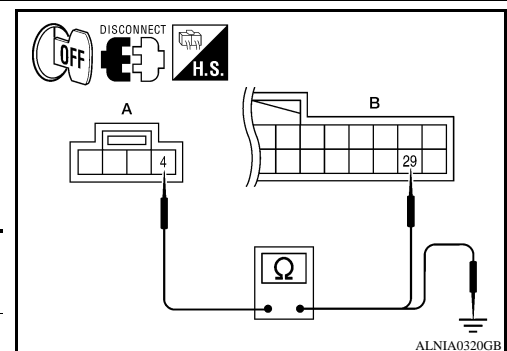
- YES >> GO TO 3
 NO >> GO TO 2



2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect microphone and Bluetooth control unit harness connectors.
3. Check continuity between microphone harness connector R8 (A) terminal 4 and Bluetooth control unit harness connector B141 (B) terminal 29.

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



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

A		—	Continuity
Connector	Terminal		
R8	4	Ground	No

Are the continuity test results as specified?

- YES >> Replace the Bluetooth control unit. Refer to [AV-90. "Removal and Installation"](#).
 NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

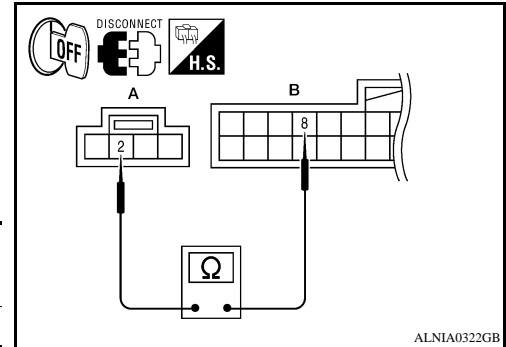
POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM AUDIO (KING CAB)]

< COMPONENT DIAGNOSIS >

1. 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		B		Continuity
Connector	Terminal	Connector	Terminal	
R8	2	B141	8	Yes



Does continuity exist?

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

FRONT DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

FRONT DOOR SPEAKER

Description

INFOID:000000004057057

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

Diagnosis Procedure

INFOID:000000004057058

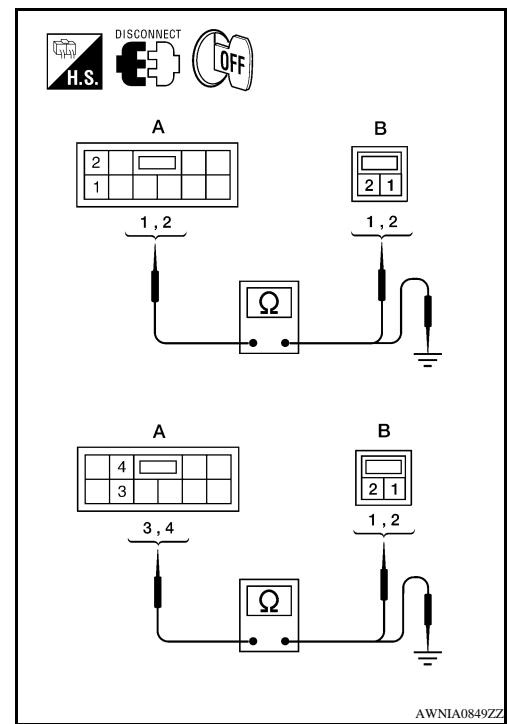
1. SPEAKER HARNESS CHECK

1. 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).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M64	1	D12	2	Yes
	2		1	
	3	D112	2	
	4		1	

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

A		—	Continuity
Connector	Terminal		
M64	1	Ground	No
	2		
	3		
	4		



AWNIA0849ZZ

Are continuity test results as specified?

YES >> GO TO 2

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

2. SPEAKER SIGNAL CHECK

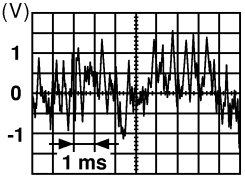
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FRONT DOOR SPEAKER

[PREMIUM AUDIO (KING CAB)]

< COMPONENT DIAGNOSIS >

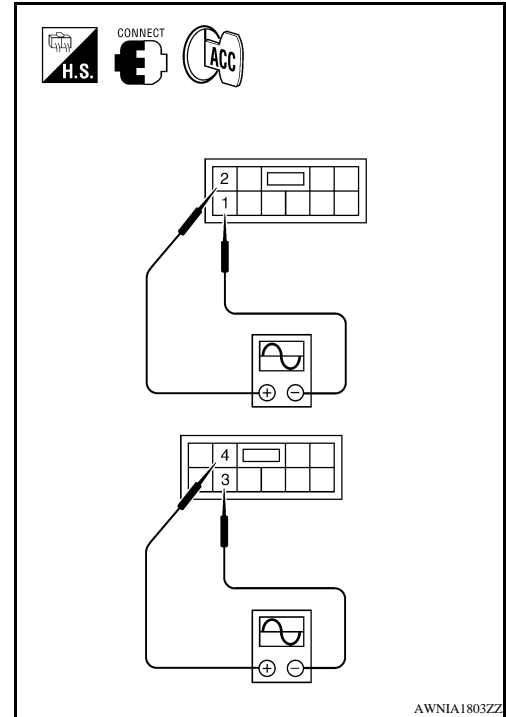
1. Connect audio unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M64 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M64	2	1	Receive audio signal	
	4	3		

SKIA0177E

Are the audio signal voltage readings as specified?

- YES >> Replace suspect speaker. Refer to [AV-86, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-84, "Removal and Installation"](#).



AWNIA1803ZZ

FRONT TWEETER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

FRONT TWEETER

Description

INFOID:000000004057059

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

Diagnosis Procedure

INFOID:000000004057060

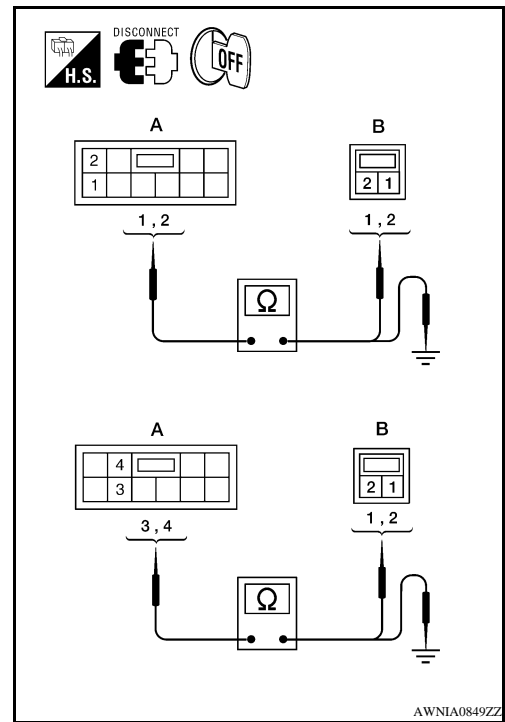
1. SPEAKER HARNESS CHECK

1. 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).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M64	1	M110	2	Yes
	2		1	
	3	M112	2	
	4		1	

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

A		—	Continuity
Connector	Terminal		
M64	1	Ground	No
	2		
	3		
	4		



Are continuity test results as specified?

YES >> GO TO 2

- NO >>
- Check connector housings for disconnected or loose terminals.
 - Repair harness or connector.

2. SPEAKER SIGNAL CHECK

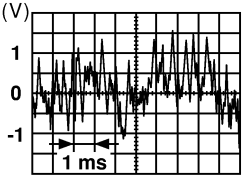
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FRONT TWEETER

[PREMIUM AUDIO (KING CAB)]

< COMPONENT DIAGNOSIS >

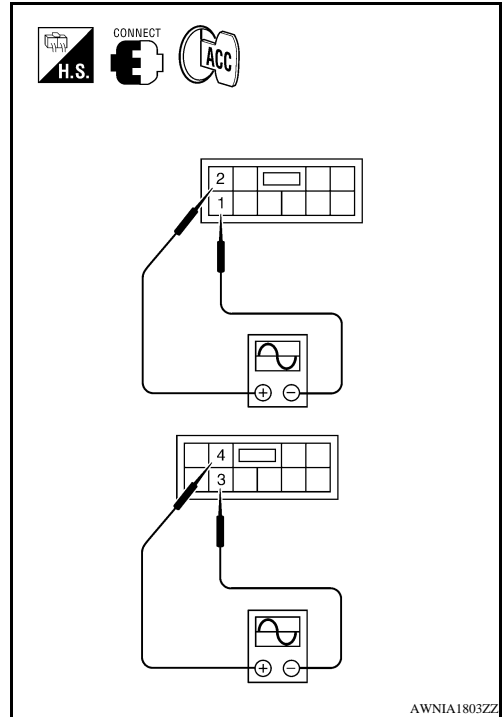
1. Connect audio unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M64 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M64	2	1	Receive audio signal	
	4	3		

SKIA0177E

Are the audio signal voltage readings as specified?

- YES >> Replace suspect speaker. Refer to [AV-85, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-84, "Removal and Installation"](#).



AWNIA1803ZZ

REAR DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

REAR DOOR SPEAKER

Description

INFOID:000000004057061

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

Diagnosis Procedure

INFOID:000000004057062

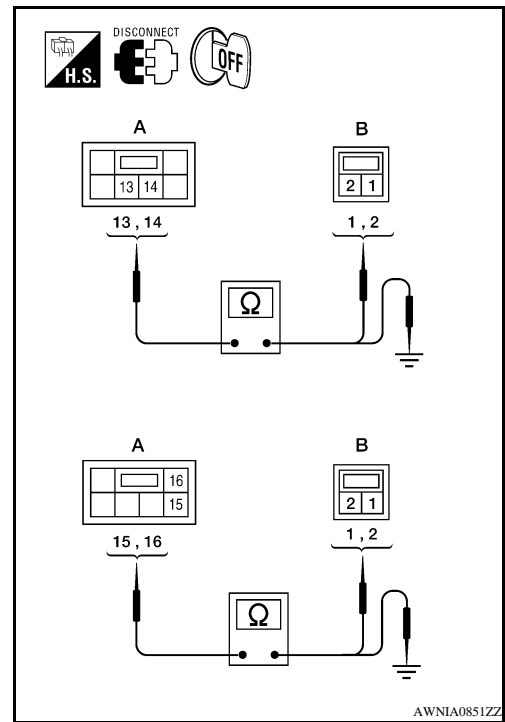
1. SPEAKER HARNESS CHECK

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).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	B76	2	Yes
	14		1	
	15	B160	2	
	16		1	

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

A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		



Are the continuity test results as specified?

YES >> GO TO 2

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

2. SPEAKER SIGNAL CHECK

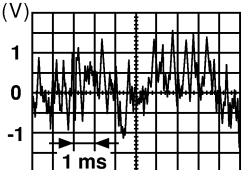
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REAR DOOR SPEAKER

[PREMIUM AUDIO (KING CAB)]

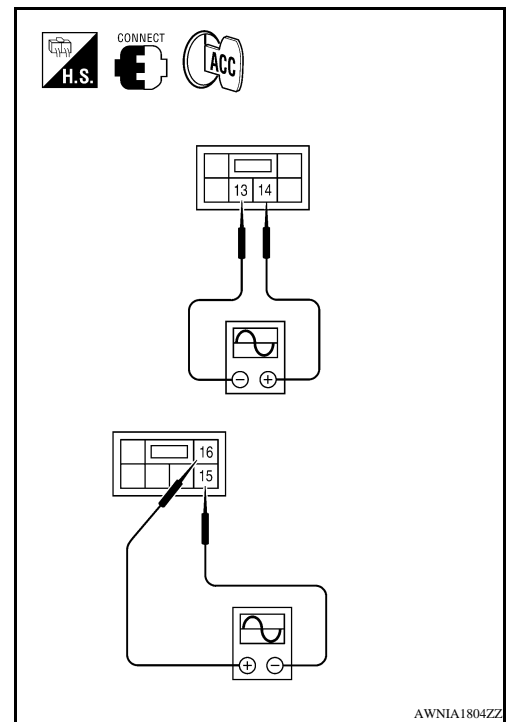
< COMPONENT DIAGNOSIS >

1. Connect audio unit connector M44 and audio amp. connector B159.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M44 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M44	14	13	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
	16	15		

Is the audio signal voltage reading as specified?

- YES >> Replace suspect speaker. Refer to [AV-87, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-84, "Removal and Installation"](#).



STEERING SWITCH

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

STEERING SWITCH

Description

INFOID:000000004057063

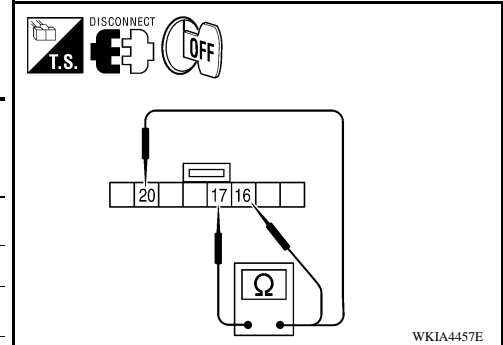
When one of the steering wheel audio control switches is pushed, the resistance in the steering wheel audio control switch circuit changes depending on which button is pushed.

Diagnosis Procedure

INFOID:000000004057064

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

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



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

Do the steering wheel audio control switches check OK?

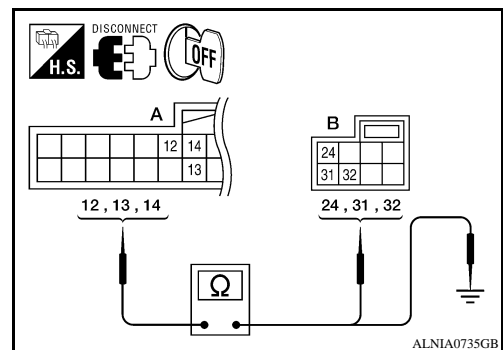
YES >> GO TO 2

NO >> Replace steering wheel audio control switch. Refer to [AV-88, "Removal and Installation"](#).

2. CHECK HARNESS

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).

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



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

A		—	Continuity
Connector	Terminal		
B141	12	Ground	No
	13		
	14		

Are the continuity results as specified?

YES >> GO TO 3

NO >> Repair harness.

3. SPIRAL CABLE CHECK

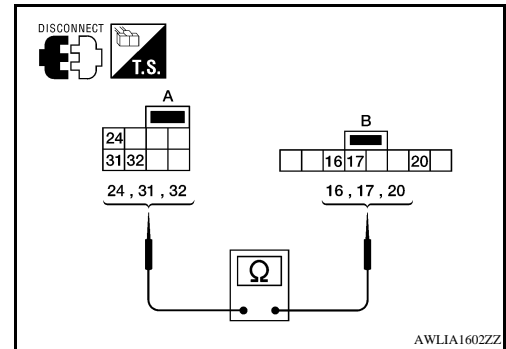
STEERING SWITCH

[PREMIUM AUDIO (KING CAB)]

< COMPONENT DIAGNOSIS >

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

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



Does the spiral cable check OK?

- YES >> Inspection End.
 NO >> Replace spiral cable. Refer to [SR-6. "Removal and Installation"](#).

COMMUNICATION SIGNAL CIRCUIT

[PREMIUM AUDIO (KING CAB)]

< COMPONENT DIAGNOSIS >

COMMUNICATION SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:000000004057065

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

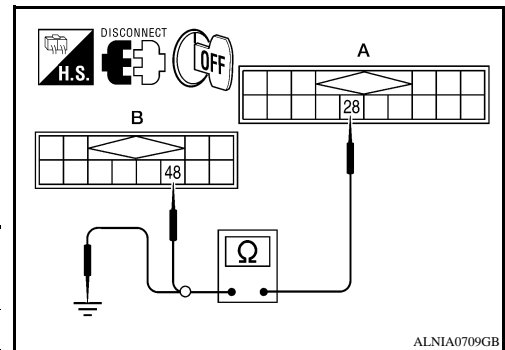
SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000004057066

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.

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



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

A		—	Continuity
Connector	Terminal		
M41	28	Ground	No

Are continuity results as specified?

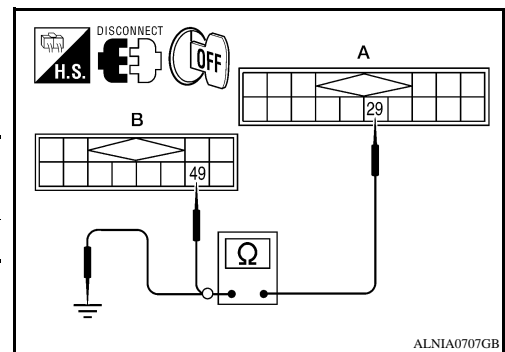
YES >> GO TO 2

NO >> Repair 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 M42 (B) terminal 49.

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



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

A		—	Continuity
Connector	Terminal		
M41	29	Ground	No

Are continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3. CHECK HARNESS - RXD

COMMUNICATION SIGNAL CIRCUIT

[PREMIUM AUDIO (KING CAB)]

< COMPONENT DIAGNOSIS >

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

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

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

A		—	Continuity
Connector	Terminal		
M41	30	Ground	No

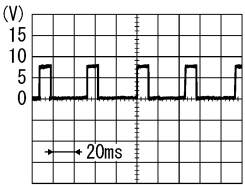
Are continuity results as specified?

YES >> GO TO 4

NO >> Repair harness or connector.

4. CHECK REQ1 SIGNAL

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

(+)		(-)	Reference signal
Connector	Terminal		
M41	28	Ground	 <p style="text-align: right; font-size: small;">SKIB3825E</p>

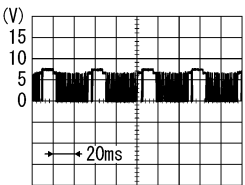
Are voltage readings as specified?

YES >> GO TO 5

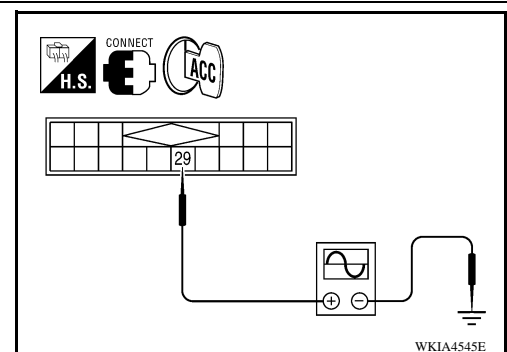
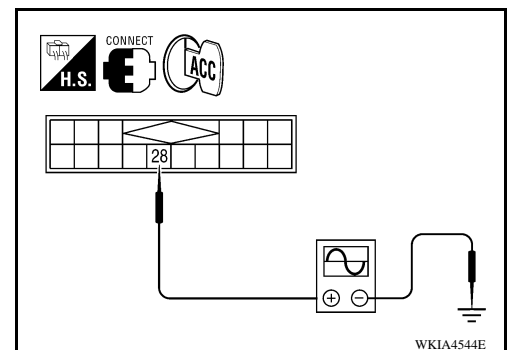
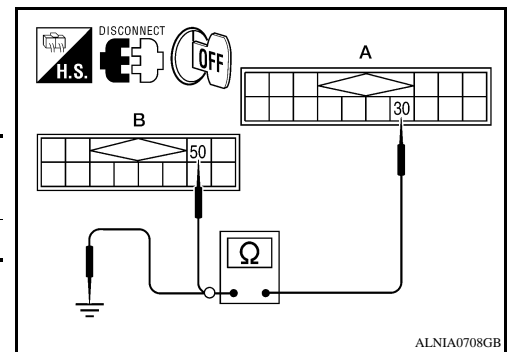
NO >> Replace audio unit. Refer to [AV-84. "Removal and Installation"](#).

5. CHECK TXD SIGNAL

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

(+)		(-)	Reference signal
Connector	Terminal		
M41	29	Ground	 <p style="text-align: right; font-size: small;">SKIB3824E</p>

Are the voltage readings as specified?



COMMUNICATION SIGNAL CIRCUIT

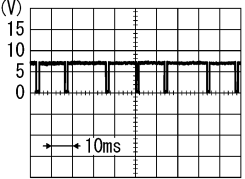
[PREMIUM AUDIO (KING CAB)]

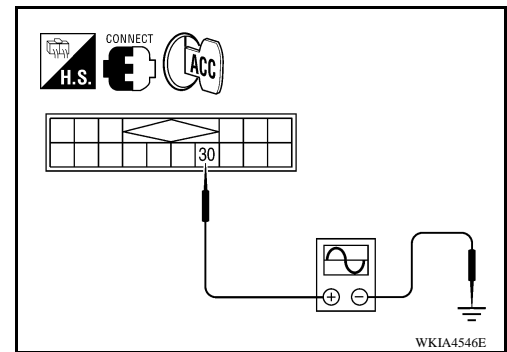
< COMPONENT DIAGNOSIS >

- YES >> GO TO 6
- NO >> Replace satellite radio tuner.

6. CHECK RXD SIGNAL

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

(+)		(-)	Reference signal
Connector	Terminal		
M41	30	Ground	 <p style="text-align: right; font-size: small;">SKIB3826E</p>



Are the voltage readings as specified?

- YES >> Replace satellite radio tuner. Refer to [AV-96. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-84. "Removal and Installation"](#).

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SOUND SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

SOUND SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:000000004057067

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

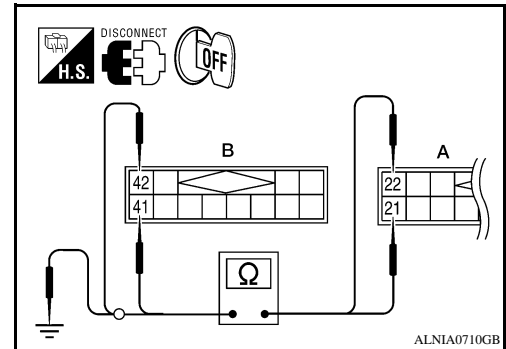
INFOID:000000004057068

LEFT CHANNEL

1. CHECK HARNESS

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	21	M42	41	Yes
	22		42	



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

A		—	Continuity
Connector	Terminal		
M41	21	Ground	No
	22		

Are continuity results as specified?

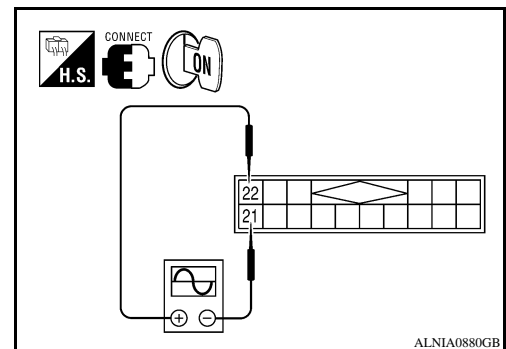
YES >> GO TO 2

NO >> Repair harness or connector.

2. CHECK LEFT CHANNEL AUDIO SIGNAL

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

Connector	(+)	(-)	Reference signal
	Terminal	Terminal	
M41	22	21	<p>SKIB3609E</p>



Are voltage readings as specified?

YES >> Replace audio unit. Refer to [AV-84, "Removal and Installation"](#).

NO >> Replace satellite radio tuner. Refer to [AV-96, "Removal and Installation"](#).

RIGHT CHANNEL

SOUND SIGNAL CIRCUIT

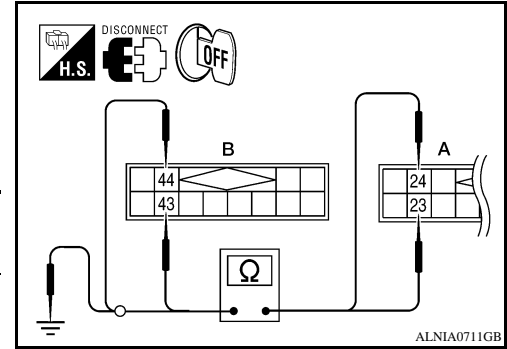
< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

1. CHECK HARNESS

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	23	M42	43	Yes
	24		44	



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

A		—	Continuity
Connector	Terminal		
M41	23	Ground	No
	24		

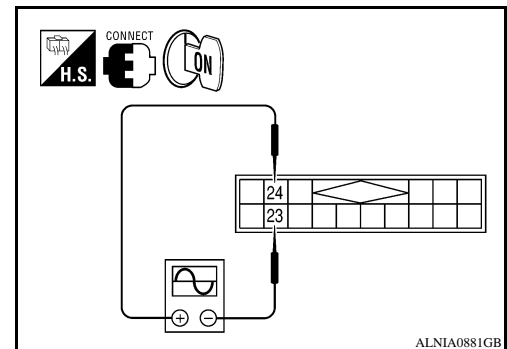
Are continuity results as specified?

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

2. CHECK RIGHT CHANNEL AUDIO SIGNAL

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

(+) Terminal		(-) Terminal	Reference signal
Connector	Terminal	Terminal	
M41	24	23	



Are voltage readings as specified?

- YES >> Replace audio unit. Refer to [AV-84. "Removal and Installation"](#).
 NO >> Replace satellite radio tuner. Refer to [AV-96. "Removal and Installation"](#).

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MICROPHONE SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:000000004057069

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

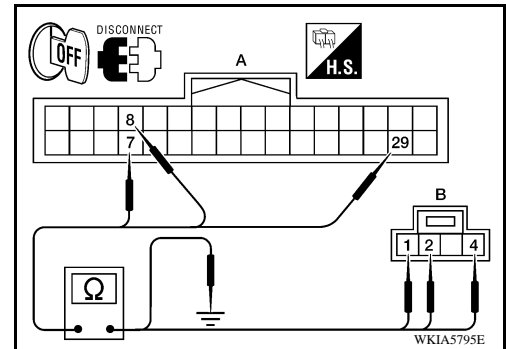
Diagnosis Procedure

INFOID:000000004057070

1. CHECK HARNESS BETWEEN BLUETOOTH CONTROL UNIT AND MICROPHONE

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

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



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

A		—	Continuity
Connector	Terminal		
B141	7	Ground	No
	8		
	29		

Are the continuity test results as specified?

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

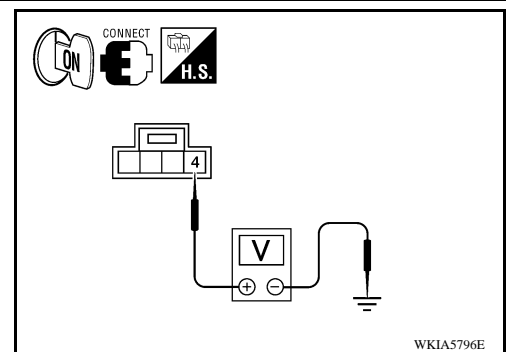
2. CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth control unit connector and microphone connector.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector 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 [AV-90](#), "Removal and Installation".



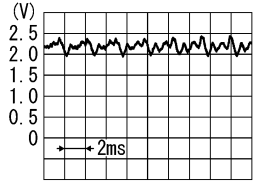
3. CHECK MICROPHONE SIGNAL

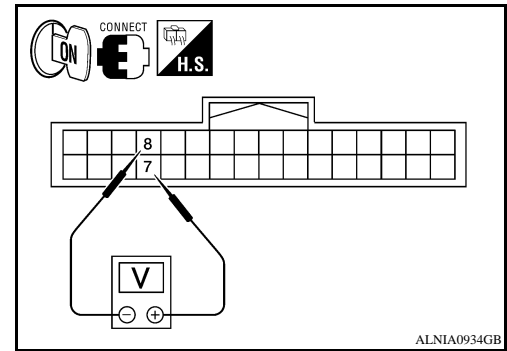
MICROPHONE SIGNAL CIRCUIT

[PREMIUM AUDIO (KING CAB)]

< COMPONENT DIAGNOSIS >

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

Connector	(+)	(-)	Reference signal
	Terminal	Terminal	
B141	7	8	<p>While speaking into MIC</p>  <p>PKIB5037J</p>



Are voltage readings as specified?

- YES >> Replace Bluetooth control unit. Refer to [AV-90, "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-92, "Removal and Installation"](#).

