SECTION AV
AUDIO, VISUAL & NAVIGATION SYSTEM

CONTENTS

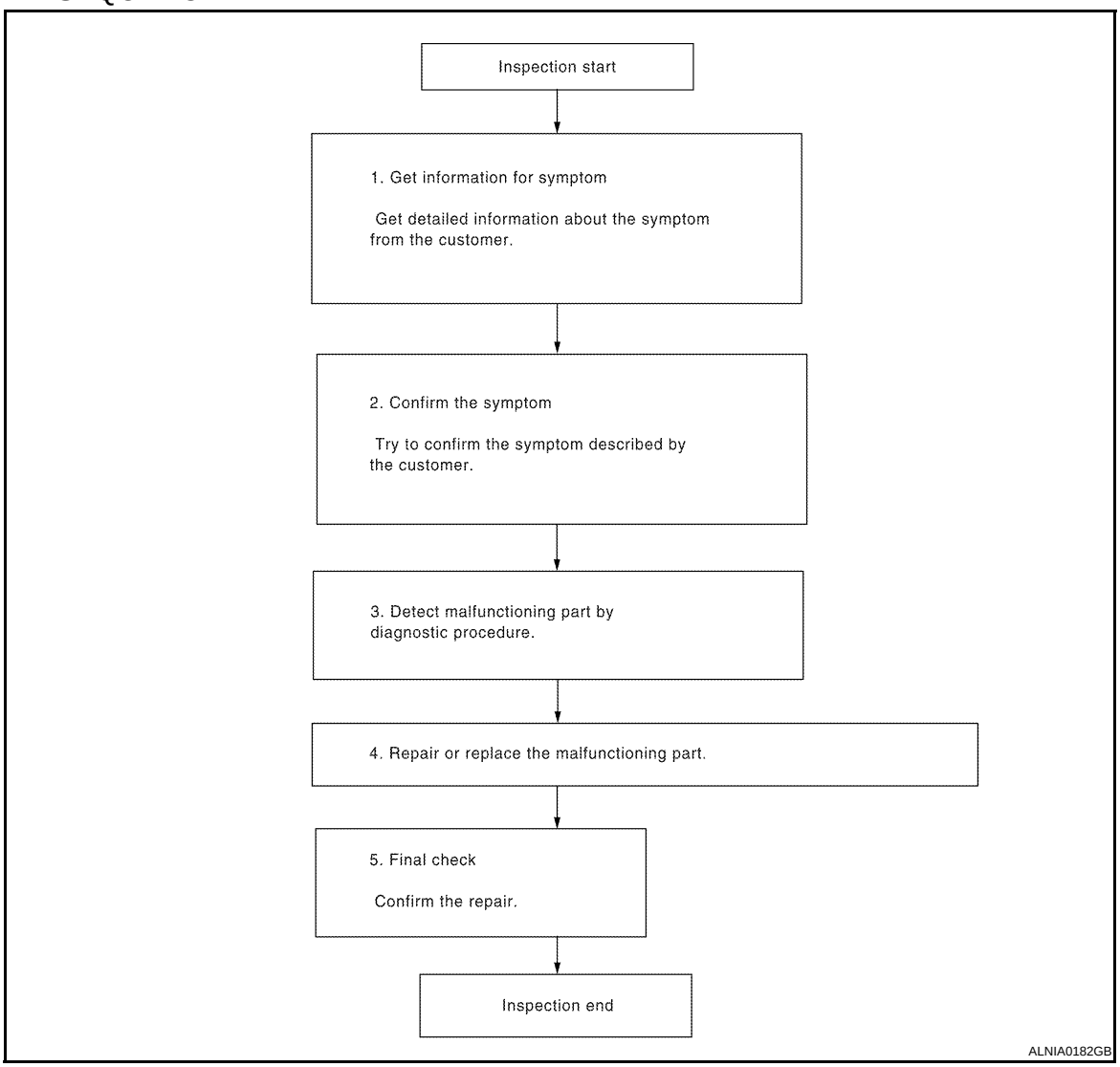
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000003301678

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.

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?

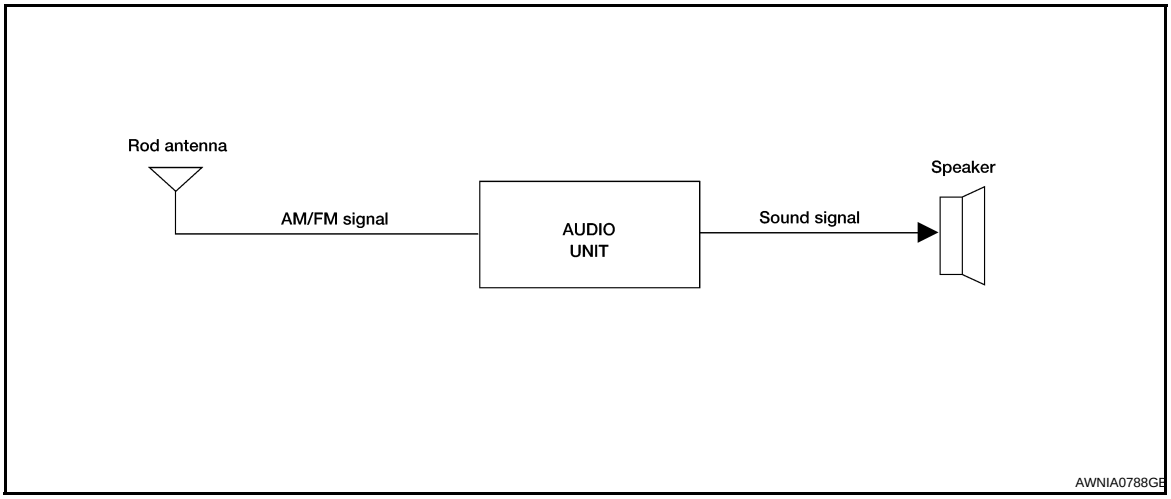
YES >> Inspection End.
NO >> GO TO 2

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram

INFOID:0000000003301679



System Description

INFOID:0000000003301680

AUDIO SYSTEM

The audio system consists of the following components

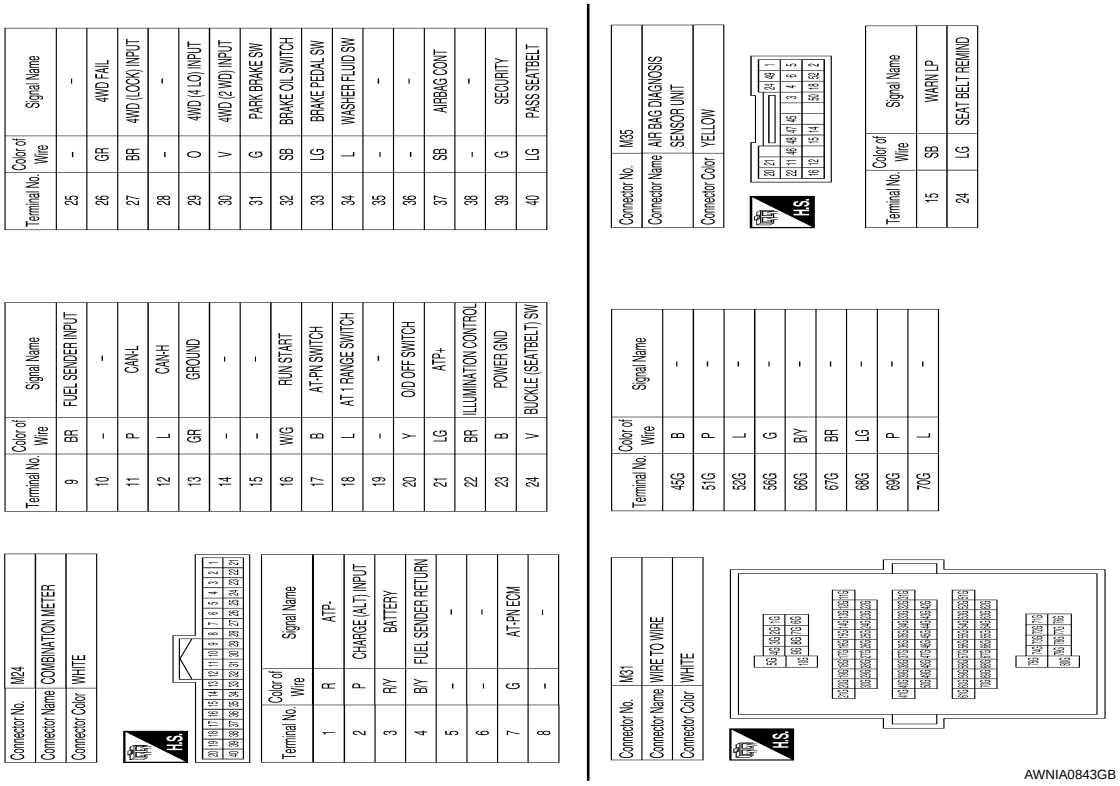
- Audio unit
- Rod antenna
- Front door speakers
- Front tweeters
- Rear door speakers

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.

Component Parts Location

INFOID:0000000003301681



1. Front tweeter
   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:0000000003301682

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

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000003301683

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

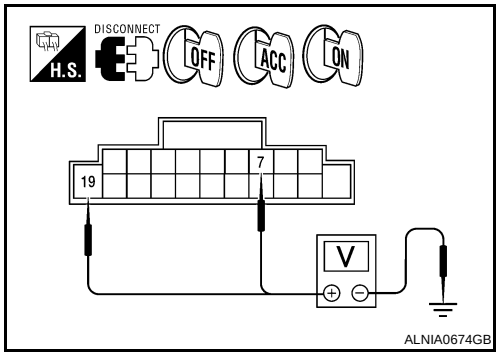
Are the fuses OK?

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.

FRONT DOOR SPEAKER

Description

INFOID:0000000003301684

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

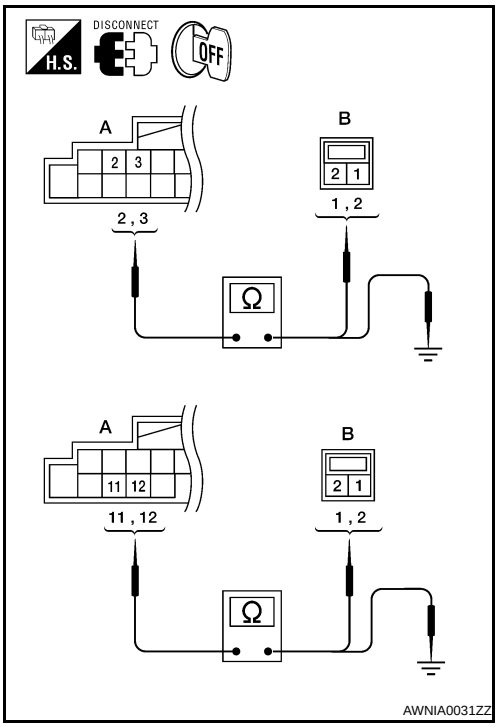
Diagnosis Procedure

INFOID:0000000003301685

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.

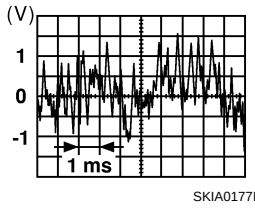
A		—	Continuity
Connector	Terminal		
M43	2	Ground	No
	3		
	11		
	12		

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

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.

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

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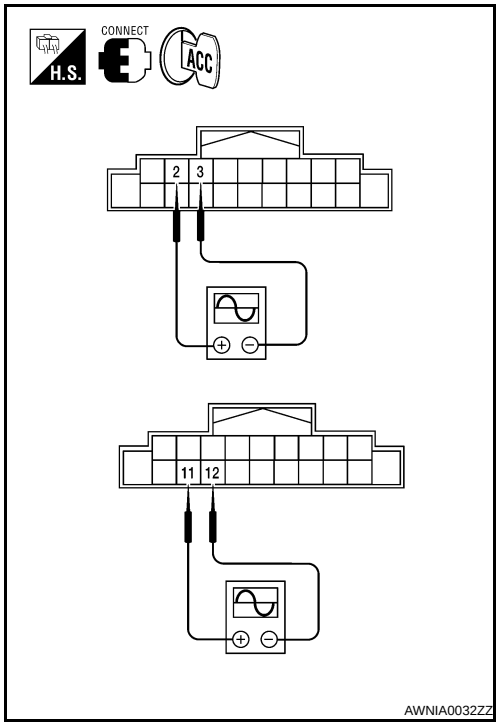

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Is the audio signal voltage as specified?

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

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

FRONT TWEETER

Description

INFOID:0000000003301686

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

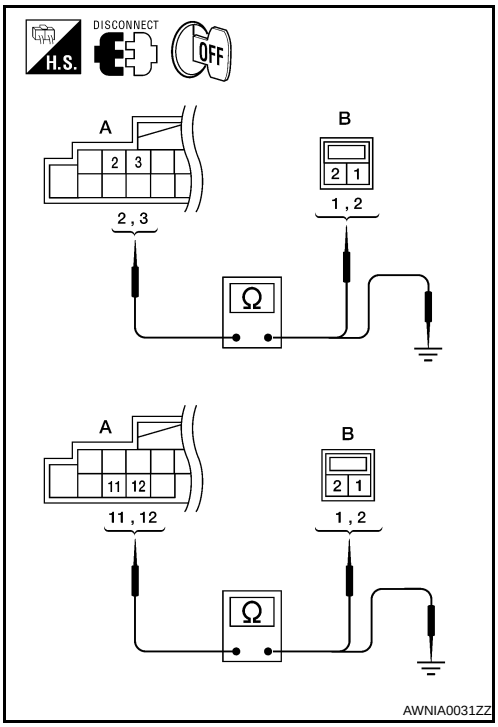
Diagnosis Procedure

INFOID:0000000003301687

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.

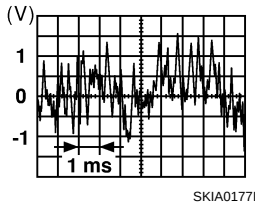
A		—	Continuity
Connector	Terminal		
M43	2	Ground	No
	3		
	11		
	12		

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

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
Connector	Terminal	Terminal		
M43	2	3	Receive audio signal	
	11	12		

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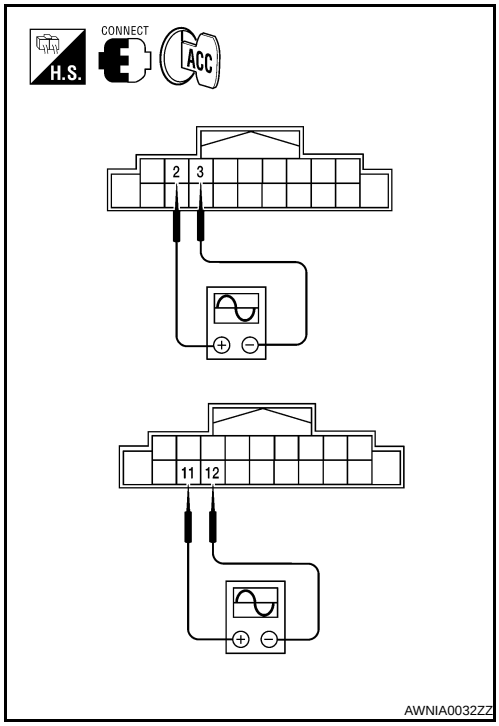

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Is the audio signal voltage as specified?

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

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

REAR DOOR SPEAKER

Description

INFOID:0000000003301688

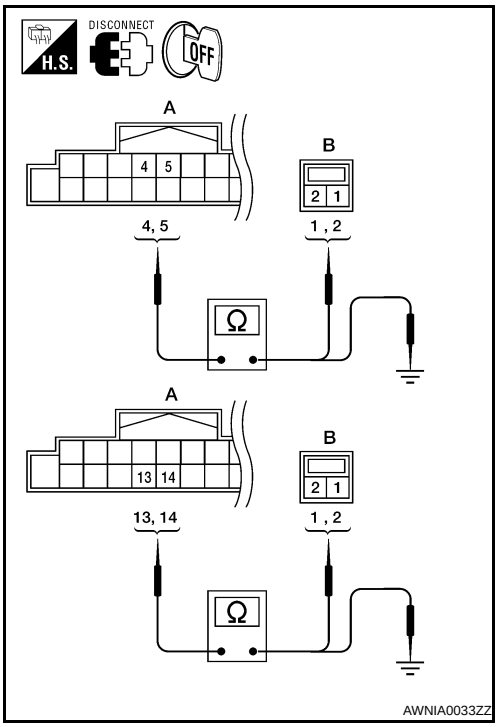
The audio unit sends audio signals to the rear door speakers using the rear door speaker circuits.

Diagnosis Procedure

INFOID:0000000003301689

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	1	Yes
	5		2	
	13	D307	1	
	14		2	

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

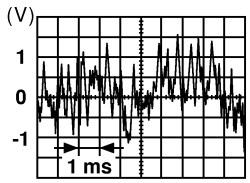
A		—	Continuity
Connector	Terminal		
M43	4	Ground	No
	5		
	13		
	14		

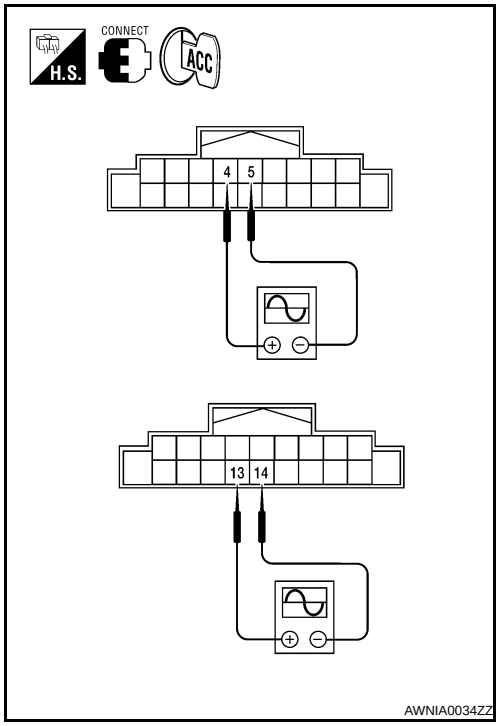
Are the continuity results as specified?

YES >> GO TO 2
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.REAR DOOR SPEAKER SIGNAL CHECK

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	(+) Terminal	(-) Terminal	Condition	Reference signal
M43	4	5	Receive audio signal	 SKIA0177E
	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".

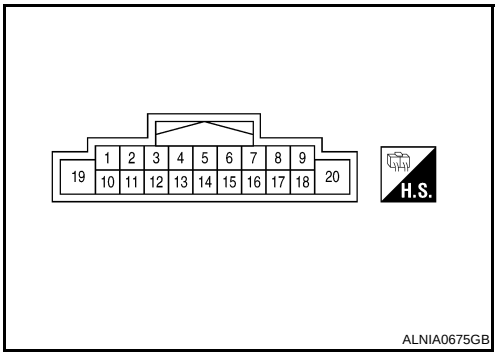
ECU DIAGNOSIS

AUDIO UNIT

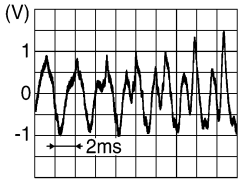
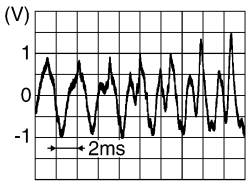
Reference Value

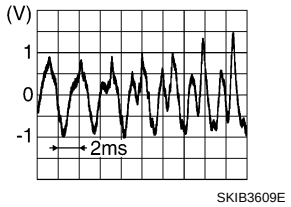
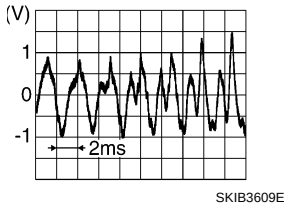
INFOID:0000000003301690

TERMINAL LAYOUT



PHYSICAL VALUES

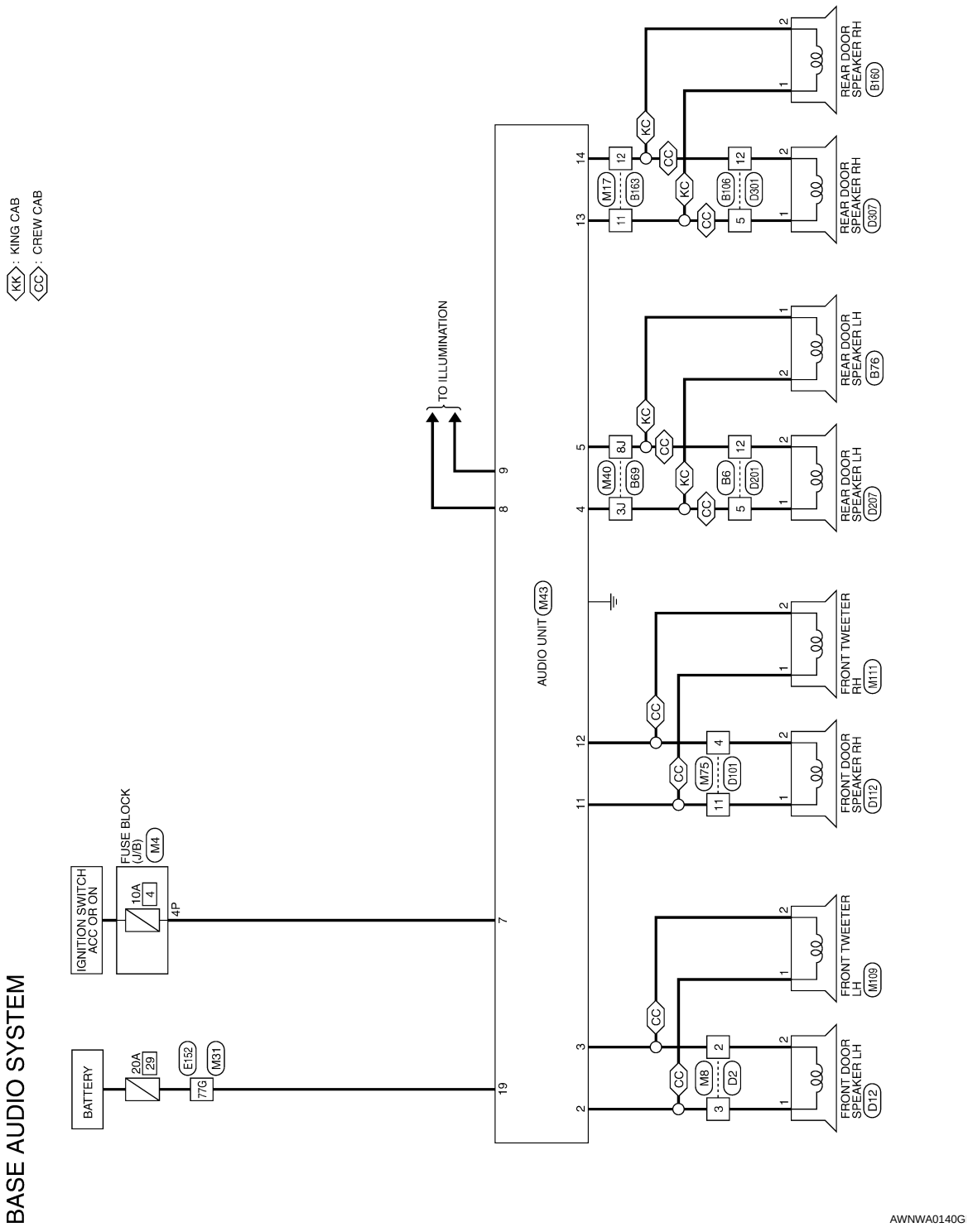
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
2 (BR)	3 (L)	Sound signal front door speaker and front tweeter LH	Output	Ignition switch ON	Audio output	
4 (G)	5 (B)	Sound signal rear door speaker LH	Output	Ignition switch ON	Audio output	
7 (G/B)	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

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	 SKIB3609E
13 (GR)	14 (O)	Sound signal rear door speaker RH	Output	Ignition switch ON	Voice output	 SKIB3609E
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage

Wiring Diagram

INFOID:0000000003301691

BASE AUDIO SYSTEM



BASE AUDIO SYSTEM CONNECTORS

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

H.S.