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AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

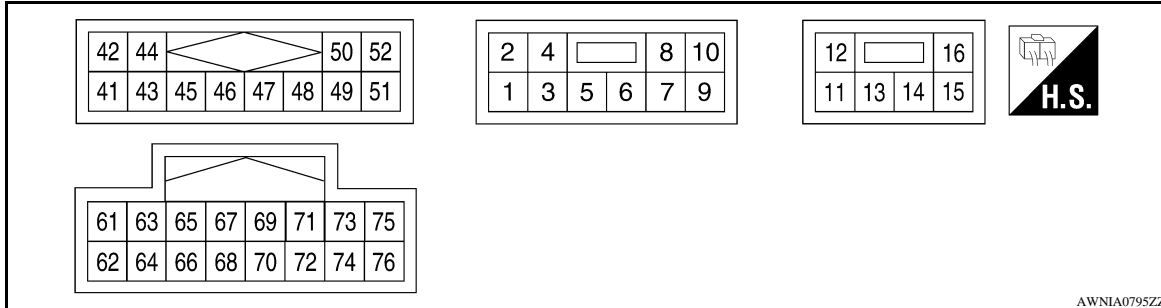
ECU DIAGNOSIS

AUDIO UNIT

Reference Value

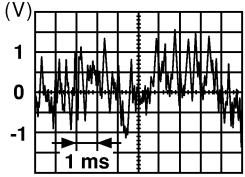
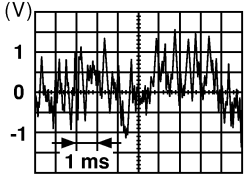
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TERMINAL LAYOUT



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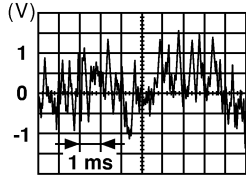
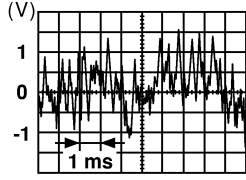
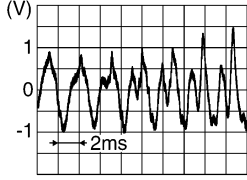
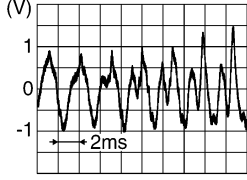
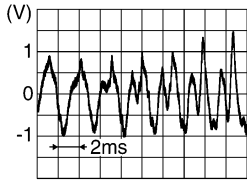
PHYSICAL VALUES

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

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
14 (G)	13 (B)	Audio sound signal rear LH	Output	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
16 (GR)	15 (O)	Audio sound signal rear RH	Output	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
42 (R)	41 (G)	Satellite radio au- dio signal LH	Input	Ignition switch ON	Satellite radio tuner operating	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
44 (B)	43 (W)	Satellite radio au- dio signal RH	Input	Ignition switch ON	Satellite radio tuner operating	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
45	-	Ground	-	-	-	0V
46	-	Data ground	-	-	-	0V
48 (O)	-	REQ (SAT→AV control unit)	Input	Ignition switch ON	-	—
49 (P)	-	RX (SAT→AV con- trol unit)	Input	Ignition switch ON	-	—
50 (L)	-	TX (AV control unit→SAT)	Input	Ignition switch ON	-	—
62 (W)	61 (B)	Telephone signal input	Input	Ignition switch ACC/ON	Bluetooth control unit sends audio signal	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
63 (R)	-	Mute control	-	-	-	-
64	-	Shield	-	-	-	0V

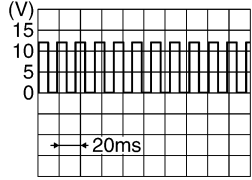
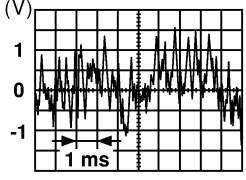
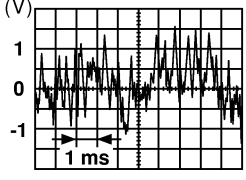
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AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
67	-	Shield	-	Ignition switch ON	-	0V
69 (V)	71 (O)	Steering switch sig- nal A	Input	Ignition switch ON	Pressing switch	0V
					Pressing switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V
70 (LG)	71 (O)	Steering switch sig- nal B	Input	Ignition switch ON	Pressing switch	0V
					Pressing switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5 V
73 (SB)	Ground	Vehicle speed sig- nal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	 <p style="text-align: right; font-size: small;">PKIA1935E</p>
74 (W)	Ground	Auxiliary audio in- put RH (+)	Input	Ignition switch ON	Receive audio sig- nal (AUX input)	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
75 (B)	Ground	Auxiliary audio in- put LH (+)	Input	Ignition switch ON	Receive audio sig- nal (AUX input)	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
76 (R)	-	Shield	-	-	-	0V

AUDIO UNIT

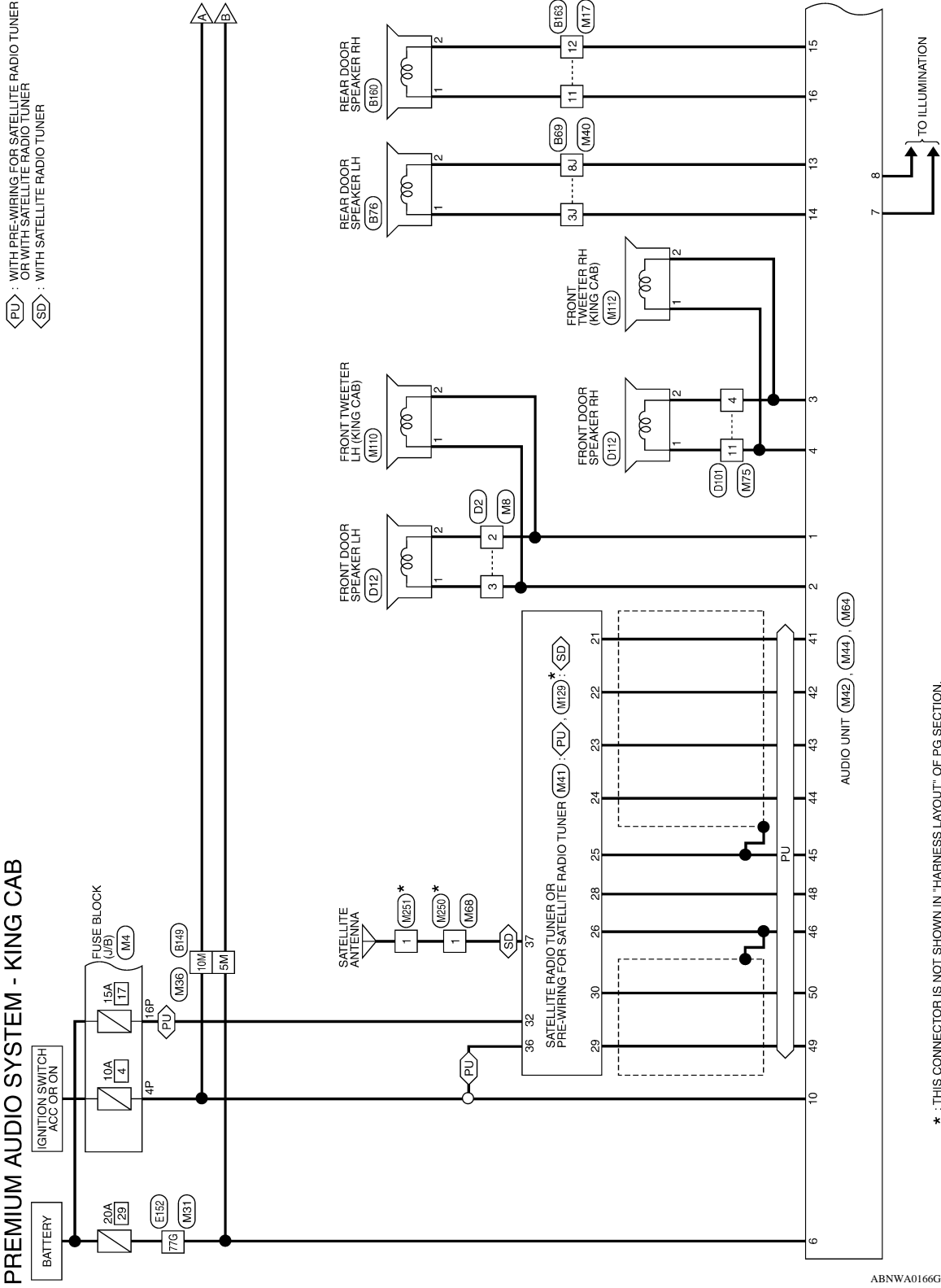
[PREMIUM AUDIO (KING CAB)]

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Wiring Diagram

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PREMIUM AUDIO SYSTEM - KING CAB



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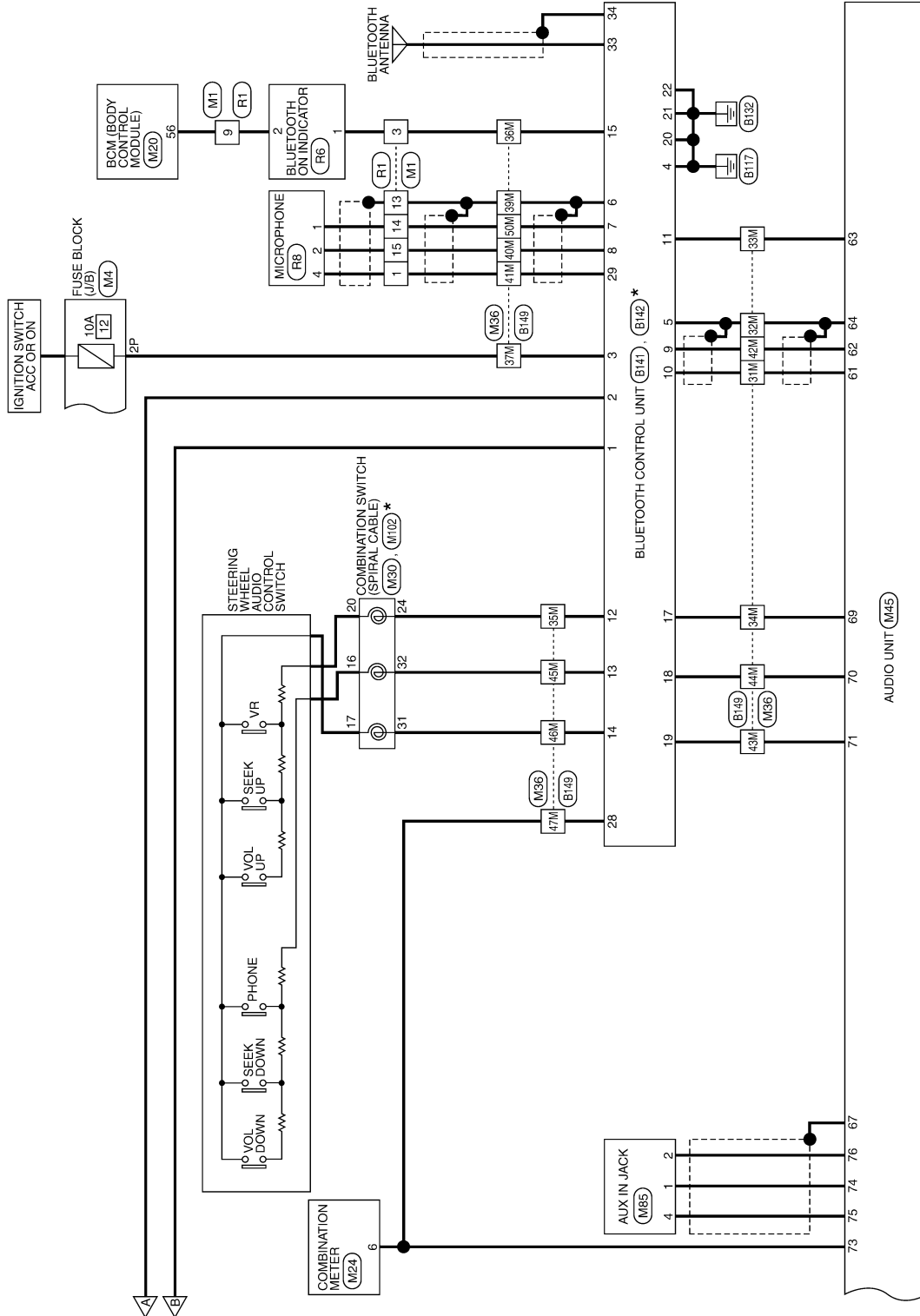
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[PREMIUM AUDIO (KING CAB)]

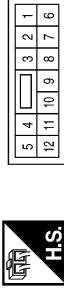


* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

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PREMIUM AUDIO SYSTEM CONNECTORS - KING CAB

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



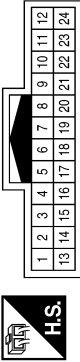
Terminal No.	Color of Wire	Signal Name
2	L	-
3	BR	-

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



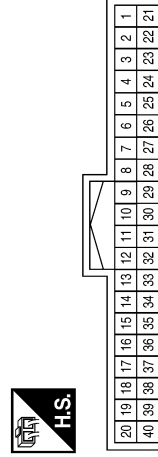
Terminal No.	Color of Wire	Signal Name
2P	W/G	-
4P	G/B	-
16P	R/B	-

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



Terminal No.	Color of Wire	Signal Name
1	Y	-
3	GR	-
9	R/Y	-
13	SHIELD	-
14	G	-
15	L	-

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



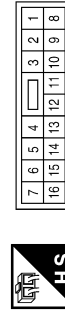
Terminal No.	Color of Wire	Signal Name
6	SB	SPEED OUT 8

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
56	V	BATTERY SAVER OUTPUT

Connector No.	M17
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
11	GR	-
12	O	-

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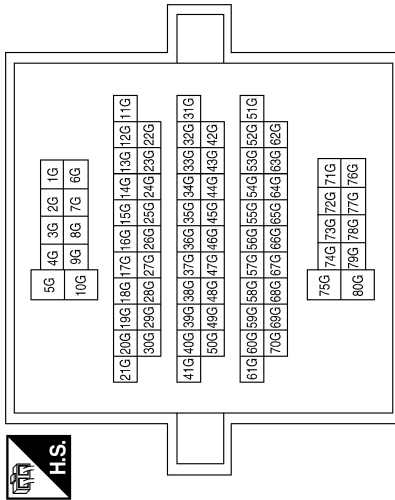
AUDIO UNIT

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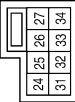
[PREMIUM AUDIO (KING CAB)]

Terminal No.	Color of Wire	Signal Name
77G	Y	-

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



Connector No.	M30
Connector Name	COMBINATION SWITCH
Connector Color	GRAY

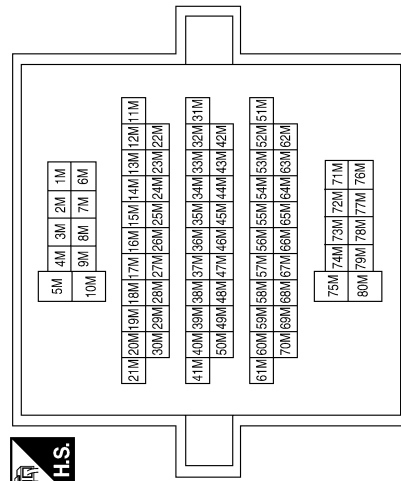


Terminal No.	Color of Wire	Signal Name
24	BR	STRG SW A (UP)
31	G	STRG SW GND
32	L	STRG SW B (DOWN)

Terminal No.	Color of Wire	Signal Name
44M	LG	-
45M	L	-
46M	G	-
47M	SB	-
50M	G	-

Terminal No.	Color of Wire	Signal Name
5M	R/B	-
10M	G/Y	-
31M	B	-
32M	SHIELD	-
33M	R	-
34M	V	-
35M	BR	-
36M	GR	-
37M	W/G	-
39M	SHIELD	-
40M	L	-
41M	Y	-
42M	W	-
43M	O	-

Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE



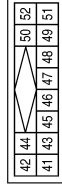
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AUDIO UNIT

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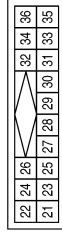
[PREMIUM AUDIO (KING CAB)]

Connector No.	M42
Connector Name	AUDIO UNIT
Connector Color	WHITE



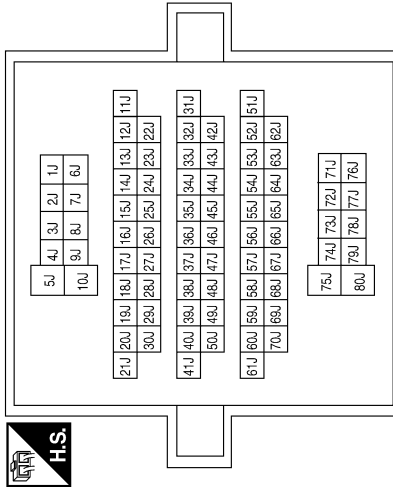
Terminal No.	Color of Wire	Signal Name
41	G	L (-)
42	R	L (+)
43	W	R (-)
44	B	R (+)
45	SHIELD	EARTH (SIG)
46	SHIELD	DATA EARTH
47	-	-
48	O	REQ
49	P	RX
50	L	TX
51	-	-
52	-	-

Connector No.	M41
Connector Name	SATELLITE RADIO TUNER OR PRE-WIRING FOR SATELLITE RADIO TUNER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	G	SAT LCH (-)
22	R	SAT LCH (+)
23	W	SAT RCH (-)
24	B	SAT RCH (+)
25	SHIELD	EARTH (SIG)
26	SHIELD	DATA EARTH
27	-	-
28	O	REQ1
29	P	TXD
30	L	RXD
31	-	-
32	R/B	BACKUP
33	-	-
34	-	-
35	-	-
36	G/B	ACC

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



Terminal No.	Color of Wire	Signal Name
3J	G	-
8J	B	-

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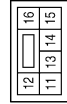
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AUDIO UNIT

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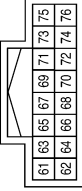
[PREMIUM AUDIO (KING CAB)]

Connector No.	M44
Connector Name	AUDIO UNIT (KING CAB)
Connector Color	WHITE



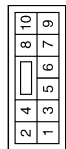
Terminal No.	Color of Wire	Signal Name
11	-	-
12	-	-
13	B	RRSP LH (-)
14	G	RRSP LH (+)
15	O	RRSP RH (-)
16	GR	RRSP RH (+)

Connector No.	M45
Connector Name	AUDIO UNIT (WITH PREMIUM AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
61	B	TEL SIG INPUT (-)
62	W	TEL SIG INPUT (+)
63	R	TEL SIG ON TRIG
64	SHIELD	TEL SIG GND
65	-	-
66	-	-
67	SHIELD	-
68	-	-
69	V	REMOTE A SWC
70	LG	REMOTE B SWC
71	O	REMOTE GND SWC
72	-	-
73	SB	SPEED SIGNAL
74	W	AUX R+
75	B	AUX L+
76	R	AUX GND

Connector No.	M64
Connector Name	AUDIO UNIT (WITH PREMIUM AUDIO SYSTEM KING CAB)
Connector Color	WHITE



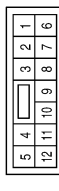
Terminal No.	Color of Wire	Signal Name
1	L	FRSP LH (-)
2	BR	FRSP LH (+)
3	R	FRSP RH (-)
4	LG	FRSP RH (+)
5	-	-
6	Y	BAT (BACK UP)
7	GR	ILL CONT
8	R	LIGHT SW
9	-	-
10	G/B	ACC

Connector No.	M68
Connector Name	WIRE TO WIRE
Connector Color	VIOLET



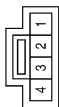
Terminal No.	Color of Wire	Signal Name
1	-	-

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



Terminal No.	Color of Wire	Signal Name
4	R	-
11	LG	-

Connector No.	M85
Connector Name	AUX IN JACK
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	W	R+
2	R	COMMON
4	B	L+

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AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

Connector No.	M112
Connector Name	FRONT TWEETER RH (KING CAB)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	W	-
2	L	-

Connector No.	M110
Connector Name	FRONT TWEETER LH (KING CAB)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	G	-
2	L	-

Connector No.	M102
Connector Name	COMBINATION SWITCH
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
16	L	-
17	BR	-
20	W	-

Connector No.	M251
Connector Name	SATELLITE ANTENNA
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	-	-

Connector No.	M250
Connector Name	WIRE TO WIRE
Connector Color	VIOLET



Terminal No.	Color of Wire	Signal Name
1	-	-

Connector No.	M129
Connector Name	SATELLITE RADIO TUNER (WITH SATELLITE RADIO TUNER)
Connector Color	VIOLET



Terminal No.	Color of Wire	Signal Name
37	-	-

ABNIA0519GB

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AUDIO UNIT

< ECU DIAGNOSIS >

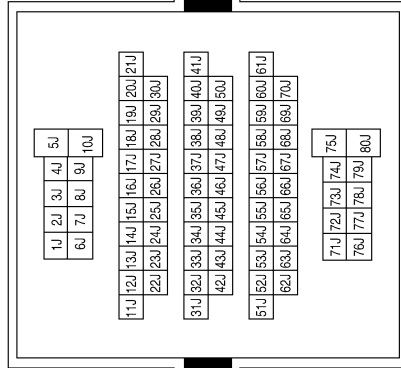
[PREMIUM AUDIO (KING CAB)]

Connector No.	B76
Connector Name	REAR DOOR SPEAKER LH (KING CAB)
Connector Color	WHITE



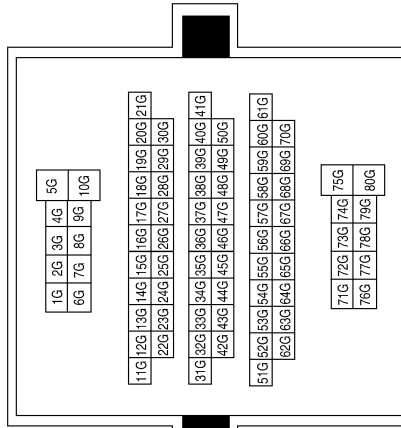
Terminal No.	Color of Wire	Signal Name
1	G	-
2	B	-

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



Terminal No.	Color of Wire	Signal Name
3J	G	-
8J	B	-

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



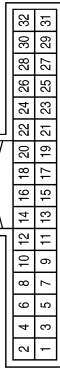
Terminal No.	Color of Wire	Signal Name
77G	Y	-

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

Terminal No.	Color of Wire	Signal Name
6	SHIELD	MIC SHIELD
7	G	MIC IN+
8	L	MIC IN-
9	W	AUDIO OUT+
10	B	AUDIO OUT-
11	R	MUTE CONTROL
12	BR	LADDER IN 1
13	L	LADDER IN 2
14	G	LADDER IN GND
15	GR	LED IND 1
16	-	-
17	V	LADDER OUT 1
18	LG	LADDER OUT 2
19	O	LADDER OUT GND
20	B	CONT 1

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



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

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



Terminal No.	Color of Wire	Signal Name
33	B	BT ANTENNA
34	SHIELD	BT ANTENNA SHIELD

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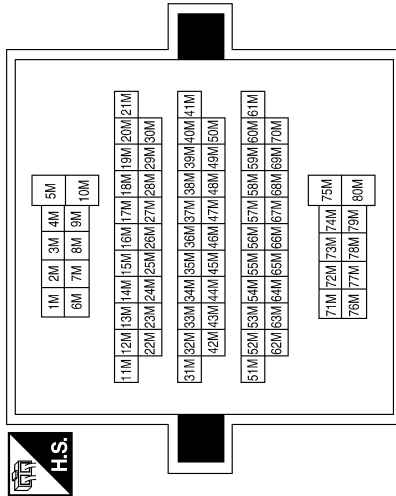
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AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

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



Terminal No.	Color of Wire	Signal Name
5M	R/B	-
10M	G/Y	-
31M	B	-
32M	SHIELD	-
33M	R	-
34M	V	-
35M	BR	-
36M	GR	-
37M	W/G	-
39M	SHIELD	-
40M	L	-
41M	Y	-

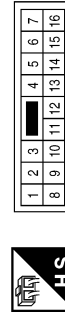
Terminal No.	Color of Wire	Signal Name
42M	W	-
43M	O	-
44M	LG	-
45M	L	-
46M	G	-
47M	SB	-
50M	G	-

Connector No.	B160
Connector Name	REAR DOOR SPEAKER RH (KING CAB)
Connector Color	WHITE



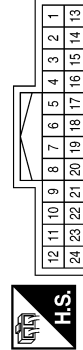
Terminal No.	Color of Wire	Signal Name
1	GR	-
2	O	-

Connector No.	B163
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
11	GR	-
12	O	-

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	-
3	GR	-
9	R/Y	-
13	SHIELD	-
14	G	-
15	L	-

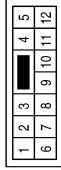
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AUDIO UNIT

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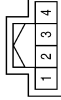
[PREMIUM AUDIO (KING CAB)]

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



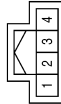
Terminal No.	Color of Wire	Signal Name
2	L/R	-
3	L/W	-

Connector No.	R8
Connector Name	MICROPHONE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G	MIC OUT +
2	L	MIC OUT -
4	Y	MIC POWER

Connector No.	R6
Connector Name	BLUETOOTH ON INDICATOR
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	GR	LED 1 (AMBER)
2	R/Y	LED POWER

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



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

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



Terminal No.	Color of Wire	Signal Name
4	L/B	-
11	W/B	-

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



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

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SATELLITE RADIO TUNER

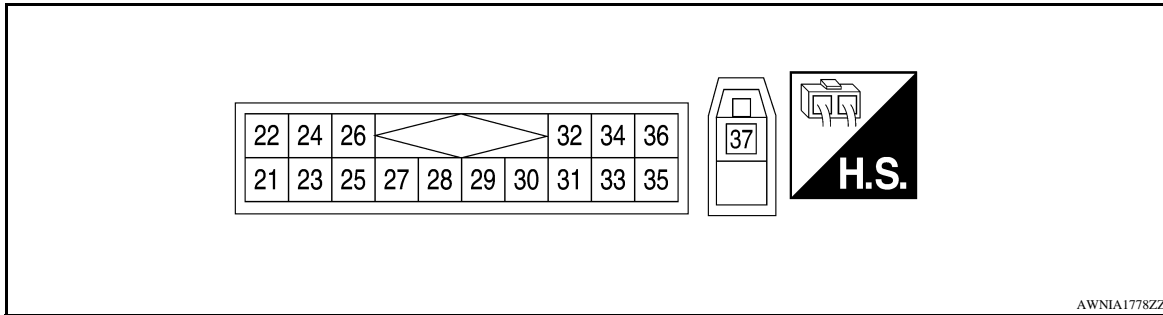
< ECU DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

SATELLITE RADIO TUNER

Reference Value

INFOID:000000004057073



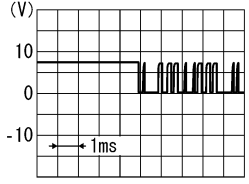
PHYSICAL VALUES

Terminal		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output			
22 (R)	21 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected	<p>SKIB3609E</p>
24 (B)	23 (W)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	<p>SKIB3609E</p>
25	—	Shield	—	—	—	—
26	—	Shield	—	—	—	—
28 (O)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	<p>SKIA9299J</p>
29 (P)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	<p>SKIA9300J</p>

SATELLITE RADIO TUNER

< ECU DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

Terminal		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output			
30 (L)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	
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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BLUETOOTH CONTROL UNIT

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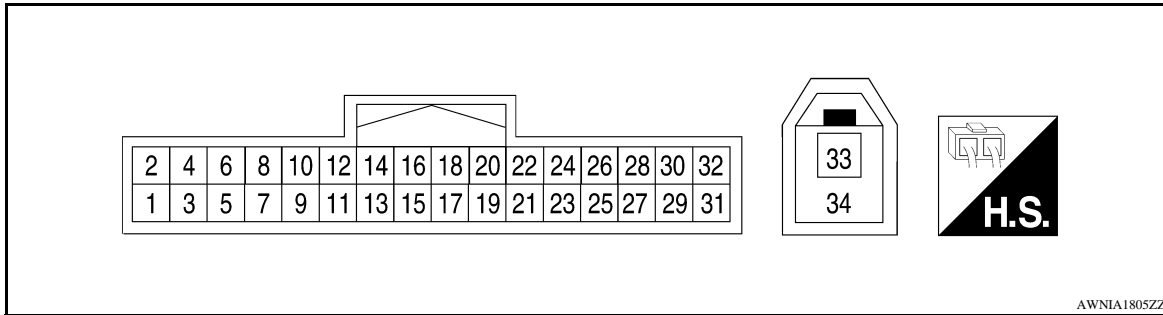
[PREMIUM AUDIO (KING CAB)]

BLUETOOTH CONTROL UNIT

Reference Value

INFOID:000000004057074

TERMINAL LAYOUT









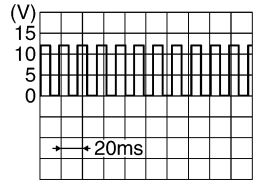
PHYSICAL VALUES

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/output			
1 (R/B)	Ground	Battery power	Input	-	-	Battery voltage
2 (G/Y)	Ground	ACC power	Input	Ignition switch ACC/ON	-	Battery voltage
3 (W/G)	Ground	IGN power	Input	Ignition switch ON/START	-	Battery voltage
4 (B)	Ground	Ground	-	-	-	0V
5	-	Shield	-	-	-	-
6	-	Shield	-	-	-	-
7 (G)	8 (L)	MIC in signal	Input	-	-	-
9 (W)	10 (B)	Audio out	Output	Ignition switch ACC/ON	Bluetooth control unit sends audio signal	<p style="text-align: right; font-size: small;">SKIB3609E</p>
11 (R)	-	Mute control	-	-	-	-
12 (BR)	14 (G)	Steering switch signal A	Input	Ignition switch ON	Pressing switch	0V
					Pressing switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V

BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

Terminal (wire color)		Description		Condition	Reference value (Approx.)	
+	-	Signal name	Input/ output			
13 (L)	14 (G)	Steering switch signal B	Input	Ignition switch ON	Pressing  switch	0V
					Pressing  switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5 V
15 (GR)	Ground	LED power	Output	Ignition switch ON	-	Battery voltage
17 (V)	19 (O)	Steering switch signal A	Output	Ignition switch ON	Pressing  switch	0V
					Pressing  switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V
18 (LG)	19 (O)	Steering switch signal B	Output	Ignition switch ON	Pressing  switch	0V
					Pressing  switch	0.75V
					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 signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	 <p style="text-align: right; font-size: small;">PKIA1935E</p>
29 (Y)	Ground	Microphone power	Output	Ignition switch ON	-	5V
33 (B)	-	Bluetooth antenna	-	-	-	-
34	-	Shield	-	-	-	-

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AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:000000004057075

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none">Audio unit power circuitAudio unit	<ul style="list-style-type: none">AV-43AV-41
Steering wheel audio control switch does not operate	<ul style="list-style-type: none">Steering wheel audio control switchAudio unit	<ul style="list-style-type: none">AV-53AV-41
All speakers do not sound	<ul style="list-style-type: none">Audio unitAudio unit power circuit	<ul style="list-style-type: none">AV-41AV-43
One or several speakers do not sound	<ul style="list-style-type: none">Front door speakerFront tweeterRear door speaker	<ul style="list-style-type: none">AV-47AV-49AV-51

CD

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

SATELLITE RADIO

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none">Satellite radio tuner power or ground circuitSatellite radio tuner communication circuitSatellite radio tuner	<ul style="list-style-type: none">AV-43AV-55AV-58
Right or left channel does not sound	<ul style="list-style-type: none">Satellite radio tuner right channel audio signal circuitSatellite radio tuner left channel audio signal circuitSatellite radio tuner	<ul style="list-style-type: none">AV-58

HANDS-FREE PHONE

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none">Bluetooth control unit power circuitBluetooth control unit	<ul style="list-style-type: none">AV-44AV-42
Steering wheel audio switch does not operate	<ul style="list-style-type: none">Steering wheel audio control switchBluetooth control unit	<ul style="list-style-type: none">AV-53AV-42
Voice activated control does not activate	<ul style="list-style-type: none">MicrophoneSteering wheel audio control switchBluetooth control unit	<ul style="list-style-type: none">AV-60AV-53AV-42

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM AUDIO (KING CAB)]

NORMAL OPERATING CONDITION

Description

INFOID:000000004057076

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

NOISE

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

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

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

NOTE:

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

Type of Noise and Possible Cause

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

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PRECAUTION

PRECAUTIONS

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

INFOID:000000004057077

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 sections of this Service Manual.

WARNING:

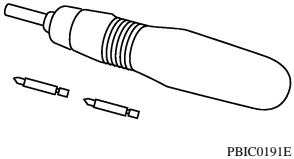
- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation 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.

PREPARATION

PREPARATION

Commercial Service Tools

INFOID:000000004057078

Tool name	Description
<p>Power tool</p>  <p>PBIC0191E</p>	<p>Loosening bolts and nuts</p>

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ON-VEHICLE REPAIR

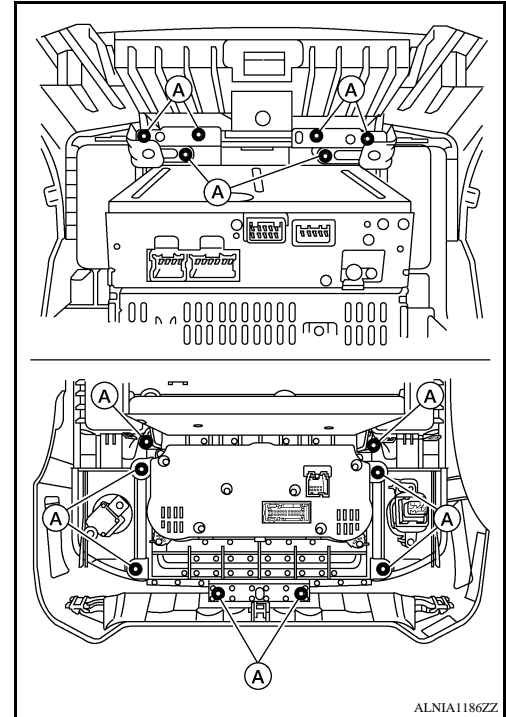
AUDIO UNIT

Removal and Installation

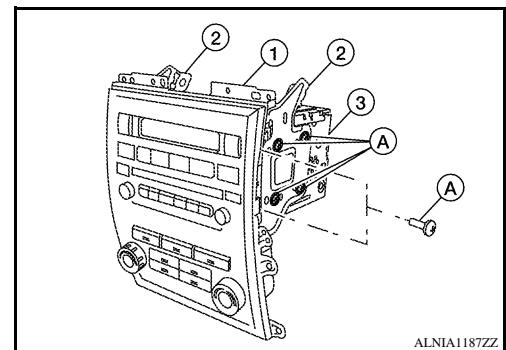
INFOID:000000004459446

REMOVAL

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



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



INSTALLATION

Installation is in the reverse order of removal.

FRONT TWEETER

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (KING CAB)]

FRONT TWEETER

Removal and Installation

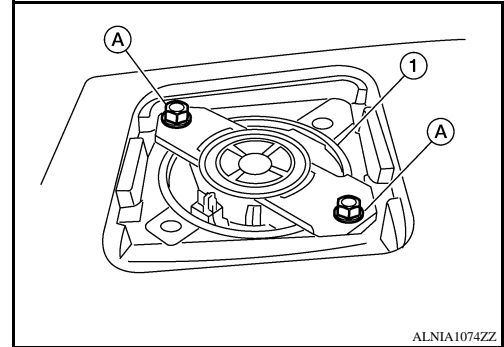
INFOID:000000004057080

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

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (KING CAB)]

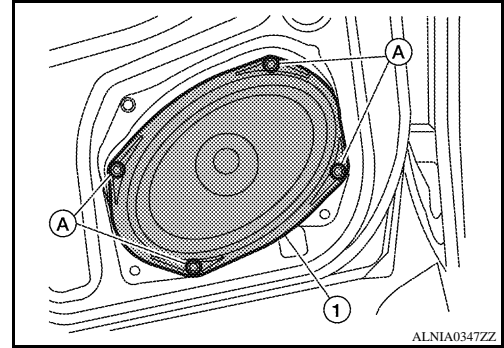
FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000004057081

REMOVAL

1. Remove the front door finisher. Refer to [INT-13. "Removal and Installation"](#).
2. Remove the front door speaker screws (A).
3. Pull out the front door speaker (1), and disconnect the front door speaker connector and remove the front door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (KING CAB)]

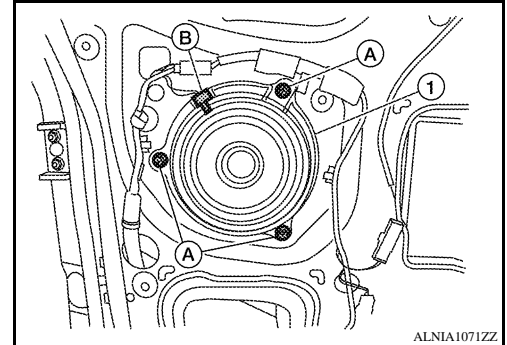
REAR DOOR SPEAKER

Removal and Installation

INFOID:000000004057082

REMOVAL

1. Remove the rear door finisher. Refer to [INT-13, "Removal and Installation"](#).
2. Remove the rear door speaker screws (A).
3. Remove the rear door speaker (1) and disconnect rear door speaker connector (B).



INSTALLATION

Installation is in the reverse order of removal.

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STEERING SWITCH

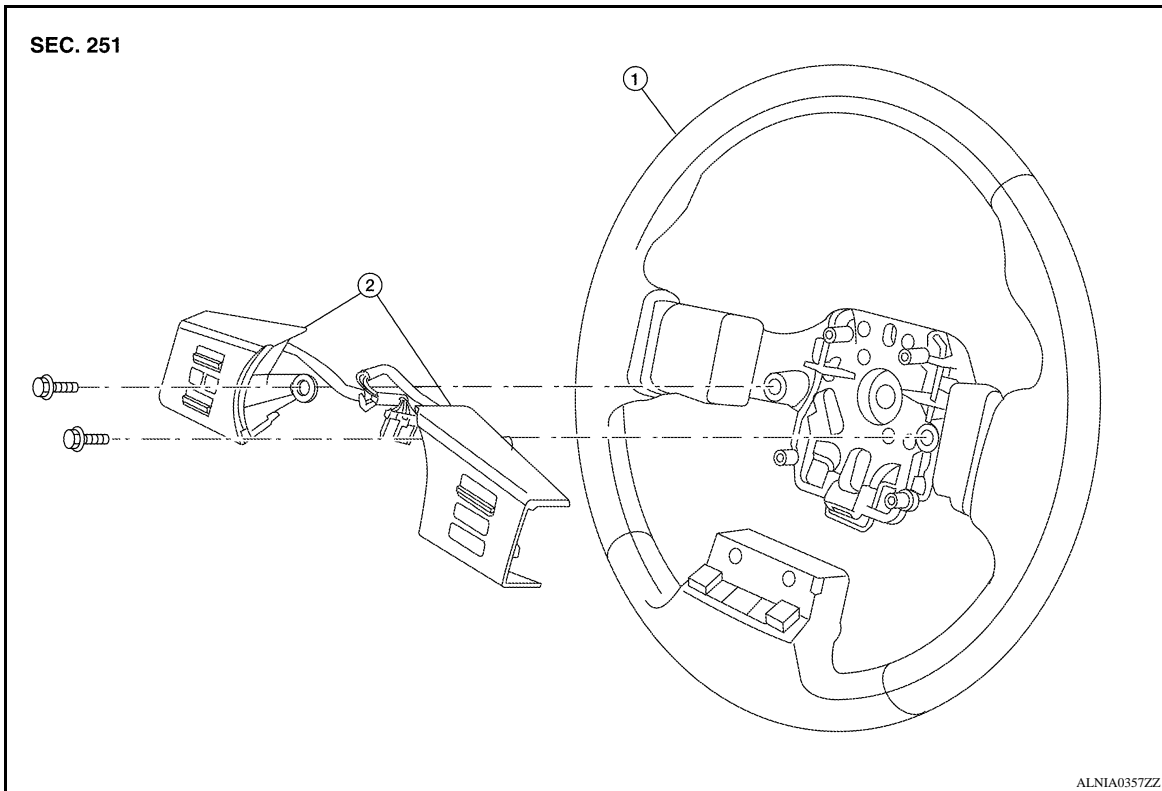
< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (KING CAB)]

STEERING SWITCH

Removal and Installation

INFOID:000000004057083



1. Steering wheel

2. Steering wheel audio control switches

REMOVAL

1. Remove the driver air bag module. Refer to [SR-4, "Removal and Installation"](#).
2. Remove the steering wheel. Refer to [ST-8, "On-Vehicle Inspection and Service"](#).
3. Remove the steering wheel rear cover.
4. Remove the steering wheel audio control switch assembly screws.
5. Disconnect the steering wheel audio control switches connector and remove the steering wheel audio control switches.

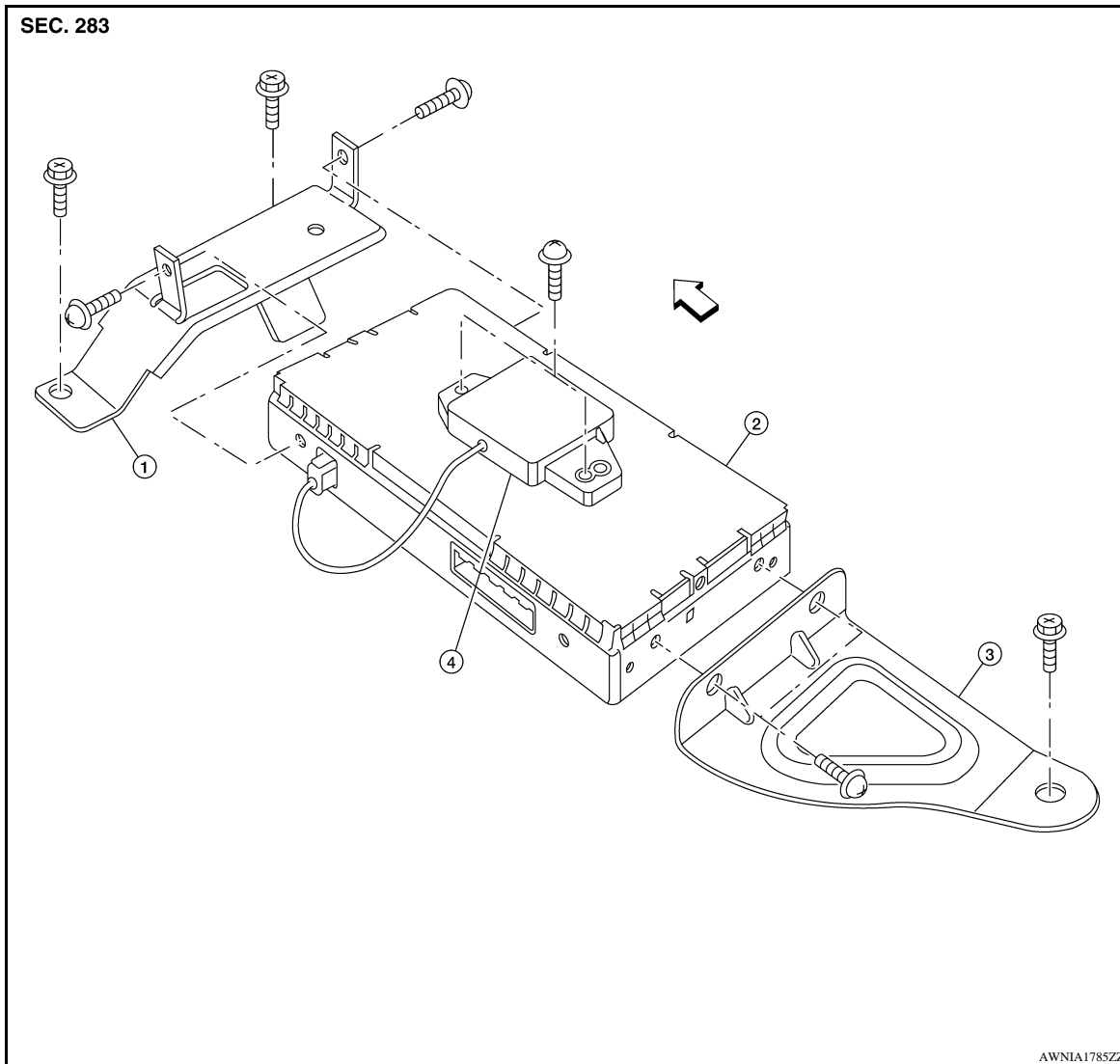
INSTALLATION

Installation is in the reverse order of removal.

TEL ANTENNA

Removal and Installation

INFOID:000000004432030



- | | | |
|---|---------------------------|--|
| 1. Bluetooth control unit front bracket | 2. Bluetooth control unit | 3. Bluetooth control unit rear bracket |
| 4. Bluetooth antenna | ← Vehicle front | |

REMOVAL

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

INSTALLATION

Installation is in the reverse order of removal.

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BLUETOOTH CONTROL UNIT

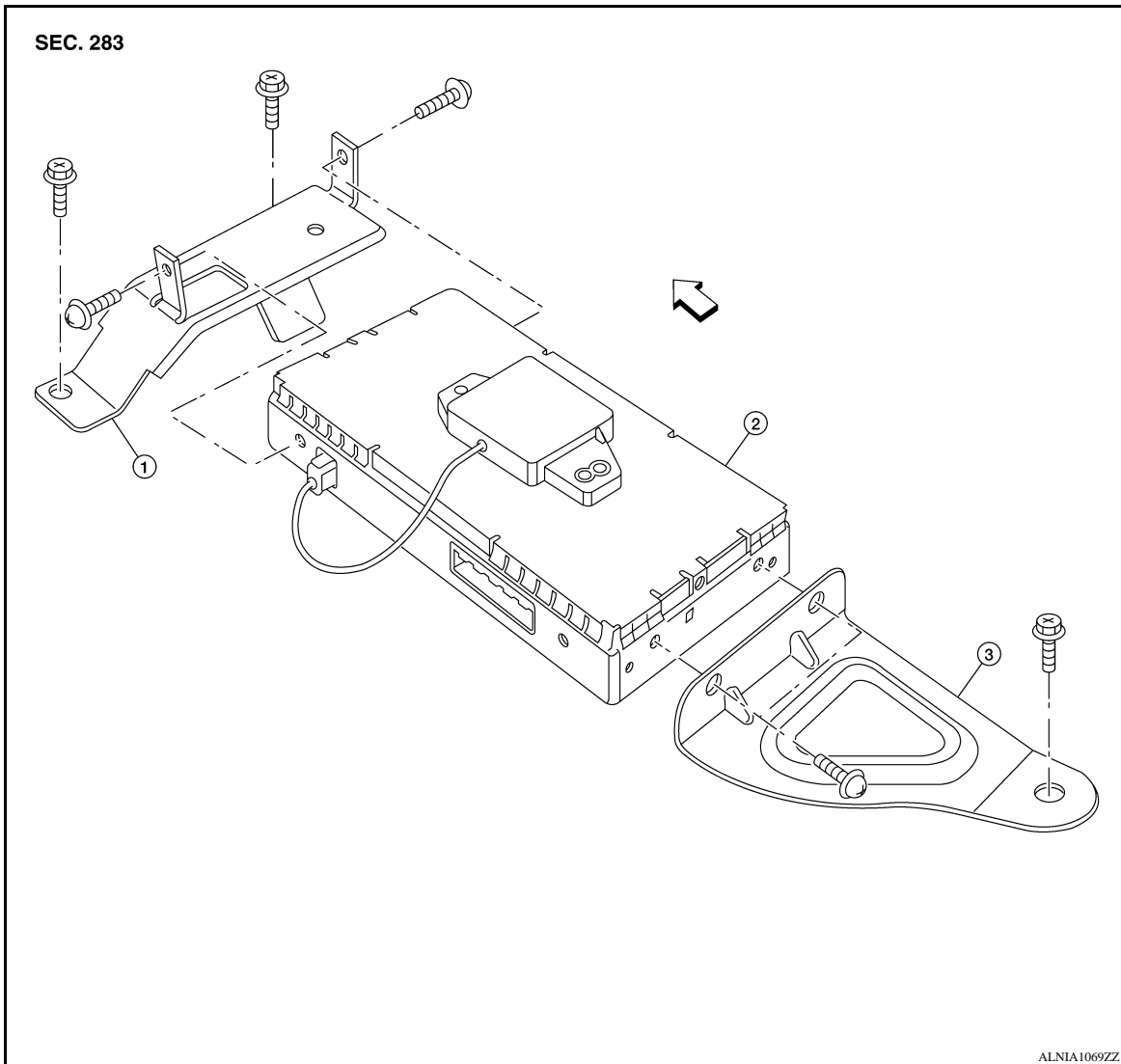
< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (KING CAB)]

BLUETOOTH CONTROL UNIT

Removal and Installation

INFOID:000000004057084

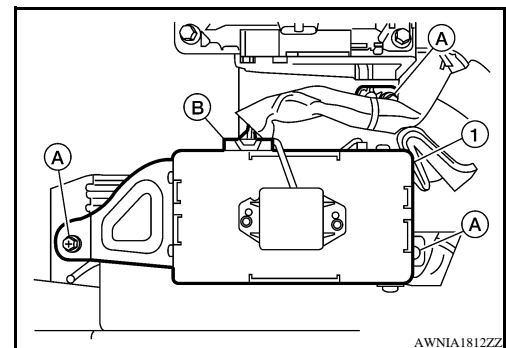


1. Bluetooth control unit front bracket 2. Bluetooth control unit/antenna 3. Bluetooth control unit rear bracket

← Vehicle front

REMOVAL

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



INSTALLATION

BLUETOOTH CONTROL UNIT

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (KING CAB)]

Installation is in the reverse order of removal.

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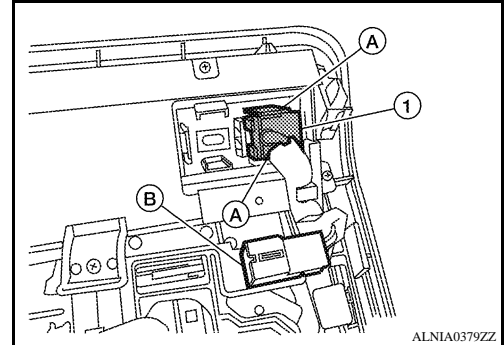
MICROPHONE

Removal and Installation

INFOID:000000004057085

REMOVAL

1. Remove the front roof console finisher. Refer to [INT-23. "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

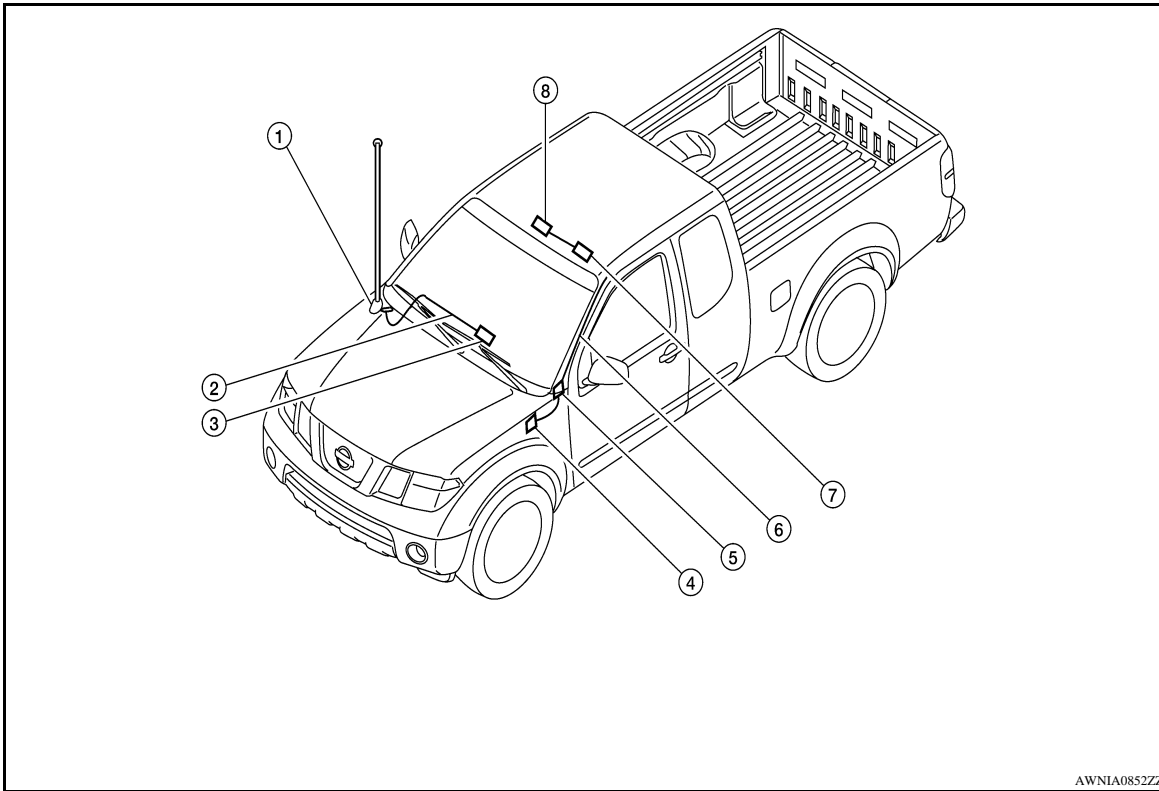
< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (KING CAB)]

AUDIO ANTENNA

Location of Antenna

INFOID:000000004057086



AWNLA0852ZZ

- | | | |
|------------------------------------|--------------------------------|----------------------------------|
| 1. Audio antenna | 2. Antenna feeder | 3. Audio unit M42, M44, M45, M64 |
| 4. Satellite radio tuner M41, M129 | 5. Harness connector M250, M68 | 6. Satellite antenna feeder |
| 7. Harness connector M251 | 8. Satellite antenna | |

Removal and Installation

INFOID:000000004057087

REMOVAL

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

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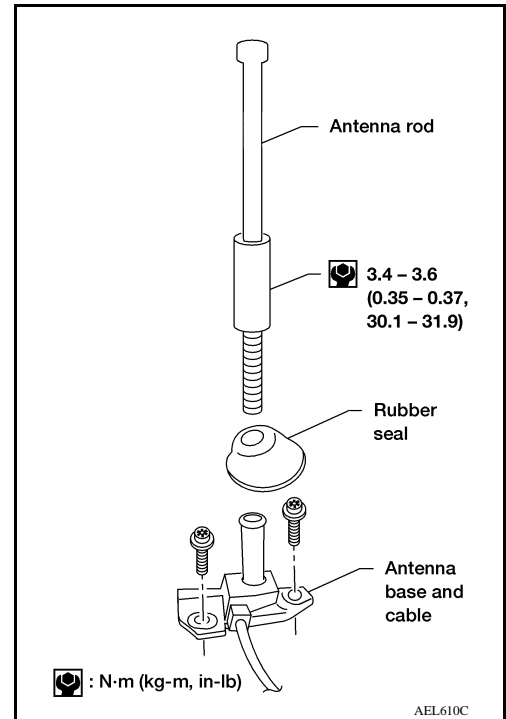
AV

AUDIO ANTENNA

[PREMIUM AUDIO (KING CAB)]

< ON-VEHICLE REPAIR >

3. Remove antenna rod.
4. Remove rubber seal.
5. Remove cowl top. Refer to [EXT-19. "Removal and Installation"](#).
6. Remove fender protector. Refer to [EXT-22. "Removal and Installation of Front Fender Protector"](#).
7. Remove antenna base bolts.
8. Remove antenna base and cable.



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

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

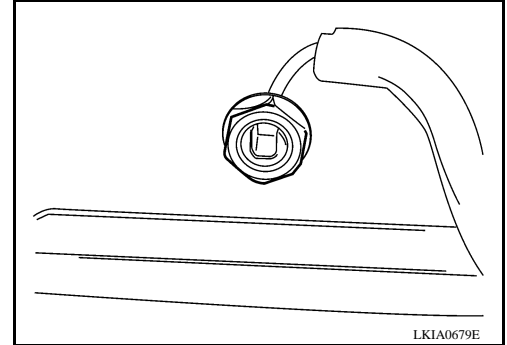
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:000000004057088

REMOVAL

1. Remove the roof console. Refer to [INT-23. "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

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (KING CAB)]

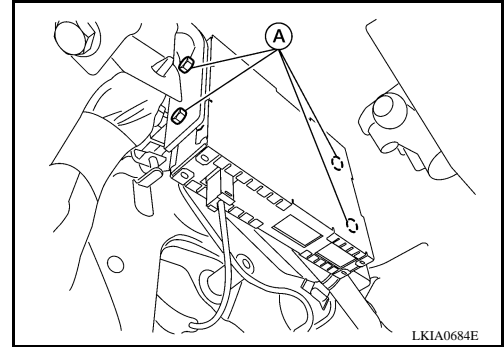
SATELLITE RADIO TUNER

Removal and Installation

INFOID:000000004057089

REMOVAL

1. Disconnect the battery negative terminal.
2. Remove the lower instrument panel. Refer to [IP-11, "Removal and Installation"](#).
3. Disconnect the satellite radio tuner connectors.
4. Remove satellite radio tuner screws (A), and remove satellite radio tuner.



INSTALLATION

Installation is in the reverse order of removal.

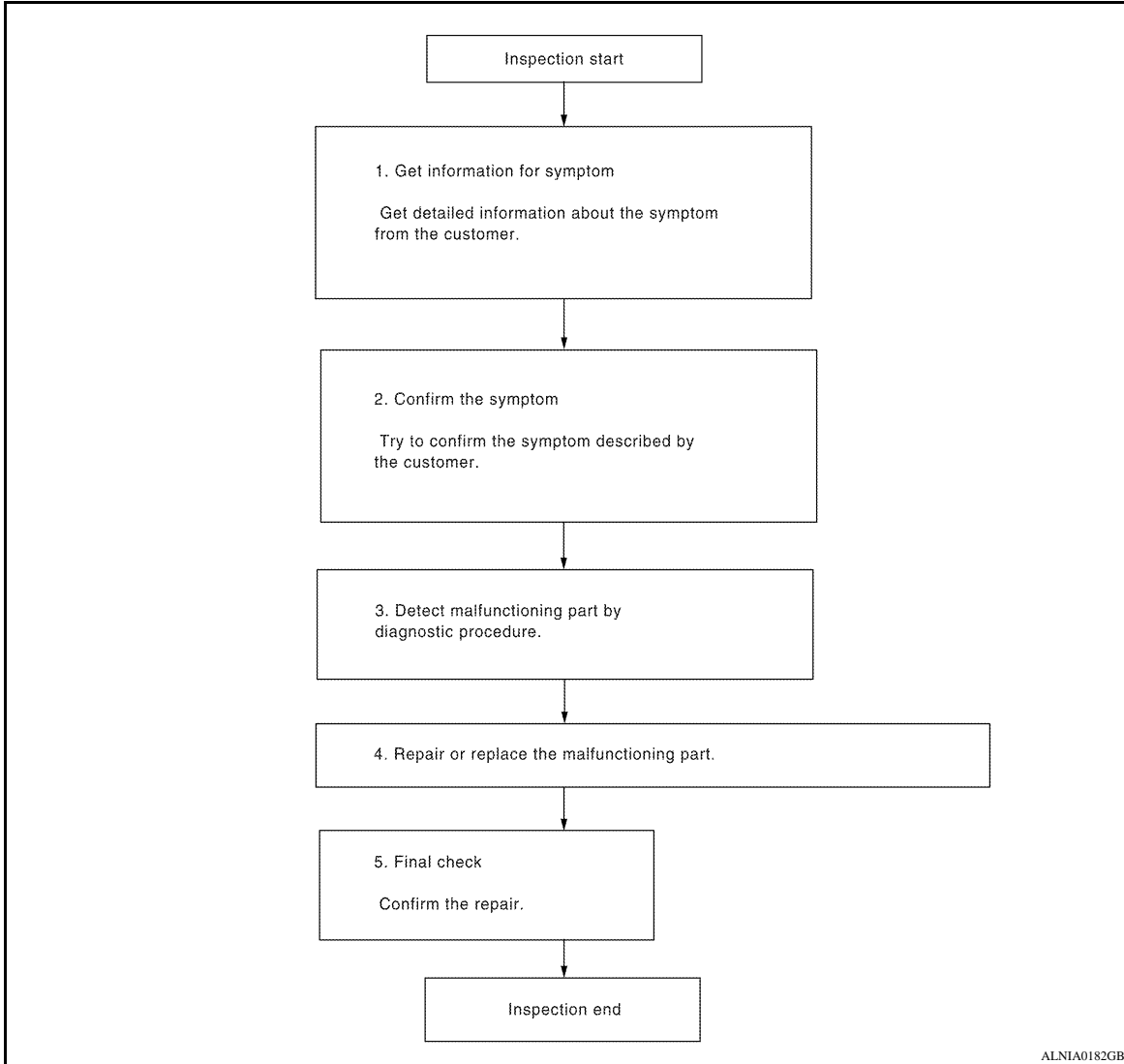
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000004057090

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?

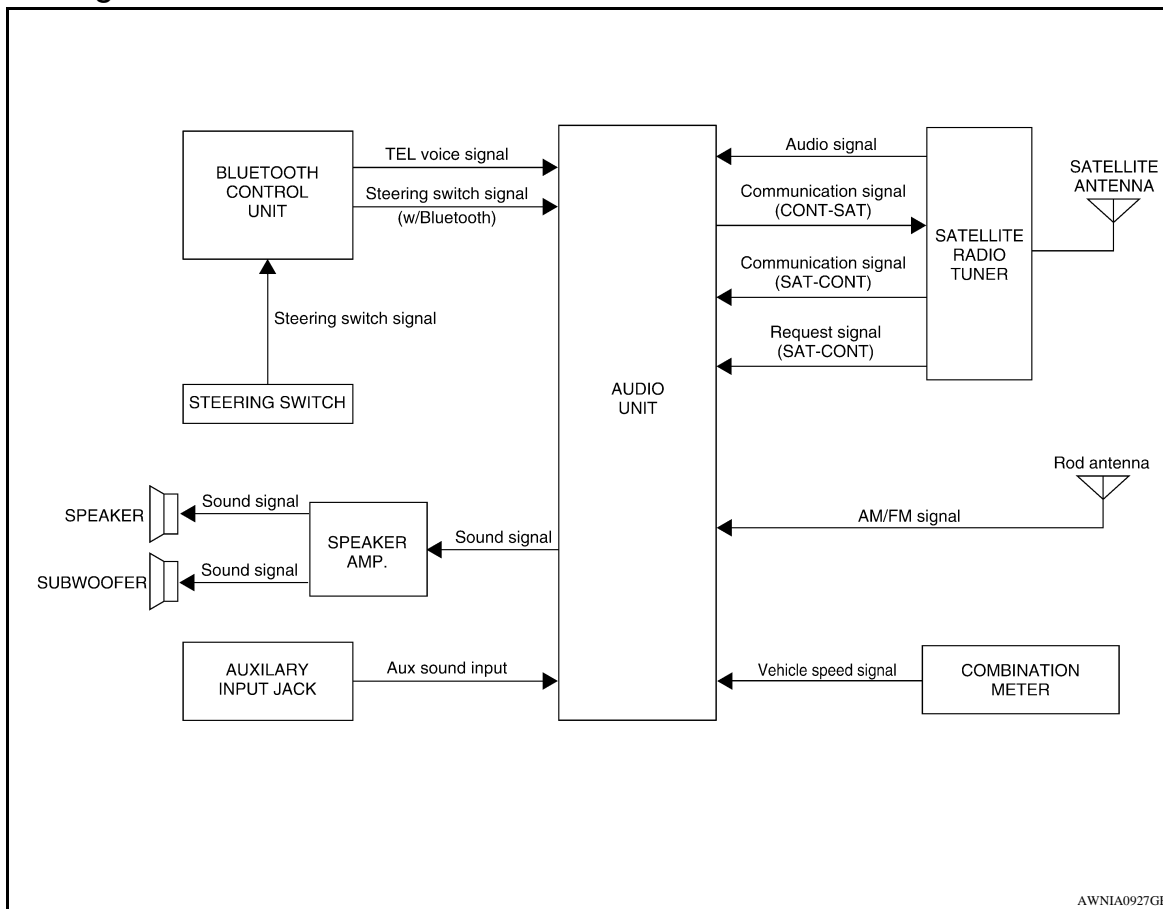
YES >> Inspection End.