7P	6P	5P	4P	3P	2P	1P
16P	15P	14P	13P	12P	11P	10P	9P	8P

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

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

H.S.

5	4	3	2	1
12	11	10	9	8	7	6

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

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

H.S.

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

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

H.S.

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

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

H.S.

7	6	5	4	3	2	1
16	15	14	13	12	11	10	9	8

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

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Connector No.	M43
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

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

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.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Connector No.	M109
Connector Name	FRONT TWEETER LH
Connector Color	BROWN

H.S.

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

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

H.S.

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

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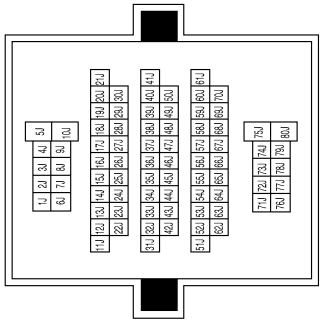
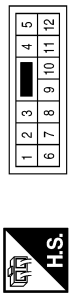
Connector No.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



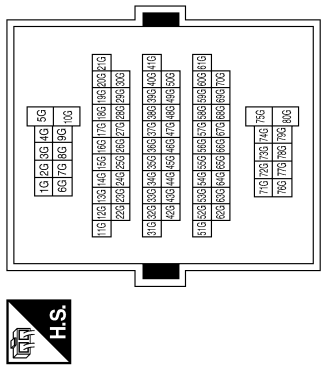
Terminal No.	Color of Wire	Signal Name
3J	G	–
8J	B	–

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



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

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

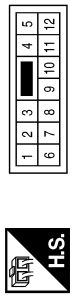


Terminal No.	Color of Wire	Signal Name
77G	Y	–

Connector No.	B160
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE

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

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



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

Connector No.	B76
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE

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

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

H.S.

1	2	3	4	5	6	7
8	9	10	11	12	13	14	15	16

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

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

H.S.

1	2	3	4	5
6	7	8	9	10	11	12

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

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

H.S.

2	1

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

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

H.S.

1	2	3	4	5
6	7	8	9	10	11	12

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

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

H.S.

2	1

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

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

H.S.

5	4	3	2	1
12	11	10	9	8	7	6

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

AWNIA0677GB

Connector No.	D307
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE

H.S.

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

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

H.S.

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

Connector No.	D207
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE

H.S.

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

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SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000003301692

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	• Audio unit power circuit • Audio unit	• AV-9
All speakers do not sound	• Audio unit • Audio unit power circuit	• AV-9
One or several speakers do not sound	• Front door speaker • Front tweeter • Rear door speaker	• 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

Description

INFOID:0000000003301693

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

PRECAUTION

PRECAUTIONS

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

INFOID:0000000003221781

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:

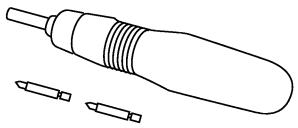
- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal 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:0000000003221782

Tool name	Description
Power tool  PBIC0191E	Loosening bolts and nuts

ON-VEHICLE REPAIR

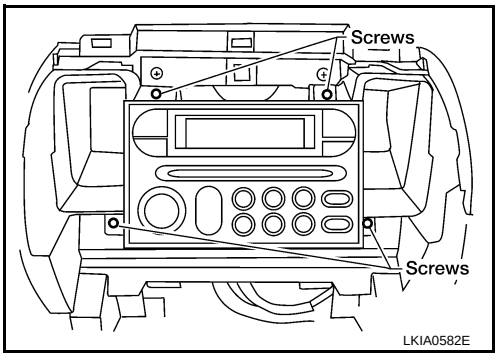
AUDIO UNIT

Removal and Installation

INFOID:0000000003301744

REMOVAL

1. Remove the cluster lid C. Refer to IP-10, "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

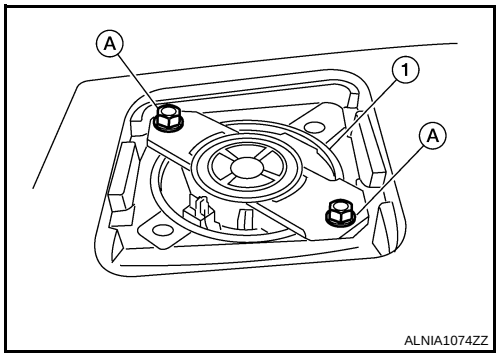
INFOID:0000000003301745

REMOVAL

CAUTION:

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

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



INSTALLATION

Installation is in the reverse order of removal.

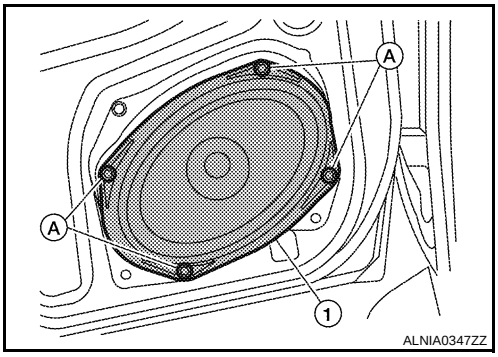
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000003301746

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.

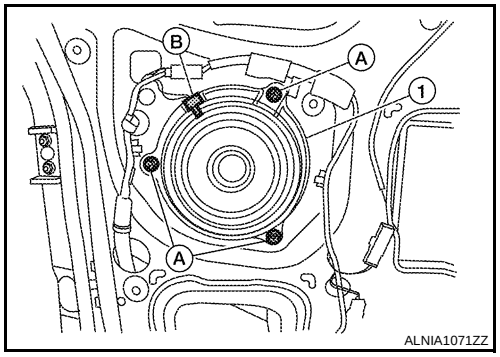
REAR DOOR SPEAKER

Removal and Installation

INFOID:0000000003302258

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.



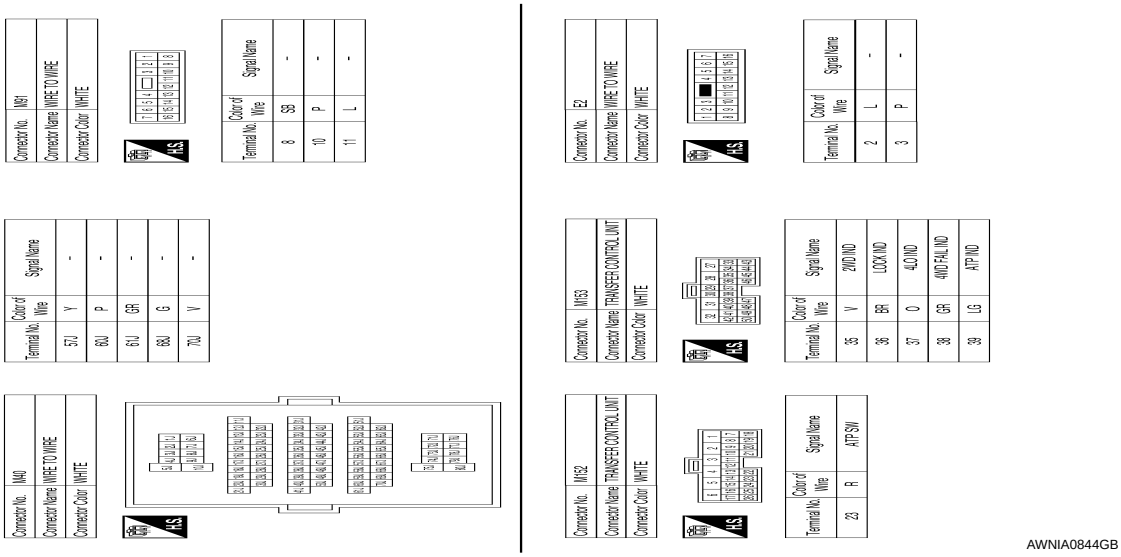
INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Audio Antenna System Component

INFOID:0000000003301748



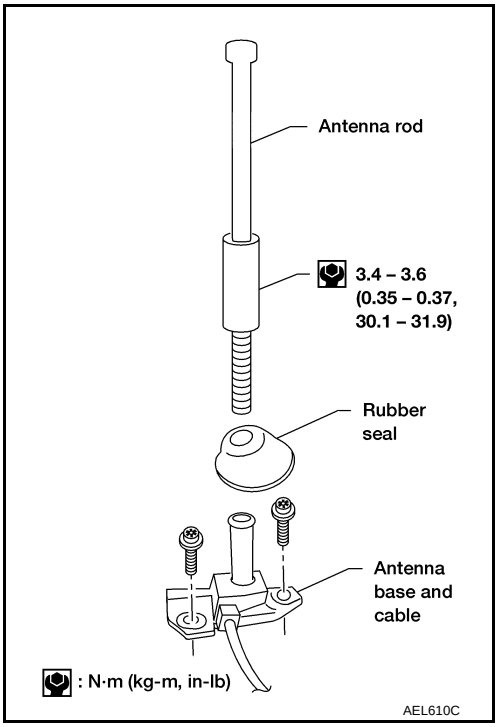
1. Audio antenna
2. Antenna feeder
3. Audio unit M43

Removal and Installation

INFOID:0000000003301749

REMOVAL

1. Remove lower glove box. Refer to IP-10, "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.



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.

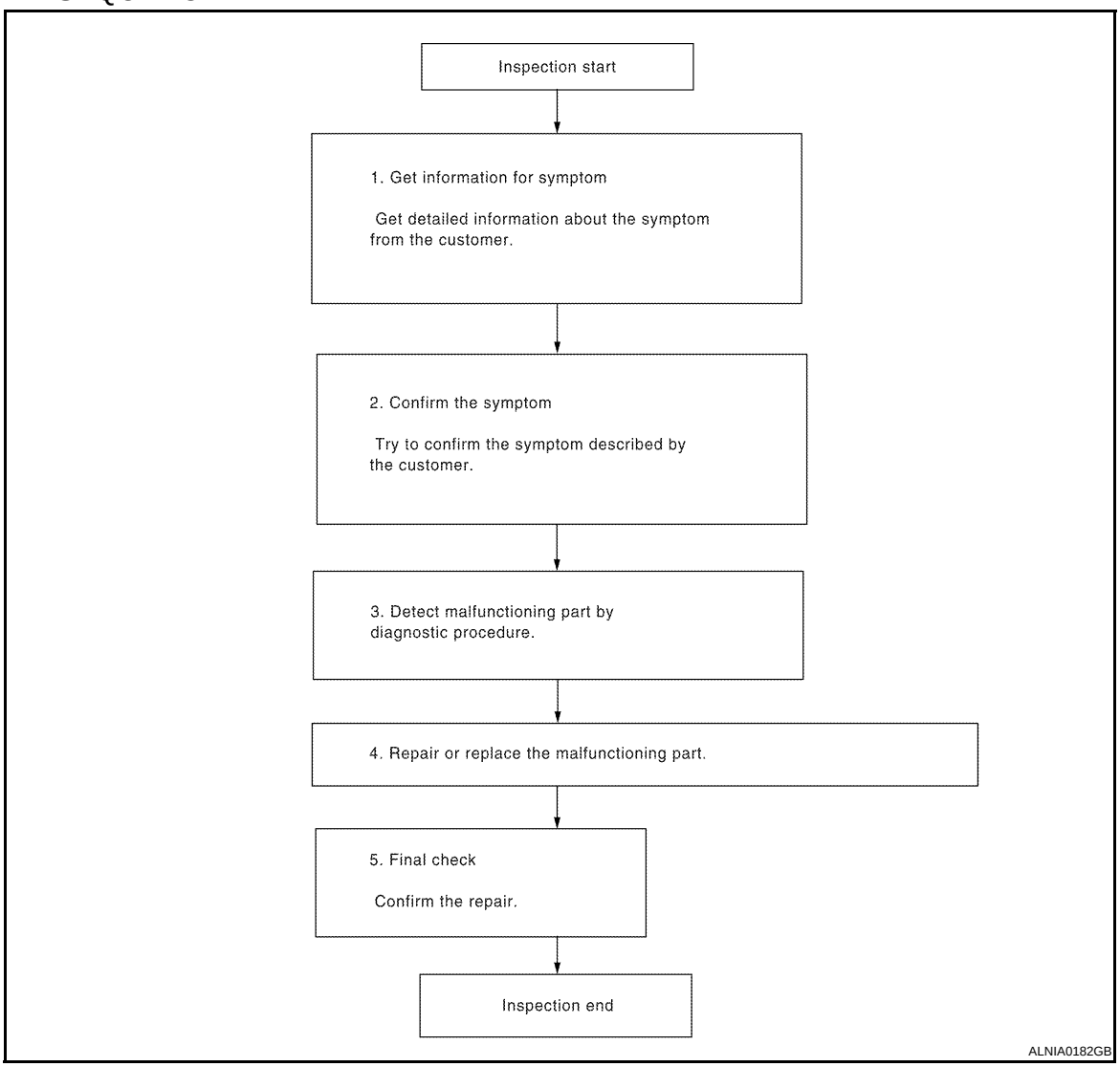
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000003301764

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.

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?

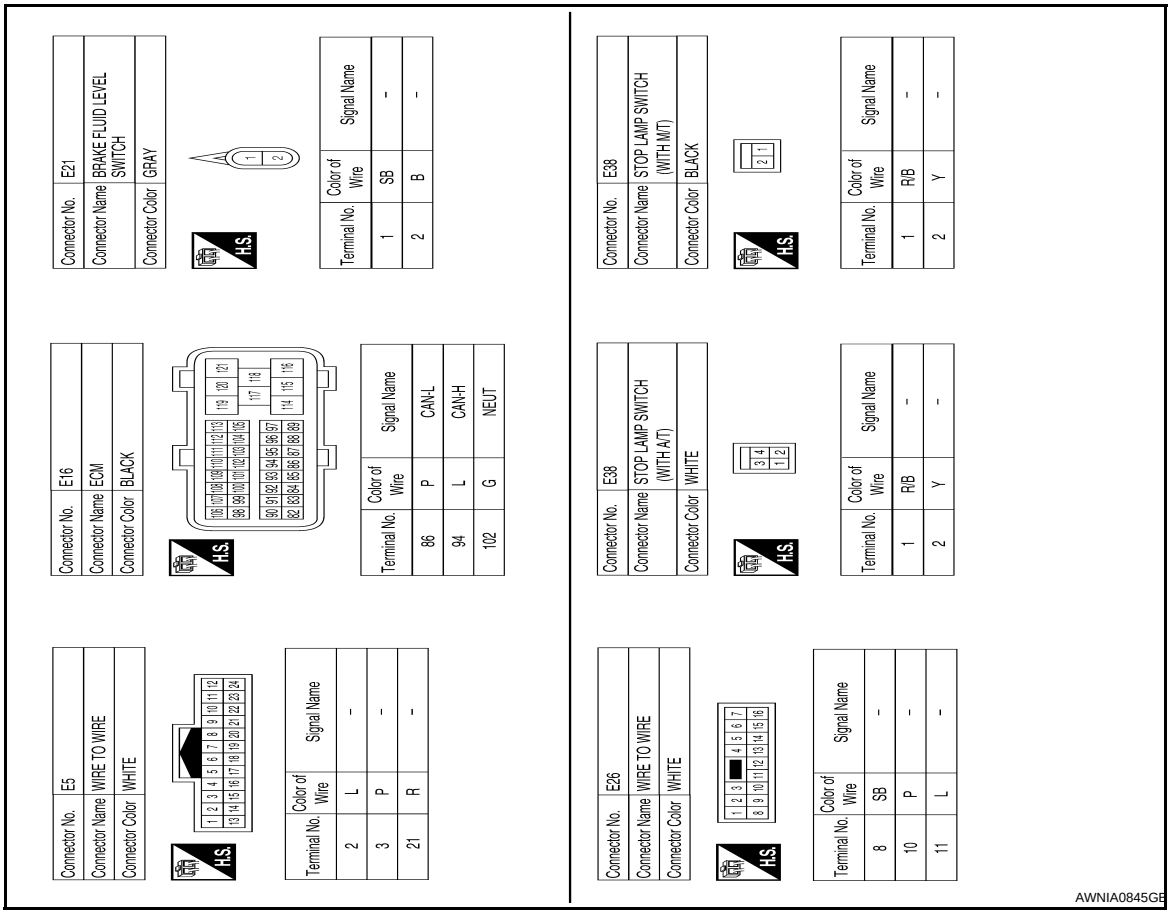
YES >> Inspection End.
NO >> GO TO 2

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram

INFOID:0000000003301765



System Description

INFOID:0000000003301766

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

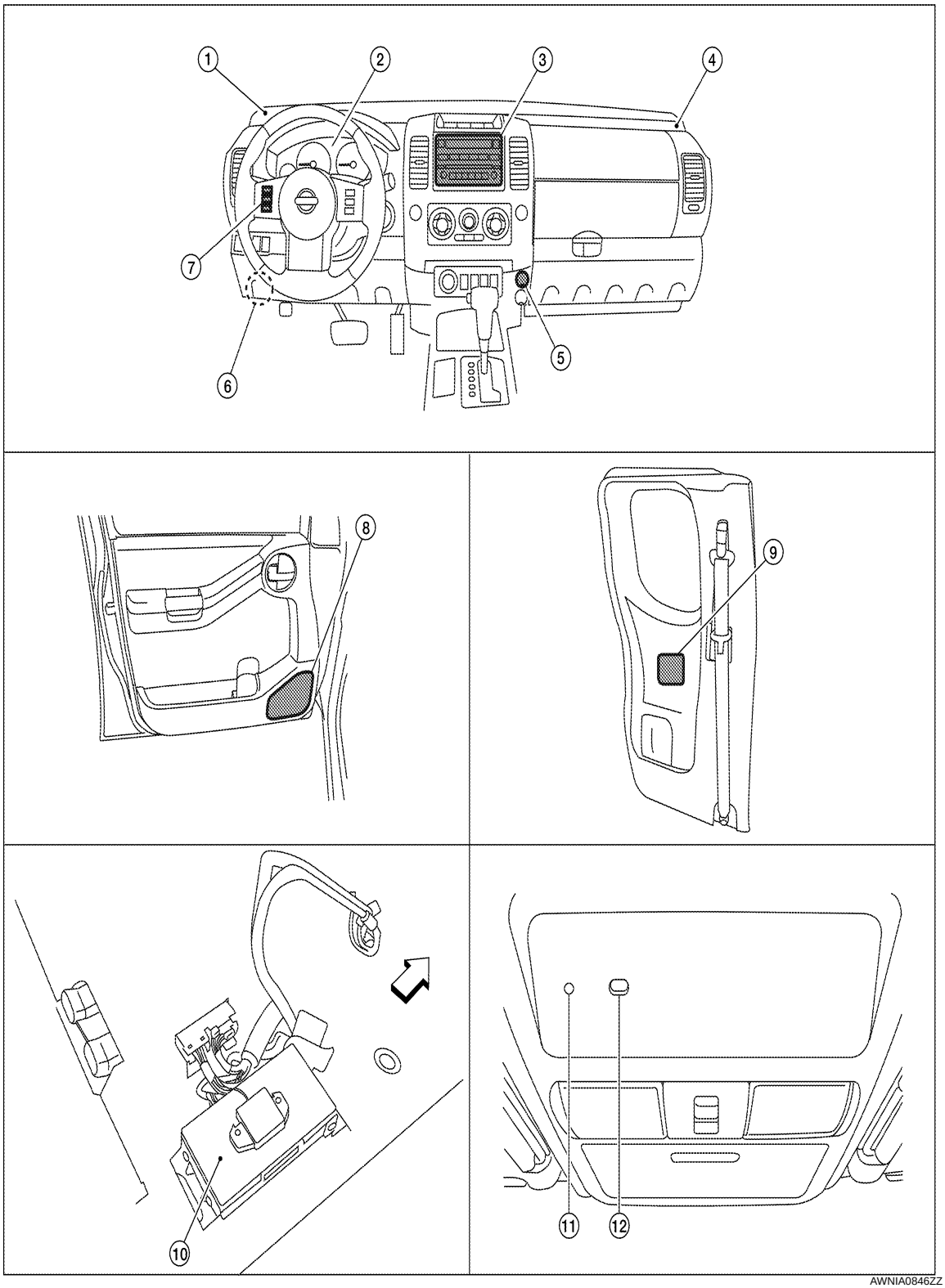
When the satellite radio system is on, radio signals are supplied to the satellite radio tuner from the satellite antenna. The satellite radio tuner then sends audio signals to the audio unit.
Refer to Owner's Manual for satellite radio system operating instructions.