NO >> GO TO 2

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram



System Description

INFOID:000000004057092

AUDIO SYSTEM

The audio system consists of the following components

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

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

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

SATELLITE RADIO SYSTEM

The satellite radio system consists of the following components

- Satellite antenna
- Satellite radio tuner

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

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

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AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

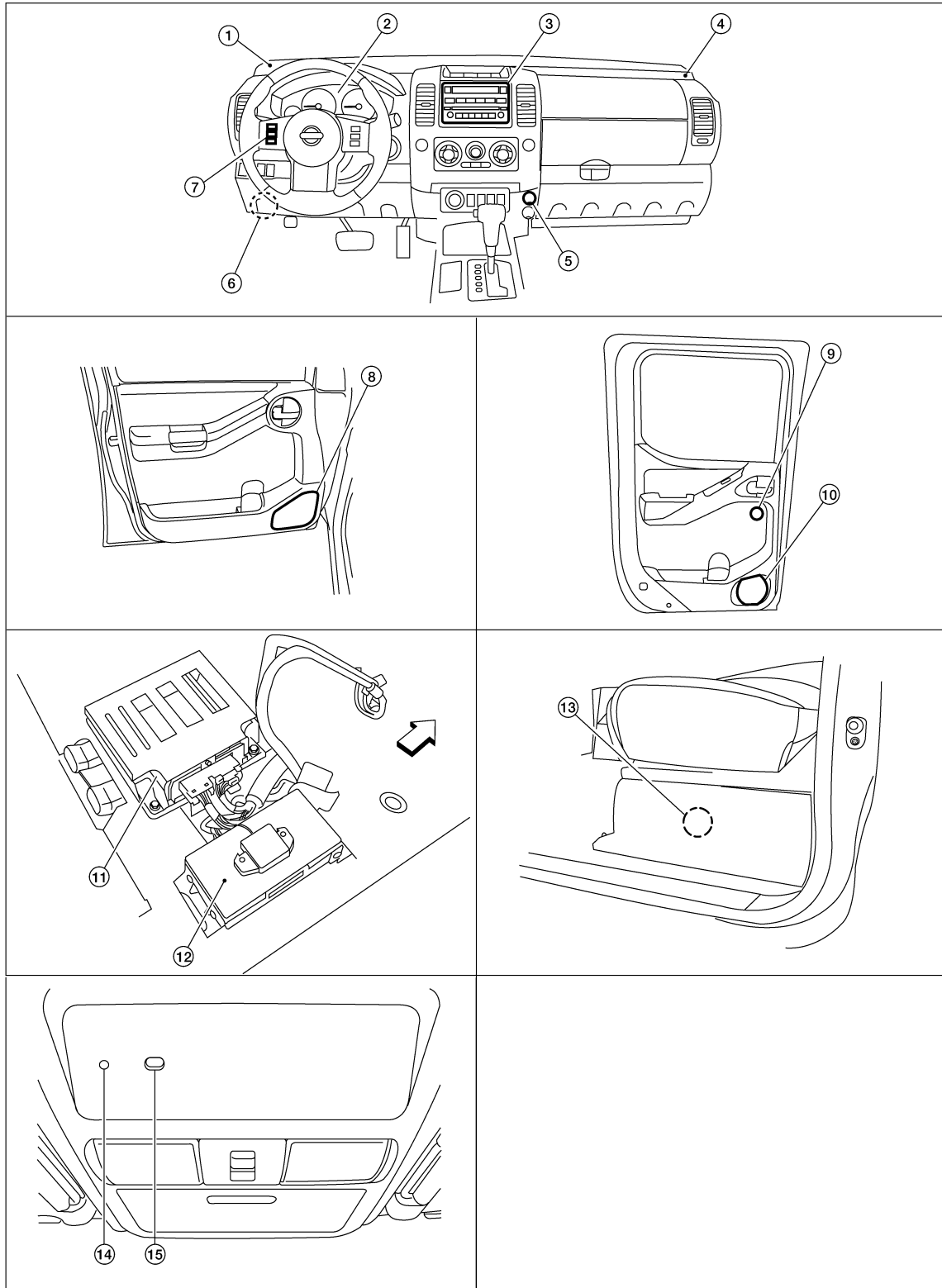
[PREMIUM AUDIO (CREW CAB)]

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:000000004057093



AWNIA0847ZZ

AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

↶:FRONT

- | | | |
|--|--|---------------------------------------|
| 1. Front tweeter LH M109 | 2. Combination meter M24 | 3. Audio unit M42, M45, M65, M66 |
| 4. Aux jack M85 | 5. Front tweeter RH M111 | 6. Satellite radio tuner M41, M129 |
| 7. Steering wheel audio control switches | 8. Front door speaker
LH D12
RH D112 | 9. Rear tweeter
LH D208
RH D308 |
| 10. Rear speaker
LH D207
RH D307 | 11. Audio amp B158, B159 (view under passenger front seat) | 12. Bluetooth control unit B141, B142 |
| 13. Subwoofer B72 (under driver's seat) | 14. Microphone R8 | 15. Bluetooth ON indicator R6 |

Component Description

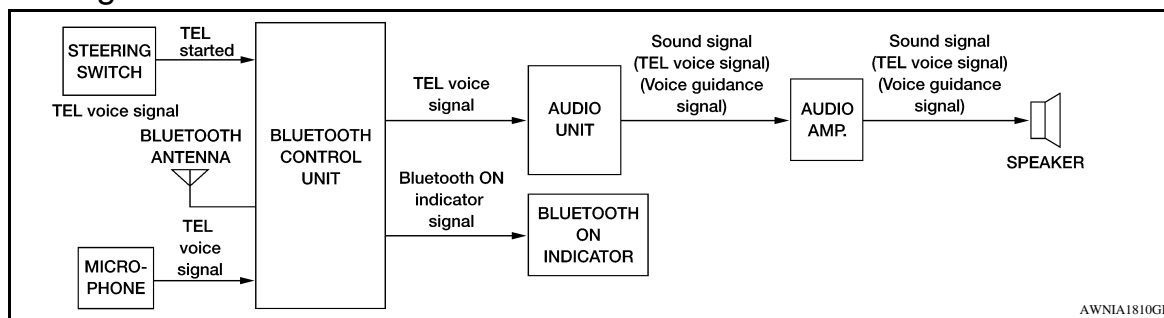
INFOID:000000004057094

Part name	Description
Audio unit	Controls audio system and satellite radio system functions
Audio amp.	Receives power (amp ON) and audio signals from Audio unit and outputs audio signals to each speaker.
Steering wheel audio control switches	<ul style="list-style-type: none"> Start a voice recognition session Answer and end telephone calls Adjust the volume level
Front door speakers	<ul style="list-style-type: none"> Outputs audio signal from audio amp. Outputs high, mid and low range sounds
Front tweeters	<ul style="list-style-type: none"> Outputs audio signal from audio amp. Outputs high range sounds
Rear door speakers	<ul style="list-style-type: none"> Outputs audio signal from audio amp. Outputs high, mid and low range sounds
Rear door tweeters	<ul style="list-style-type: none"> Outputs audio signal from audio amp. Outputs high range sounds
Subwoofer	<ul style="list-style-type: none"> Outputs audio signal from audio amp. Outputs low range sounds
Satellite radio tuner	<ul style="list-style-type: none"> Receives radio signals from satellite antenna Sends audio signals to Audio unit
Satellite antenna	Audio signal (satellite radio) is received and output to Audio unit.

AV

HANDS-FREE PHONE SYSTEM

System Diagram



System Description

INFOID:000000004057096

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

NOTE:

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

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

BLUETOOTH CONTROL UNIT

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

STEERING WHEEL AUDIO CONTROL SWITCHES

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

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

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

MICROPHONE

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

AUDIO UNIT

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

BLUETOOTH ON INDICATOR

The Bluetooth ON indicator is located in the overhead console. The indicator will flash during power up while the Bluetooth control unit is initializing. This process may take up to 10 seconds. If a phone is present in the vehicle and paired with the Bluetooth control unit, the indicator will remain on to indicate that the system is ready for voice commands. The indicator flashes during self-diagnosis.

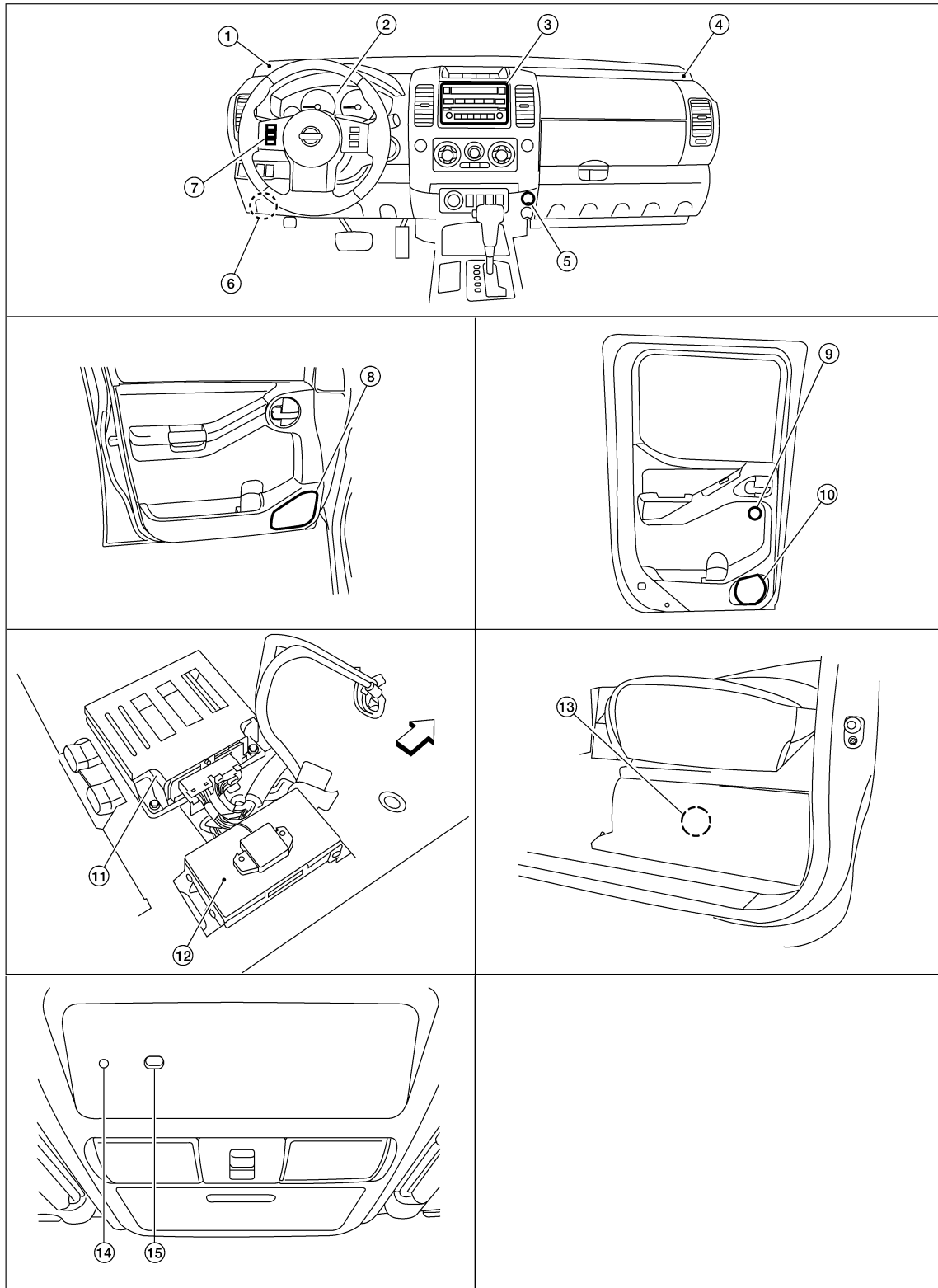
HANDS-FREE PHONE SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

Component Parts Location

INFOID:000000004449397



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←:FRONT

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| 1. Front tweeter LH M109 | 2. Combination meter M24 | 3. Audio unit M42, M45, M65, M66 |
| 4. Aux jack M85 | 5. Front tweeter RH M111 | 6. Satellite radio tuner M41, M129 |
| 7. Steering wheel audio control switches | 8. Front door speaker LH D12, RH D112 | 9. Rear tweeter LH D208, RH D308 |

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HANDS-FREE PHONE SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

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|---|---|---------------------------------------|
| 10. Rear speaker
LH D207
RH D307 | 11. Audio amp B158, B159 (view under
passenger front seat) | 12. Bluetooth control unit B141, B142 |
| 13. Subwoofer B72 (under driver's seat) | 14. Microphone R8 | 15. Bluetooth ON indicator R6 |

Component Description

INFOID:000000004057098

Part name	Description
Audio unit	<ul style="list-style-type: none">Receives telephone voice signal from Bluetooth control unitSends telephone voice and voice guidance signals to the speakers
Audio amp.	<ul style="list-style-type: none">Receives audio signals from the audio unitOutputs amplified audio signals to the speakers.
Front door speaker	Receives telephone voice and voice guidance signals from the audio amp.
Front tweeter	
Steering wheel audio control switches	<ul style="list-style-type: none">Start a voice recognition sessionAnswer and end telephone callsAdjust the volume level
Microphone	Sends voice signals to Bluetooth control unit
Bluetooth control unit	Controls hands-free phone functions
Bluetooth antenna	Sends telephone voice signal to Bluetooth control unit
Bluetooth ON indicator	Controlled by the Bluetooth control unit

DIAGNOSIS SYSTEM (AUDIO UNIT)

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

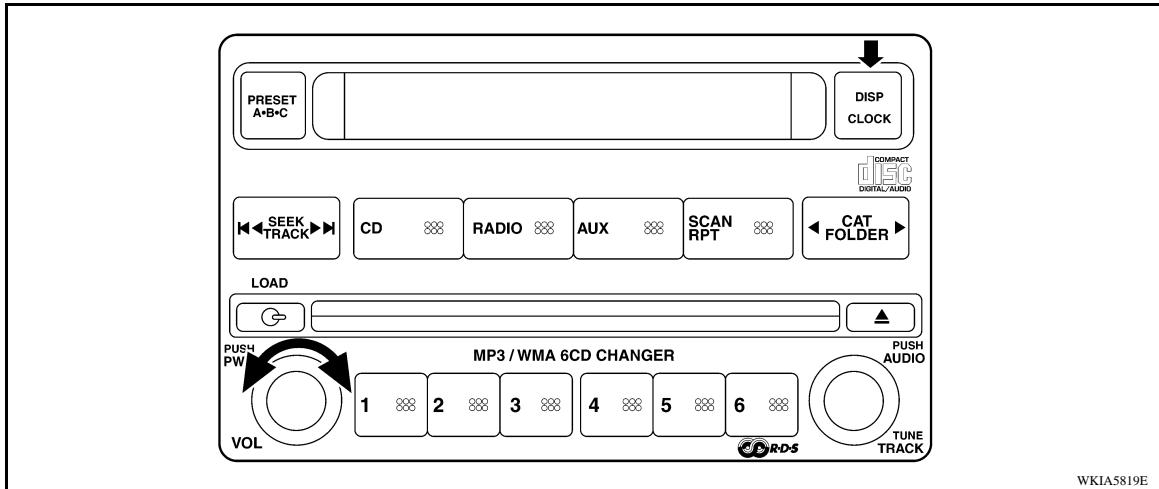
DIAGNOSIS SYSTEM (AUDIO UNIT)

Component Function Check

INFOID:000000004057099

STARTING THE SELF-DIAGNOSIS MODE

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



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

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

NOTE:

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

DIAGNOSIS FUNCTION

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

EXITING THE SELF-DIAGNOSIS MODE

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

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DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description


INFOID:000000004057100

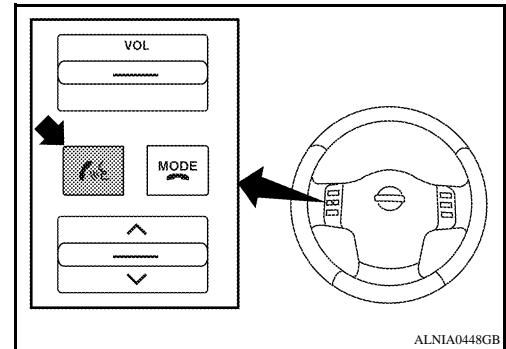
The Bluetooth control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.



BLUETOOTH CONTROL UNIT INITIALIZATION CHECKS

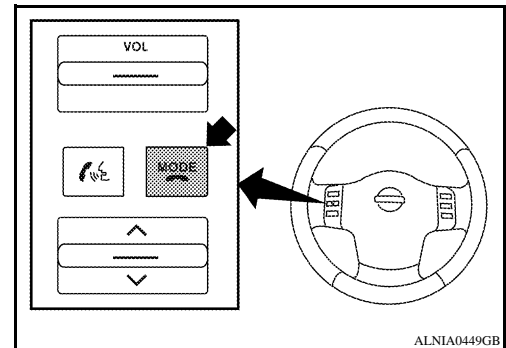
- Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switches [SEND(📶)/END(MODE)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth inquiry check

OPERATION PROCEDURE

1. Turn ignition switch to ACC or ON.
2. Wait for the Bluetooth system to complete initialization. This may take up to 10 seconds.
3. Press and hold the steering wheel audio control switch  button for at least 5 seconds. The Bluetooth system will begin to play a verbal prompt.



4. While the prompt is playing, press and hold the steering wheel audio control switch  button until you hear the “Diagnostics mode” prompt. The Bluetooth system will sound a 5 second beep.
5. While the beep is sounding, press and hold the steering wheel audio control switch  button again until you hear prompts.
6. The Bluetooth system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician and the Bluetooth ON indicator will flash. Refer to [AV-106. "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-106. "Work Flow"](#).
8. Self-diagnosis mode is complete when the voice prompt says “All diagnostic functions completed”.



Work Flow

INFOID:000000004057101

Failure Message	Action
“Internal failure”	Replace Bluetooth control unit. Refer to AV-174. "Removal and Installation" .
“Bluetooth antenna open”	1. Inspect harness connection.
“Bluetooth antenna shorted”	2. Replace Bluetooth antenna. Refer to AV-174. "Removal and Installation" .
“Phone/Send for Hands Free System is stuck”	Check steering wheel audio control switches. Refer to AV-53. "Diagnosis Procedure" .
“Phone/End for the Hands Free System is stuck”	
“Microphone test” (failed interactive test)	1. Inspect harness between Bluetooth control unit and microphone. 2. Replace microphone. Refer to AV-176. "Removal and Installation" .

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:000000004057102

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
	10	Ignition switch ACC or ON	4

Are the fuses OK?

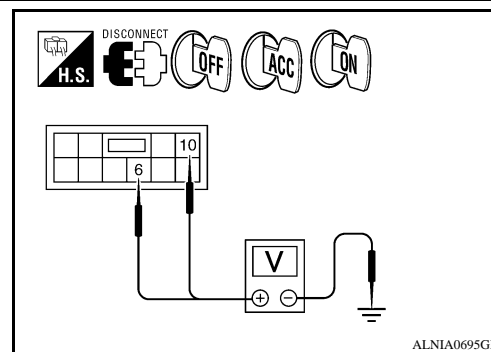
YES >> GO TO 2

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

2. POWER SUPPLY CIRCUIT CHECK

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

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



Are the voltage results as specified?

YES >> GO TO 3

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

3. GROUND CIRCUIT CHECK

Inspect audio unit case ground.

Does case ground pass inspection?

YES >> Inspection End.

NO >> Repair audio unit case ground.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000004057103

1. CHECK FUSES

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

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

Are the fuses OK?

YES >> GO TO 2

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

2. POWER SUPPLY CIRCUIT CHECK

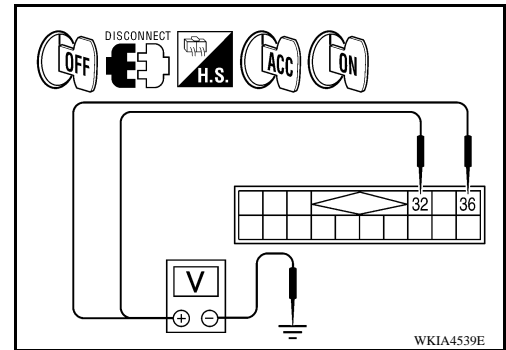
POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM AUDIO (CREW CAB)]

< COMPONENT DIAGNOSIS >

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				
M41	32	Ground	Battery voltage	Battery voltage	Battery voltage
	36		0V	Battery voltage	Battery voltage



Are the voltage readings as specified?

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

3. GROUND CIRCUIT CHECK

Inspect satellite radio tuner (factory installed) case ground.

Does case ground pass inspection?

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

AUDIO AMP

AUDIO AMP : Diagnosis Procedure

INFOID:000000004057104

1. CHECK FUSE

Check that the audio amp. fuses are not blown.

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

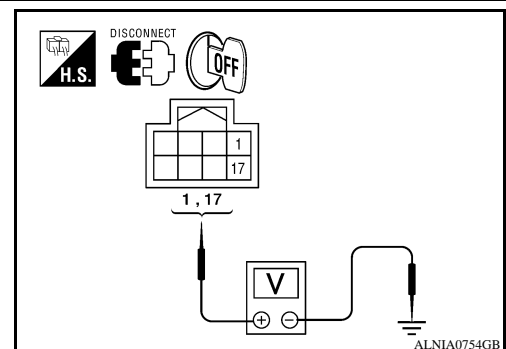
1. Turn ignition switch OFF.
2. Disconnect audio amp. connector.
3. Check voltage between audio amp. harness connector B158 and ground.

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

Is battery voltage present?

- YES >> GO TO 3
 NO >> Check harness between audio amp. and fuse.

3. CHECK GROUND CIRCUIT

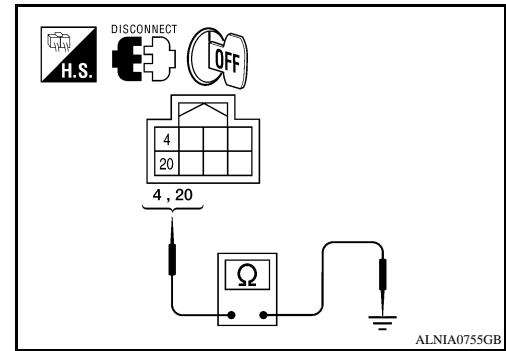


POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM AUDIO (CREW CAB)]

< COMPONENT DIAGNOSIS >

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



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

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

BLUETOOTH CONTROL UNIT

BLUETOOTH CONTROL UNIT : Diagnosis Procedure

INFOID:000000004057105

1.CHECK FUSE

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

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

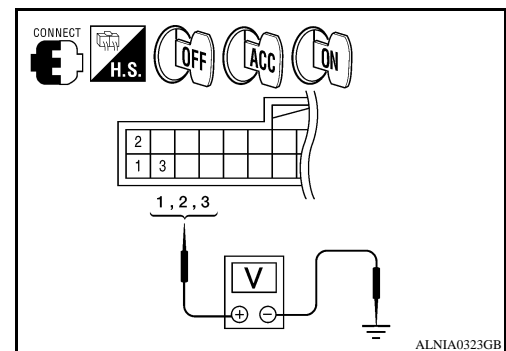
Is inspection result OK?

YES >> GO TO 2.

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

2.CHECK POWER SUPPLY CIRCUIT

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



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

Is battery voltage present as specified?

YES >> GO TO 3.

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

3.CHECK GROUND CIRCUIT

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POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM AUDIO (CREW CAB)]

< COMPONENT DIAGNOSIS >

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

Connector	Terminal	—	Continuity
B141	4	Ground	Yes
	20		
	22		

Are continuity results as specified?

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

MICROPHONE

MICROPHONE : Diagnosis Procedure

INFOID:000000004057106

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		
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.
2. Disconnect microphone and Bluetooth control unit harness connectors.
3. Check continuity between microphone harness connector R8 (A) terminal 4 and Bluetooth control unit harness connector B141 (B) terminal 29.

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

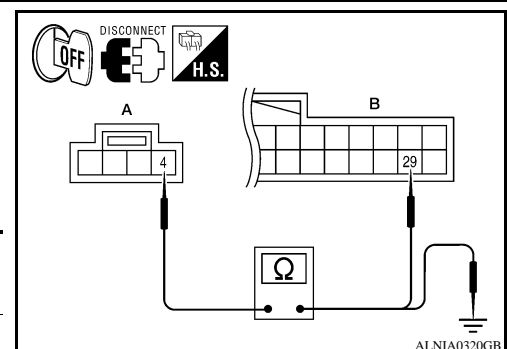
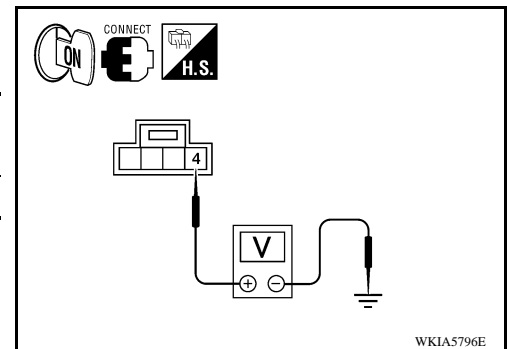
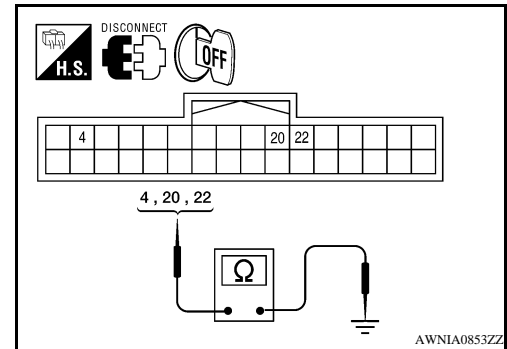
4. Check continuity between microphone harness connector R8 (A) terminal 4 and ground.

A		—	Continuity
Connector	Terminal		
R8	4	Ground	No

Are the continuity test results as specified?

- YES >> Replace the Bluetooth control unit. Refer to [AV-174, "Removal and Installation"](#).
 NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT



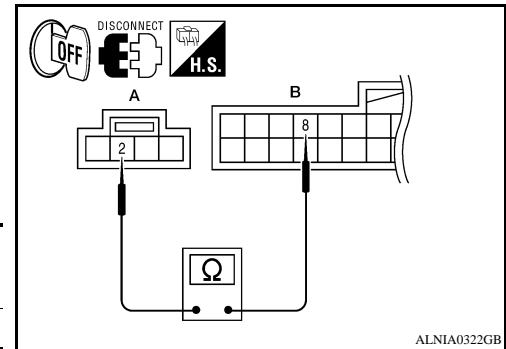
POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM AUDIO (CREW CAB)]

< COMPONENT DIAGNOSIS >

1. 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		B		Continuity
Connector	Terminal	Connector	Terminal	
R8	2	B141	8	Yes



Does continuity exist?

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

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AV

FRONT DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

FRONT DOOR SPEAKER

Description

INFOID:000000004057107

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

Diagnosis Procedure

INFOID:000000004057108

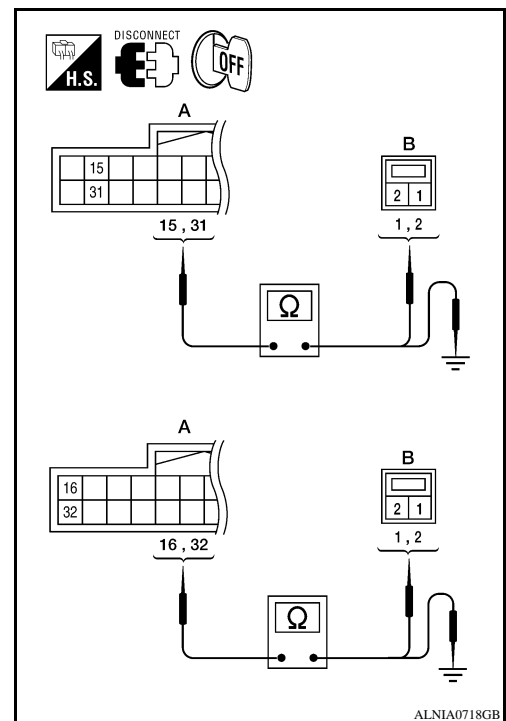
1. SPEAKER HARNESS CHECK

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
B159	15	D12	1	Yes
	31		2	
	16	D112	1	
	32		2	

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

A		—	Continuity
Connector	Terminal		
B159	15	Ground	No
	31		
	16		
	32		



ALNIA0718GB

Are continuity test results as specified?

YES >> GO TO 2

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

2. FRONT DOOR SPEAKER SIGNAL CHECK

FRONT DOOR SPEAKER

[PREMIUM AUDIO (CREW CAB)]

< COMPONENT DIAGNOSIS >

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

Connector	Terminal		Condition	Reference signal
	(+)	(-)		
B159	15	31	Receive audio signal	
	16	32		

Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to [AV-168. "Removal and Installation"](#).