SPEED SENSITIVE VOLUME SYSTEM

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:0000000003301767



AWNIA0846ZZ

⇦ :FRONT

1. Front tweeter LH M109
2. Combination meter M24
3. Audio unit M42, M43, M44, M45
4. Front tweeter RH M111
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 D207 RH D307
10. Bluetooth control unit B141 (view with passenger front seat removed)
11. Microphone R8
12. Bluetooth ON indicator R6

Component Description

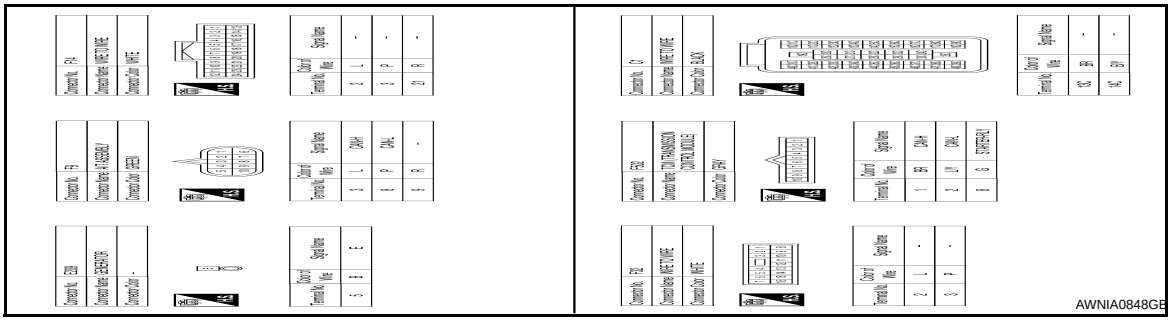
INFOID:0000000003301768

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

HANDS-FREE PHONE SYSTEM

System Diagram

INFOID:0000000003301769



System Description

INFOID:0000000003301770

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

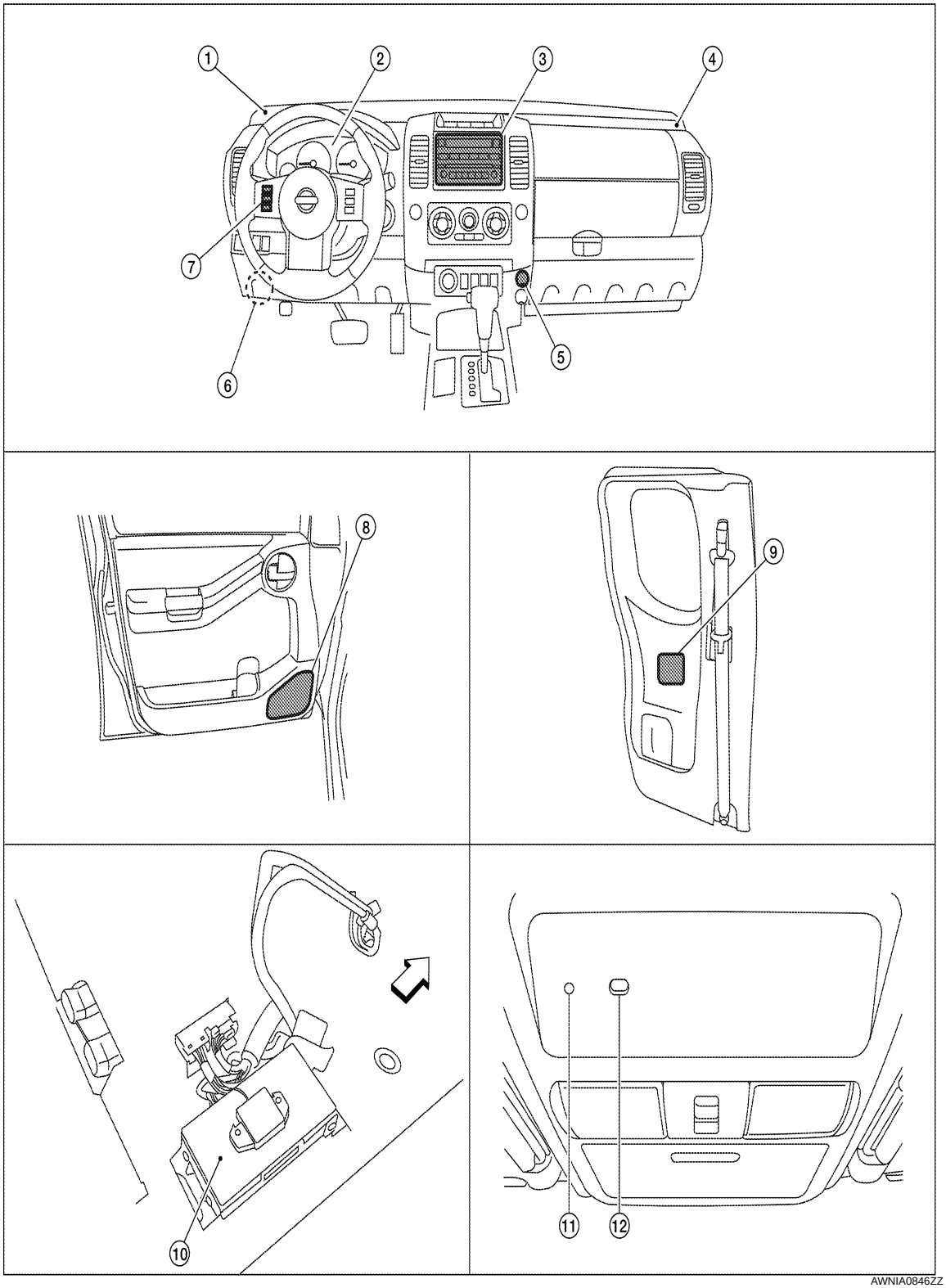
The audio unit receives signals from the Bluetooth control unit and sends audio signals to the speakers.

BLUETOOTH ON INDICATOR

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

Component Parts Location

INFOID:0000000003302293



AWNIA0846ZZ

⇦ :FRONT

1. Front tweeter LH M109
2. Combination meter M24
3. Audio unit M42, M43, M44, M45
4. Front tweeter RH M111
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 D207 RH D307
10. Bluetooth control unit B141 (view with passenger front seat removed)
11. Microphone R8
12. Bluetooth ON indicator R6

Component Description

INFOID:0000000003301772

Part name	Description
Audio unit	• Receives telephone voice signal from Bluetooth control unit • Sends telephone voice and voice guidance signals to the speakers
Front door speaker	Receives telephone voice and voice guidance signals from the audio amp.
Front tweeter	
Steering wheel audio control switches	• Start a voice recognition session • Answer and end telephone calls • Adjust the volume level
Microphone	Sends voice signals to Bluetooth control unit
Bluetooth control unit	Controls hands-free phone functions
Bluetooth antenna	Sends telephone voice signal to Bluetooth control unit
Bluetooth ON indicator	Controlled by the Bluetooth control unit

DIAGNOSIS SYSTEM (AUDIO UNIT)

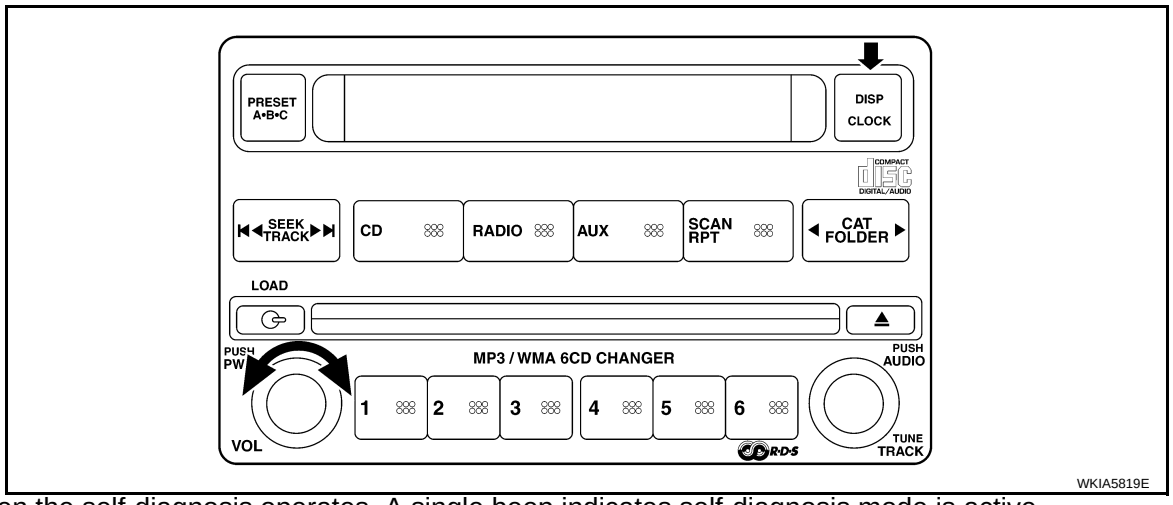
AV SWITCH

AV SWITCH : Component Function Check

INFOID:0000000003301773

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.

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description

INFOID:0000000003301774

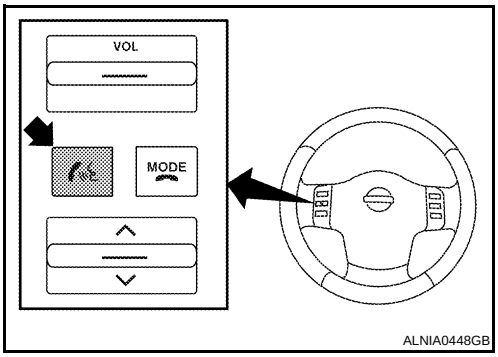
The Bluetooth control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

BLUETOOTH CONTROL UNIT INITIALIZATION CHECKS

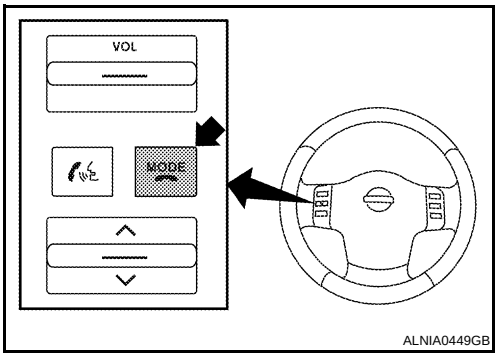
- Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switches [SEND( )/END(MODE)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth inquiry check

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 MODE 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 MODE 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:0000000003301775

Failure Message	Action
“Internal failure”	Replace Bluetooth control unit. Refer to AV-89, "Removal and Installation".
“Bluetooth antenna open”	1. Inspect harness connection. 2. Replace Bluetooth antenna. Refer to AV-89, "Removal and Installation".
“Bluetooth antenna shorted”	
“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-91, "Removal and Installation".

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000003301776

1.CHECK FUSES

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

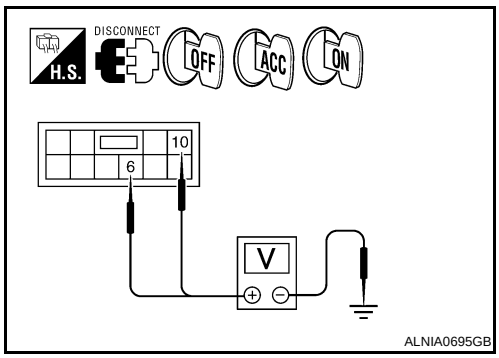
Unit	Terminals	Signal name	Fuse No.
Audio unit	6	Battery power	29
	10	Ignition switch ACC or ON	4

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



(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M43	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:0000000003301777

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

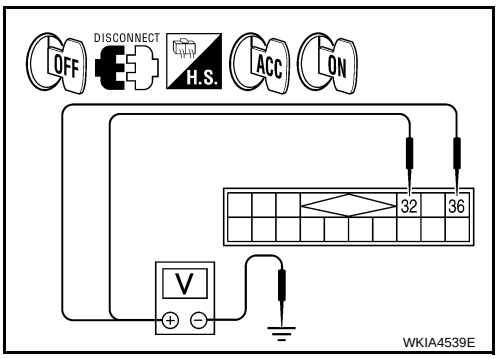
Are the fuses OK?

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

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:0000000003301779

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

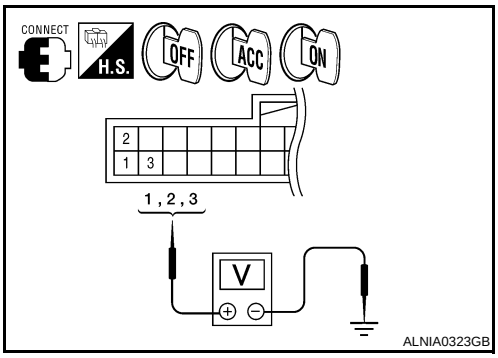
Is inspection result OK?

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

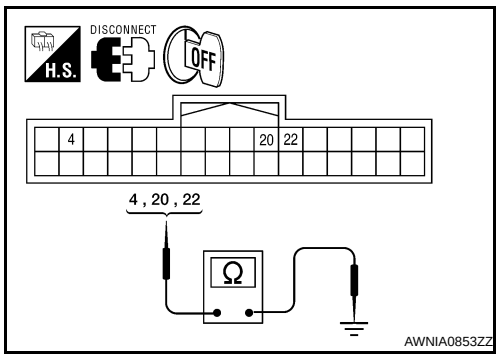


Is battery voltage present as specified?

YES >> GO TO 3.
NO >> Check harness between Bluetooth control unit and fuse.

3.CHECK GROUND CIRCUIT

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.

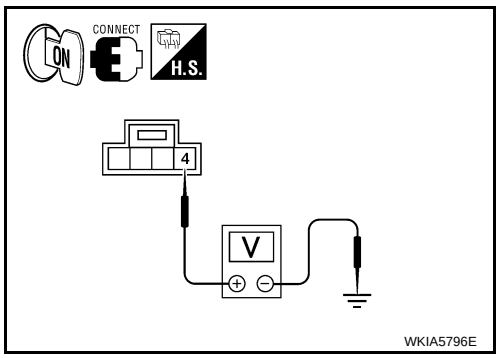
MICROPHONE

MICROPHONE : Diagnosis Procedure

INFOID:0000000003301780

1.CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

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



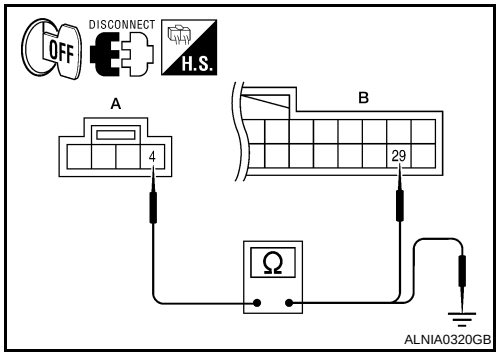
(+)		(-)	Value (Approx.)
Connector	Terminal		
R8	4	Ground	5V

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.

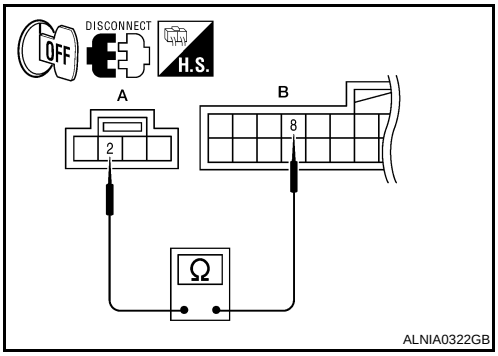
A		—	Continuity
Connector	Terminal		
R8	4	Ground	No

Are the continuity test results as specified?

YES >> Replace the Bluetooth control unit. Refer to AV-89, "Removal and Installation".
NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

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

Description

INFOID:0000000003301781

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

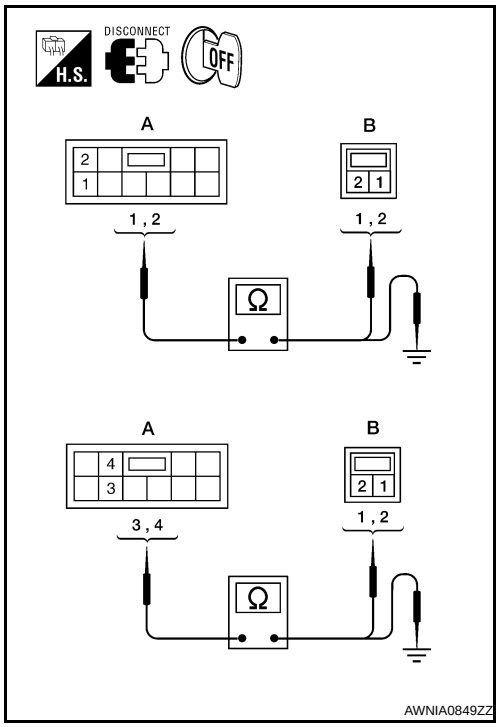
Diagnosis Procedure

INFOID:0000000003301782

1.SPEAKER HARNESS CHECK

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	D12	2	Yes
	2		1	
	3	D112	2	
	4		1	



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

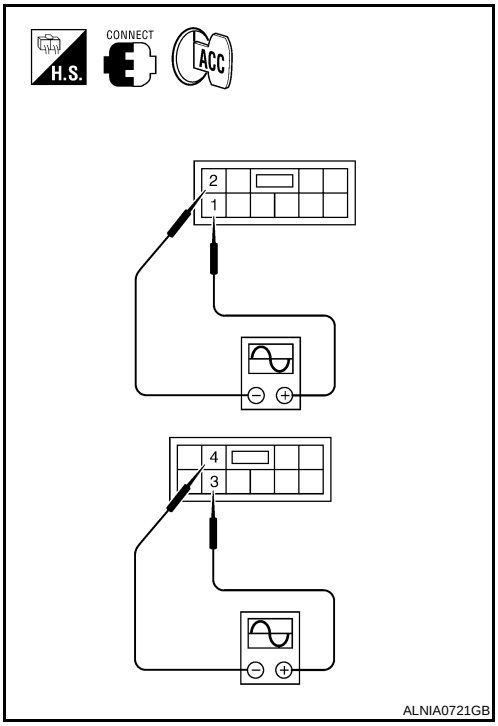
A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

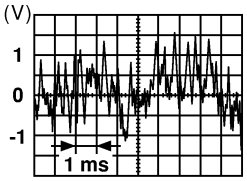
Are continuity test results as specified?

YES >> GO TO 2
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.SPEAKER SIGNAL CHECK

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 M43 terminals with CONSULT-III or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M43	1	2	Receive audio signal	 SKIA0177E
	3	4		

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".

FRONT TWEETER

Description

INFOID:0000000003301783

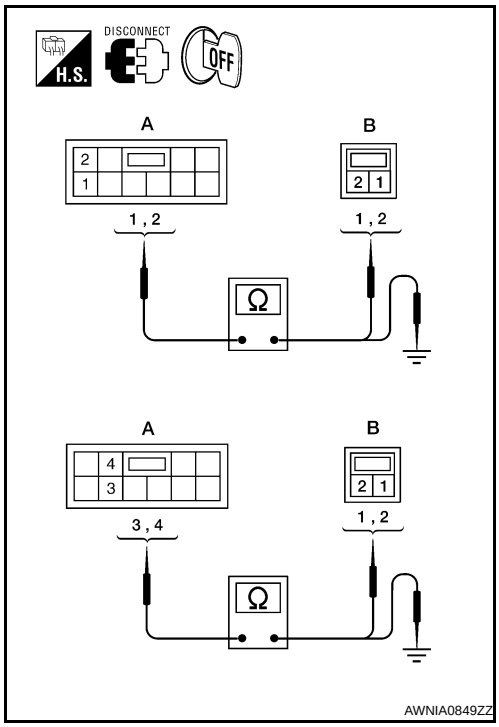
The audio unit sends audio signals to the tweeters using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000003301784

1.SPEAKER HARNESS CHECK

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



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M109	2	Yes
	2		1	
	3	M111	2	
	4		1	

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

A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

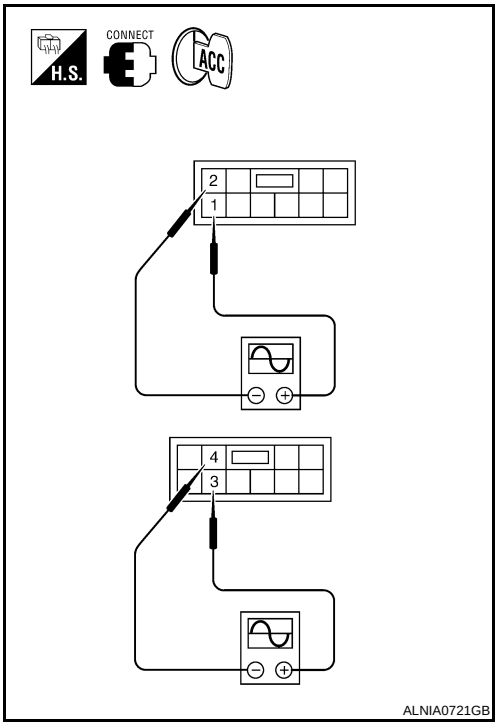
Are continuity test results as specified?

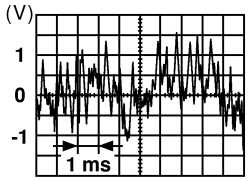
YES >> GO TO 2

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

2.SPEAKER SIGNAL CHECK

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 M43 terminals with CONSULT-III or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M43	1	2	Receive audio signal	 SKIA0177E
	3	4		

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".

REAR DOOR SPEAKER

Description

INFOID:0000000003301785

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

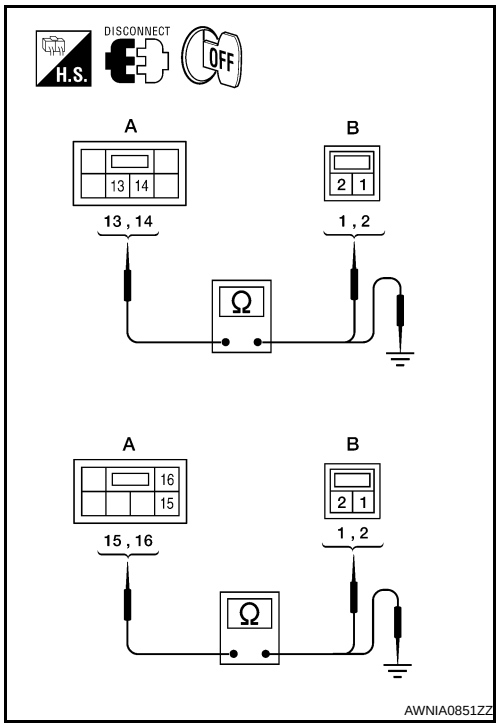
Diagnosis Procedure

INFOID:0000000003301786

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.

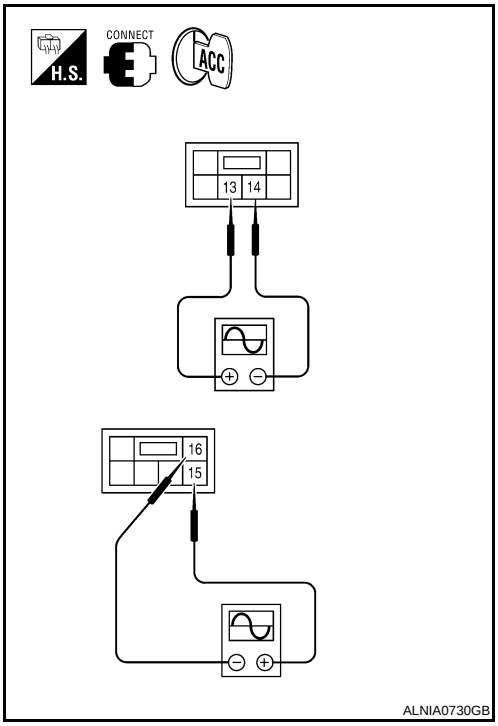
A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		

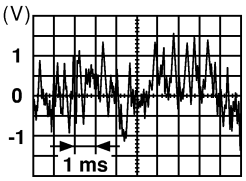
Are the continuity test results as specified?

YES >> GO TO 2
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2. SPEAKER SIGNAL CHECK

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 (+)	Terminals (-)	Condition	Reference signal
M44	13	14	Receive audio signal	
	15	16		

SKIA0177E

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

Description

INFOID:0000000003301793

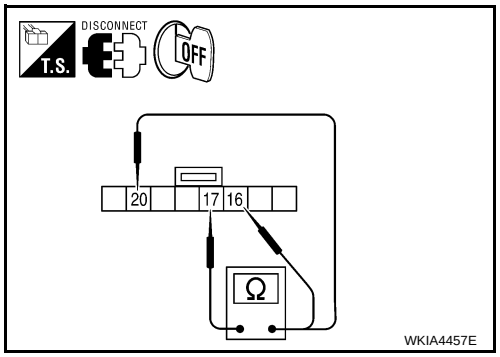
When one of the steering wheel audio control switches is pushed, the resistance in the steering wheel audio control switch circuit changes depending on which button is pushed.

Diagnosis Procedure

INFOID:0000000003301794

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.



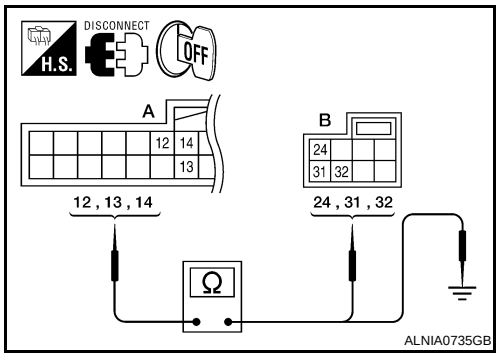
Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
16	17	Seek (down)	Depress ▽ switch.	165
		Volume (down)	Depress VOL down switch.	487
		Mode/end	Depress MODE switch.	0
20	17	Seek (up)	Depress △ switch.	165
		Volume (up)	Depress VOL up switch.	487
		Phone/send	Depress switch.	0

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.

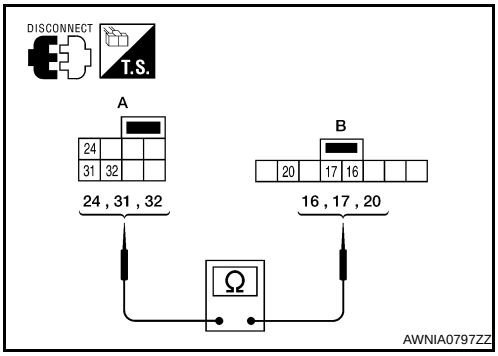
A		—	Continuity
Connector	Terminal		
B141	12	Ground	No
	13		
	14		

Are the continuity results as specified?

YES >> GO TO 3
NO >> Repair harness.

3. SPIRAL CABLE CHECK

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
SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:0000000003301795

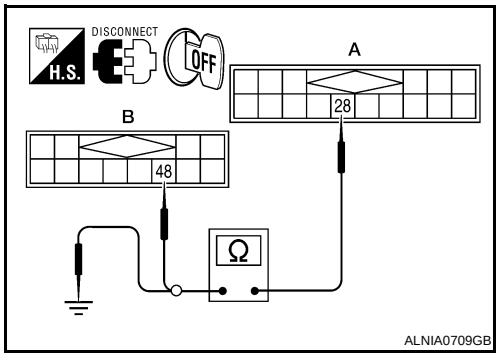
Communication signals are exchanged between the audio unit and satellite radio tuner using the communication circuits.

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000003301796

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.

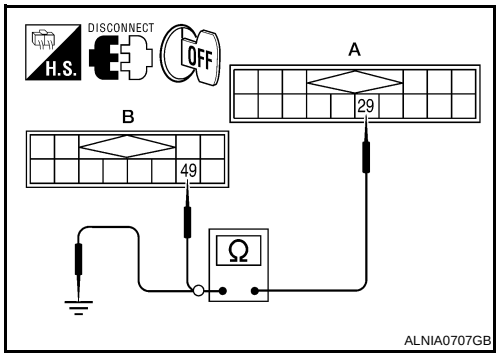
A		—	Continuity
Connector	Terminal		
M41	28	Ground	No

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.

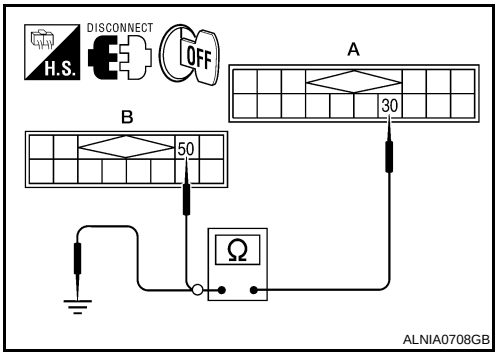
A		—	Continuity
Connector	Terminal		
M41	29	Ground	No

Are continuity results as specified?

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

3. CHECK HARNESS - RXD

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.

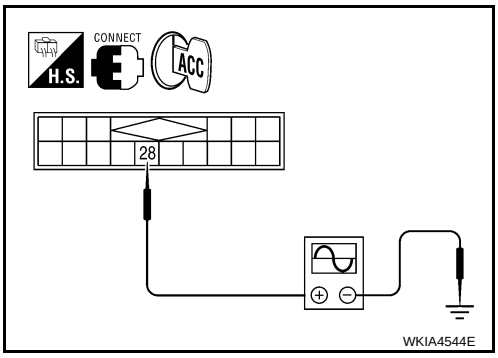
A		—	Continuity
Connector	Terminal		
M41	30	Ground	No

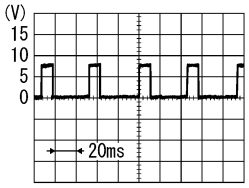
Are continuity results as specified?

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.



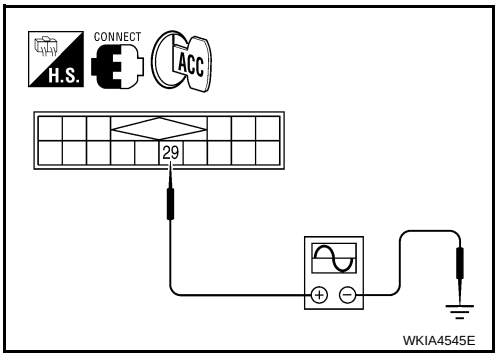
(+)		(-)	Reference signal
Connector	Terminal		
M41	28	Ground	

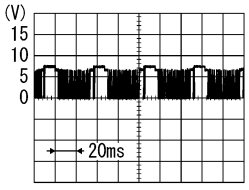
Are voltage readings as specified?

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.



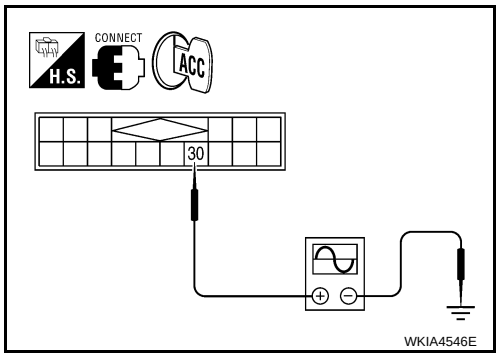
(+)		(-)	Reference signal
Connector	Terminal		
M41	29	Ground	

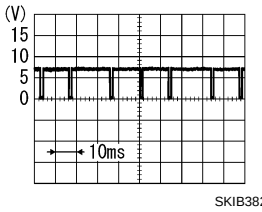
Are the voltage readings as specified?

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

6. CHECK RXD SIGNAL

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



(+)		(-)	Reference signal
Connector	Terminal		
M41	30	Ground	

Are the voltage readings as specified?

YES >> Replace satellite radio tuner. Refer to AV-95, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-84, "Removal and Installation".

SOUND SIGNAL CIRCUIT
SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:0000000003301797

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

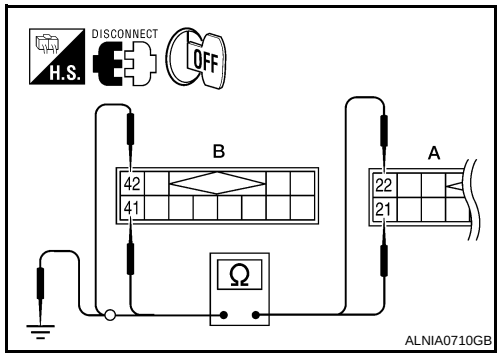
SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000003301798

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.

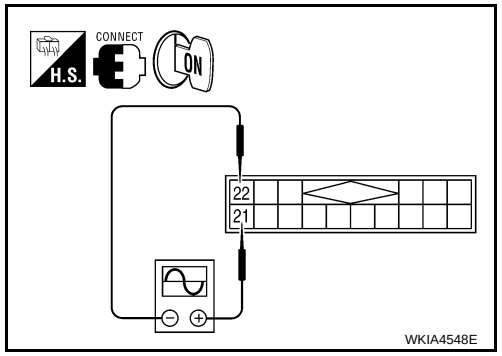
A		—	Continuity
Connector	Terminal		
M41	21	Ground	No
	22		

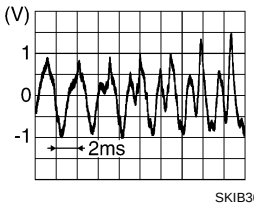
Are continuity results as specified?

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.



(+)		(-)	Reference signal
Connector	Terminal		
M41	21	Ground	
	22		

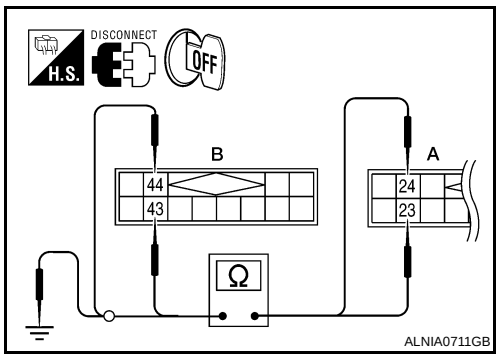
Are voltage readings as specified?

YES >> Replace audio unit. Refer to AV-84, "Removal and Installation".
NO >> Replace satellite radio tuner. Refer to AV-95, "Removal and Installation".

RIGHT CHANNEL

1.CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector 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.

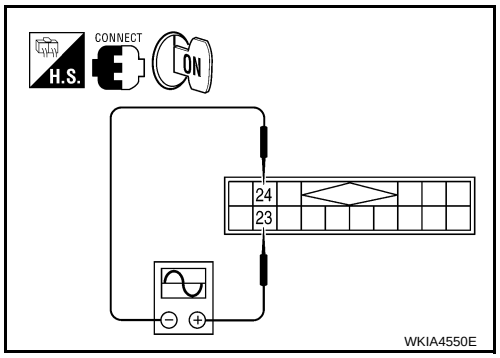
A		—	Continuity
Connector	Terminal		
M41	23	Ground	No
	24		

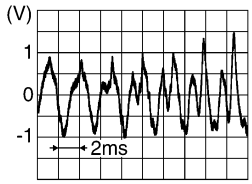
Are continuity results as specified?

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.



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

Are voltage readings as specified?

YES >> Replace audio unit. Refer to AV-84, "Removal and Installation".
NO >> Replace satellite radio tuner. Refer to AV-95, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000003301799

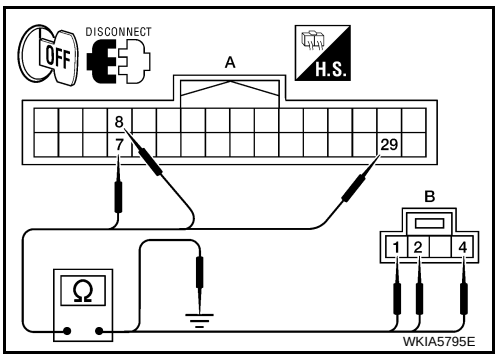
Voice signals are transmitted from the microphone to the Bluetooth control unit using the microphone signal circuits.

Diagnosis Procedure

INFOID:0000000003301800

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		

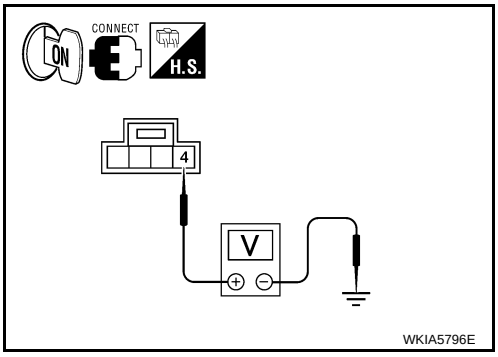
Are the continuity test results as specified?

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

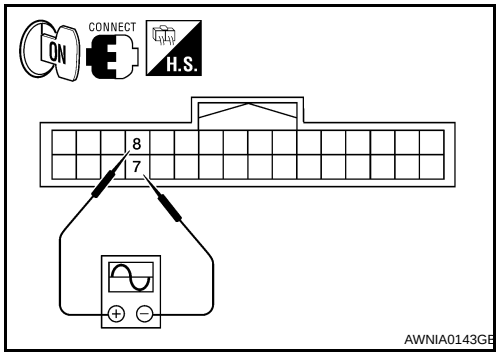


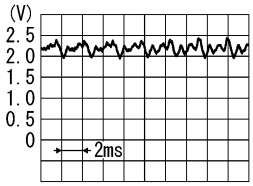
Is voltage reading approx. 5 volts?

YES >> GO TO 3
NO >> Replace Bluetooth control unit. Refer to AV-89, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

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



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

Are voltage readings as specified?

YES >> Replace Bluetooth control unit. Refer to AV-89, "Removal and Installation".
NO >> Replace microphone. Refer to AV-91, "Removal and Installation".

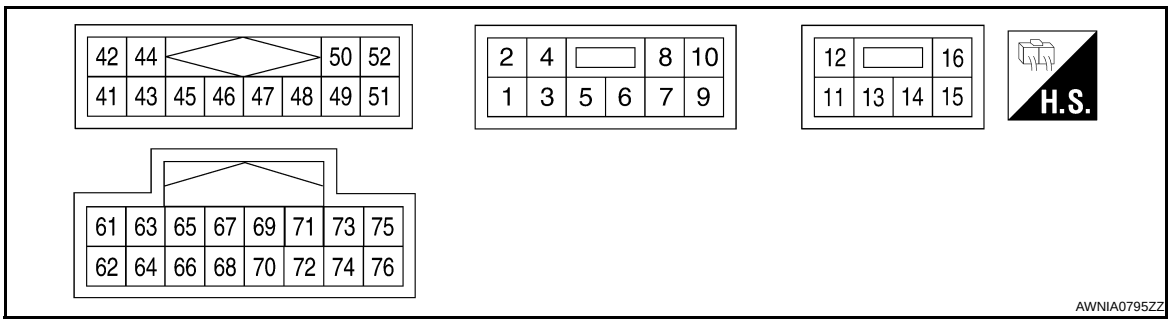
ECU DIAGNOSIS

AUDIO UNIT

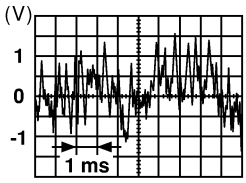
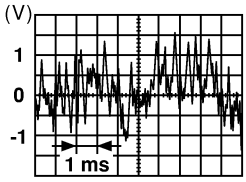
Reference Value

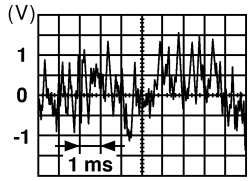
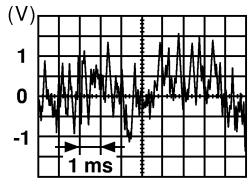
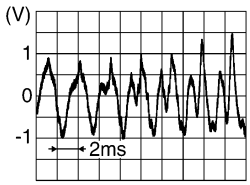
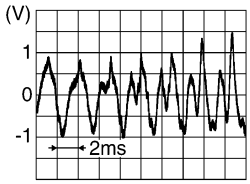
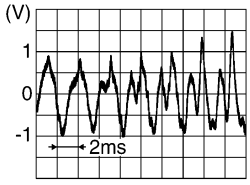
INFOID:0000000003301801

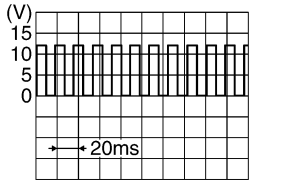
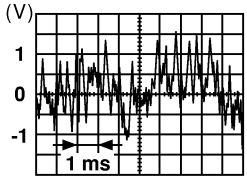
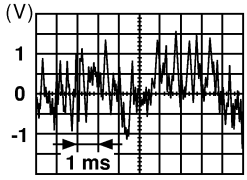
TERMINAL LAYOUT



PHYSICAL VALUES

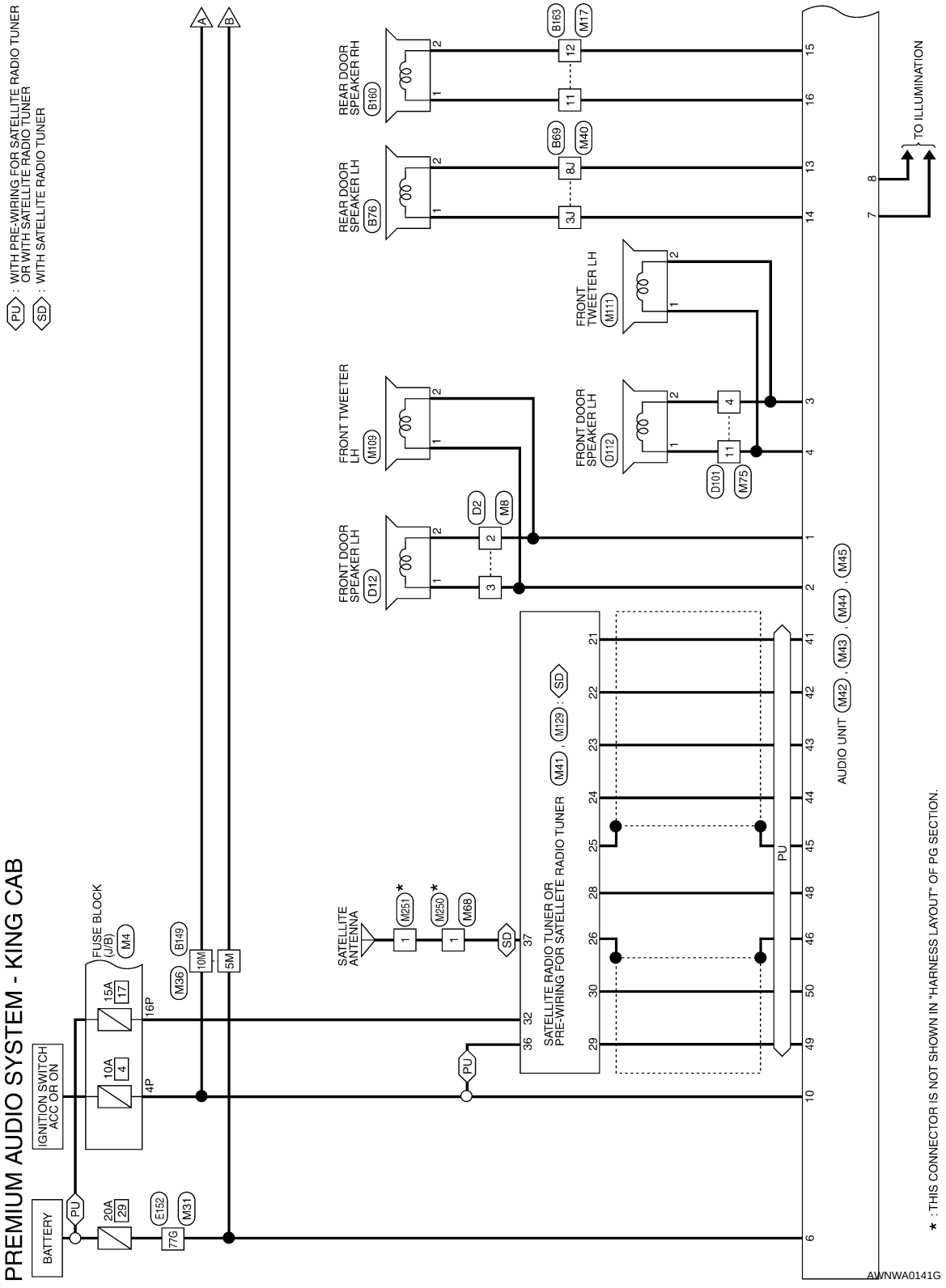
Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
2 (BR)	1 (L)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
4 (LG)	3 (R)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
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

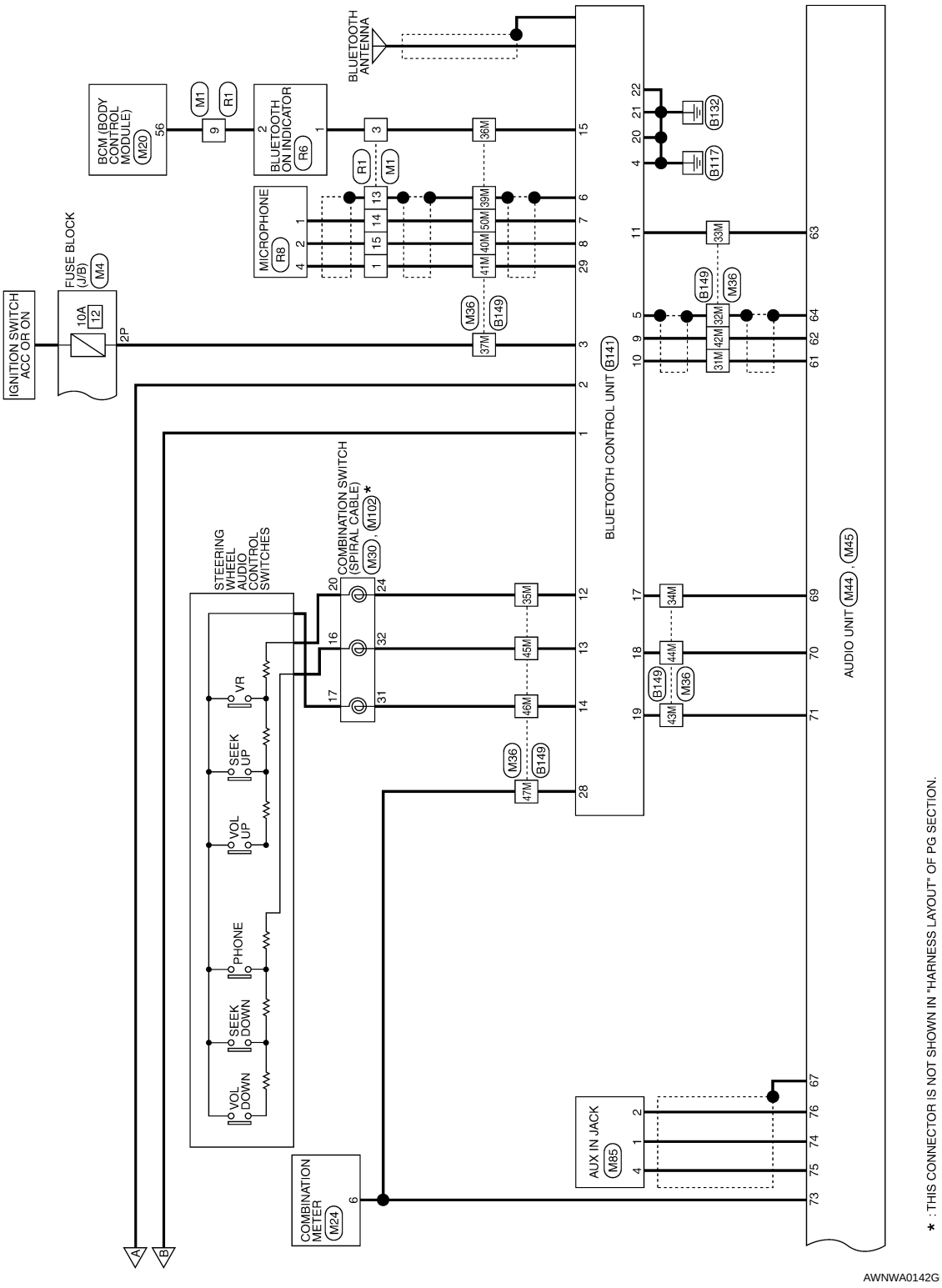
Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
14 (G)	13 (B)	Audio sound signal rear LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
16 (G/R)	15 (O)	Audio sound signal rear RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
42 (R)	41 (G)	Satellite radio audio signal LH	Input	Ignition switch ON	Satellite radio tuner operating	 SKIB3609E
44 (B)	43 (W)	Satellite radio audio signal RH	Input	Ignition switch ON	Satellite radio tuner operating	 SKIB3609E
45	–	Ground	–	–	–	0V
46	–	Data ground	–	–	–	0V
48 (O)	–	REQ (SAT→AV control unit)	Input	Ignition switch ON	–	—
49 (P)	–	RX (SAT→AV control unit)	Input	Ignition switch ON	–	—
50 (L)	–	TX (AV control unit→SAT)	Input	Ignition switch ON	–	—
62 (W)	61 (B)	Telephone signal input	Input	Ignition switch ACC/ON	Bluetooth control unit sends audio signal	 SKIB3609E
63 (R)	–	Mute control	–	–	–	–
64	–	Shield	–	–	–	0V

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	–					
67	–	Shield	–	Ignition switch ON	–	0V
69 (R)	71 (L)	Steering switch signal A	Input	Ignition switch ON	Pressing switch	0V
					Pressing △ switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V
70 (GR)	71 (L)	Steering switch signal B	Input	Ignition switch ON	Pressing MODE switch	0V
					Pressing ▽ switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5 V
73 (SB)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	 PKIA1935E
74 (W)	Ground	Auxiliary audio input RH (+)	Input	Ignition switch ON	Receive audio signal (AUX input)	 SKIA0177E
75 (B)	Ground	Auxiliary audio input LH (+)	Input	Ignition switch ON	Receive audio signal (AUX input)	 SKIA0177E
76 (B)	–	Shield	–	–	–	0V

Wiring Diagram

INFOID:0000000003301802




BLUETOOTH ANTENNA
BCM (BODY CONTROL MODULE) M20
BLUETOOTH ON INDICATOR R6
MICROPHONE R8
FUSE BLOCK (J/B) M4
10A 12
IGNITION SWITCH ACC OR ON
BLUETOOTH CONTROL UNIT B141
AUDIO UNIT M44, M45
COMBINATION SWITCH (SPIRAL CABLE) M30, M102 *
STEERING WHEEL AUDIO CONTROL SWITCHES
VR
SEEK UP
VOL UP
PHONE
SEEK DOWN
VOL DOWN
AUX IN JACK M85
COMBINATION METER M24
B132
B117
B149
M36
A
B
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

AWNWA0142G

PREMIUM AUDIO SYSTEM CONNECTORS - KING CAB

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

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

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

H.S.