NO >> GO TO 3

3. PRE-AMP HARNESS CHECK

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M65	1	B159	6	Yes
	2		22	
	3		5	
	4		21	

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

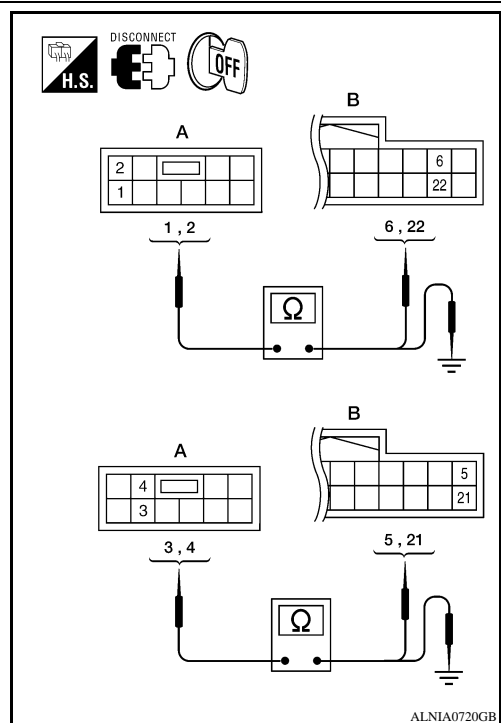
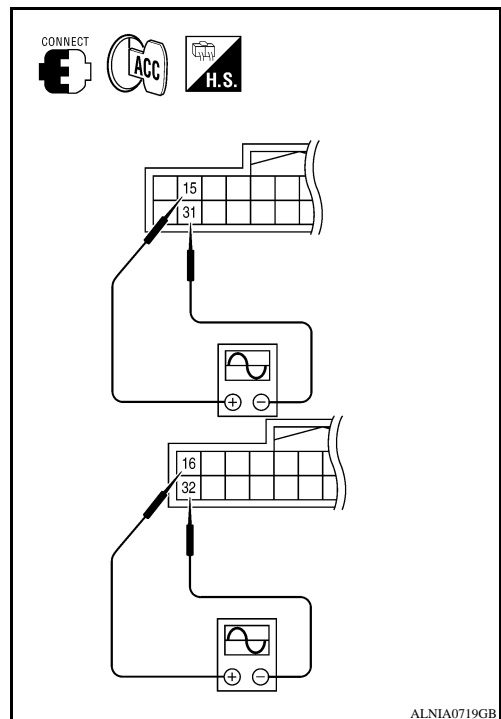
A		—	Continuity
Connector	Terminal		
M65	1	Ground	No
	2		
	3		
	4		

Are continuity test results as specified?

YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK



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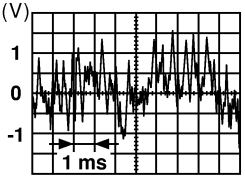
AV

FRONT DOOR SPEAKER

[PREMIUM AUDIO (CREW CAB)]

< COMPONENT DIAGNOSIS >

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

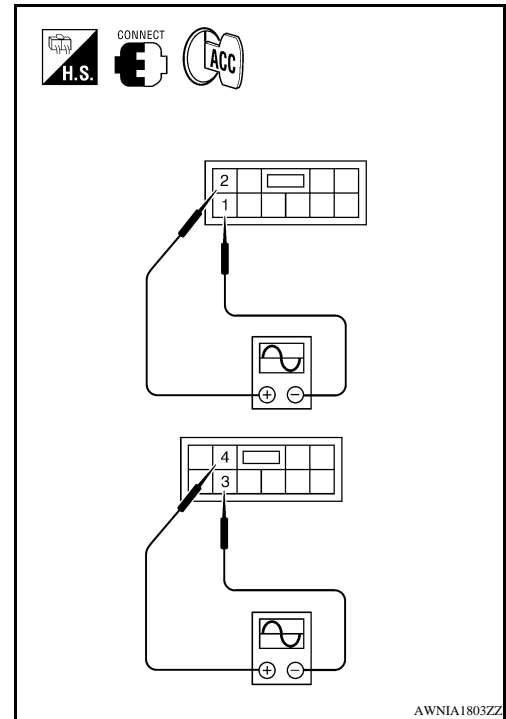
Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M65	2	1	Receive audio signal	
	4	3		

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to [AV-166, "Removal and Installation"](#).

NO >> Replace audio unit. Refer to [AV-165, "Removal and Installation"](#).



AWNIA1803ZZ

FRONT TWEETER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

FRONT TWEETER

Description

INFOID:000000004057109

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

Diagnosis Procedure

INFOID:000000004057110

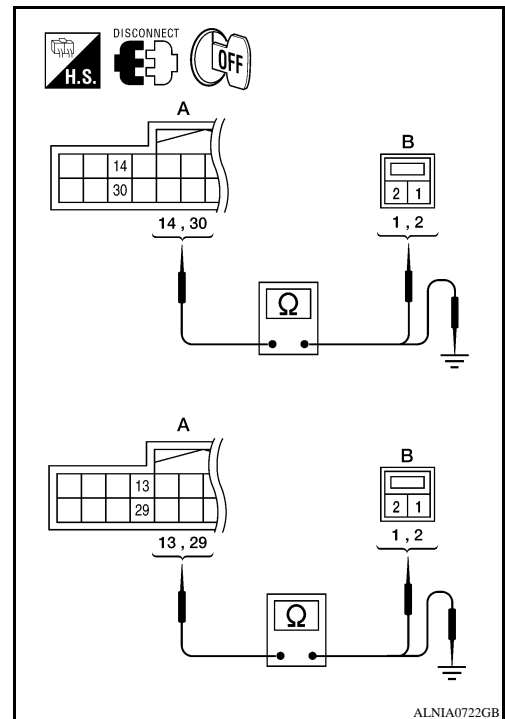
1. HARNESS CHECK

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
B159	14	M109	1	Yes
	30		2	
	13	M111	1	
	29		2	

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

A		—	Continuity
Connector	Terminal		
B159	14	Ground	No
	30		
	13		
	29		



ALNIA0722GB

Are continuity test results as specified?

YES >> GO TO 2

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

2. FRONT TWEETER SIGNAL CHECK

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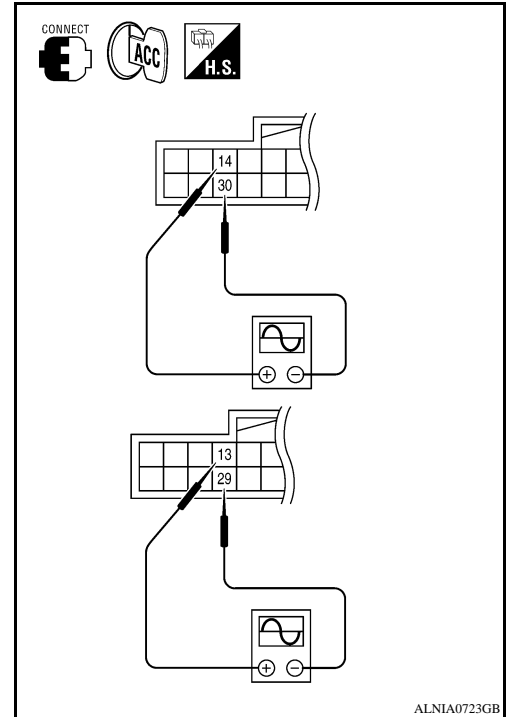
FRONT TWEETER

[PREMIUM AUDIO (CREW CAB)]

< COMPONENT DIAGNOSIS >

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

Connector	Terminal		Condition	Reference signal
	(+)	(-)		
B159	14	30	Receive audio signal	
	13	29		



Is audio signal voltage as specified?

YES >> Replace suspect tweeter. Refer to [AV-167. "Removal and Installation"](#).

NO >> GO TO 3

3. PRE-AMP HARNESS CHECK

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M65	1	B159	6	Yes
	2		22	
	3		5	
	4		21	

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

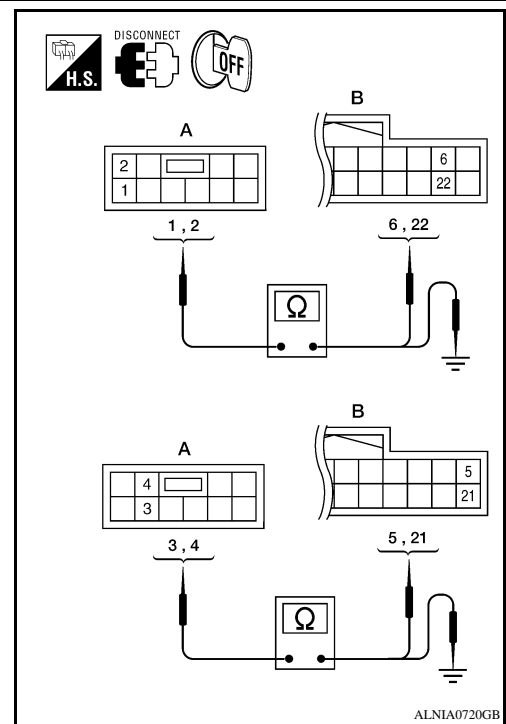
A		—	Continuity
Connector	Terminal		
M65	1	Ground	No
	2		
	3		
	4		

Are continuity test results as specified?

YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK

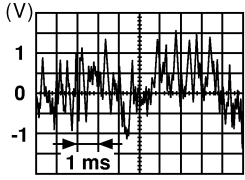


FRONT TWEETER

[PREMIUM AUDIO (CREW CAB)]

< COMPONENT DIAGNOSIS >

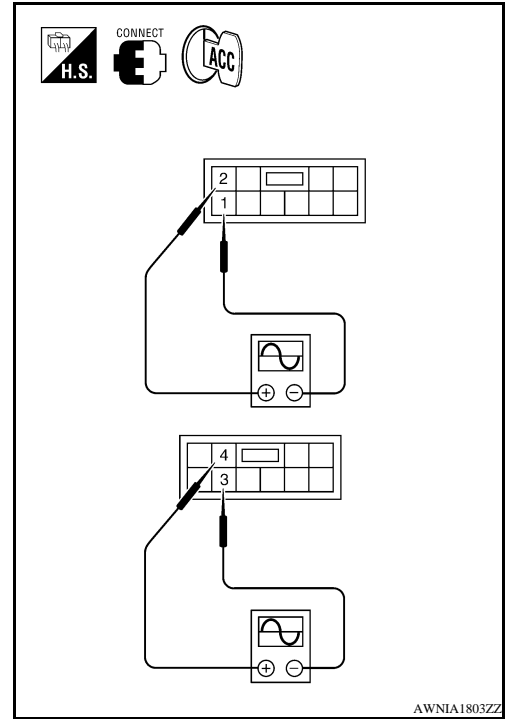
1. Connect audio unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M65 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M65	2	1	Receive audio signal	
	4	3		

SKIA0177E

Are the audio signal voltage readings as specified?

- YES >> Replace audio amp. Refer to [AV-166, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-165, "Removal and Installation"](#).



AWNIA1803ZZ

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AV

REAR DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

REAR DOOR SPEAKER

Description

INFOID:000000004057111

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

Diagnosis Procedure

INFOID:000000004057112

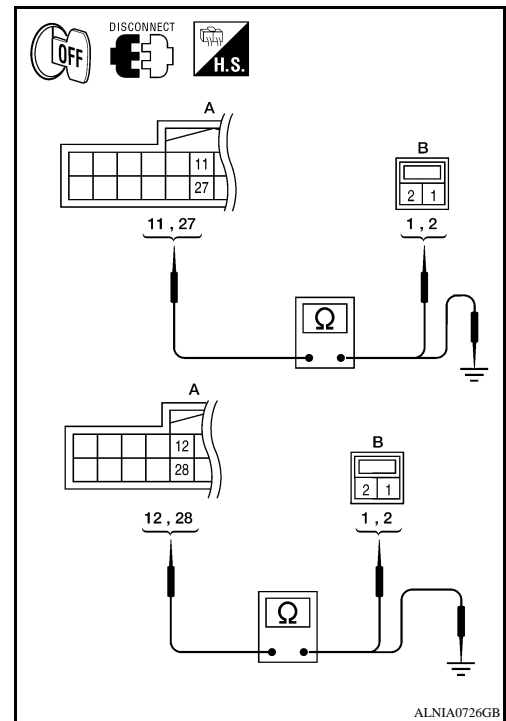
1. SPEAKER HARNESS CHECK

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

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

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

Connector	Terminal	-	Continuity
B159	11	Ground	No
	27		
	12		
	28		



ALNIA0726GB

Are the continuity test results as specified?

YES >> GO TO 2

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

2. SPEAKER SIGNAL CHECK

REAR DOOR SPEAKER

[PREMIUM AUDIO (CREW CAB)]

< COMPONENT DIAGNOSIS >

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

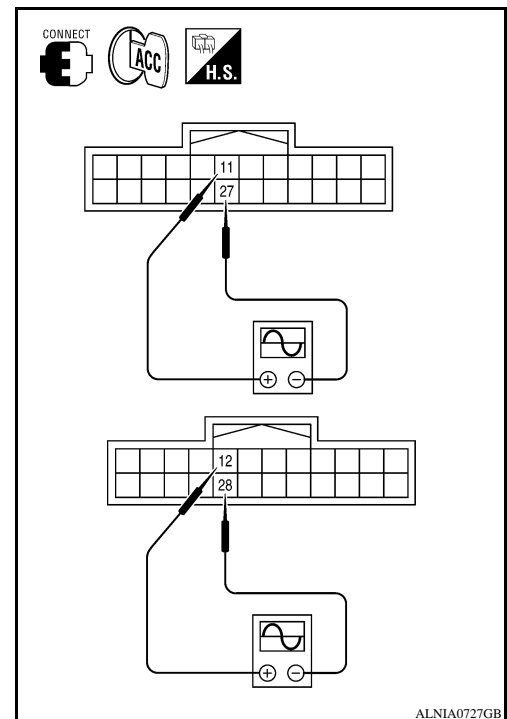
Connector	Terminals		Condition	Reference signal
	(+)	(-)		
B159	11	27	Receive audio signal	
	12	28		

SKIA0177E

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to [AV-169. "Removal and Installation"](#).

NO >> GO TO 3



3. PRE-AMP HARNESS CHECK

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M66	13	B159	8	Yes
	14		24	
	15		7	
	16		23	

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

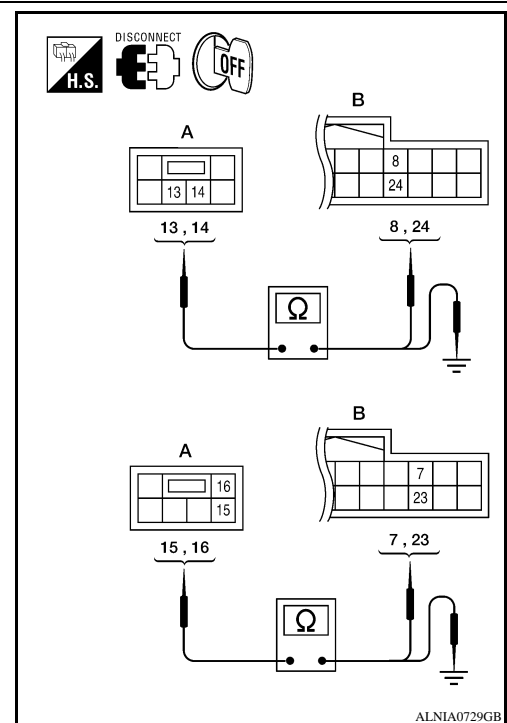
A		—	Continuity
Connector	Terminal		
M66	13	Ground	No
	14		
	15		
	16		

Are the continuity test results as specified?

YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK



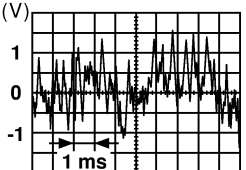
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REAR DOOR SPEAKER

[PREMIUM AUDIO (CREW CAB)]

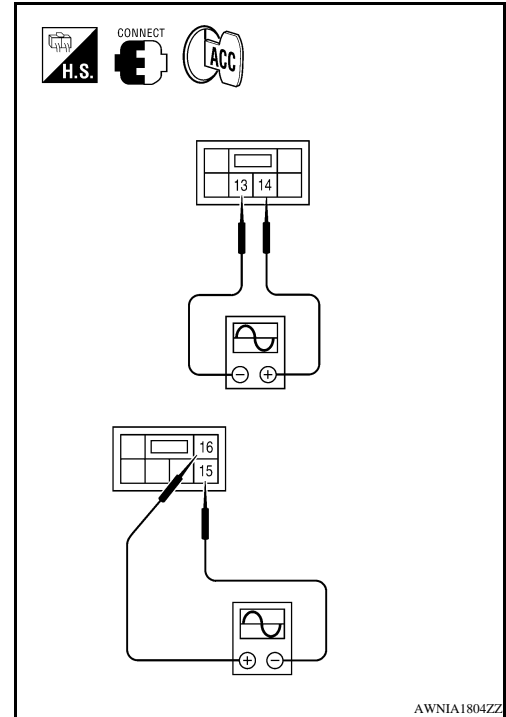
< COMPONENT DIAGNOSIS >

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

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M66	14	13	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
	16	15		

Is the audio signal voltage reading as specified?

- YES >> Replace audio amp. Refer to [AV-166, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-165, "Removal and Installation"](#).



REAR DOOR TWEETER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

REAR DOOR TWEETER

Description

INFOID:000000004057113

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

Diagnosis Procedure

INFOID:000000004057114

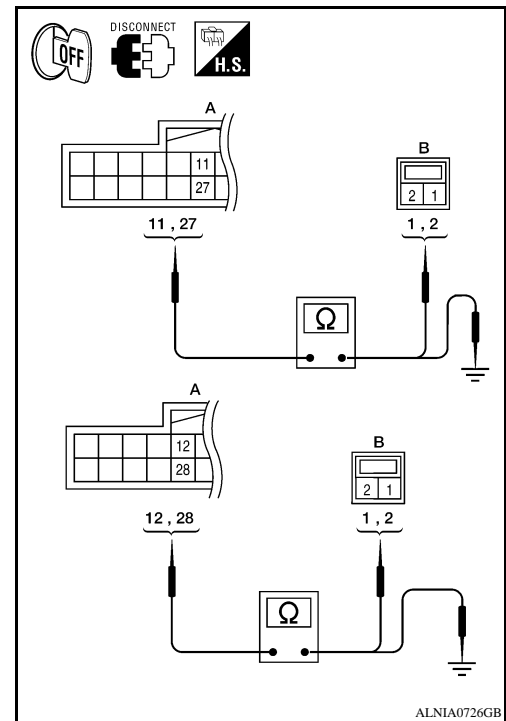
1. SPEAKER HARNESS CHECK

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
B159	11	D208	1	Yes
	27		2	
	12	D308	1	
	28		2	

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

Connector	Terminal	-	Continuity
B159	11	Ground	No
	27		
	12		
	28		



Are the continuity test results as specified?

YES >> GO TO 2

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

2. SPEAKER SIGNAL CHECK

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REAR DOOR TWEETER

[PREMIUM AUDIO (CREW CAB)]

< COMPONENT DIAGNOSIS >

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

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
B159	11	27	Receive audio signal	
	12	28		

SKIA0177E

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to [AV-170, "Removal and Installation"](#).

NO >> GO TO 3

3. PRE-AMP HARNESS CHECK

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M66	13	B159	8	Yes
	14		24	
	15		7	
	16		23	

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

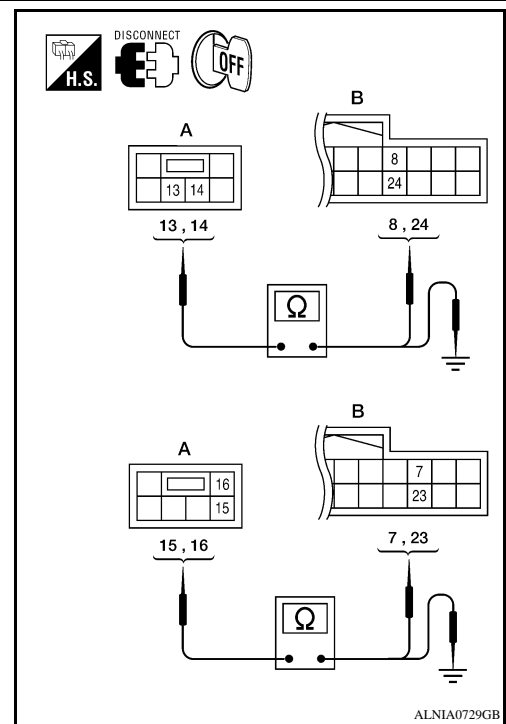
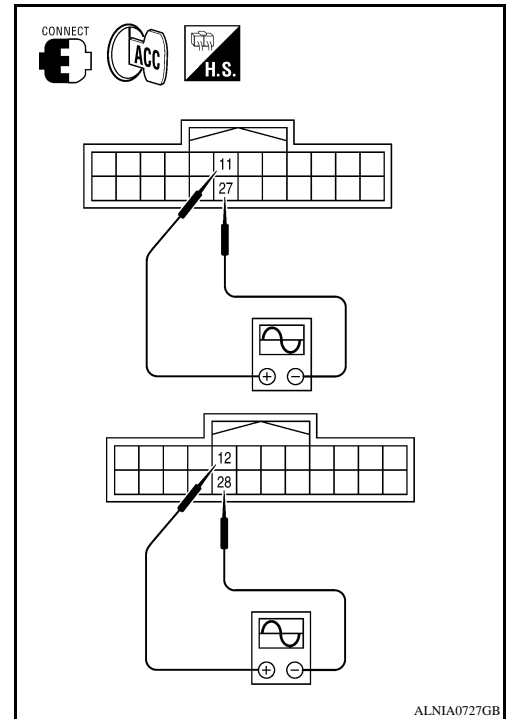
A		—	Continuity
Connector	Terminal		
M66	13	Ground	No
	14		
	15		
	16		

Are the continuity test results as specified?

YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK

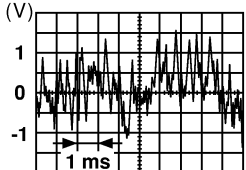


REAR DOOR TWEETER

[PREMIUM AUDIO (CREW CAB)]

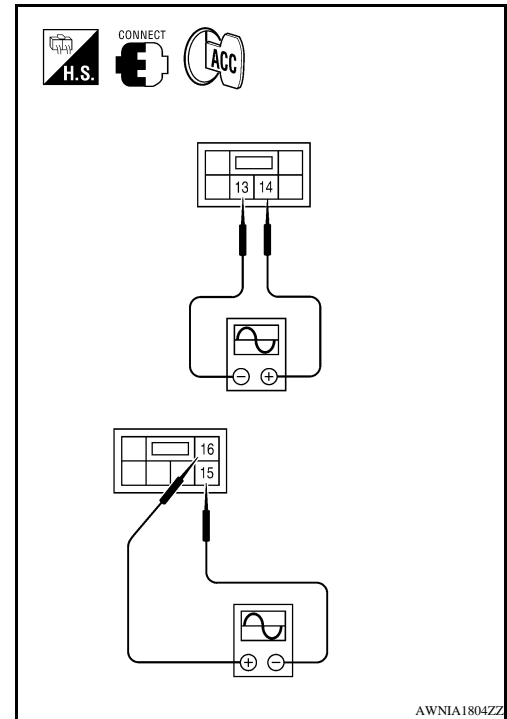
< COMPONENT DIAGNOSIS >

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

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M66	14	13	Receive audio signal	 <p>SKIA0177E</p>
	16	15		

Is the audio signal voltage reading as specified?

- YES >> Replace audio amp. Refer to [AV-166, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-165, "Removal and Installation"](#).



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SUBWOOFER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

SUBWOOFER

Description

INFOID:000000004057115

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

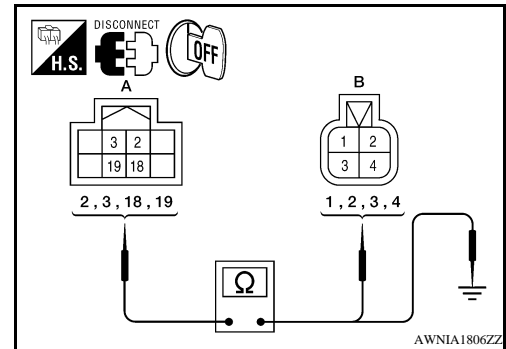
Diagnosis Procedure

INFOID:000000004057116

1. SPEAKER HARNESS CHECK

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
B158	2	B72	1	Yes
	18		2	
	3		3	
	19		4	



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

A		—	Continuity
Connector	Terminal		
B158	2	Ground	No
	18		
	3		
	19		

Are the continuity test results as specified?

YES >> GO TO 2

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

2. SPEAKER SIGNAL CHECK

SUBWOOFER

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

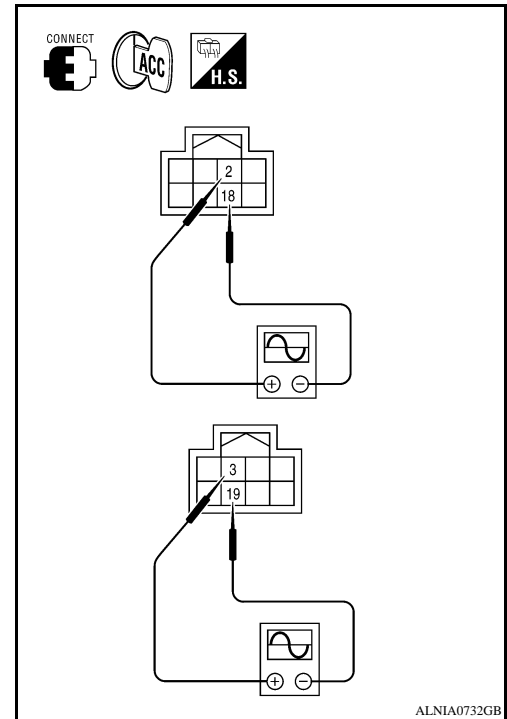
1. Connect audio amp. connector B158 and subwoofer connector B72.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio amp. harness connector B158 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
B158	2	18	Receive audio signal	
	3	19		

Is the audio signal voltage as specified?

YES >> Replace subwoofer. Refer to [AV-172, "Removal and Installation"](#).

NO >> GO TO 3



3. PRE-AMP HARNESS CHECK

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M66	13	B159	8	Yes
	14		24	
	15		7	
	16		23	

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

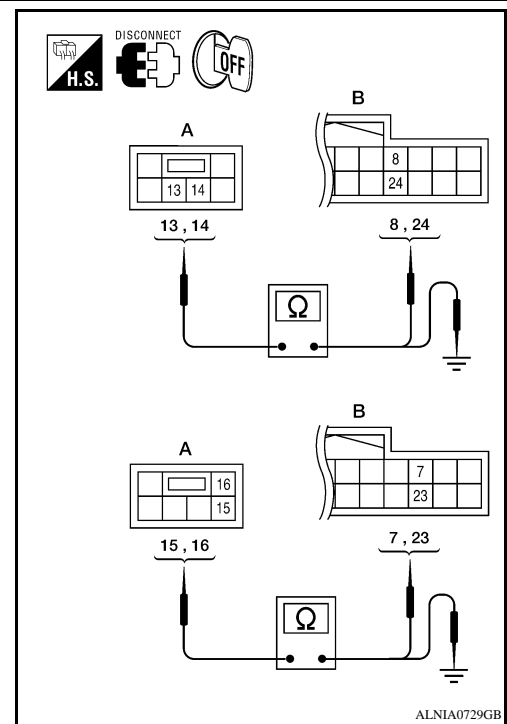
A		—	Continuity
Connector	Terminal		
M66	13	Ground	No
	14		
	15		
	16		

Are the continuity test results as specified?

YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK

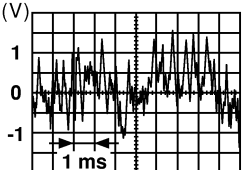


SUBWOOFER

< COMPONENT DIAGNOSIS >

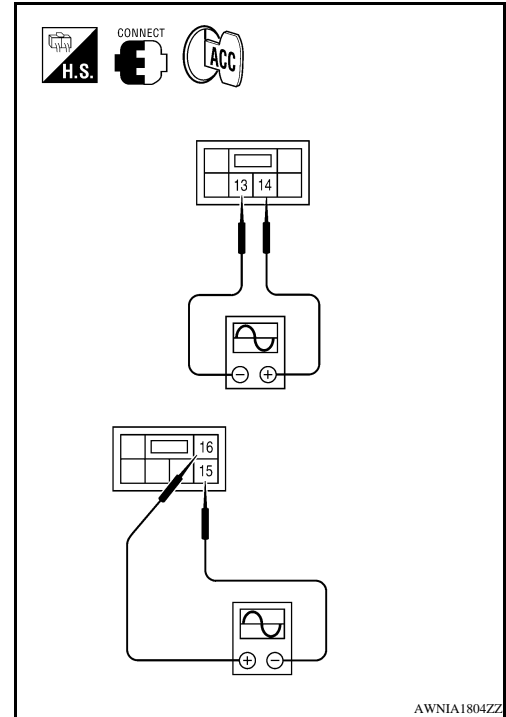
1. Connect audio unit connector M66 and audio amp. connector B159.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M66 terminals with CONSULT-III or oscilloscope.

[PREMIUM AUDIO (CREW CAB)]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M66	14	13	Receive audio signal	 <small>SKIA0177E</small>
	16	15		

Is the audio signal voltage reading as specified?

- YES >> Replace audio amp. Refer to [AV-166, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-165, "Removal and Installation"](#).



AMP ON SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

AMP ON SIGNAL CIRCUIT

Description

INFOID:000000004057117

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

Diagnosis Procedure

INFOID:000000004057118

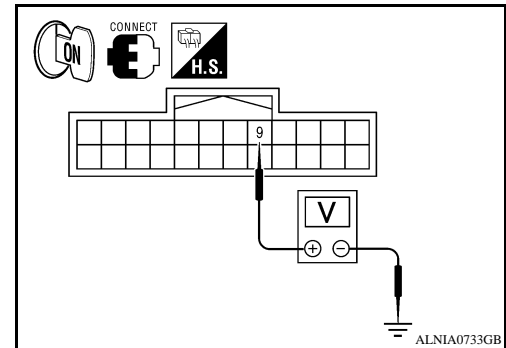
1. CHECK AMP ON SIGNAL

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

9 - Ground : More than 6.5V

Is battery voltage present?

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



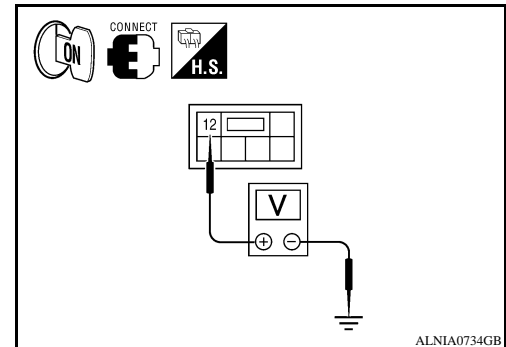
2. CHECK AMP ON SIGNAL (AUDIO UNIT)

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

12 - Ground : More than 6.5V

Is battery voltage present?