7P	6P	5P	4P		3P	2P	1P
16P	15P	14P	13P	12P	11P	10P	9P	8P

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

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

H.S.

5	4		3	2	1
12	11	10	9	8	7	6

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

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

H.S.

7	6	5	4		3	2	1
16	15	14	13	12	11	10	9	8

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

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

H.S.

56	57	58	59	60	61	62	63	64
65	66	67	68	69	70			

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

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

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

AWNIA0679GB

Connector No.	M30
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

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.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

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	–

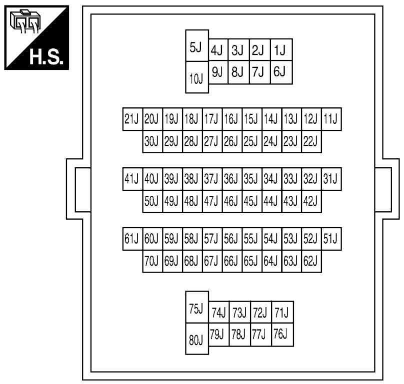
Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

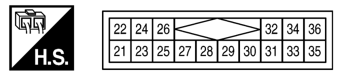
AWNIA0680GB

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



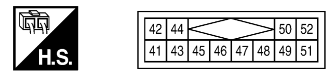
Terminal No.	Color of Wire	Signal Name
3J	G	–
8J	B	–

Connector No.	M41
Connector Name	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.	M42
Connector Name	WIRE TO WIRE
Connector Color	BROWN



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	–	–

AWNIA0681GB

Connector No.	M43
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

2	4		8	10
1	3	5	6	7	9

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.	M44
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

12		16
11	13	14	15

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

Connector No.	M45
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

61	63	65	67	69	71	73	75
62	64	66	68	70	72	74	76

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	R	REMOTE_A_SWC
70	GR	REMOTE_B_SWC
71	L	REMOTE_GND_SWC
72	–	–
73	SB	SPEED SIGNAL
74	W	AUX_R+
75	B	AUX_L+
76	R	AUX_GND

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

H.S.

1

Terminal No.	Color of Wire	Signal Name
1	–	–

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

H.S.

5	4		3	2	1
12	11	10	9	8	7	6

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

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

H.S.

4	3	2	1

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

AWNIA0682GB

Connector No.	M102
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

14 15 16 17 18 19 20 21

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

Connector No.	M109
Connector Name	FRONT TWEETER LH
Connector Color	BROWN

H.S.

2 1

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	GR	–

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

H.S.

2 1

Terminal No.	Color of Wire	Signal Name
1	W	–
2	P	–

Connector No.	M129
Connector Name	SATELLITE RADIO TUNER OR PRE-WIRING FOR SATELLITE RADIO RUNER
Connector Color	VIOLET

H.S.

37

Terminal No.	Color of Wire	Signal Name
37	–	–

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

H.S.

1

Terminal No.	Color of Wire	Signal Name
1	–	–

Connector No.	M251
Connector Name	SATELLITE ANTENNA
Connector Color	BROWN

H.S.

1

Terminal No.	Color of Wire	Signal Name
1	–	–

AWNIA0683GB

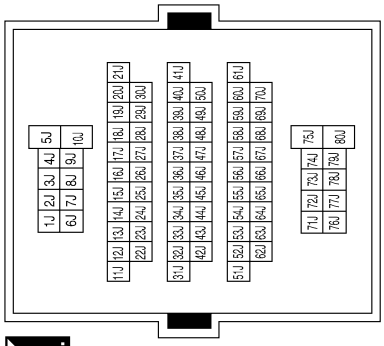
Connector No.	B76
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE

H.S.

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

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

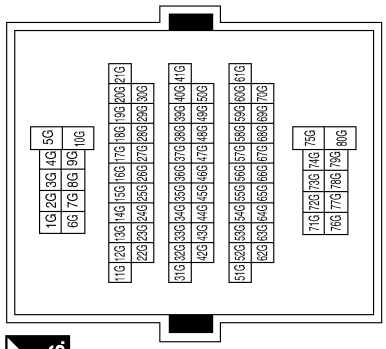
H.S.



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

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

H.S.



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

AWNIA0684GB

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

H.S.

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

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

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

Terminal No.	Color of Wire	Signal Name
21	–	–
22	B	CONT_3
23	–	–
24	–	–
25	–	–
26	–	–
27	–	–
28	–	–
29	–	–
30	–	–
31	–	–
32	–	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
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	–

AWNIA0685GB

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

H.S.

12	11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13

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

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

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

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

Connector No.	B160
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE

H.S.

2	1

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

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

H.S.

1	2	3		4	5
6	7	8	9	10	11	12

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

Connector No.	R8
Connector Name	MICOPHONE
Connector Color	WHITE

H.S.

1	2	3	4

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

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	GR	LED_1(AMBER)
2	R/Y	LED_POWER

AWNIA0777GB

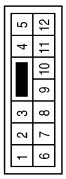
Connector No.	D12
Connector Name	FRONT DOOR SPEAKER LH
Connector Color	WHITE

H.S.

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

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

H.S.



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

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

H.S.

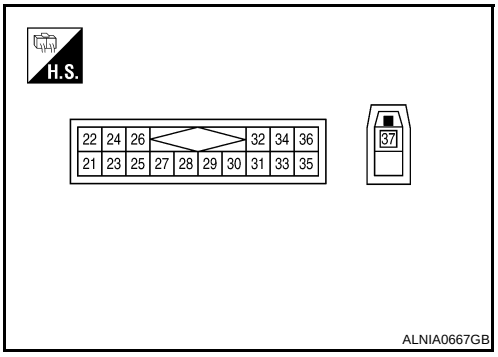
Terminal No.	Color of Wire	Signal Name
1	W/B	–
2	L/B	–

AWNIA0778GB

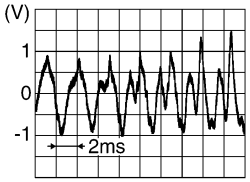
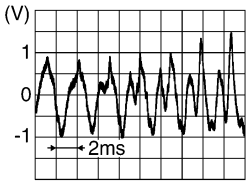
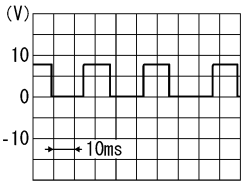
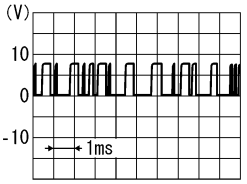
SATELLITE RADIO TUNER

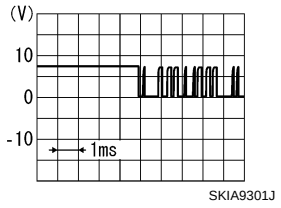
Reference Value

INFOID:0000000003301803



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	 SKIB3609E
24 (B)	23 (W)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	 SKIB3609E
25	—	Shield	—	—	—	—
26	—	Shield	—	—	—	—
28 (O)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9299J
29 (P)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9300J

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	 SKIA9301J
32 (R/B)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
36 (G/B)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
37	—	Satellite antenna	Input	—	—	—

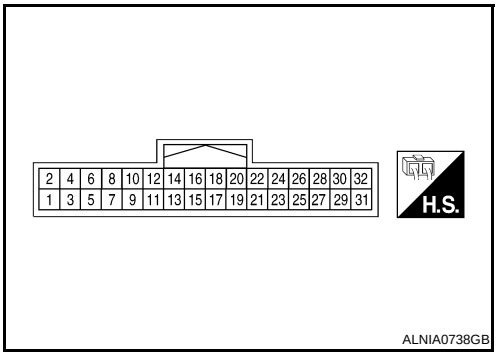
BLUETOOTH CONTROL UNIT

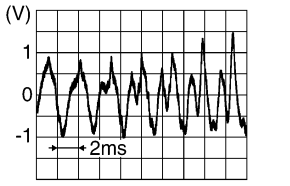
Reference Value

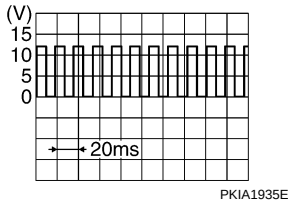
INFOID:0000000003301805

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	–	Ignition switch ON	–	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	 SKIB3609E
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

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 MODE 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 MODE switch	0V
					Pressing ▽ switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5V
22 (B)	Ground	Ground	–	–	–	0V
24 (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)	 PKIA1935E
29 (Y)	Ground	Microphone power	Output	Ignition switch ON	–	5V

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000003302418

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	• Audio unit power circuit • Audio unit	• AV-43 • AV-41
Steering wheel audio control switch does not operate	• Steering wheel audio control switch • Audio unit	• AV-53 • AV-41
All speakers do not sound	• Audio unit • Audio unit power circuit	• AV-41 • AV-43
One or several speakers do not sound	• Front door speaker • Front tweeter • Rear door speaker	• AV-47 • AV-49 • AV-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	• Satellite radio tuner power or ground circuit • Satellite radio tuner communication circuit • Satellite radio tuner	• AV-43 • AV-55 • AV-58
Right or left channel does not sound	• Satellite radio tuner right channel audio signal circuit • Satellite radio tuner left channel audio signal circuit • Satellite radio tuner	• AV-58

HANDS-FREE PHONE

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

NORMAL OPERATING CONDITION

Description

INFOID:0000000003302419

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, AV control 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 (crew cab) • 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

PRECAUTION

PRECAUTIONS

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

INFOID:0000000003221871

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:

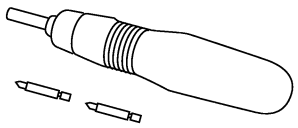
- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal 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:0000000003221872

Tool name	Description
Power tool  PBIC0191E	Loosening bolts and nuts

ON-VEHICLE REPAIR

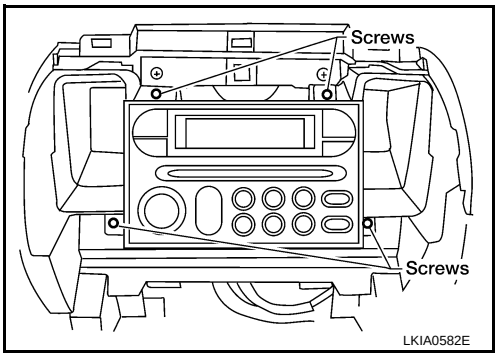
AUDIO UNIT

Removal and Installation

INFOID:0000000003301750

REMOVAL

1. Remove the cluster lid C. Refer to IP-10, "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

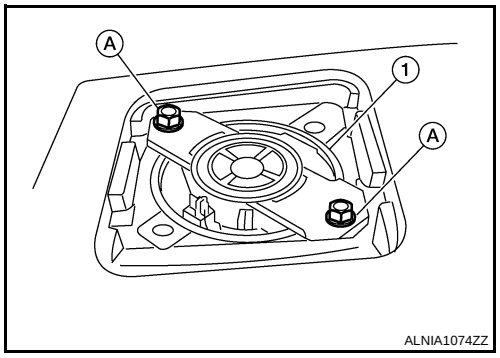
INFOID:0000000003301752

REMOVAL

CAUTION:

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

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



INSTALLATION

Installation is in the reverse order of removal.

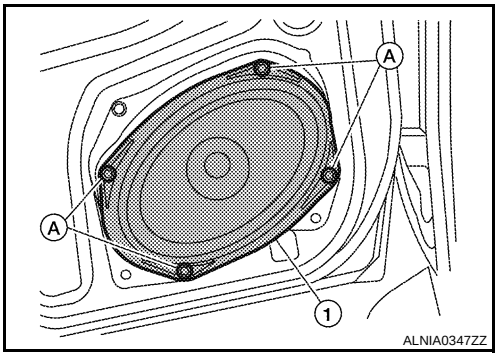
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000003301753

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.

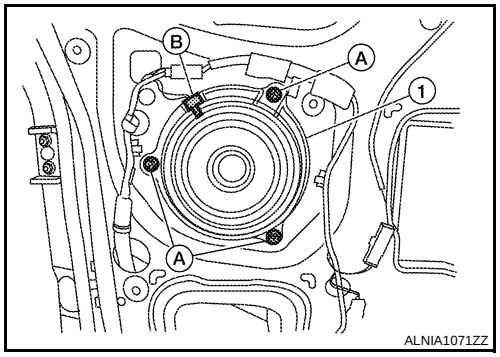
REAR DOOR SPEAKER

Removal and Installation

INFOID:0000000003302259

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).



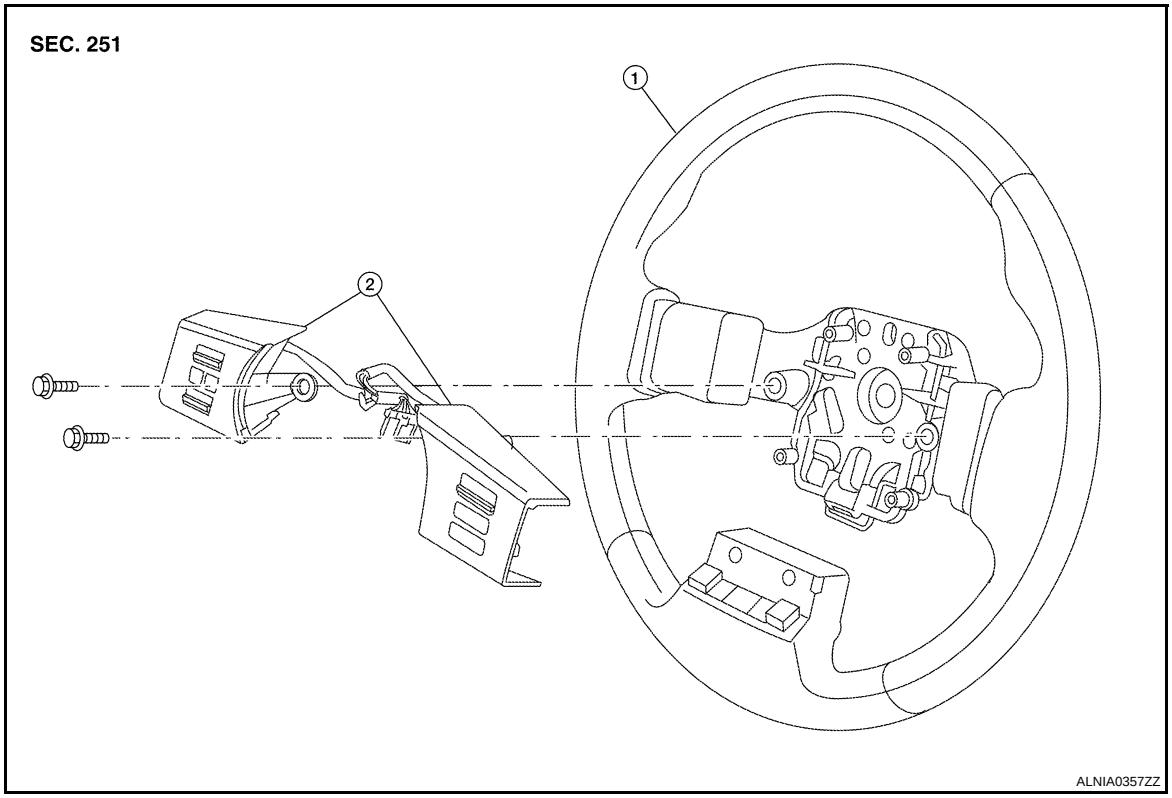
INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

Removal and Installation

INFOID:0000000003301756



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.

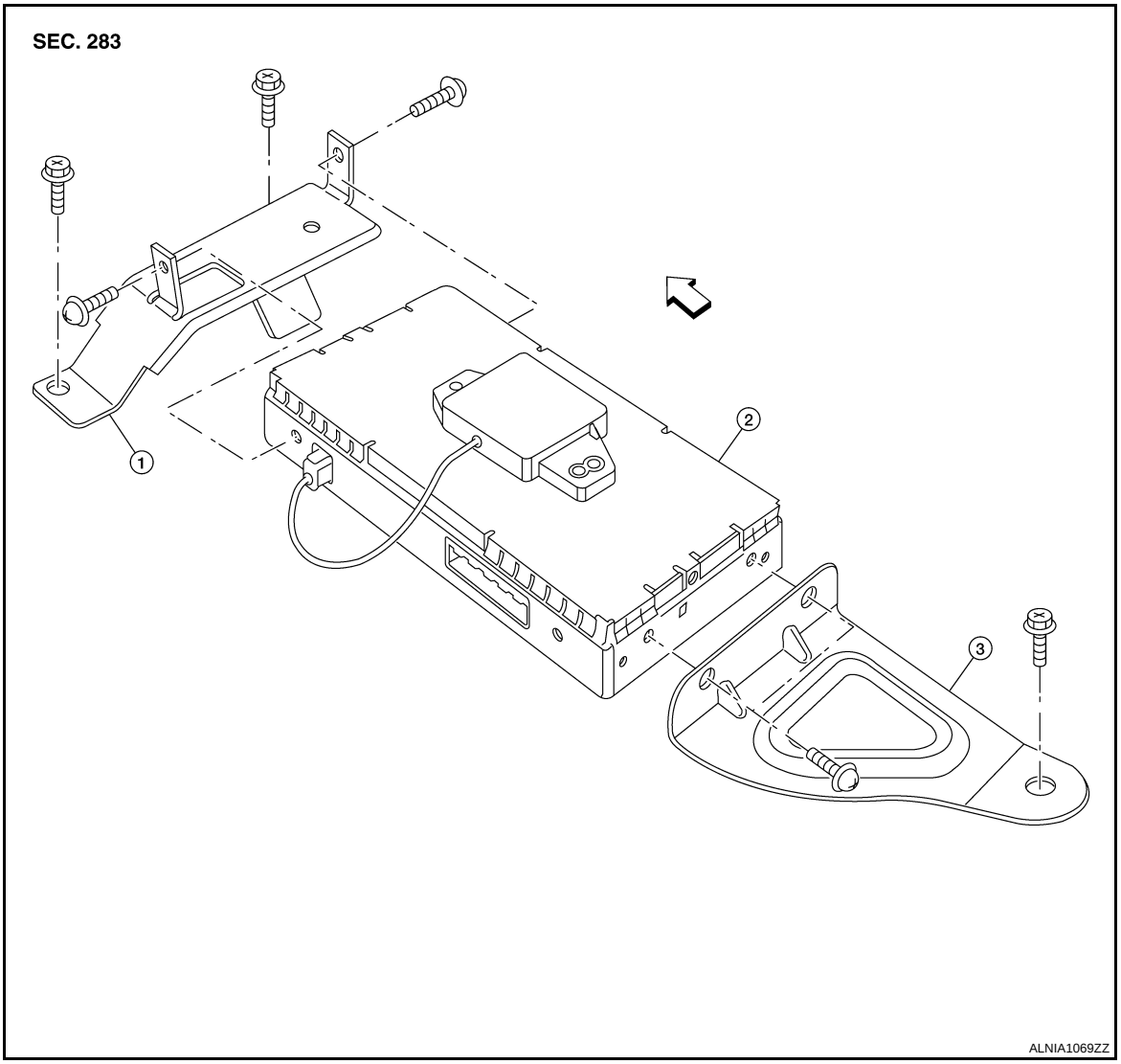
INSTALLATION

Installation is in the reverse order of removal.

BLUETOOTH CONTROL UNIT

Removal and Installation

INFOID:0000000003301758

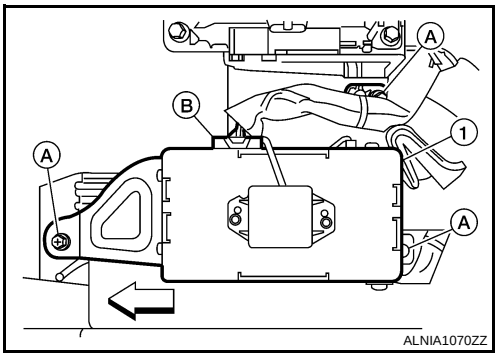


1. Bluetooth control unit front bracket
2. Bluetooth control unit/antenna
3. Bluetooth control unit rear bracket

⇦ 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).
   - ⇦:Vehicle front
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

Installation is in the reverse order of removal.

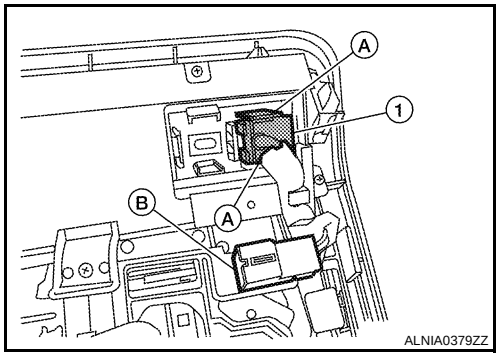
MICROPHONE

Removal and Installation

INFOID:0000000003301759

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).



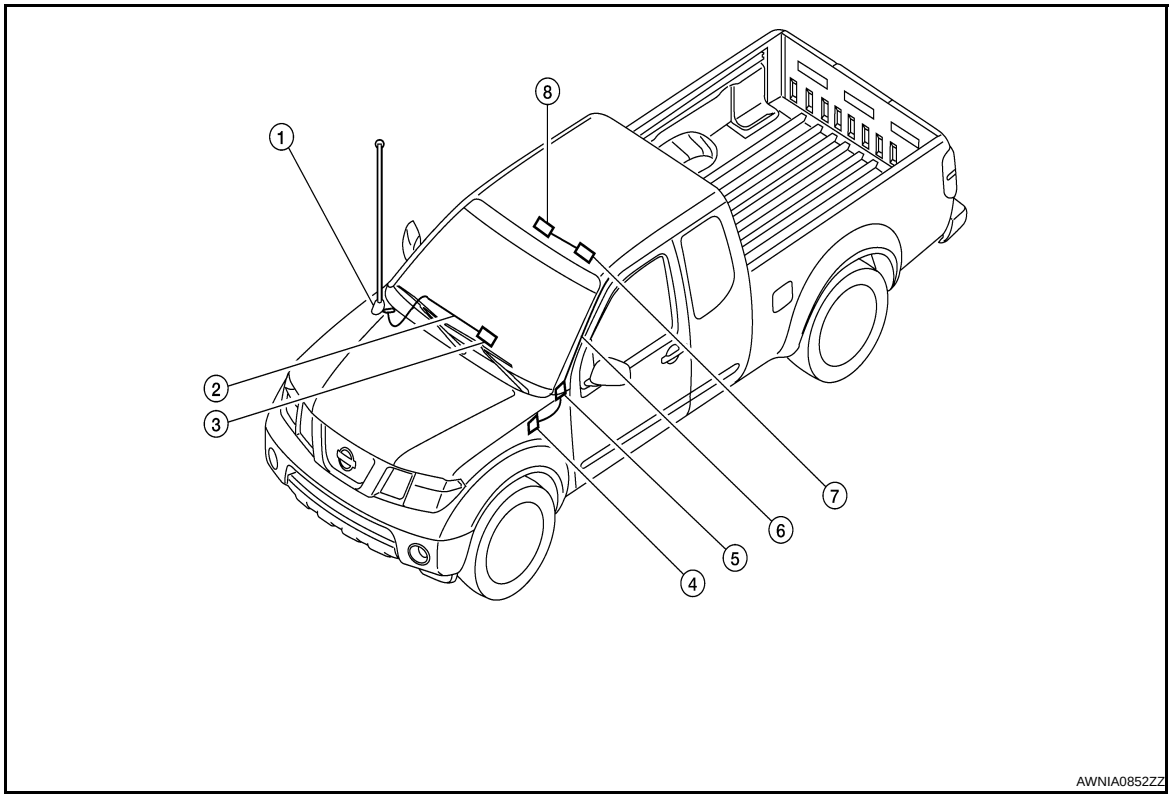
INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:0000000003301760



1. Audio antenna
2. Antenna feeder
3. Audio unit M42, M43, M44, M45
4. Satellite radio tuner M41, M129
5. Harness connector M250, M68
6. Satellite antenna feeder
7. Harness connector M251
8. Satellite antenna

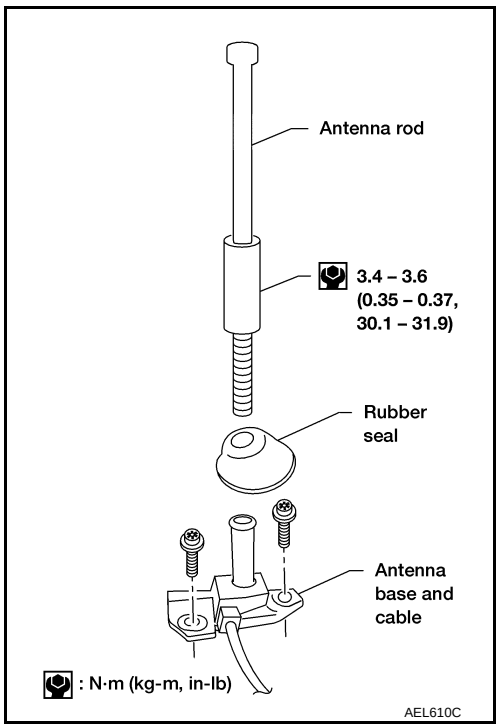
Removal and Installation

INFOID:0000000003301761

REMOVAL

1. Remove lower glove box. Refer to IP-10, "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.



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.

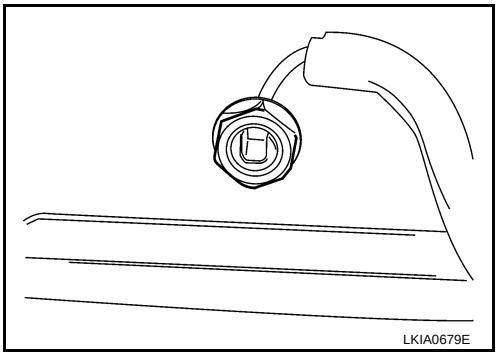
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:0000000003301762

REMOVAL

1. Remove the front cover. Refer to EXT-27, "Removal and Installation".
2. Lower the headlining. Refer to INT-23, "Removal and Installation".
3. Disconnect the satellite radio antenna connector.
4. Remove the satellite radio antenna nut.
5. Remove the satellite radio antenna.



INSTALLATION

Installation is in the reverse order of removal.

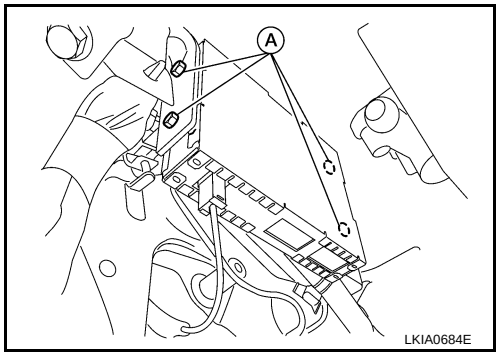
SATELLITE RADIO TUNER

Removal and Installation

INFOID:0000000003301763

REMOVAL

1. Disconnect the battery negative terminal.
2. Remove the lower instrument panel. Refer to IP-10, "Removal and Installation".
3. Disconnect the satellite radio tuner connectors.
4. Remove satellite radio tuner screws (A), and remove satellite radio tuner from above the parking brake pedal.



INSTALLATION

Installation is in the reverse order of removal.

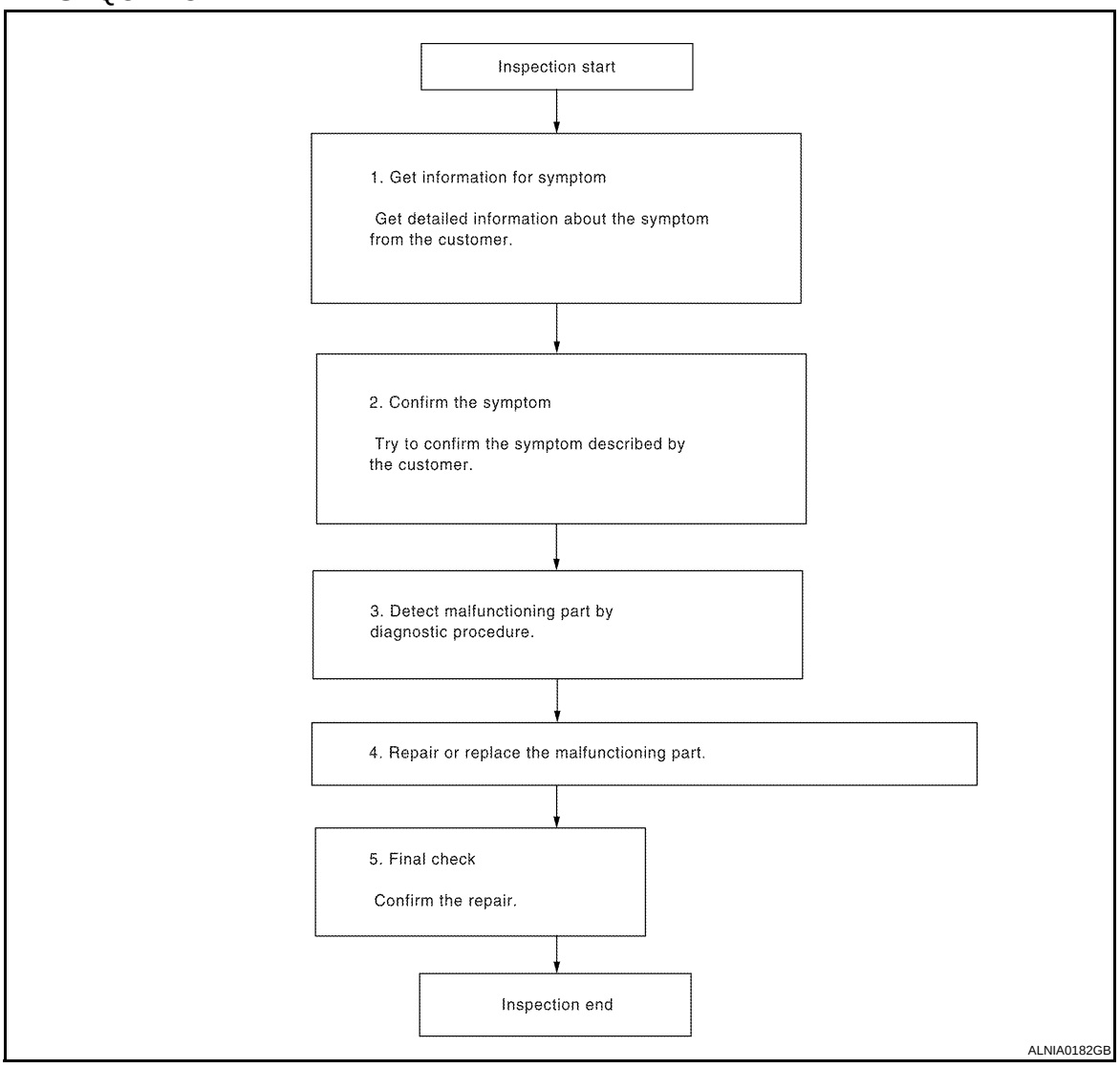
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000003301493

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.

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?

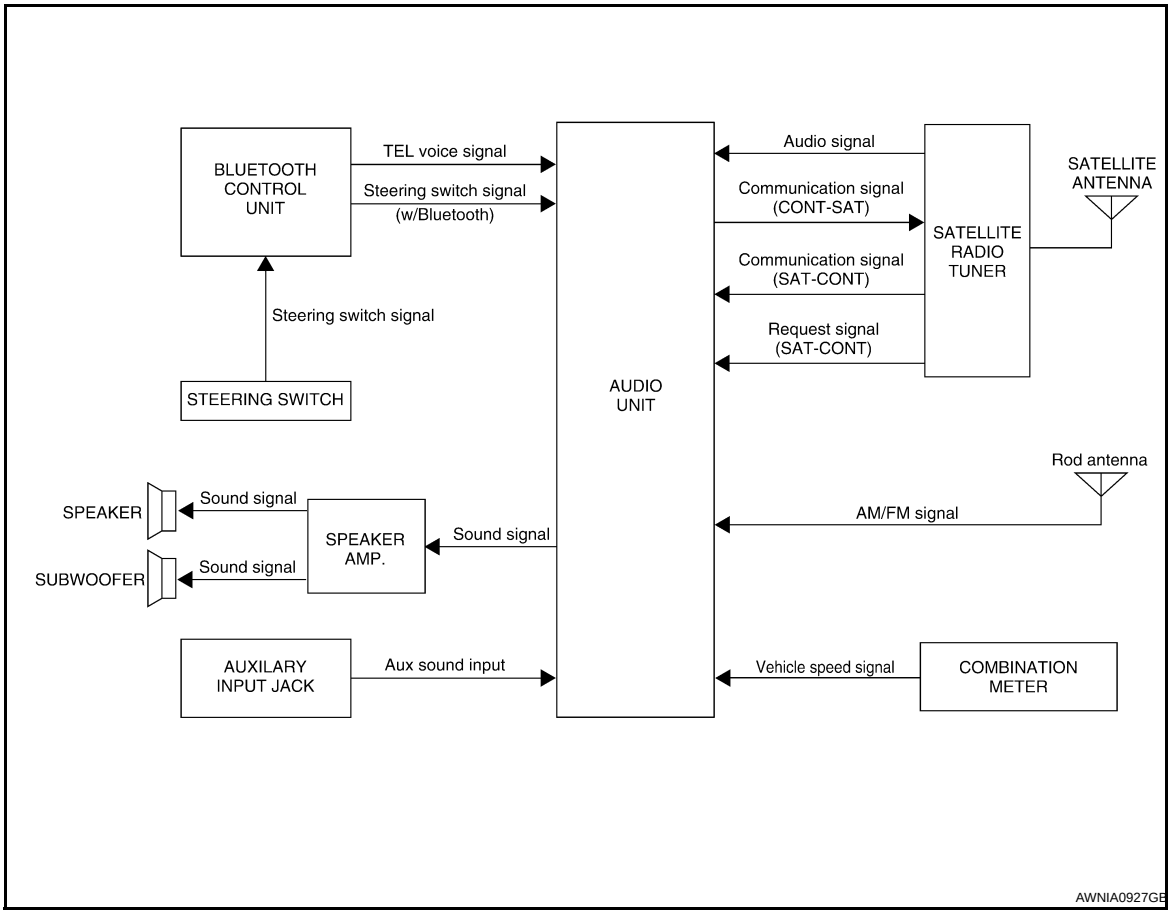
YES >> Inspection End.
NO >> GO TO 2

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram

INFOID:0000000003301494



System Description

INFOID:0000000003301495

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.

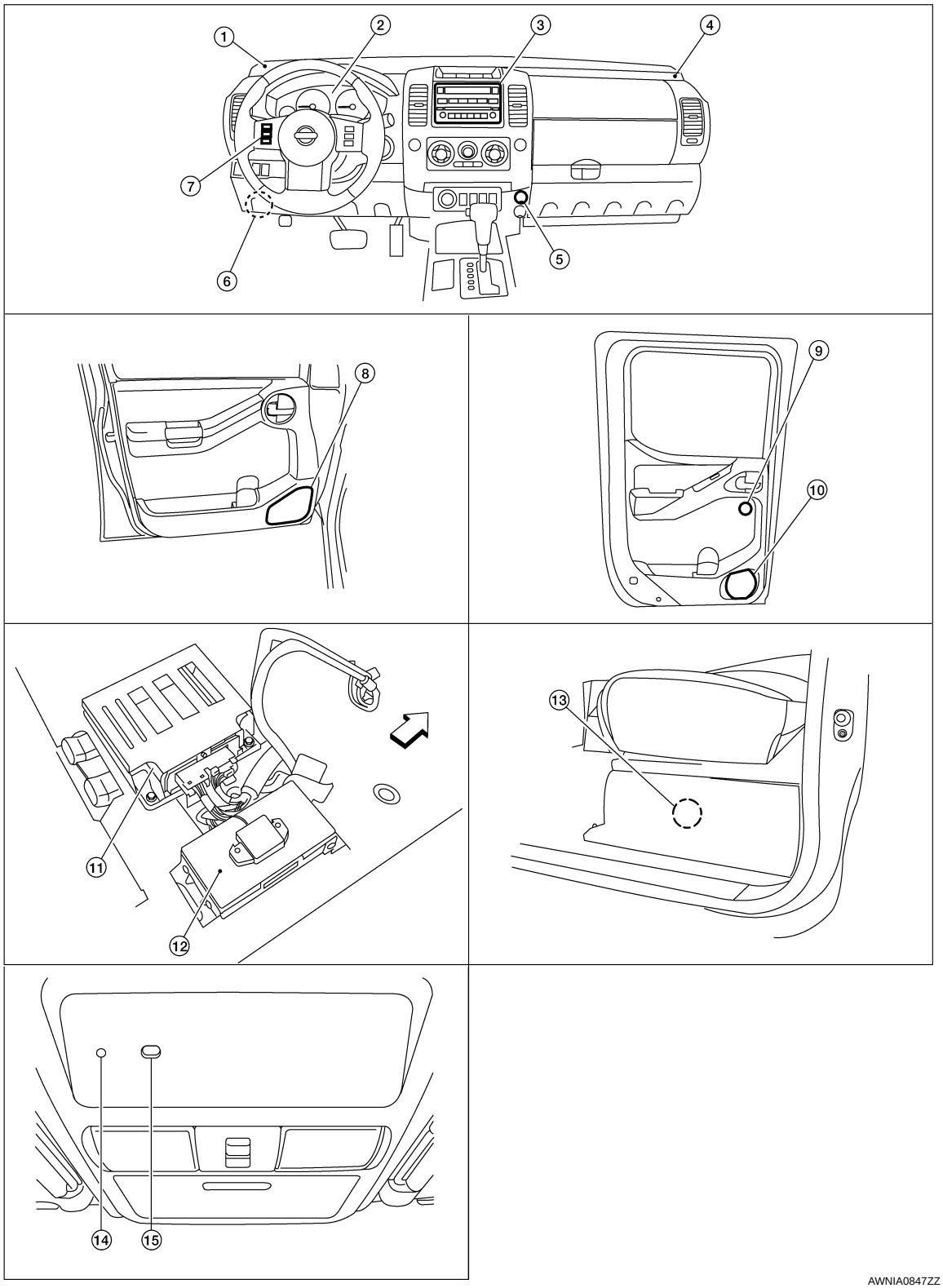
Refer to Owner's Manual for satellite radio system operating instructions.

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:0000000003301496



AWNIA0847ZZ

⇦ :FRONT

1. Front tweeter LH M109
2. Combination meter M24
3. Audio unit M42, M43, M44, M45
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 door tweeter LH D208 RH D308
10. Rear door speaker LH D207 RH D307
11. Audio amp B158, B159 (view under passenger front seat)
12. Bluetooth control unit B141
13. Subwoofer B72 (under driver's seat)
14. Microphone R8
15. Bluetooth ON indicator R6

Component Description

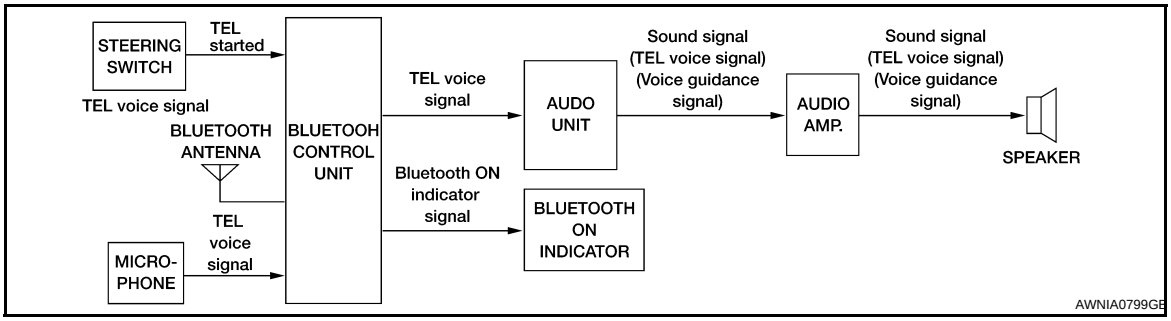
INFOID:0000000003301497

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

HANDS-FREE PHONE SYSTEM

System Diagram

INFOID:0000000003301498



System Description

INFOID:0000000003301499

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

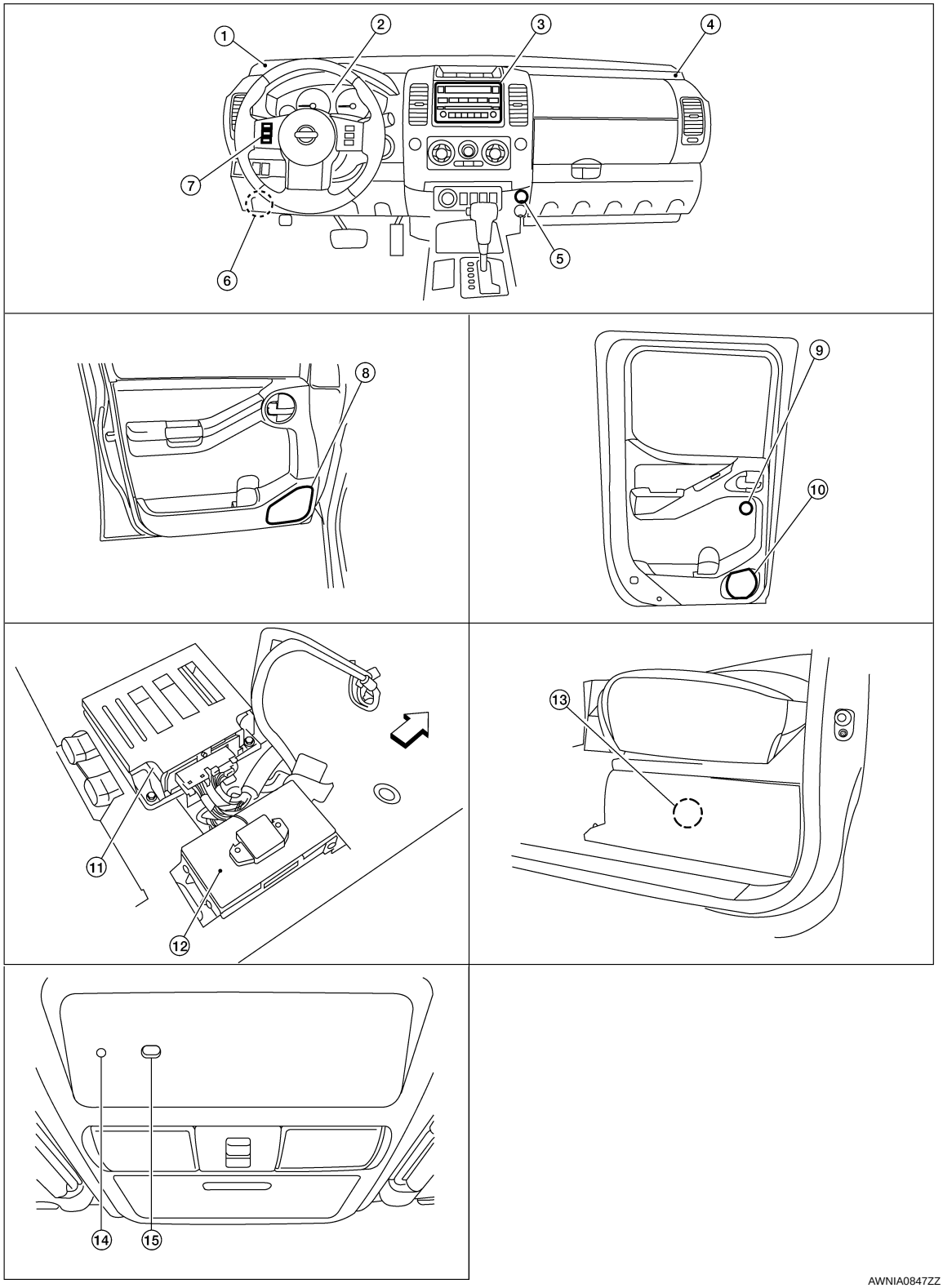
The audio unit receives signals from the Bluetooth control unit and sends audio signals to the audio amp. then on to the speakers.

BLUETOOTH ON INDICATOR

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

Component Parts Location

INFOID:0000000003302294



AWNIA0847ZZ

⇦ :FRONT

1. Front tweeter LH M109
2. Combination meter M24
3. Audio unit M42, M43, M44, M45
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 door tweeter
   LH D208
   RH D308

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

Component Description

INFOID:0000000003301501

Part name	Description
Audio unit	• Receives telephone voice signal from Bluetooth control unit • Sends telephone voice and voice guidance signals to the speakers
Audio amp.	• Recieves audio signals from the audio unit • Outputs 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	• 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)

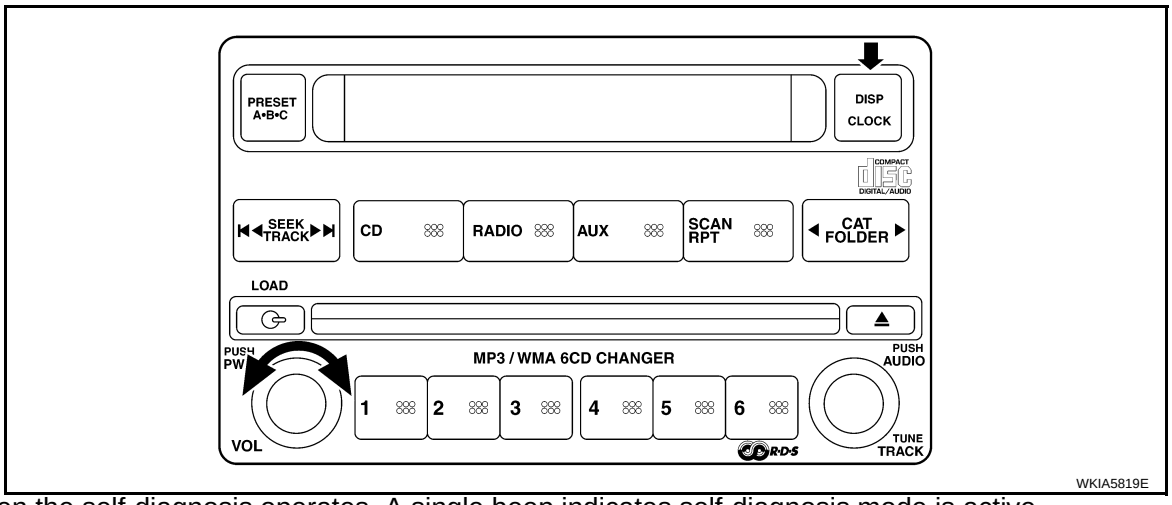
AV SWITCH

AV SWITCH : Component Function Check

INFOID:0000000003301502

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.