- YES >> Repair harness or connector.
NO >> Replace audio unit. Refer to [AV-165. "Removal and Installation"](#).



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AV

STEERING SWITCH

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

STEERING SWITCH

Description

INFOID:000000004449403

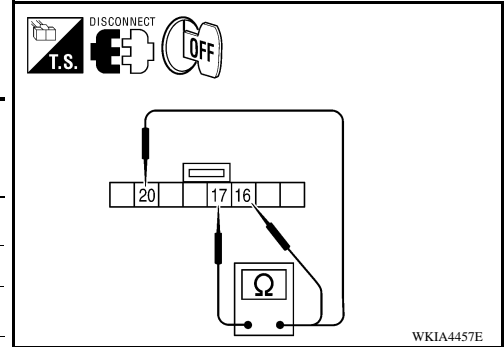
When one of the steering wheel audio control switches is pushed, the resistance in the steering wheel audio control switch circuit changes depending on which button is pushed.

Diagnosis Procedure

INFOID:000000004449404

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

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



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

Do the steering wheel audio control switches check OK?

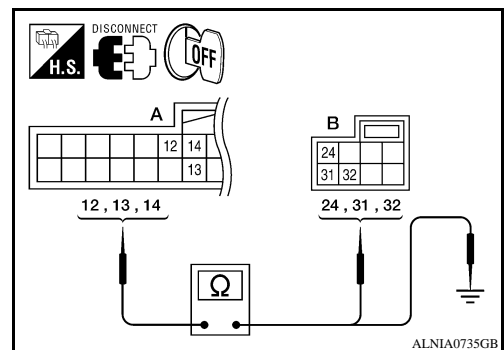
YES >> GO TO 2

NO >> Replace steering wheel audio control switch. Refer to [AV-88, "Removal and Installation"](#).

2. CHECK HARNESS

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).

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



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

A		—	Continuity
Connector	Terminal		
B141	12	Ground	No
	13		
	14		

Are the continuity results as specified?

YES >> GO TO 3

NO >> Repair harness.

3. SPIRAL CABLE CHECK

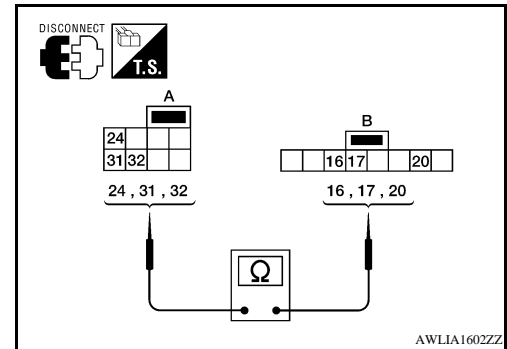
STEERING SWITCH

[PREMIUM AUDIO (CREW CAB)]

< COMPONENT DIAGNOSIS >

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

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



Does the spiral cable check OK?

- YES >> Inspection End.
 NO >> Replace spiral cable. Refer to [SR-6. "Removal and Installation"](#).

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COMMUNICATION SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

COMMUNICATION SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:000000004449405

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

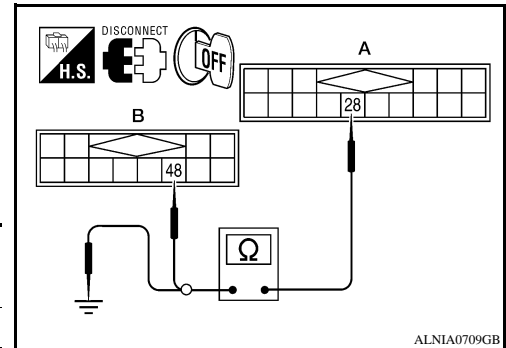
SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000004449406

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.

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



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

A		—	Continuity
Connector	Terminal		
M41	28	Ground	No

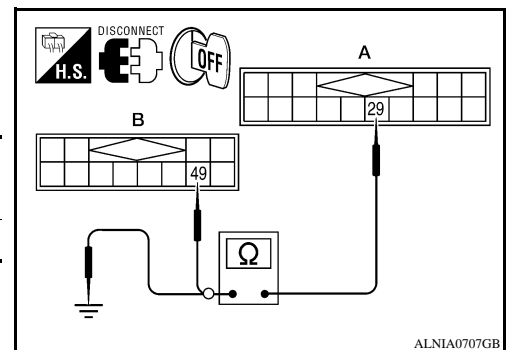
Are continuity results as specified?

- YES >> GO TO 2
NO >> Repair 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 M42 (B) terminal 49.

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



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

A		—	Continuity
Connector	Terminal		
M41	29	Ground	No

Are continuity results as specified?

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

3. CHECK HARNESS - RXD

COMMUNICATION SIGNAL CIRCUIT

[PREMIUM AUDIO (CREW CAB)]

< COMPONENT DIAGNOSIS >

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

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

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

A		—	Continuity
Connector	Terminal		
M41	30	Ground	No

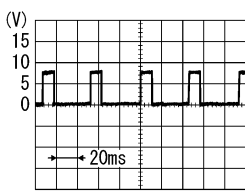
Are continuity results as specified?

YES >> GO TO 4

NO >> Repair harness or connector.

4. CHECK REQ1 SIGNAL

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

(+) Connector		Terminal	(-)	Reference signal
Connector	Terminal			
M41	28	Ground	 <p style="text-align: right; font-size: small;">SKIB3825E</p>	

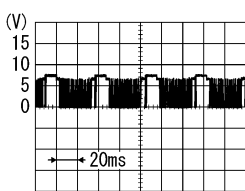
Are voltage readings as specified?

YES >> GO TO 5

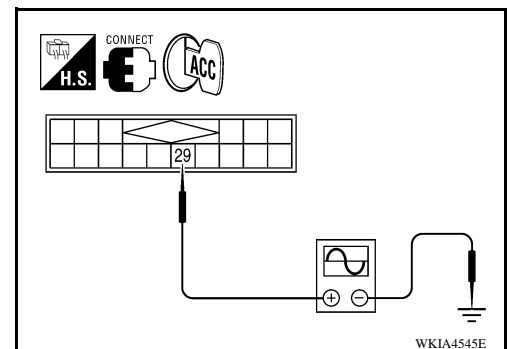
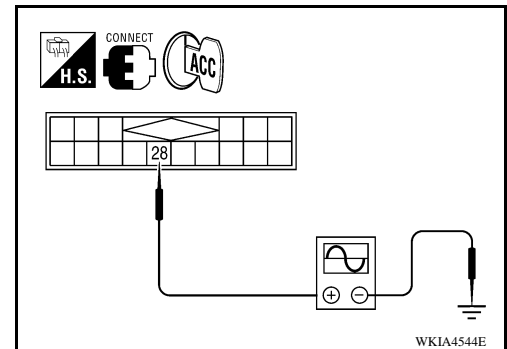
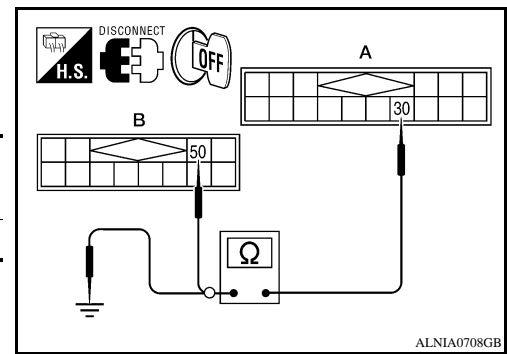
NO >> Replace audio unit. Refer to [AV-84. "Removal and Installation"](#).

5. CHECK TXD SIGNAL

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

(+) Connector		Terminal	(-)	Reference signal
Connector	Terminal			
M41	29	Ground	 <p style="text-align: right; font-size: small;">SKIB3824E</p>	

Are the voltage readings as specified?



COMMUNICATION SIGNAL CIRCUIT

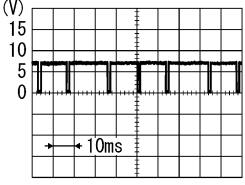
[PREMIUM AUDIO (CREW CAB)]

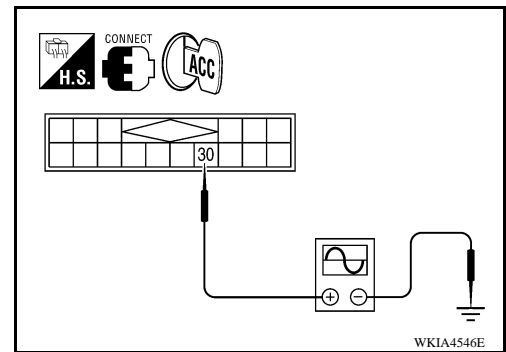
< COMPONENT DIAGNOSIS >

- YES >> GO TO 6
- NO >> Replace satellite radio tuner.

6. CHECK RXD SIGNAL

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

(+)		(-)	Reference signal
Connector	Terminal		
M41	30	Ground	 <p style="text-align: right; font-size: small;">SKIB3826E</p>



Are the voltage readings as specified?

- YES >> Replace satellite radio tuner. Refer to [AV-96, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-84, "Removal and Installation"](#).

SOUND SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

SOUND SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:000000004449407

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

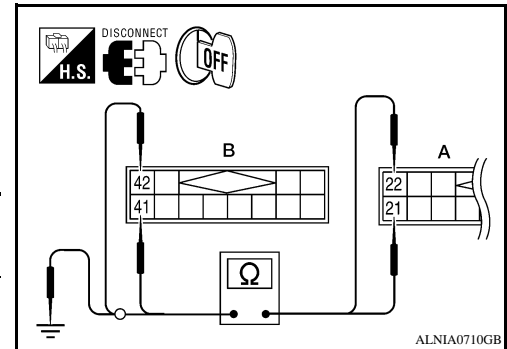
INFOID:000000004449408

LEFT CHANNEL

1.CHECK HARNESS

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	21	M42	41	Yes
	22		42	



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

A		—	Continuity
Connector	Terminal		
M41	21	Ground	No
	22		

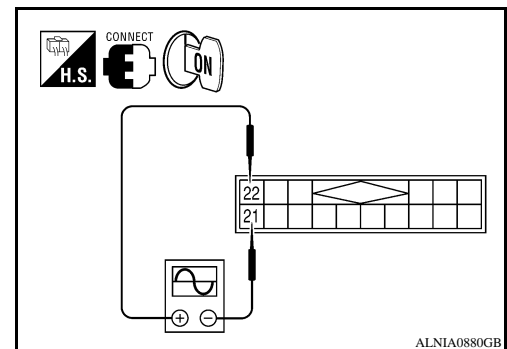
Are continuity results as specified?

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

2.CHECK LEFT CHANNEL AUDIO SIGNAL

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

Connector	(+)	(-)	Reference signal
	Terminal	Terminal	
M41	22	21	<p>The graph shows a square wave signal oscillating between approximately +1V and -1V. The time scale is marked as 2ms. The source is identified as SKIB3609E.</p>



Are voltage readings as specified?

- YES >> Replace audio unit. Refer to [AV-84, "Removal and Installation"](#).
NO >> Replace satellite radio tuner. Refer to [AV-96, "Removal and Installation"](#).

RIGHT CHANNEL

SOUND SIGNAL CIRCUIT

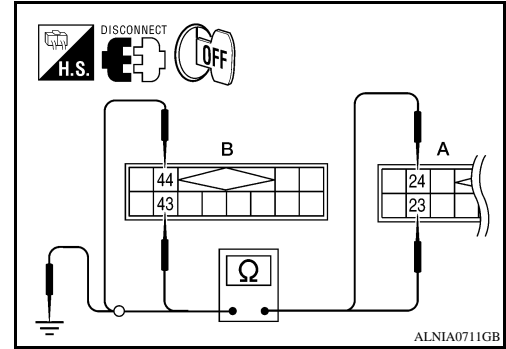
< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

1. CHECK HARNESS

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	23	M42	43	Yes
	24		44	



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

A		—	Continuity
Connector	Terminal		
M41	23	Ground	No
	24		

Are continuity results as specified?

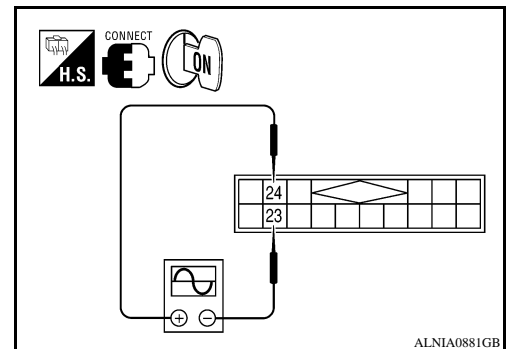
YES >> GO TO 2

NO >> Repair harness or connector.

2. CHECK RIGHT CHANNEL AUDIO SIGNAL

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

(+) Terminal		(-) Terminal	Reference signal
Connector	Terminal	Terminal	
M41	24	23	<p>SKIB3609E</p>



Are voltage readings as specified?

YES >> Replace audio unit. Refer to [AV-84, "Removal and Installation"](#).

NO >> Replace satellite radio tuner. Refer to [AV-96, "Removal and Installation"](#).

MICROPHONE SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:000000004449409

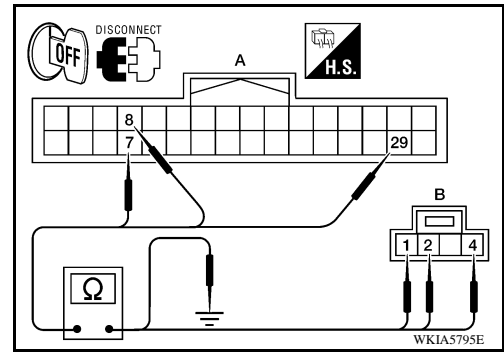
Voice signals are transmitted from the microphone to the Bluetooth control unit using the microphone signal circuits.

Diagnosis Procedure

INFOID:000000004449410

1. CHECK HARNESS BETWEEN BLUETOOTH CONTROL UNIT AND MICROPHONE

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



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

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

A		—	Continuity
Connector	Terminal		
B141	7	Ground	No
	8		
	29		

Are the continuity test results as specified?

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

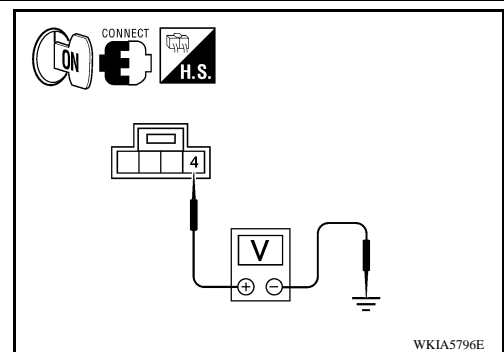
2. CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth control unit connector and microphone connector.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector 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 [AV-90](#), "[Removal and Installation](#)".



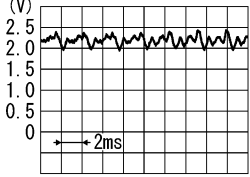
3. CHECK MICROPHONE SIGNAL

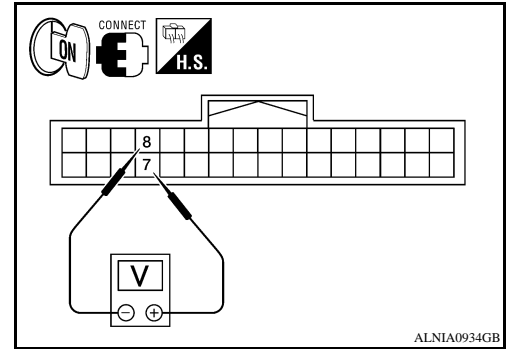
MICROPHONE SIGNAL CIRCUIT

[PREMIUM AUDIO (CREW CAB)]

< COMPONENT DIAGNOSIS >

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

Connector	(+)	(-)	Reference signal
	Terminal	Terminal	
B141	7	8	<p>While speaking into MIC</p>  <p style="text-align: right;">PKIB5037J</p>



Are voltage readings as specified?

- YES >> Replace Bluetooth control unit. Refer to [AV-90, "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-92, "Removal and Installation"](#).

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

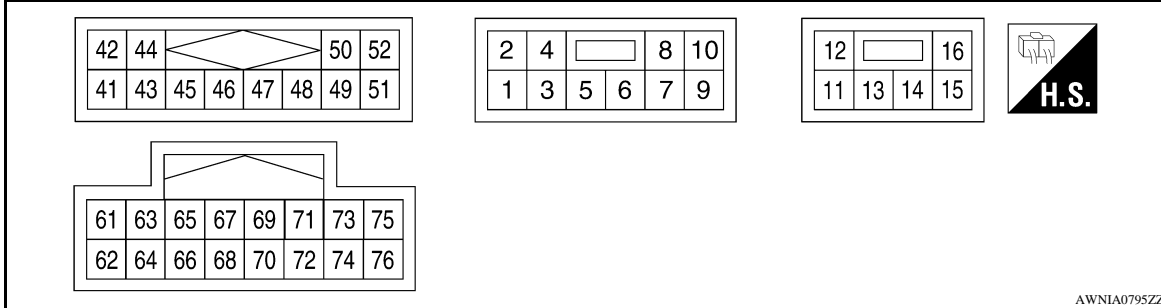
ECU DIAGNOSIS

AUDIO UNIT

Reference Value

INFOID:000000004057127

TERMINAL LAYOUT



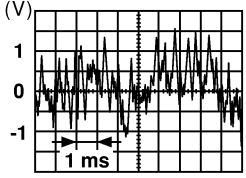
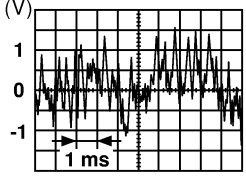
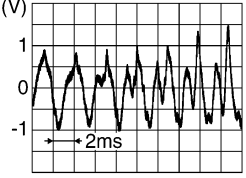
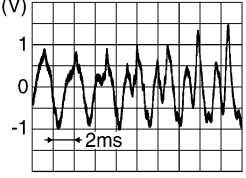
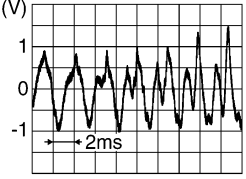
PHYSICAL VALUES

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
2 (W)	1 (B)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio sig- nal	<p>SKIA0177E</p>
4 (Y)	3 (BR)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio sig- nal	<p>SKIA0177E</p>
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 (R)	Ground	Illumination signal	Input	OFF	Lighting switch is in 1st position.	Battery voltage
					Lighting switch is OFF.	0V
9	-	Shield	-	-	-	0V
10 (G/B)	Ground	ACC signal	Input	Ignition switch ON	-	Battery voltage
12 (G/W)	Ground	Amp ON signal	Output	Ignition switch ON	-	Battery voltage

AUDIO UNIT

< ECU DIAGNOSIS >

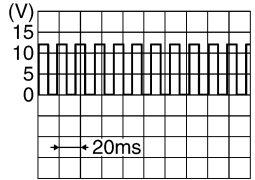
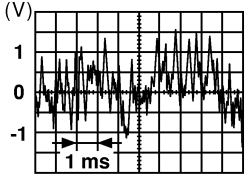
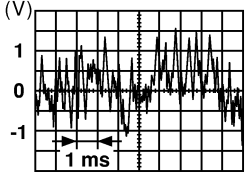
[PREMIUM AUDIO (CREW CAB)]

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
14 (BR)	13 (B/R)	Audio sound signal rear LH	Output	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
16 (L)	15 (B/W)	Audio sound signal rear RH	Output	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
42 (R)	41 (G)	Satellite radio au- dio signal LH	Input	Ignition switch ON	Satellite radio tuner operating	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
44 (B)	43 (W)	Satellite radio au- dio signal RH	Input	Ignition switch ON	Satellite radio tuner operating	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
45	-	Ground	-	-	-	0V
46	-	Data ground	-	-	-	0V
48 (O)	-	REQ (SAT→AV control unit)	Input	Ignition switch ON	-	—
49 (P)	-	RX (SAT→AV con- trol unit)	Input	Ignition switch ON	-	—
50 (L)	-	TX (AV control unit→SAT)	Input	Ignition switch ON	-	—
62 (W)	61 (B)	Telephone signal input	Input	Ignition switch ACC/ON	Bluetooth control unit sends audio signal	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
63 (R)	-	Mute control	-	-	-	-
64	-	Shield	-	-	-	0V

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
67	-	Shield	-	Ignition switch ON	-	0V
69 (V)	71 (O)	Steering switch sig- nal A	Input	Ignition switch ON	Pressing switch	0V
					Pressing switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V
70 (LG)	71 (O)	Steering switch sig- nal B	Input	Ignition switch ON	Pressing switch	0V
					Pressing switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5 V
73 (SB)	Ground	Vehicle speed sig- nal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	 <small style="display: block; text-align: right;">PKIA1935E</small>
74 (W)	Ground	Auxiliary audio in- put RH (+)	Input	Ignition switch ON	Receive audio sig- nal (AUX input)	 <small style="display: block; text-align: right;">SKIA0177E</small>
75 (B)	Ground	Auxiliary audio in- put LH (+)	Input	Ignition switch ON	Receive audio sig- nal (AUX input)	 <small style="display: block; text-align: right;">SKIA0177E</small>
76 (R)	-	Shield	-	-	-	0V

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AUDIO UNIT

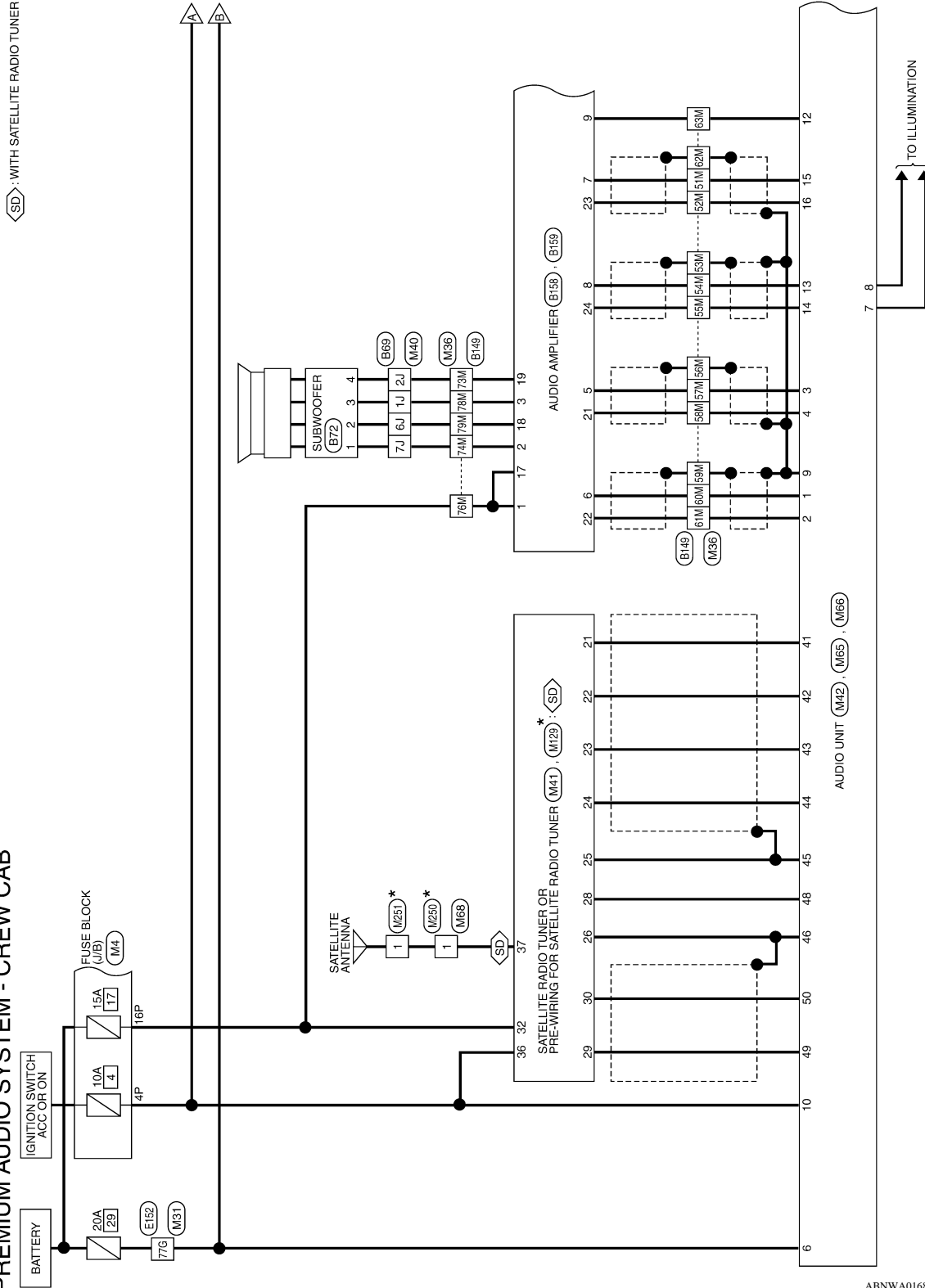
< ECU DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

INFOID:000000004057128

Wiring Diagram

PREMIUM AUDIO SYSTEM - CREW CAB



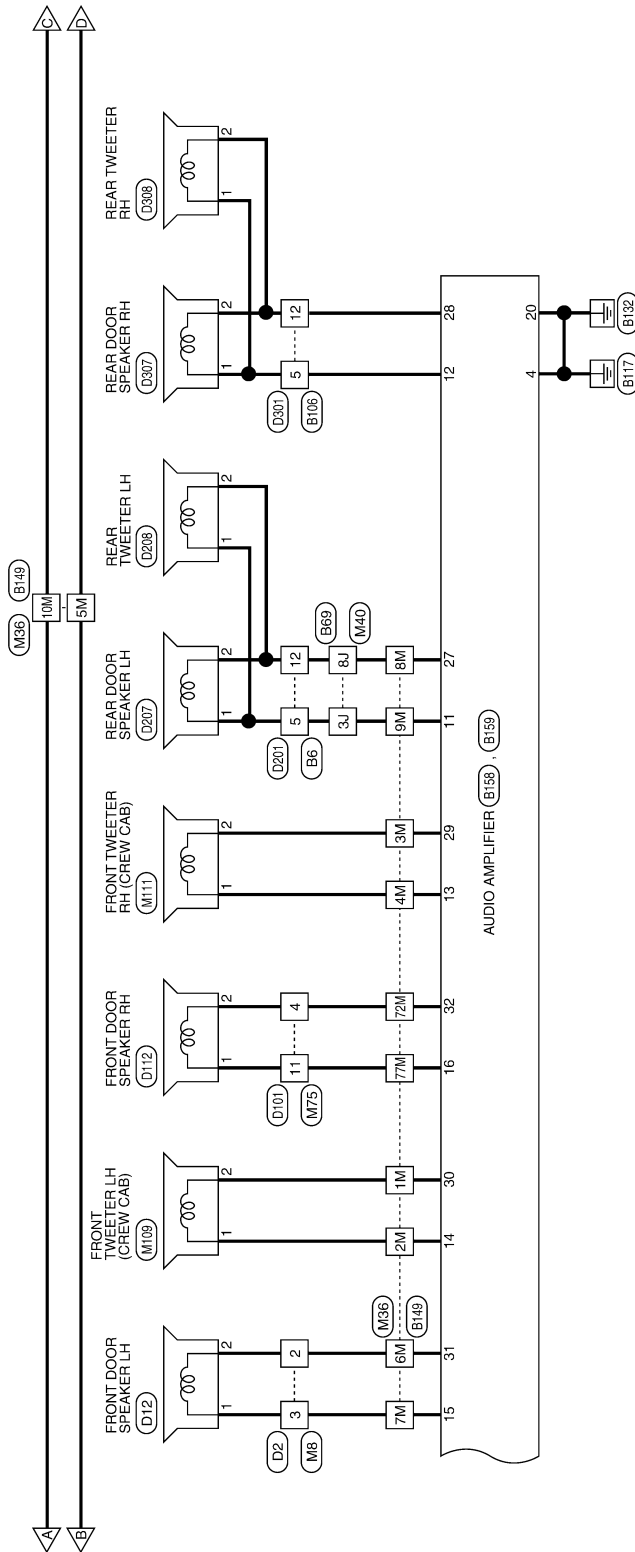
* : THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

ABNWA0168GE

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]



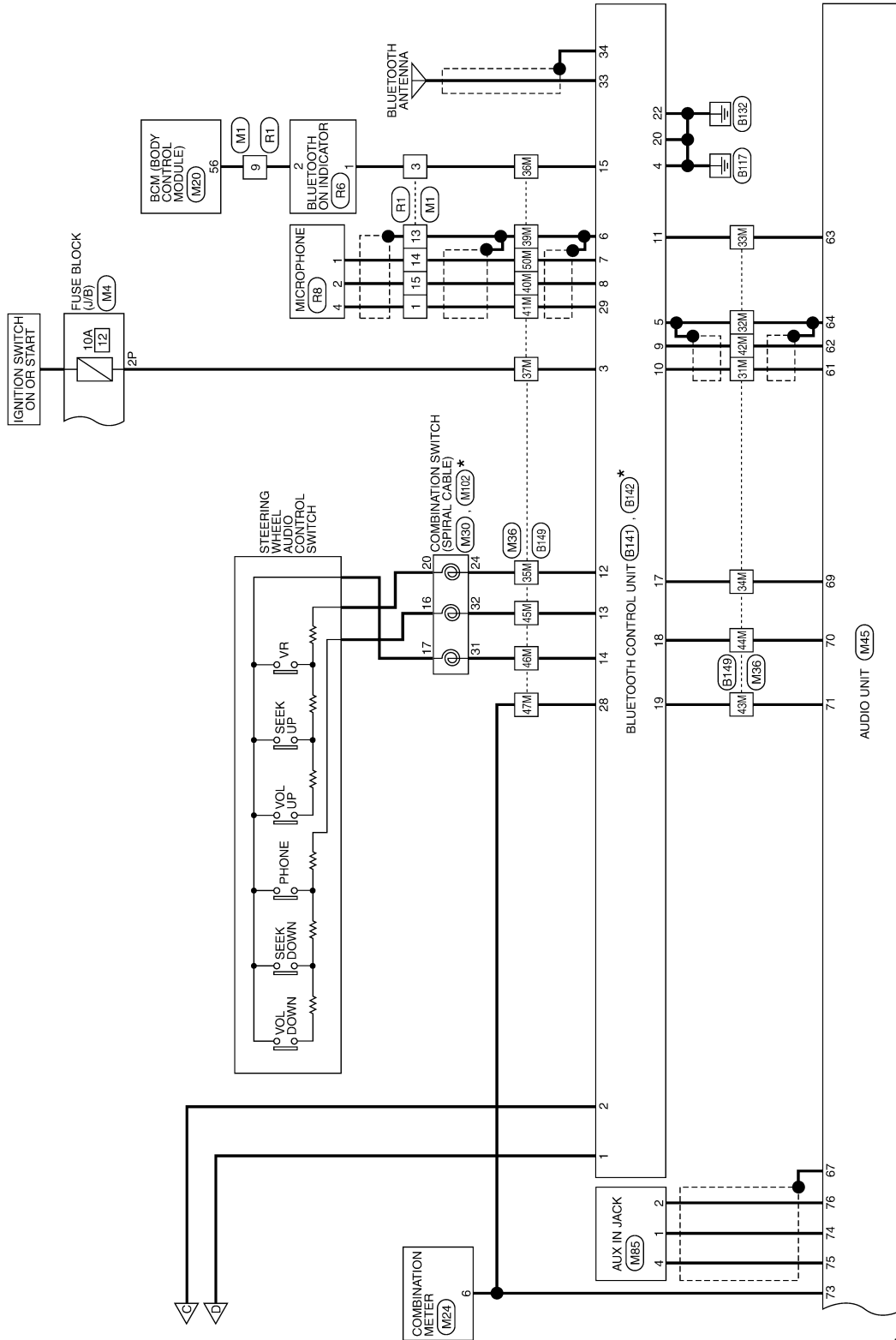
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ABNWA0169GE