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description

INFOID:0000000003301503

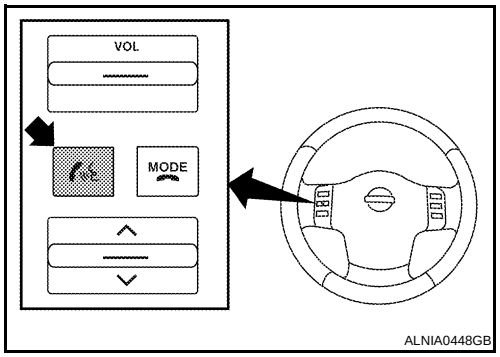
The Bluetooth control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

BLUETOOTH CONTROL UNIT INITIALIZATION CHECKS

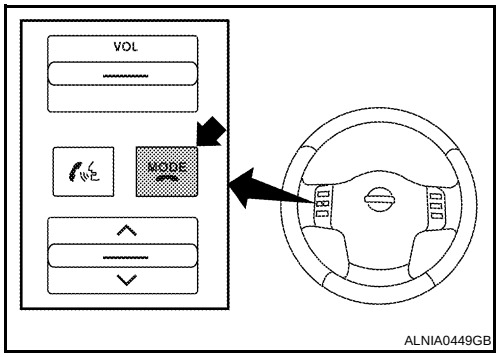
- Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switches [SEND( )/END(MODE)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth inquiry check

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 MODE 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 MODE 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-105, "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-105, "Work Flow".
8. Self-diagnosis mode is complete when the voice prompt says “All diagnostic functions completed”.



Work Flow

INFOID:0000000003301504

Failure Message	Action
“Internal failure”	Replace Bluetooth control unit. Refer to AV-172, "Removal and Installation".
“Bluetooth antenna open”	1. Inspect harness connection. 2. Replace Bluetooth antenna. Refer to AV-172, "Removal and Installation".
“Bluetooth antenna shorted”	
“Phone/Send for Hands Free System is stuck”	Check steering wheel audio control switches. Refer to AV-127, "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-174, "Removal and Installation".

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000003301505

1.CHECK FUSES

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

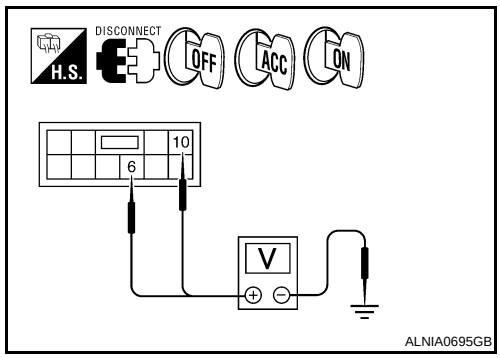
Unit	Terminals	Signal name	Fuse No.
Audio unit	6	Battery power	29
	10	Ignition switch ACC or ON	4

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



(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M43	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:0000000003301506

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

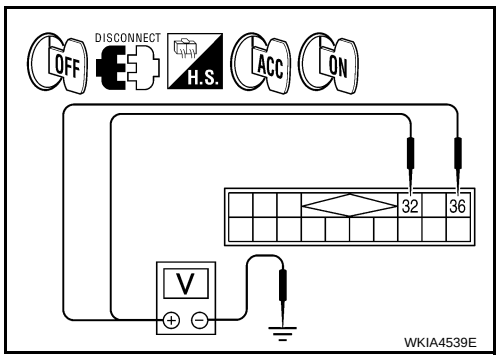
Are the fuses OK?

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

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:0000000003301507

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		

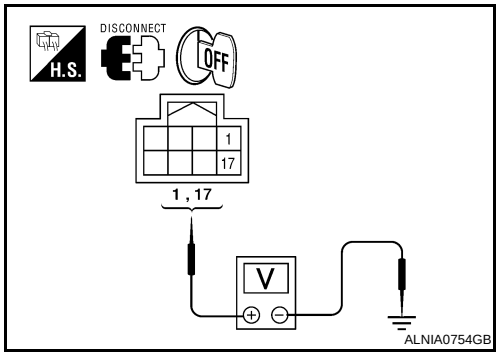
Are the fuses OK?

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		

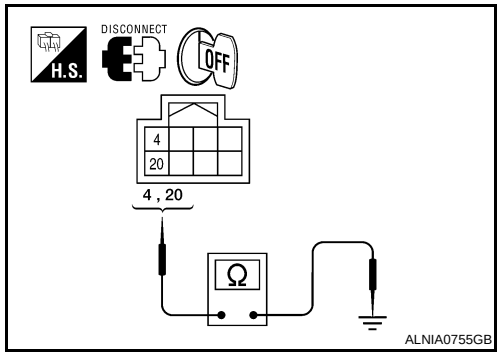


Is battery voltage present?

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

3.CHECK GROUND CIRCUIT

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:0000000003301508

1.CHECK FUSE

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

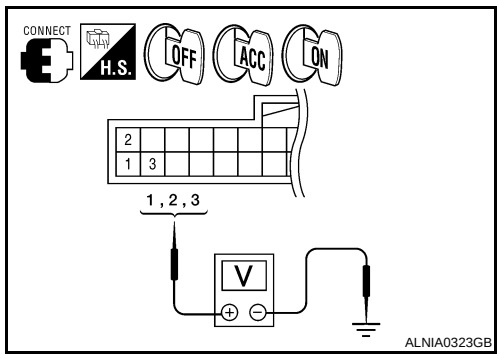
Unit	Terminal	Signal name	Fuse No.
Bluetooth control unit	1	Battery power	29
	2	Ignition switch ACC or ON	4
	3	Ignition switch ON or START	12

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.



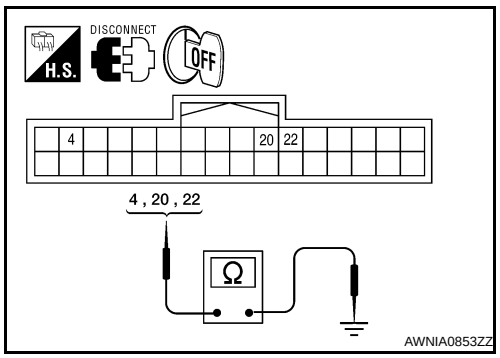
(+)		(-)	OFF	ON	ACC
Connector	Terminal				
B141	1	Ground	Battery voltage	Battery voltage	Battery voltage
	2		0V	Battery voltage	Battery voltage
	3		0V	Battery voltage	0V

Is battery voltage present as specified?

YES >> GO TO 3.
NO >> Check harness between Bluetooth control unit and fuse.

3.CHECK GROUND CIRCUIT

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.

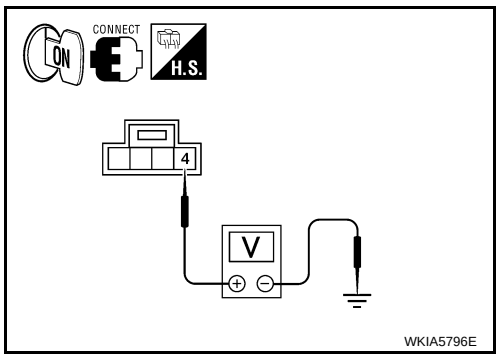
MICROPHONE

MICROPHONE : Diagnosis Procedure

INFOID:0000000003301509

1.CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

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



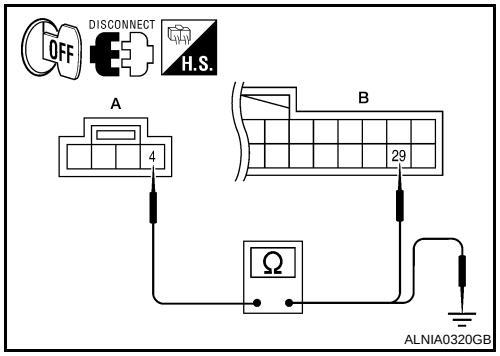
(+)		(-)	Value (Approx.)
Connector	Terminal		
R8	4	Ground	5V

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.

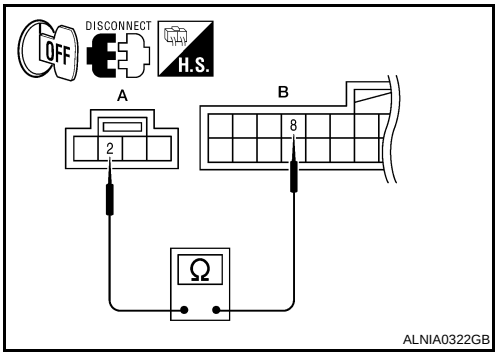
A		—	Continuity
Connector	Terminal		
R8	4	Ground	No

Are the continuity test results as specified?

YES >> Replace the Bluetooth control unit. Refer to AV-172, "Removal and Installation".
NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

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

Description

INFOID:0000000003301510

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.

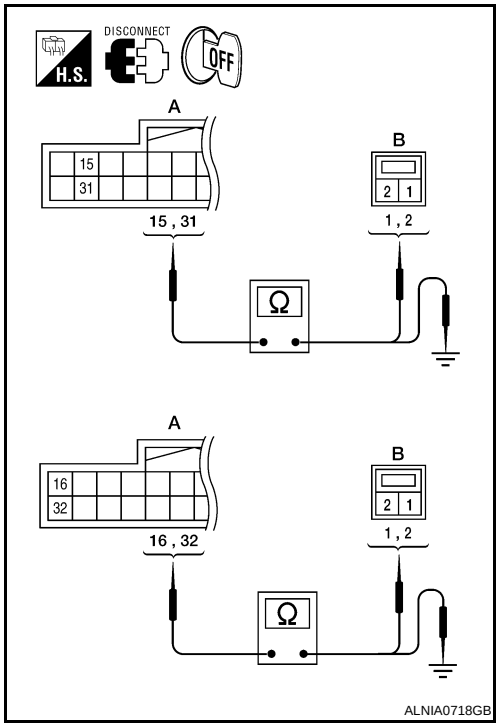
Diagnosis Procedure

INFOID:0000000003301511

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.

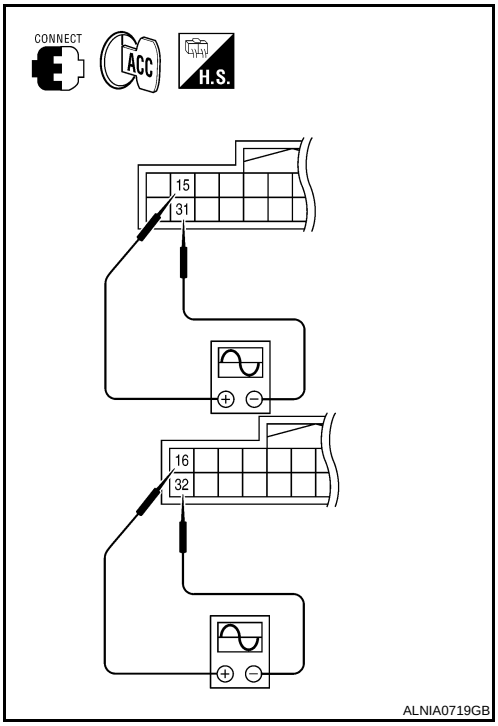
A		—	Continuity
Connector	Terminal		
B159	15	Ground	No
	31		
	16		
	32		

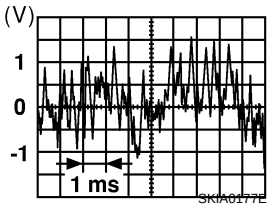
Are continuity test results as specified?

YES >> GO TO 2
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.FRONT DOOR SPEAKER SIGNAL CHECK

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

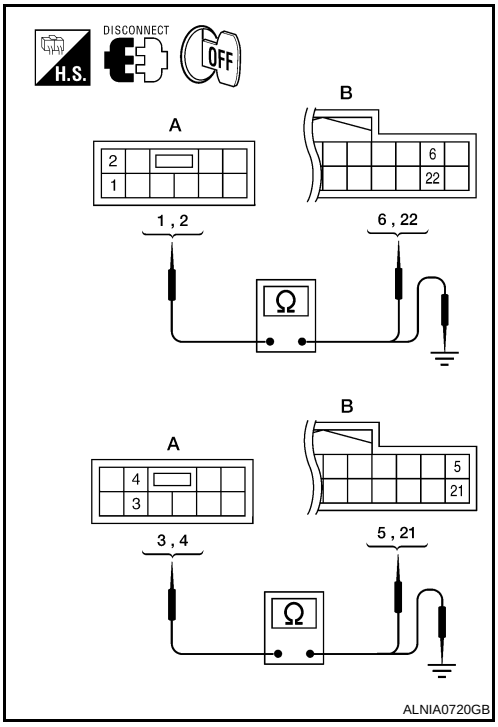
Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to AV-167, "Removal and Installation".

NO >> GO TO 3

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M43 and audio amp. connector B159.
2. Check continuity between audio unit harness connector M43 (A) and audio amp. harness connector B159 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	B159	6	Yes
	2		22	
	3		5	
	4		21	

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

A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

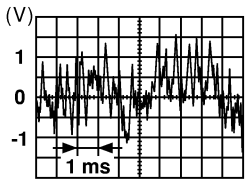
Are continuity test results as specified?

YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK

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 M43 terminals with CONSULT-III or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M43	1	2	Receive audio signal	
	3	4		

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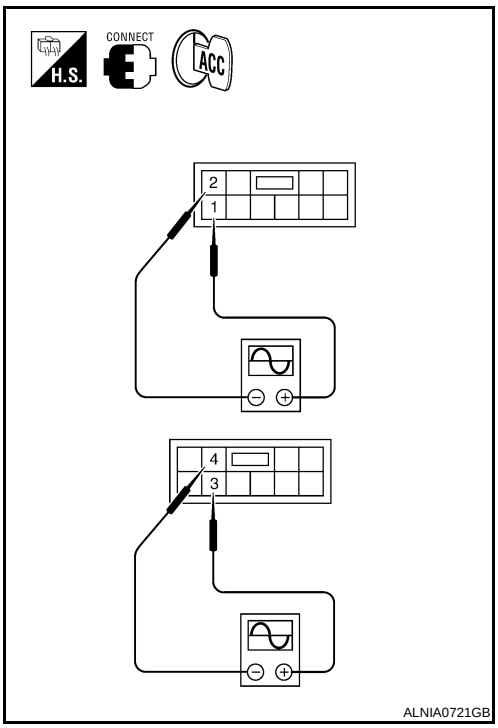
Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to AV-165, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-164, "Removal and Installation".



ALNIA0721GB

FRONT TWEETER

Description

INFOID:0000000003301512

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:0000000003301513

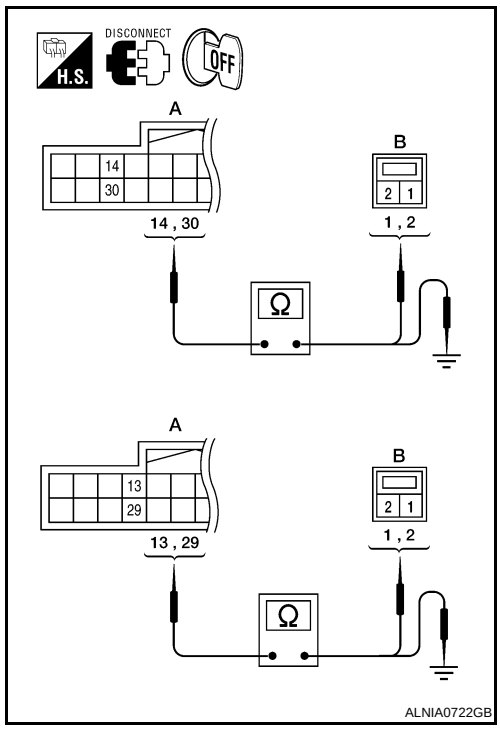
1.HARNESS CHECK

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		

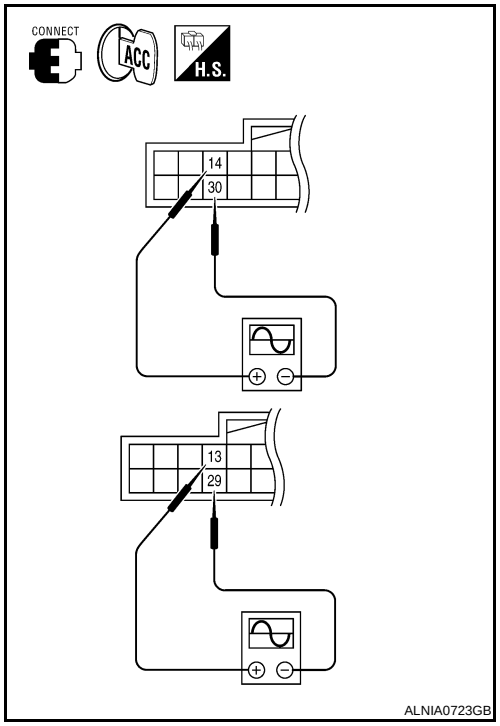


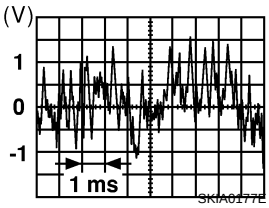
Are continuity test results as specified?

YES >> GO TO 2
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.FRONT TWEETER SIGNAL CHECK

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

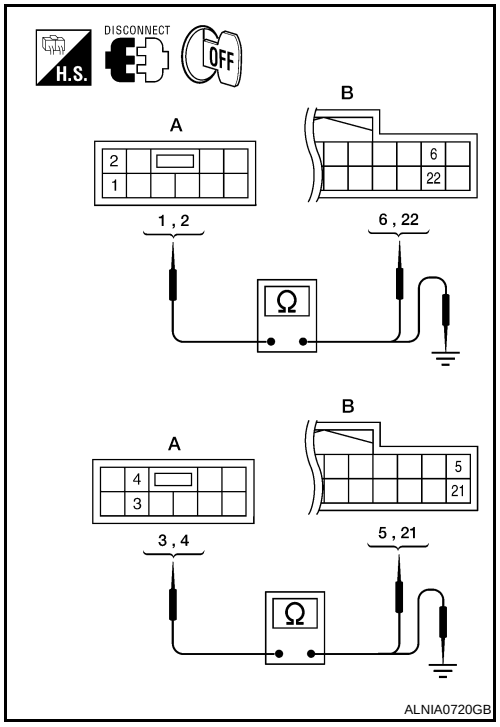
Is audio signal voltage as specified?

YES >> Replace suspect tweeter. Refer to AV-166, "Removal and Installation".

NO >> GO TO 3

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M43 and audio amp. connector B159.
2. Check continuity between audio unit harness connector M43 (A) and audio amp. harness connector B159 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	B159	6	Yes
	2		22	
	3		5	
	4		21	

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

A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

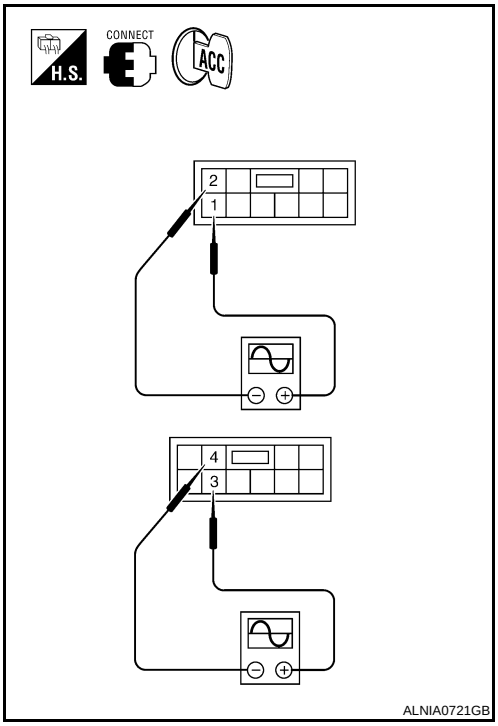
Are continuity test results as specified?

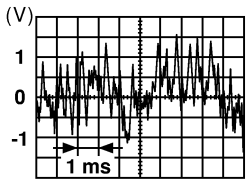
YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK

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 M43 terminals with CONSULT-III or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M43	1	2	Receive audio signal	 SKIA0177E
	3	4		

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to AV-165, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-164, "Removal and Installation".

REAR DOOR SPEAKER

Description

INFOID:0000000003301514

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:0000000003301515

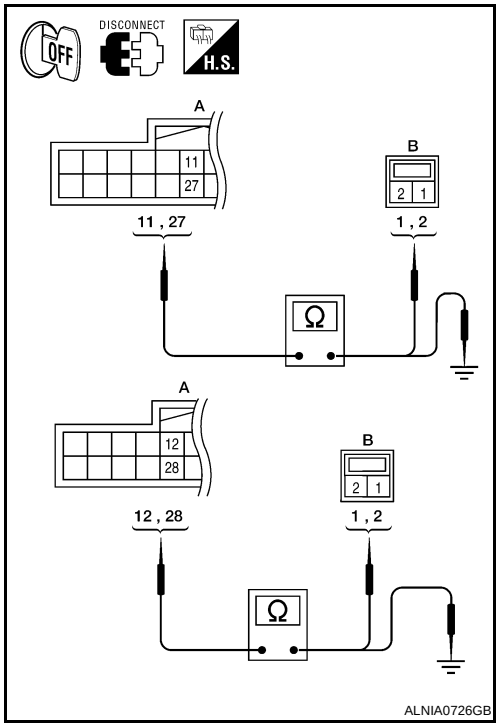
1.SPEAKER HARNESS CHECK

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		



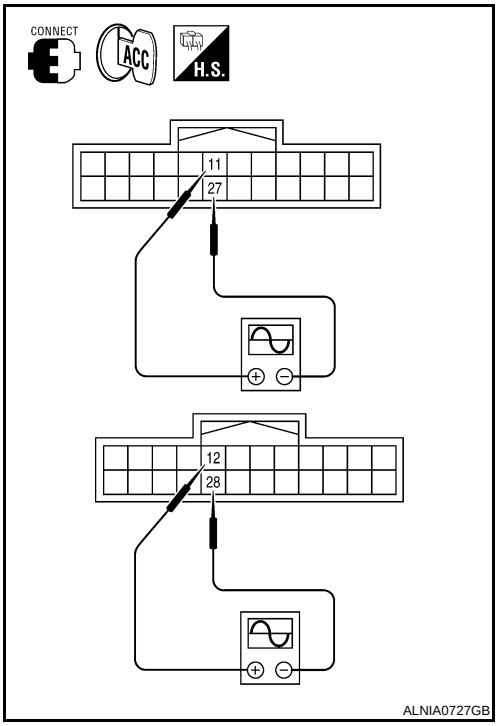
Are the continuity test results as specified?