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

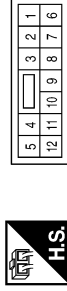


* : THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

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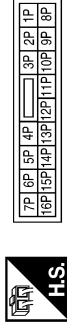
PREMIUM AUDIO SYSTEM CONNECTORS - CREW CAB

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



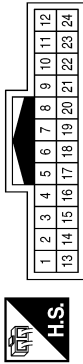
Terminal No.	Color of Wire	Signal Name
2	L	-
3	BR	-

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



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

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



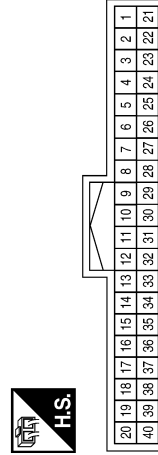
Terminal No.	Color of Wire	Signal Name
1	Y	-
3	GR	-
9	R/Y	-
13	SHIELD	-
14	G	-
15	L	-

Connector No.	M30
Connector Name	COMBINATION SWITCH
Connector Color	GRAY



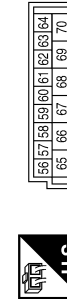
Terminal No.	Color of Wire	Signal Name
24	BR	STRG SW A (UP)
31	G	STRG SW GND
32	L	STRG SW B (DOWN)

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6	SB	SPEED OUT 8

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
56	V	BATTERY SAVER OUTPUT

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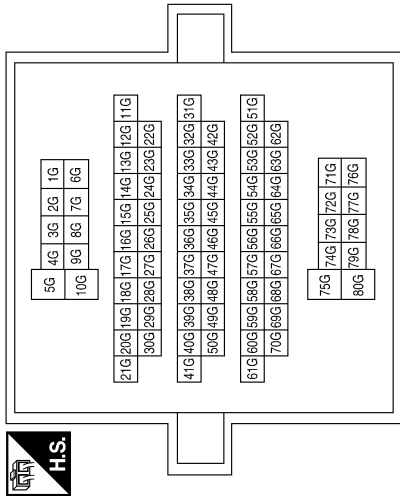


AUDIO UNIT

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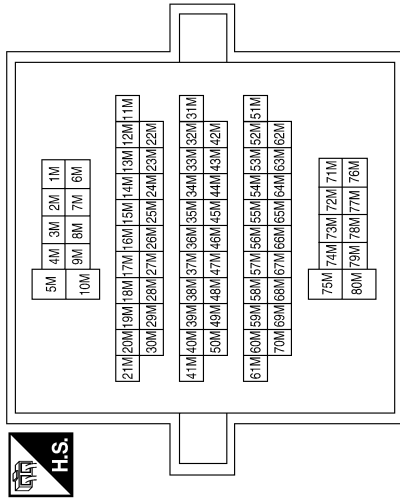
[PREMIUM AUDIO (CREW CAB)]

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



Terminal No.	Color of Wire	Signal Name
77G	Y	-

Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1M	GR	-
2M	Y	-
3M	P	-
4M	W	-
5M	R/B	-
6M	L	-
7M	BR	-
8M	B	-
9M	G	-
10M	G/Y	-
31M	B	-
32M	SHIELD	-
33M	R	-
34M	V	-

Terminal No.	Color of Wire	Signal Name
35M	BR	-
36M	GR	-
37M	W/G	-
39M	SHIELD	-
40M	L	-
41M	Y	-
42M	W	-
43M	O	-
44M	LG	-
45M	L	-
46M	G	-
47M	SB	-
50M	G	-
51M	B/W	-
52M	L	-
53M	SHIELD	-
54M	B/R	-
55M	BR	-
56M	SHIELD	-
57M	BR	-
58M	Y	-
59M	SHIELD	-
60M	B	-
61M	W	-
62M	SHIELD	-
63M	G/W	-
72M	R	-
73M	BR	-
74M	W	-
76M	R/B	-
77M	LG	-
78M	O	-
79M	G	-

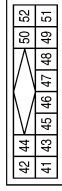
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AUDIO UNIT

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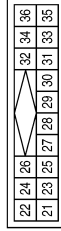
[PREMIUM AUDIO (CREW CAB)]

Connector No.	M42
Connector Name	AUDIO UNIT
Connector Color	WHITE



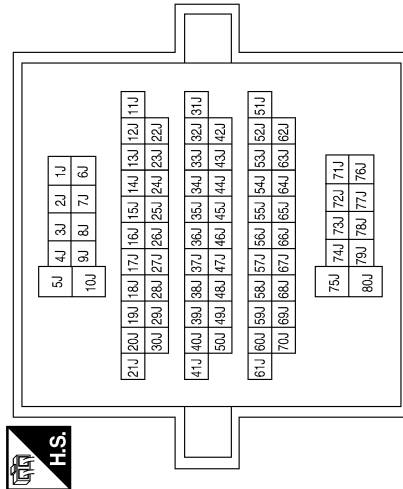
Terminal No.	Color of Wire	Signal Name
41	G	L (-)
42	R	L (+)
43	W	R (-)
44	B	R (+)
45	SHIELD	EARTH (SIG)
46	SHIELD	DATA EARTH
47	-	-
48	O	REQ
49	P	RX
50	L	TX
51	-	-
52	-	-

Connector No.	M41
Connector Name	SATELLITE RADIO TUNER OR PRE-WIRING FOR SATELLITE RADIO TUNER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	G	SAT LCH (-)
22	R	SAT LCH (+)
23	W	SAT RCH (-)
24	B	SAT RCH (+)
25	SHIELD	EARTH (SIG)
26	SHIELD	DATA EARTH
27	-	-
28	O	REQ1
29	P	TXD
30	L	RXD
31	-	-
32	R/B	BACKUP
33	-	-
34	-	-
35	-	-
36	G/B	ACC

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



Terminal No.	Color of Wire	Signal Name
1J	O	-
2J	BR	-
3J	G	-
6J	G	-
7J	W	-
8J	B	-

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AUDIO UNIT

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[PREMIUM AUDIO (CREW CAB)]

Connector No.	M45
Connector Name	AUDIO UNIT (WITH PREMIUM AUDIO SYSTEM)
Connector Color	WHITE

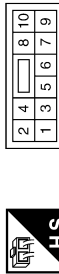


Terminal No.	Color of Wire	Signal Name
61	B	TEL SIG INPUT (-)
62	W	TEL SIG INPUT (+)
63	R	TEL SIG ON TRIG
64	SHIELD	TEL SIG GND
65	-	-
66	-	-
67	SHIELD	-
68	-	-
69	V	REMOTE A SWC
70	LG	REMOTE B SWC
71	O	REMOTE GND SWC
72	-	-
73	SB	SPEED SIGNAL
74	W	AUX R+
75	B	AUX L+
76	R	AUX GND



Terminal No.	Color of Wire	Signal Name
1	-	-

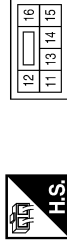
Connector No.	M65
Connector Name	AUDIO UNIT (WITH PREMIUM AUDIO SYSTEM -CREW CAB)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	FRSP LH (-)
2	W	FRSP LH (+)
3	BR	FRSP RH (-)
4	Y	FRSP RH (+)
5	-	-
6	Y	BAT (BACK UP)
7	GR	ILL CONT
8	R	LIGHT SW
9	SHIELD	GND
10	G/B	ACC



Connector No.	M66
Connector Name	AUDIO UNIT (CREW CAB)
Connector Color	WHITE



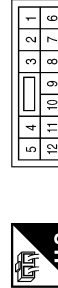
Terminal No.	Color of Wire	Signal Name
11	-	-
12	GW	AMP ON/OFF SIG
13	B/R	RRSP LH (-)
14	BR	RRSP LH (+)
15	BW	RRSP RH (-)
16	L	RRSP RH (+)

Connector No.	M85
Connector Name	AUX IN JACK
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	W	R+
2	R	COMMON
4	B	L+

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



Terminal No.	Color of Wire	Signal Name
4	R	-
11	LG	-

Connector No.	M68
Connector Name	WIRE TO WIRE
Connector Color	VIOLET



Terminal No.	Color of Wire	Signal Name
1	-	-

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AUDIO UNIT

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[PREMIUM AUDIO (CREW CAB)]

Connector No.	M111
Connector Name	FRONT TWEETER RH (CREW CAB)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	W	-(WITH PREMIUM AUDIO SYSTEM)
2	P	-(WITH PREMIUM AUDIO SYSTEM)

Connector No.	M109
Connector Name	FRONT TWEETER LH (CREW CAB)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	Y	-(WITH PREMIUM AUDIO SYSTEM)
2	GR	-(WITH PREMIUM AUDIO SYSTEM)

Connector No.	M102
Connector Name	COMBINATION SWITCH
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
16	L	-
17	BR	-
20	W	-

Connector No.	M251
Connector Name	SATELLITE ANTENNA
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	-	-

Connector No.	M250
Connector Name	WIRE TO WIRE
Connector Color	VIOLET



Terminal No.	Color of Wire	Signal Name
1	-	-

Connector No.	M129
Connector Name	SATELLITE RADIO TUNER (WITH SATELLITE RADIO TUNER)
Connector Color	VIOLET



Terminal No.	Color of Wire	Signal Name
37	-	-

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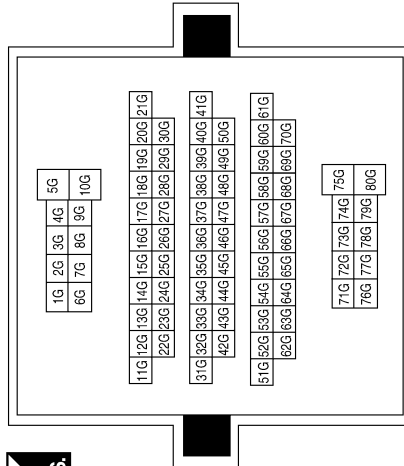
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AUDIO UNIT

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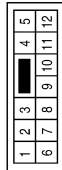
[PREMIUM AUDIO (CREW CAB)]

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



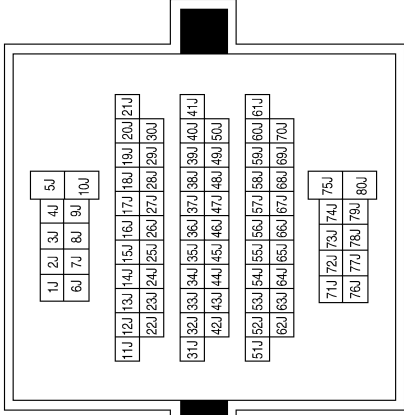
Terminal No.	Color of Wire	Signal Name
77G	Y	-

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



Terminal No.	Color of Wire	Signal Name
5	G	-
12	B	-

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



Terminal No.	Color of Wire	Signal Name
1J	O	-
2J	BR	-
3J	G	-
6J	G	-
7J	W	-
8J	B	-

Connector No.	B72
Connector Name	SUBWOOFER
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	W	REAR LEFT (+)
2	G	REAR LEFT (-)
3	O	REAR RIGHT (+)
4	BR	REAR RIGHT (-)

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



Terminal No.	Color of Wire	Signal Name
5	GR	-
12	O	-

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AUDIO UNIT

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[PREMIUM AUDIO (CREW CAB)]

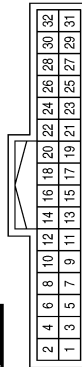
Connector No.	B142
Connector Name	BLUETOOTH CONTROL UNIT
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
33	B	BT ANTENNA
34	SHIELD	BT ANTENNA SHIELD

Terminal No.	Color of Wire	Signal Name
11	R	MUTE CONTROL
12	BR	LADDER IN 1
13	L	LADDER IN 2
14	G	LADDER IN GND
15	GR	LED IND 1
16	-	-
17	V	LADDER OUT 1
18	LG	LADDER OUT 2
19	O	LADDER OUT GND
20	B	CONT 1
21	-	-
22	B	CONT 3
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	SB	SPEED SIGNAL
29	Y	MIC POWER
30	-	-
31	-	-
32	-	-

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



Terminal No.	Color of Wire	Signal Name
1	R/B	BATT
2	G/Y	ACC
3	W/G	IGN
4	B	GND
5	SHIELD	AUDIO OUT SHIELD
6	SHIELD	MIC SHIELD
7	G	MIC IN+
8	L	MIC IN-
9	W	AUDIO OUT +
10	B	AUDIO OUT -

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AUDIO UNIT

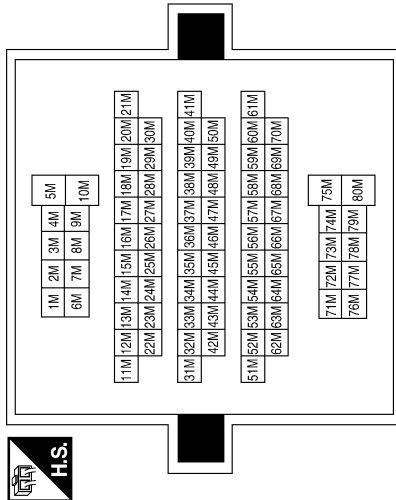
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[PREMIUM AUDIO (CREW CAB)]

Terminal No.	Color of Wire	Signal Name
52M	L	-
53M	SHIELD	-
54M	B/R	-
55M	BR	-
56M	SHIELD	-
57M	BR	-
58M	Y	-
59M	SHIELD	-
60M	B	-
61M	W	-
62M	SHIELD	-
63M	G/W	-
72M	R	-
73M	BR	-
74M	W	-
76M	R/B	-
77M	LG	-
78M	O	-
79M	G	-

Terminal No.	Color of Wire	Signal Name
8M	B	-
9M	G	-
10M	G/Y	-
31M	B	-
32M	SHIELD	-
33M	R	-
34M	V	-
35M	BR	-
36M	GR	-
37M	W/G	-
39M	SHIELD	-
40M	L	-
41M	Y	-
42M	W	-
43M	O	-
44M	LG	-
45M	L	-
46M	G	-
47M	SB	-
50M	G	-
51M	B/W	-

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

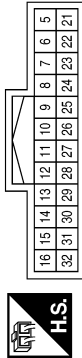


Terminal No.	Color of Wire	Signal Name
1M	GR	-
2M	Y	-
3M	P	-
4M	W	-
5M	R/B	-
6M	L	-
7M	BR	-

ABNIA0530GB

Terminal No.	Color of Wire	Signal Name
13	W	FR TW (+)
14	Y	FR TW (+)
15	BR	FRSP LH OUT (+)
16	LG	FRSP RH OUT (+)
21	Y	FRSP RH (+) IN
22	W	FRSP LH (+) IN
23	L	RRSP RH (+) IN
24	BR	RRSP LH (+) IN
25	-	-
26	-	-
27	B	RRSP LH OUT (-)
28	O	RRSP RH OUT (-)
29	P	FR TW (-)
30	GR	FR TW (-)
31	L	FRSP LH OUT (-)
32	R	FRSP RH OUT (-)

Connector No.	B159
Connector Name	AUDIO AMPLIFIER
Connector Color	WHITE



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

Connector No.	B158
Connector Name	AUDIO AMPLIFIER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	BAT
2	W	WOOFER (+)1
3	O	WOOFER (+)2
4	B	GND
17	R/B	BAT
18	G	WOOFER (-)1
19	BR	WOOFER (-)2
20	B	GND

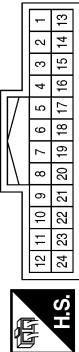
Connector No.	R8
Connector Name	MICROPHONE
Connector Color	WHITE



Connector No.	R6
Connector Name	BLUETOOTH ON INDICATOR
Connector Color	WHITE



Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G	MIC OUT +
2	L	MIC OUT -
4	Y	MIC POWER

Terminal No.	Color of Wire	Signal Name
1	GR	LED 1 (AMBER)
2	R/Y	LED POWER

Terminal No.	Color of Wire	Signal Name
1	Y	-
3	GR	-
9	R/Y	-
13	SHIELD	-
14	G	-
15	L	-


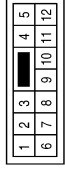
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AUDIO UNIT

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
[PREMIUM AUDIO (CREW CAB)]

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


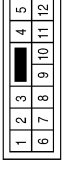
Terminal No.	Color of Wire	Signal Name
4	L/B	-
11	W/B	-

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



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

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


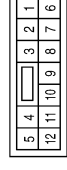
Terminal No.	Color of Wire	Signal Name
2	L/R	-
3	L/W	-

Connector No.	D207
Connector Name	REAR DOOR SPEAKER LH (CREW CAB)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	-
2	O	-

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

Terminal No.	Color of Wire	Signal Name
5	L	-
12	O	-

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



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


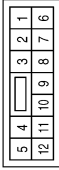
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
AUDIO UNIT



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[PREMIUM AUDIO (CREW CAB)]

Connector No.	D307	REAR DOOR SPEAKER RH (CREW CAB)	WHITE
 			
Terminal No.	Color of Wire	Signal Name	
1	L	-	
2	O	-	

Connector No.	D301	WIRE TO WIRE	WHITE
 			
Terminal No.	Color of Wire	Signal Name	
5	L	-	
12	O	-	

Connector No.	D208	REAR DOOR TWEETER LH	BROWN
 			
Terminal No.	Color of Wire	Signal Name	
1	L	-	
2	O	-	

Connector No.	D308	REAR DOOR TWEETER RH (CREW CAB)	BROWN
 			
Terminal No.	Color of Wire	Signal Name	
1	L	-	
2	O	-	

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AUDIO AMP

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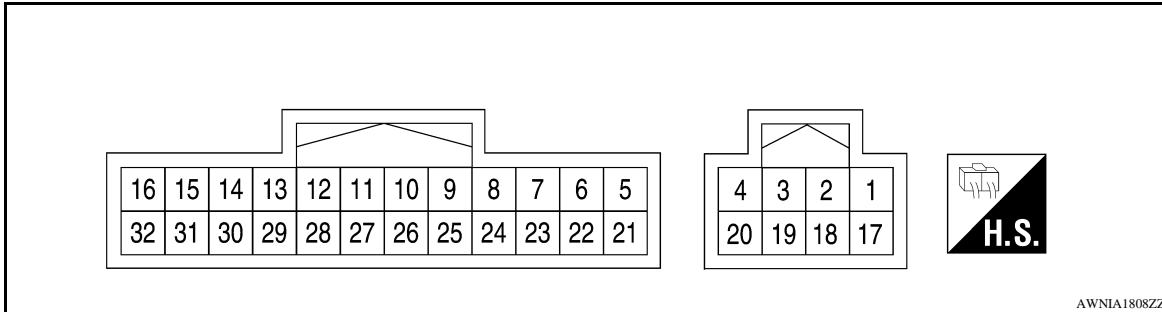
[PREMIUM AUDIO (CREW CAB)]

AUDIO AMP

Reference Value

INFOID:000000004057130

TERMINAL LAYOUT



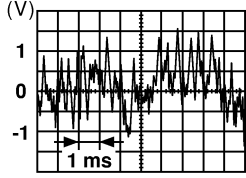
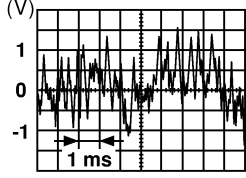
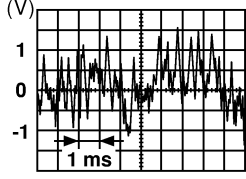
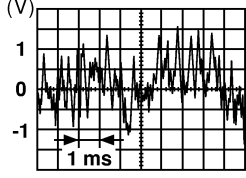
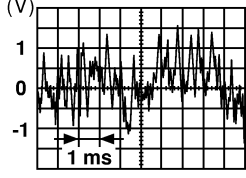
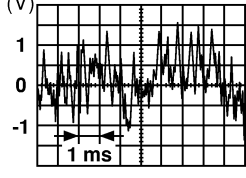
PHYSICAL VALUES

Terminal (wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
1 (Y)	Ground	Battery	Input	-	-	Battery voltage
2 (W)	18 (G)	Subwoofer	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
3 (O)	19 (BR)	Subwoofer	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
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 sig- nal	 SKIA0177E

AUDIO AMP

< ECU DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

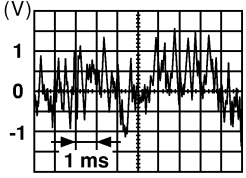
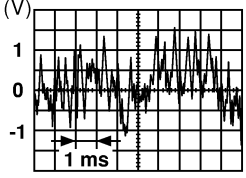
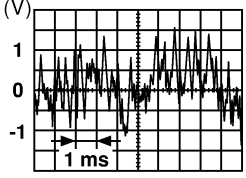
Terminal (wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
12 (GR)	28 (O)	Rear door speaker RH and rear door tweeter RH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
13 (W)	29 (P)	Front door tweeter RH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
14 (Y)	30 (GR)	Front tweeter LH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
15 (BR)	31 (L)	Front door speaker LH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
16 (LG)	32 (R)	Front door speaker RH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
17 (R/B)	Ground	Battery	Input	-	-	Battery voltage
20 (B)	Ground	Ground	-	Ignition switch ON	-	-
21 (Y)	5 (BR)	Audio sound signal front RH	Input	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>

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AUDIO AMP

< ECU DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

Terminal (wire 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	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
23 (L)	7 (B/W)	Audio sound sig- nal rear RH	Input	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
24 (BR)	8 (B/R)	Audio sound sig- nal rear LH	Input	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>

SATELLITE RADIO TUNER

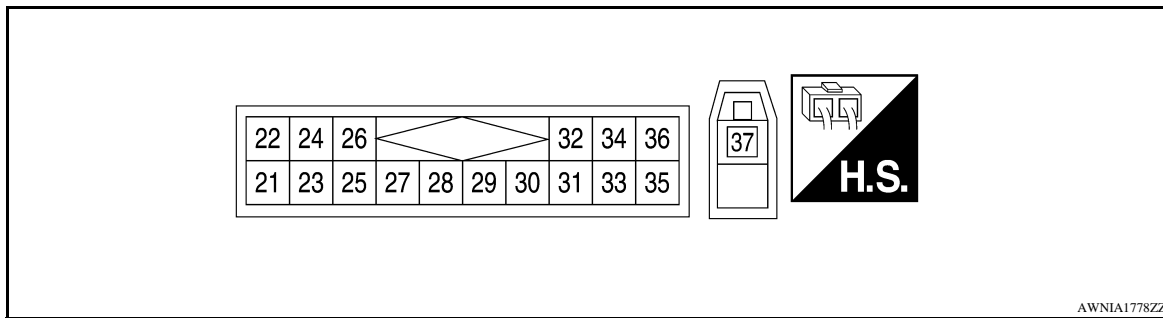
< ECU DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

SATELLITE RADIO TUNER

Reference Value

INFOID:000000004449411



PHYSICAL VALUES

Terminal		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output			
22 (R)	21 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected	
24 (B)	23 (W)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	
25	—	Shield	—	—	—	—
26	—	Shield	—	—	—	—
28 (O)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	
29 (P)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	

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SATELLITE RADIO TUNER

< ECU DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

Terminal		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
30 (L)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	<p style="text-align: right; font-size: small;">SKIA9301J</p>
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	—	—	—

BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS >

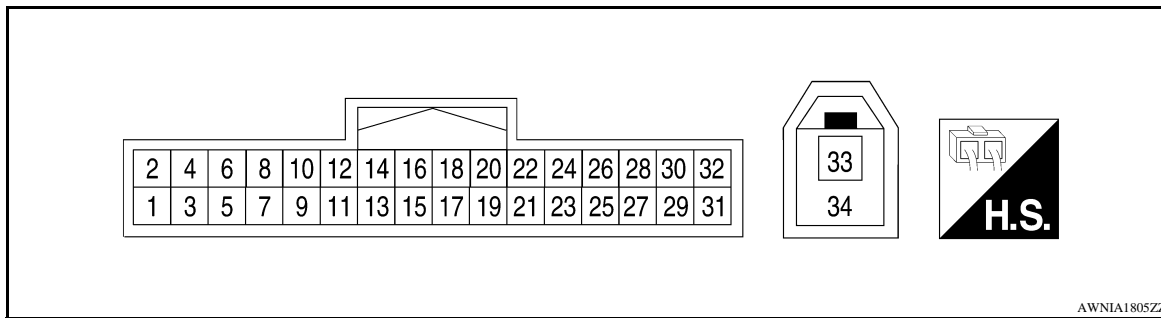
[PREMIUM AUDIO (CREW CAB)]

BLUETOOTH CONTROL UNIT

Reference Value

INFOID:000000004449412

TERMINAL LAYOUT









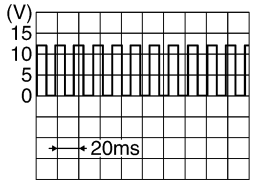
PHYSICAL VALUES

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

BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

Terminal (wire color)		Description		Condition	Reference value (Approx.)	
+	-	Signal name	Input/ output			
13 (L)	14 (G)	Steering switch signal B	Input	Ignition switch ON	Pressing  switch	0V
					Pressing  switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5 V
15 (GR)	Ground	LED power	Output	Ignition switch ON	-	Battery voltage
17 (V)	19 (O)	Steering switch signal A	Output	Ignition switch ON	Pressing  switch	0V
					Pressing  switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V
18 (LG)	19 (O)	Steering switch signal B	Output	Ignition switch ON	Pressing  switch	0V
					Pressing  switch	0.75V
					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 signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	 <p style="text-align: right; font-size: small;">PKIA1935E</p>
29 (Y)	Ground	Microphone power	Output	Ignition switch ON	-	5V
33 (B)	-	Bluetooth antenna	-	-	-	-
34	-	Shield	-	-	-	-

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:000000004057132

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> Audio unit power circuit Audio unit 	<ul style="list-style-type: none"> AV-107 AV-107
Steering wheel audio control switch does not operate	<ul style="list-style-type: none"> Steering wheel audio control switch Audio unit 	<ul style="list-style-type: none"> AV-53 AV-107
All speakers do not sound	<ul style="list-style-type: none"> Audio unit Audio unit power circuit Audio amp. ON signal Audio amp. power/ground circuit Audio amp. 	<ul style="list-style-type: none"> AV-107 AV-107 AV-127 AV-108 AV-108
One or several speakers do not sound	<ul style="list-style-type: none"> Front door speaker Front tweeter Rear door speaker Rear door tweeter Subwoofer 	<ul style="list-style-type: none"> AV-112 AV-115 AV-118 AV-121 AV-124

CD

Symptom	Possible cause	Reference page
CD cannot be inserted.	Audio unit	AV-107
CD cannot be ejected.		
The CD cannot be played.		
The sound skips, stops suddenly, or is distorted.		

SATELLITE RADIO

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> Satellite radio tuner power or ground circuit Satellite radio tuner communication circuit Satellite radio tuner 	<ul style="list-style-type: none"> AV-107 AV-55 AV-180
Right or left channel does not sound	<ul style="list-style-type: none"> Satellite radio tuner right channel audio signal circuit Satellite radio tuner left channel audio signal circuit Satellite radio tuner 	<ul style="list-style-type: none"> AV-58

HANDS-FREE PHONE

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> Bluetooth control unit power circuit Bluetooth control unit 	<ul style="list-style-type: none"> AV-109 AV-106
Steering wheel audio switch does not operate	<ul style="list-style-type: none"> Steering wheel audio control switch Bluetooth control unit 	<ul style="list-style-type: none"> AV-53 AV-106
Voice activated control does not activate	<ul style="list-style-type: none"> Microphone Steering wheel audio control switch Bluetooth control unit 	<ul style="list-style-type: none"> AV-110 AV-53 AV-106

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM AUDIO (CREW CAB)]

NORMAL OPERATING CONDITION

Description

INFOID:000000004057133

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.	<ul style="list-style-type: none">• Ignition components
The occurrence of the noise is linked with the operation of the fuel pump.		<ul style="list-style-type: none">• Fuel pump condenser
Noise only occurs when various electrical components are operating.	A cracking or snapping sound occurs with the operation of various switches.	<ul style="list-style-type: none">• Relay malfunction, audio unit malfunction
	The noise occurs when various motors are operating.	<ul style="list-style-type: none">• Motor case ground• Motor
The noise occurs constantly, not just under certain conditions.		<ul style="list-style-type: none">• Rear defogger coil malfunction• Open circuit in printed heater• Poor ground of antenna feeder line
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		<ul style="list-style-type: none">• Ground wire of body parts• Ground due to improper part installation• Wiring connections or a short circuit

PRECAUTION

PRECAUTIONS

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

INFOID:000000004057134

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 sections 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.

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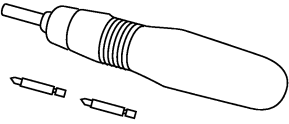
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PREPARATION

PREPARATION

Commercial Service Tools

INFOID:000000004057135

Tool name	Description
<p data-bbox="175 516 285 541">Power tool</p>  <p data-bbox="850 632 917 646">PBIC0191E</p>	<p data-bbox="1008 411 1256 436">Loosening bolts and nuts</p>

ON-VEHICLE REPAIR

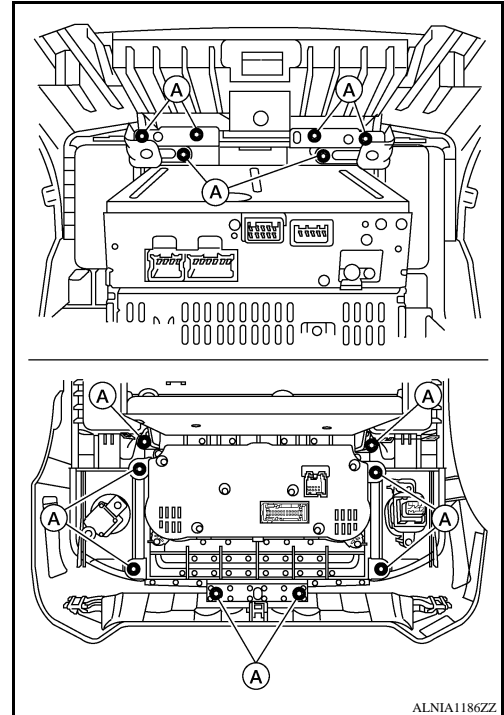
AUDIO UNIT

Removal and Installation

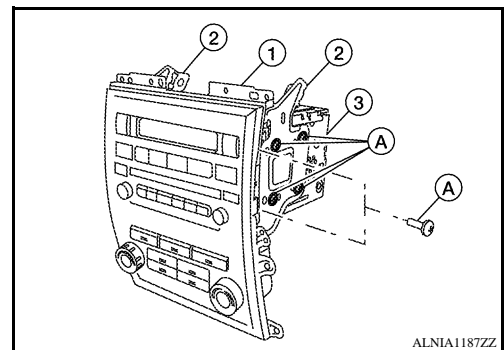
INFOID:000000004057136

REMOVAL

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



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



INSTALLATION

Installation is in the reverse order of removal.

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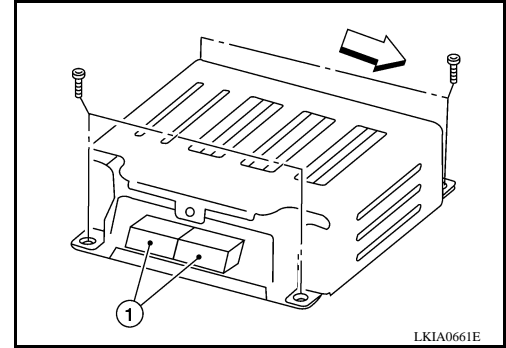
AUDIO AMP

Removal and Installation

INFOID:000000004057137

REMOVAL

1. Remove the RH front seat. Refer to [SE-28. "Removal and Installation"](#).
2. Remove the audio amp and kick shield screws.
3. Disconnect the audio amp connectors (1) and remove the audio amp.
 - ⇐ :Vehicle front



INSTALLATION

Installation is in the reverse order of removal.

FRONT TWEETER

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

FRONT TWEETER

Removal and Installation

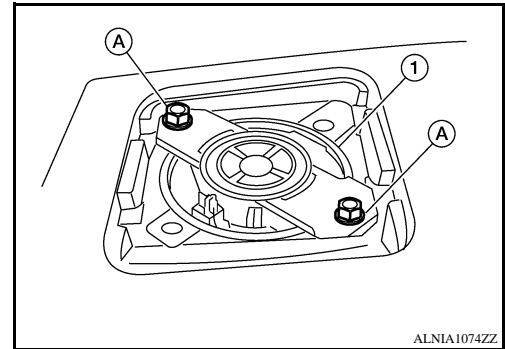
INFOID:000000004057138

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

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

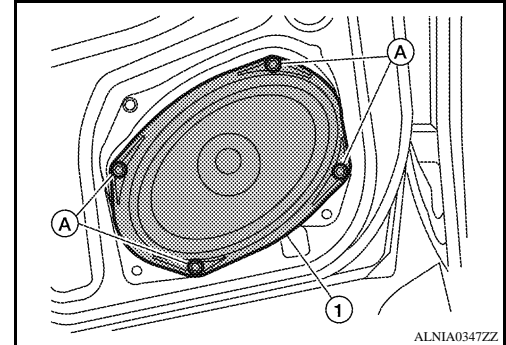
FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000004057139

REMOVAL

1. Remove the front door finisher. Refer to [INT-13. "Removal and Installation"](#).
2. Remove the front door speaker screws (A).
3. Pull out the front door speaker (1), and disconnect the front door speaker connector and remove the front door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

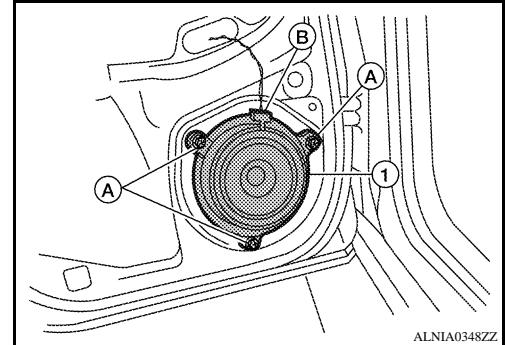
REAR DOOR SPEAKER

Removal and Installation

INFOID:000000004057140

REMOVAL

1. Remove the rear door finisher. Refer to [INT-13, "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

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

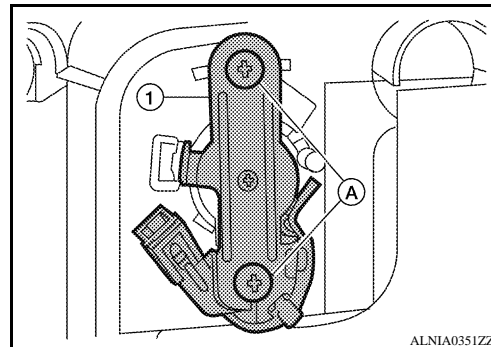
REAR DOOR TWEETER

Removal and Installation

INFOID:000000004057141

REMOVAL

1. Remove the rear door finisher. Refer to [INT-13. "Removal and Installation"](#).
2. Remove the rear door tweeter screws (A) and remove the rear door tweeter (1).



INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

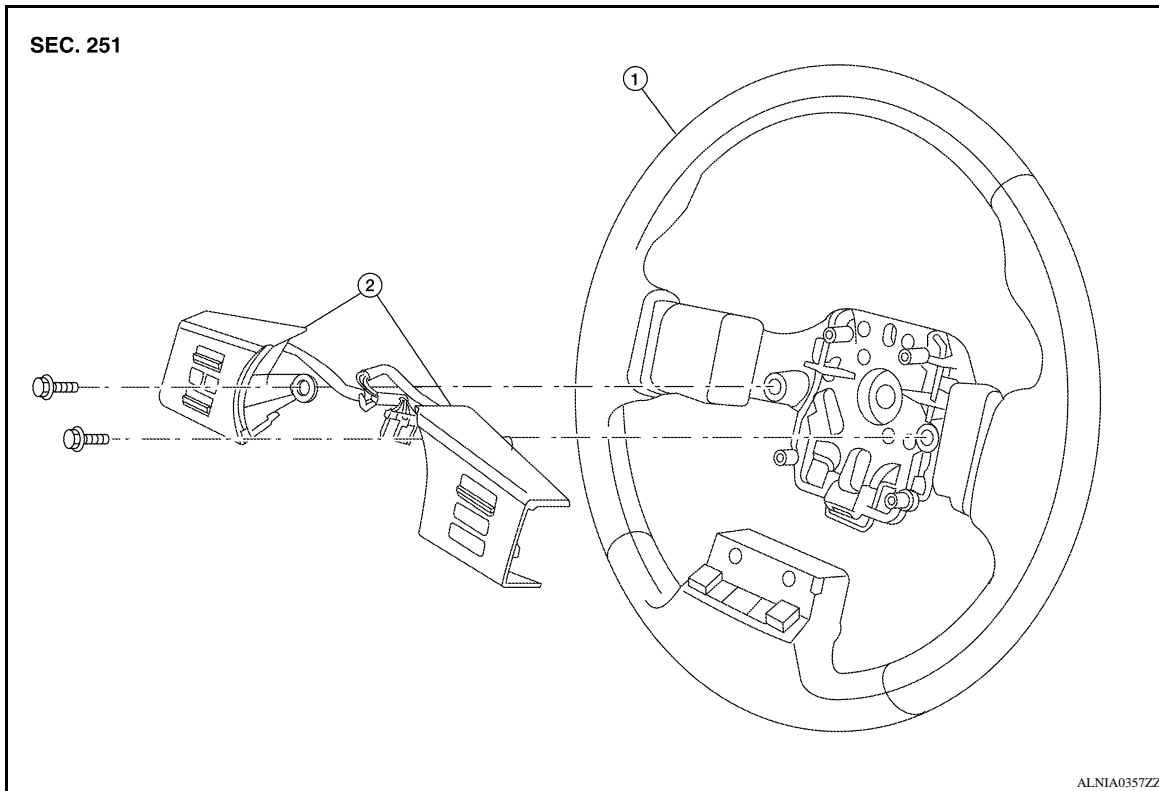
< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

STEERING SWITCH

Removal and Installation

INFOID:000000004057142



1. Steering wheel

2. Steering wheel audio control switches

REMOVAL

1. Remove the driver air bag module. Refer to [SR-4, "Removal and Installation"](#).
2. Remove the steering wheel. Refer to [ST-8, "On-Vehicle Inspection and Service"](#).
3. Remove the steering wheel rear cover.
4. Remove the steering wheel audio control switch assembly screws.
5. Disconnect the steering wheel audio control switches connector and remove the steering wheel audio control switches.

INSTALLATION

Installation is in the reverse order of removal.

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SUBWOOFER

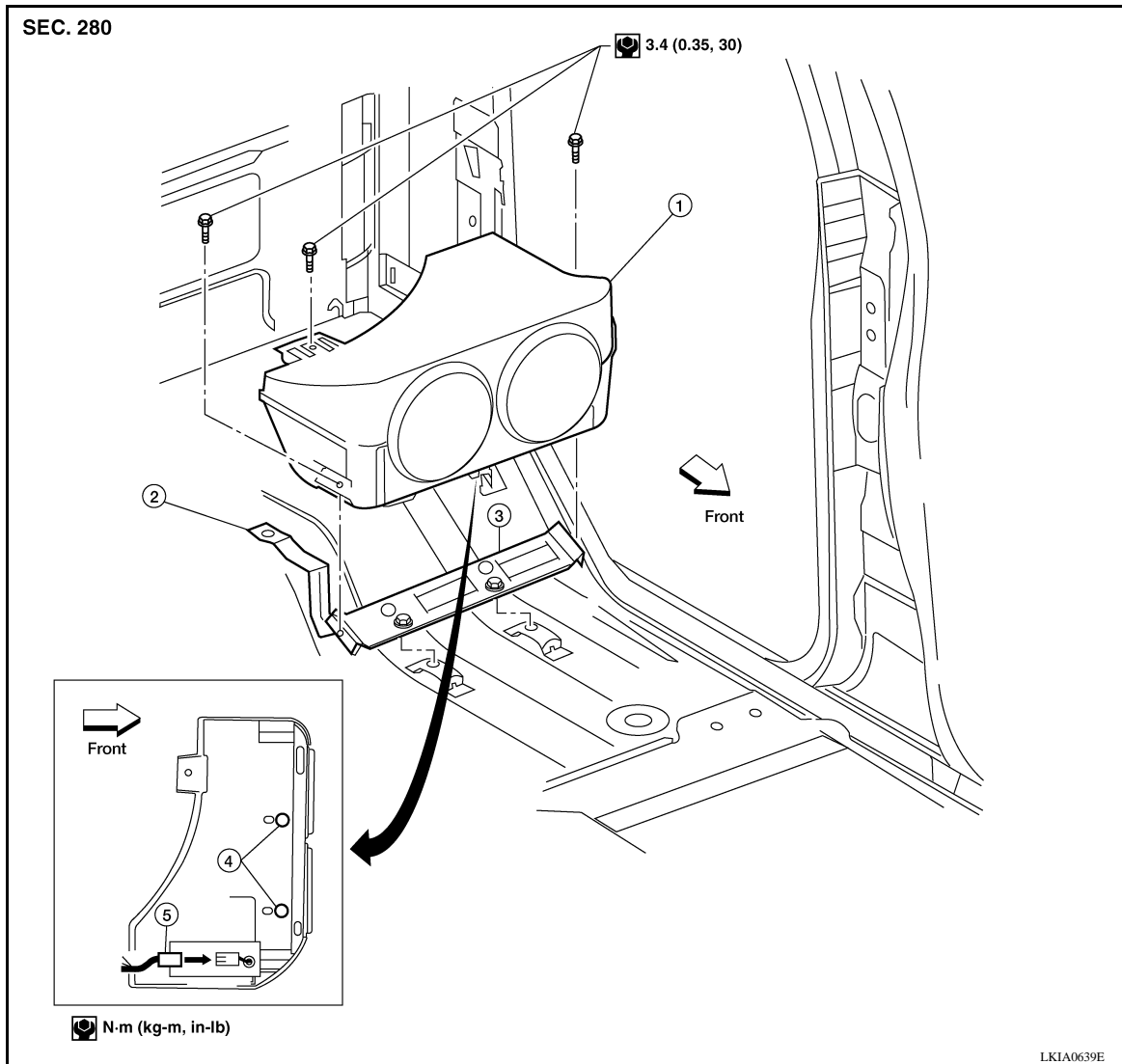
< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

SUBWOOFER

Removal and Installation

INFOID:000000004057143



- | | | |
|-----------------|--------------|-----------------------|
| 1. Subwoofer | 2. Bracket | 3. Locating pin plate |
| 4. Locating pin | 5. Connector | |

REMOVAL

1. Position the LH rear seat cushion in the folded up position.
2. Remove storage box RH (crew cab). Refer to [INT-21, "Removal and Installation"](#).
3. Remove the subwoofer screws.
4. Disconnect the connector and remove the subwoofer.

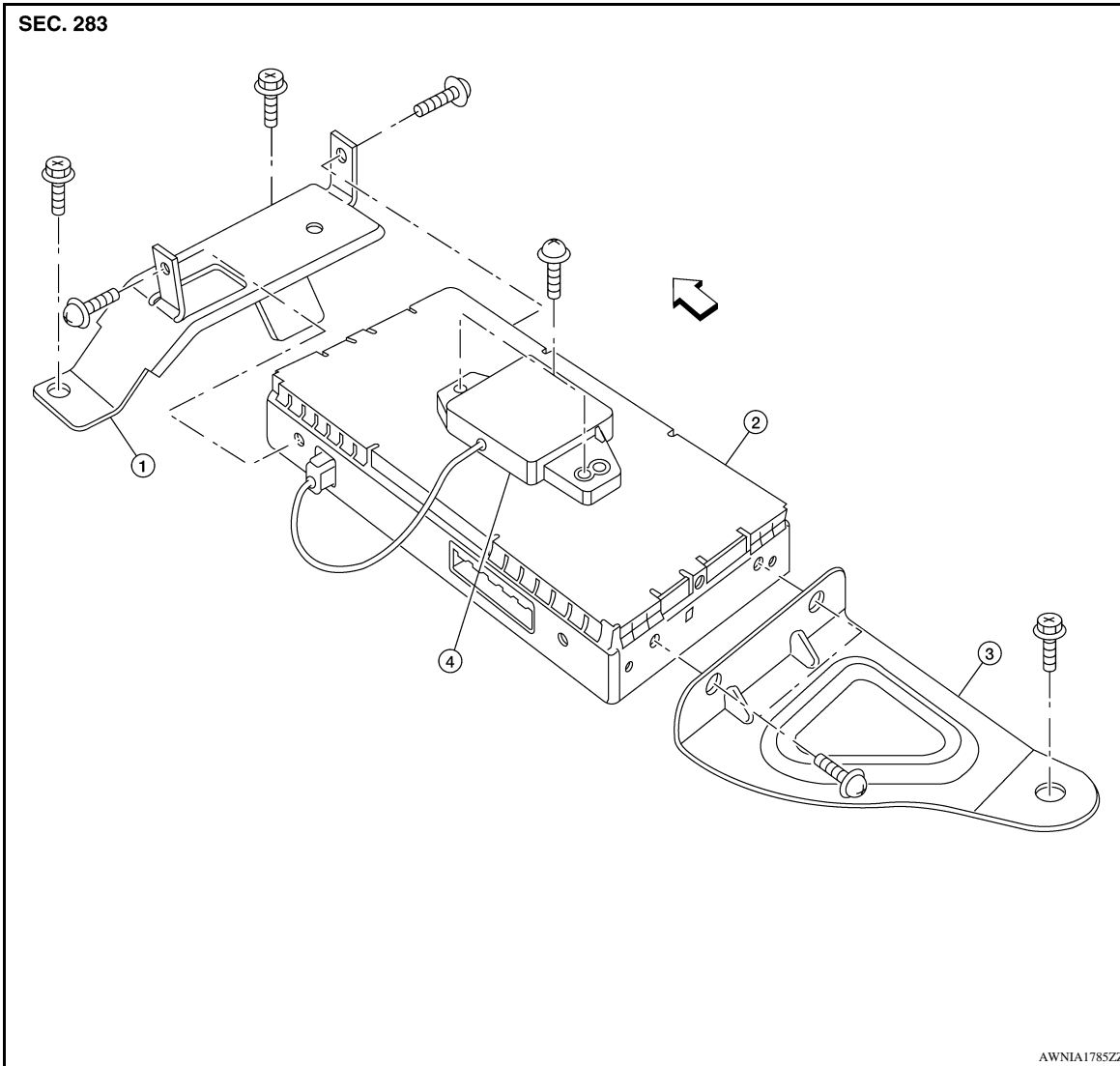
INSTALLATION

Installation is in the reverse order of removal.

TEL ANTENNA

Removal and Installation

INFOID:000000004432018



- | | | |
|---|---------------------------|--|
| 1. Bluetooth control unit front bracket | 2. Bluetooth control unit | 3. Bluetooth control unit rear bracket |
| 4. Bluetooth antenna | ← Vehicle front | |

REMOVAL

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

INSTALLATION

Installation is in the reverse order of removal.

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BLUETOOTH CONTROL UNIT

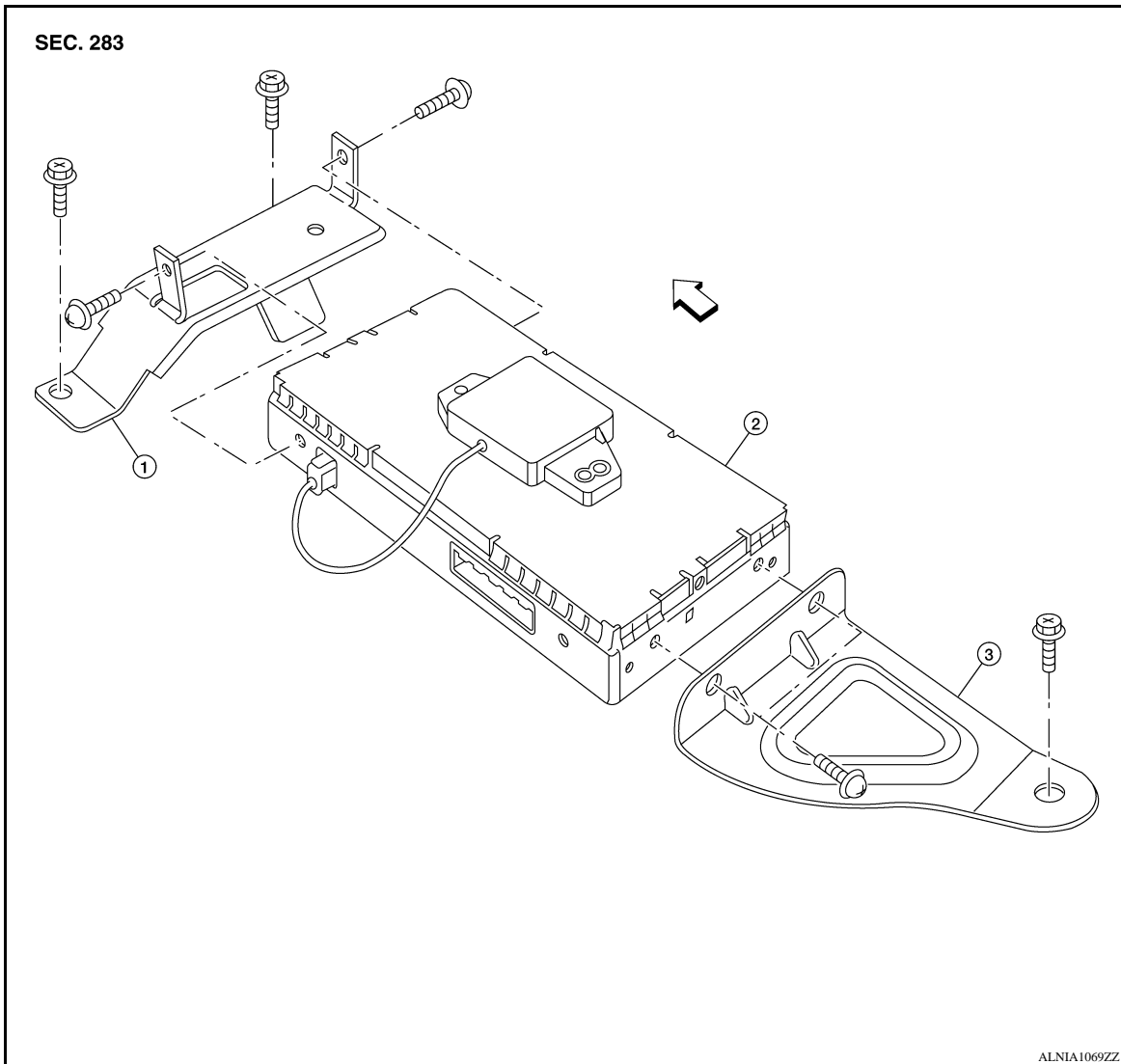
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[PREMIUM AUDIO (CREW CAB)]

BLUETOOTH CONTROL UNIT

Removal and Installation

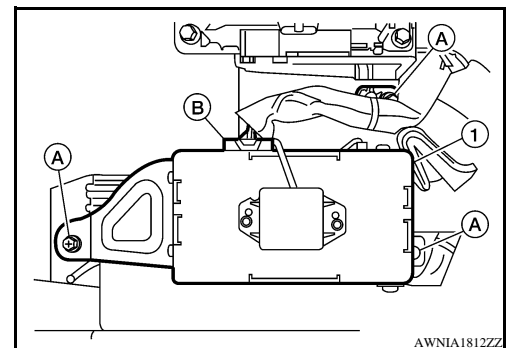
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1. Bluetooth control unit front bracket 2. Bluetooth control unit/antenna 3. Bluetooth control unit rear bracket
← Vehicle front

REMOVAL

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



INSTALLATION

BLUETOOTH CONTROL UNIT

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

Installation is in the reverse order of removal.

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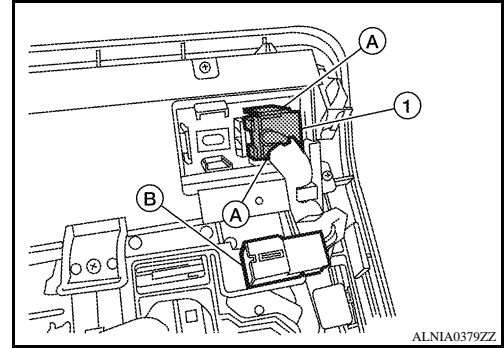
MICROPHONE

Removal and Installation

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REMOVAL

1. Remove the front roof console finisher. Refer to [INT-23. "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

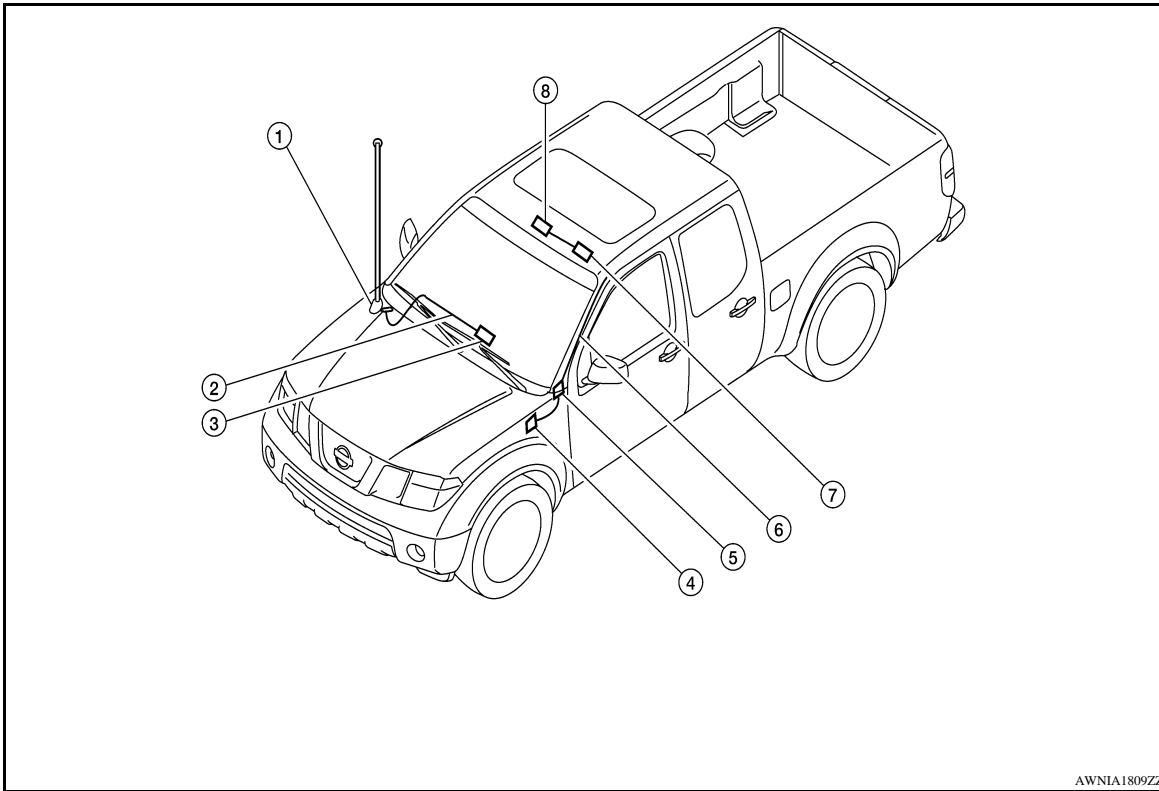
< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

AUDIO ANTENNA

Location of Antenna

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AWNIA1809ZZ

- | | | |
|---------------------------------------|-----------------------------------|----------------------------------|
| 1. Audio antenna | 2. Antenna feeder | 3. Audio unit M42, M45, M65, M66 |
| 4. Satellite radio tuner
M41, M129 | 5. Harness connector
M250, M68 | 6. Satellite antenna feeder |
| 7. Harness connector
M251 | 8. Satellite antenna | |

Removal and Installation

INFOID:000000004057147

REMOVAL

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

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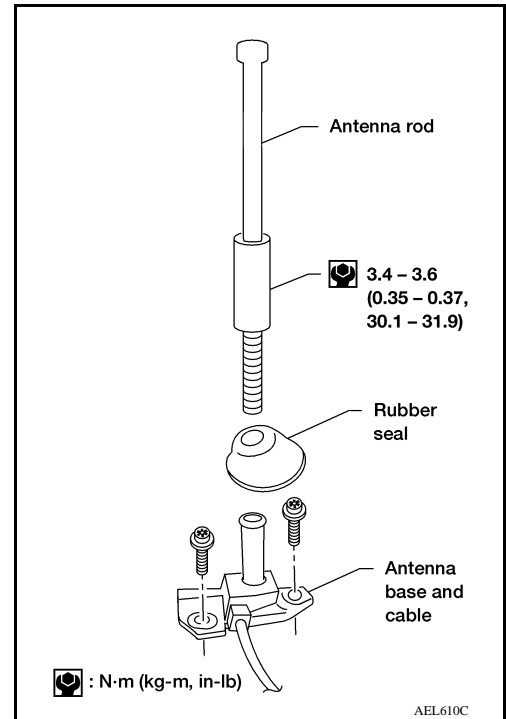
AV

AUDIO ANTENNA

[PREMIUM AUDIO (CREW CAB)]

< ON-VEHICLE REPAIR >

3. Remove antenna rod.
4. Remove rubber seal.
5. Remove cowl top. Refer to [EXT-19. "Removal and Installation"](#).
6. Remove fender protector. Refer to [EXT-22. "Removal and Installation of Front Fender Protector"](#).
7. Remove antenna base bolts.
8. Remove antenna base and cable.



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

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

SATELLITE RADIO ANTENNA

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

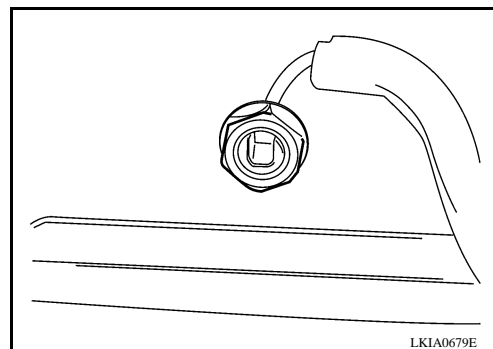
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:000000004057148

REMOVAL

1. Remove the roof console. Refer to [INT-23. "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

< ON-VEHICLE REPAIR >

[PREMIUM AUDIO (CREW CAB)]

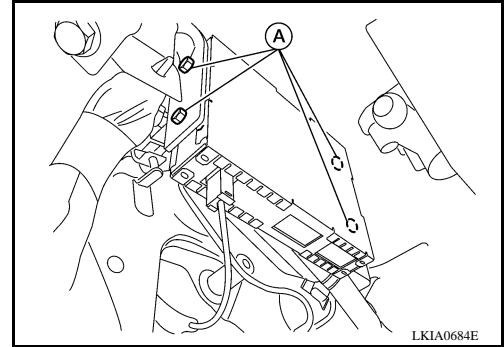
SATELLITE RADIO TUNER

Removal and Installation

INFOID:000000004057149

REMOVAL

1. Disconnect the battery negative terminal.
2. Remove the lower instrument panel. Refer to [IP-11, "Removal and Installation"](#).
3. Disconnect the satellite radio tuner connectors.
4. Remove satellite radio tuner screws (A), and remove satellite radio tuner.



INSTALLATION

Installation is in the reverse order of removal.