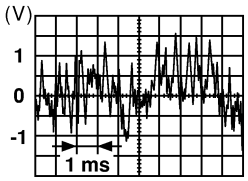
YES >> GO TO 2

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

2.SPEAKER SIGNAL CHECK

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		

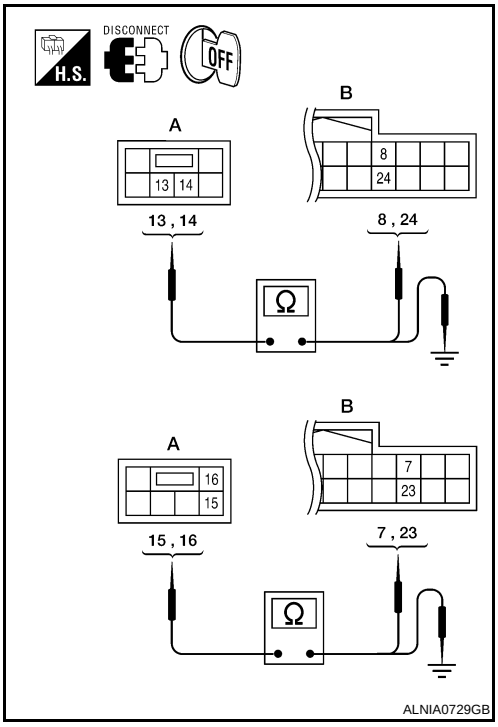
SKIA0177E

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to AV-168, "Removal and Installation".
NO >> GO TO 3

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M44 and audio amp. connector B159.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector B159 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	B159	8	Yes
	14		24	
	15		7	
	16		23	

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

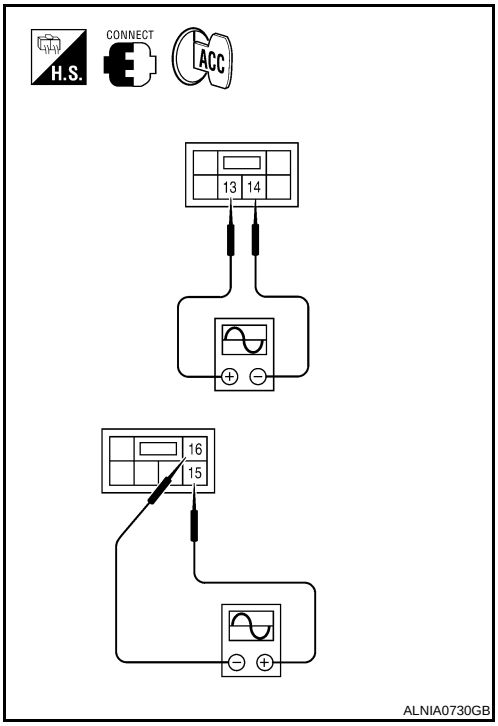
A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		

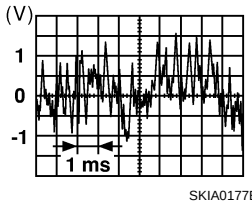
Are the continuity test results as specified?

YES >> GO TO 4
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

4. PRE-AMP SIGNAL CHECK

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 (+)	Terminals (-)	Condition	Reference signal
M44	13	14	Receive audio signal	
	15	16		

SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-165, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-164, "Removal and Installation".

REAR DOOR TWEETER

Description

INFOID:0000000003301516

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:0000000003301517

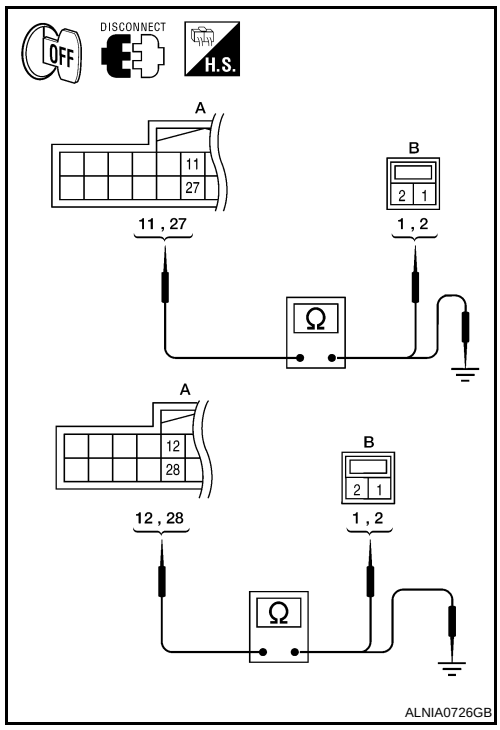
1.SPEAKER HARNESS CHECK

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		

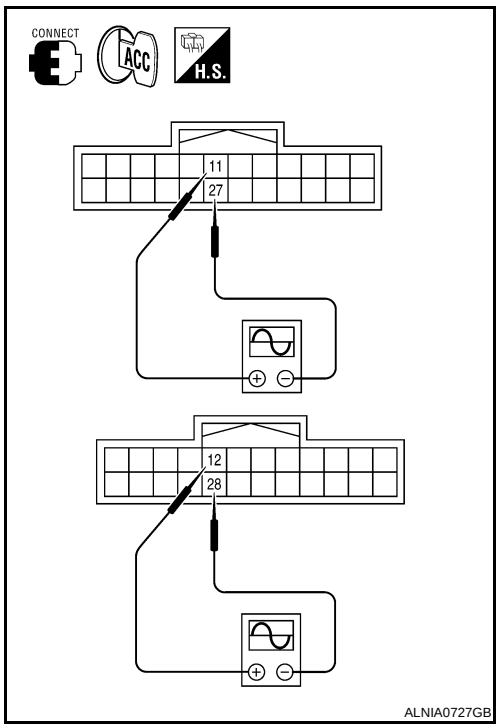


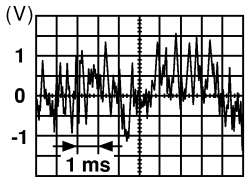
Are the continuity test results as specified?

YES >> GO TO 2
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.SPEAKER SIGNAL CHECK

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

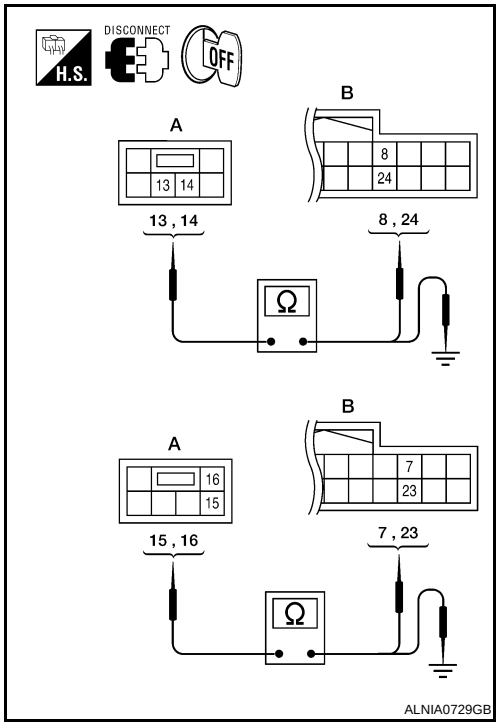
Are audio signal voltage readings as specified?

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 M44 and audio amp. connector B159.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector B159 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	B159	8	Yes
	14		24	
	15		7	
	16		23	

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

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

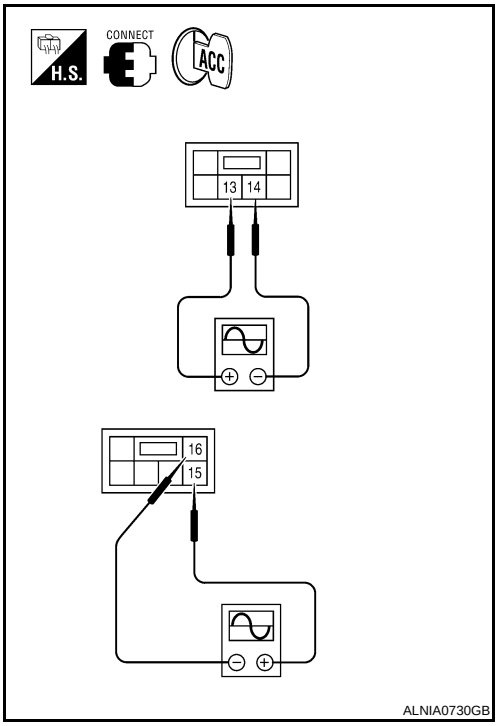
Are the continuity test results as specified?

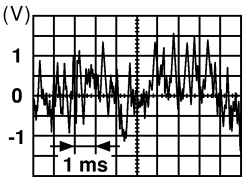
YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK

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 (+)	Terminals (-)	Condition	Reference signal
M44	13	14	Receive audio signal	
	15	16		

SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-165, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-164, "Removal and Installation".

SUBWOOFER

Description

INFOID:0000000003301518

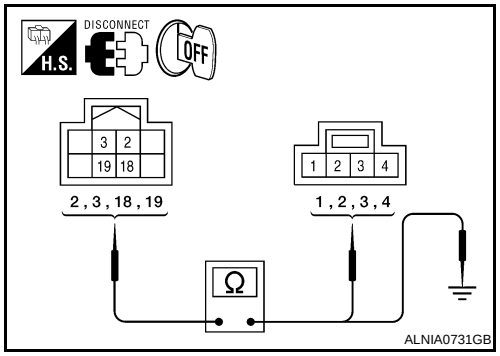
The audio unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the subwoofer using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000003301519

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
	3		3	
	18		2	
	19		4	

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

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

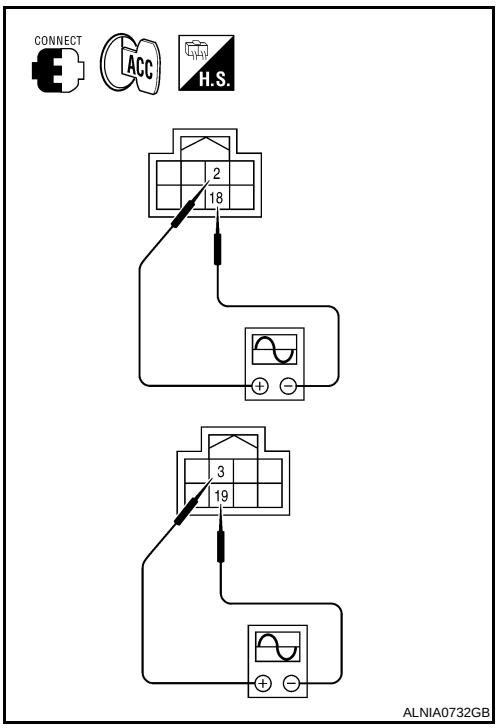
Are the continuity test results as specified?

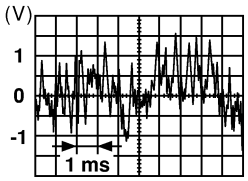
YES >> GO TO 2

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

2.SPEAKER SIGNAL CHECK

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		

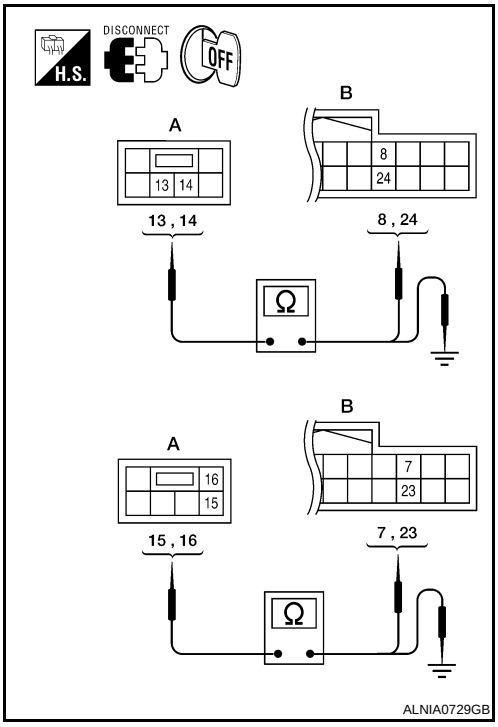
SKIA0177E

Is the audio signal voltage as specified?

YES >> Replace subwoofer. Refer to AV-171, "Removal and Installation".
NO >> GO TO 3

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M44 and audio amp. connector B159.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector B159 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	B159	8	Yes
	14		24	
	15		7	
	16		23	

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

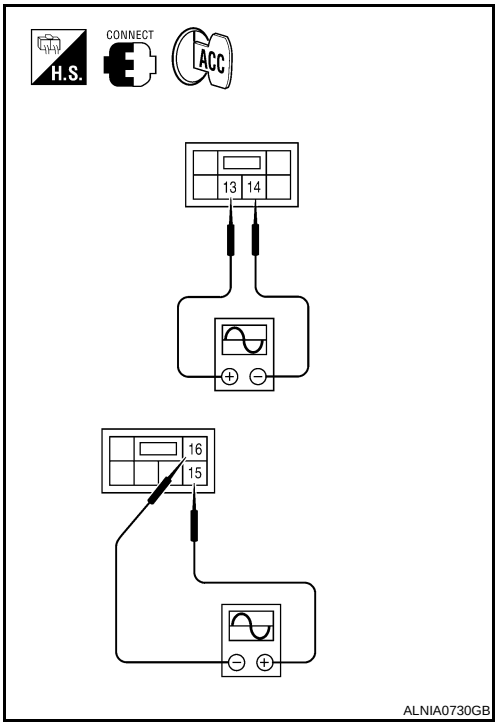
A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		

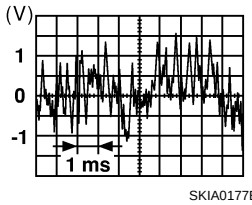
Are the continuity test results as specified?

YES >> GO TO 4
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

4. PRE-AMP SIGNAL CHECK

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 (+)	Terminals (-)	Condition	Reference signal
M44	13	14	Receive audio signal	
	15	16		

SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-165, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-164, "Removal and Installation".

AMP ON SIGNAL CIRCUIT

Description

INFOID:0000000003301520

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.

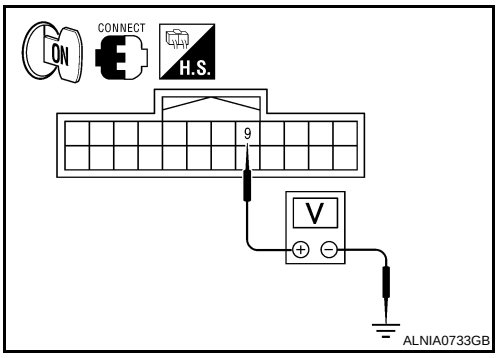
Diagnosis Procedure

INFOID:0000000003301521

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



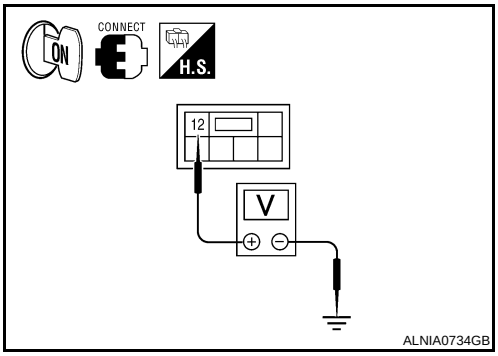
Is battery voltage present?

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

2.CHECK AMP ON SIGNAL (AUDIO UNIT)

Check voltage between audio unit harness connector M44 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-164, "Removal and Installation".

STEERING SWITCH

Description

INFOID:0000000003301522

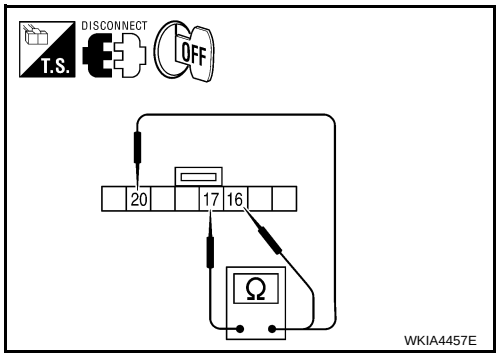
When one of the steering wheel audio control switches is pushed, the resistance in the steering wheel audio control switch circuit changes depending on which button is pushed.

Diagnosis Procedure

INFOID:0000000003301523

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.



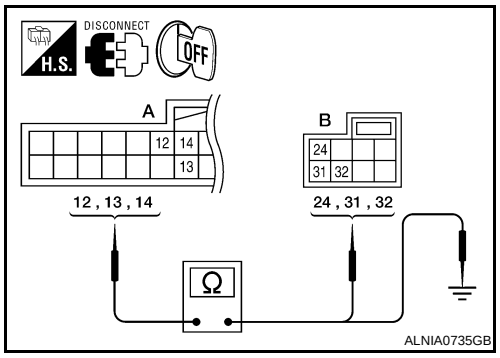
Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
16	17	Seek (down)	Depress ▽ switch.	165
		Volume (down)	Depress VOL down switch.	487
		Mode/end	Depress MODE switch.	0
20	17	Seek (up)	Depress △ switch.	165
		Volume (up)	Depress VOL up switch.	487
		Phone/send	Depress switch.	0

Do the steering wheel audio control switches check OK?

YES >> GO TO 2
NO >> Replace steering wheel audio control switch. Refer to AV-170, "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.

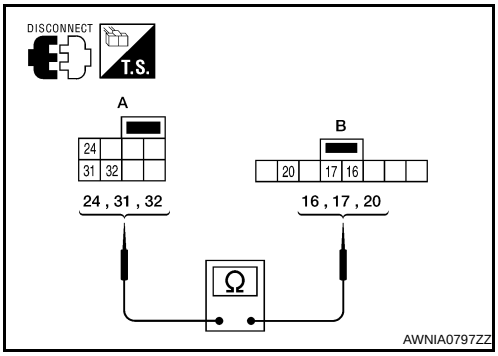
A		—	Continuity
Connector	Terminal		
B141	12	Ground	No
	13		
	14		

Are the continuity results as specified?

YES >> GO TO 3
NO >> Repair harness.

3. SPIRAL CABLE CHECK

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
SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:0000000003301524

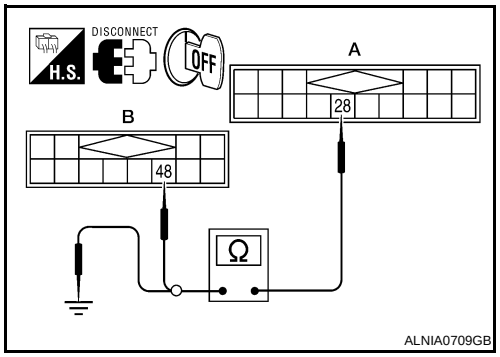
Communication signals are exchanged between the audio unit and satellite radio tuner using the communication circuits.

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000003301525

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.

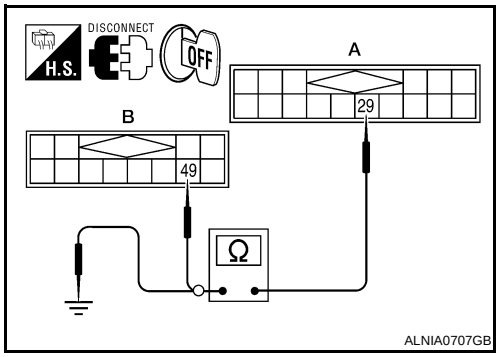
A		—	Continuity
Connector	Terminal		
M41	28	Ground	No

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.

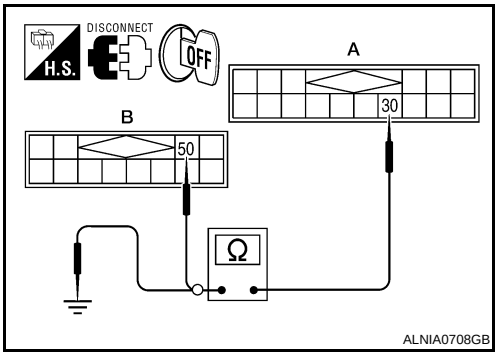
A		—	Continuity
Connector	Terminal		
M41	29	Ground	No

Are continuity results as specified?

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

3. CHECK HARNESS - RXD

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.

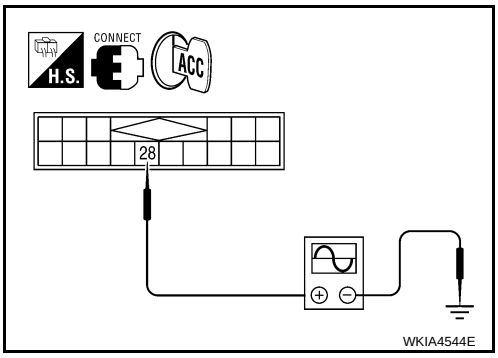
A		—	Continuity
Connector	Terminal		
M41	30	Ground	No

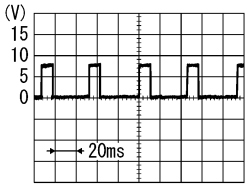
Are continuity results as specified?

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.



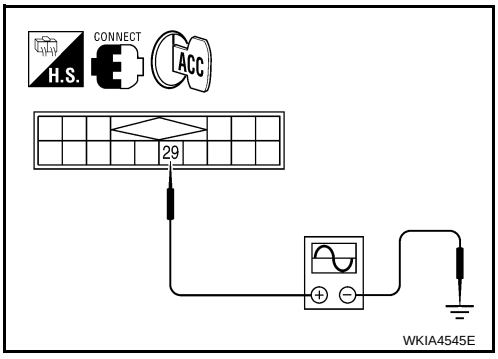
(+)		(-)	Reference signal
Connector	Terminal		
M41	28	Ground	

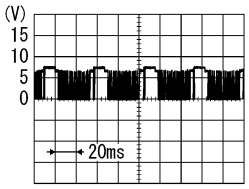
Are voltage readings as specified?

YES >> GO TO 5
NO >> Replace audio unit. Refer to AV-164, "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.



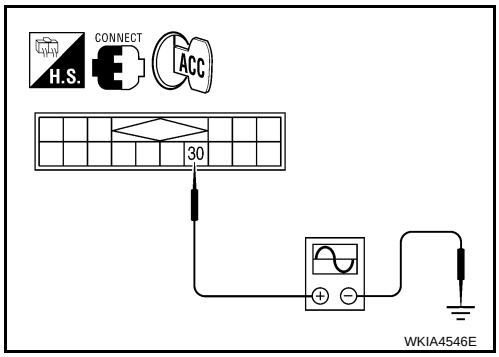
(+)		(-)	Reference signal
Connector	Terminal		
M41	29	Ground	

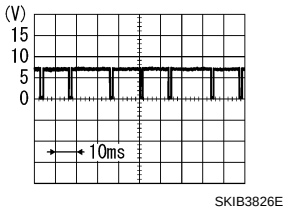
Are the voltage readings as specified?

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

6. CHECK RXD SIGNAL

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



(+)		(-)	Reference signal
Connector	Terminal		
M41	30	Ground	

Are the voltage readings as specified?

YES >> Replace satellite radio tuner.
NO >> Replace audio unit. Refer to AV-164, "Removal and Installation".

SOUND SIGNAL CIRCUIT
SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:0000000003301526

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

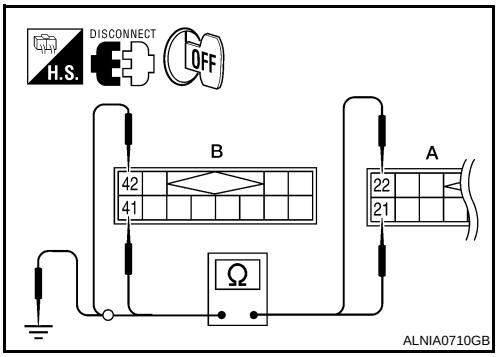
SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000003301527

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.

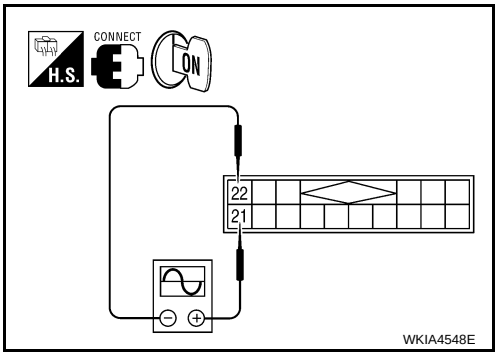
A		—	Continuity
Connector	Terminal		
M41	21	Ground	No
	22		

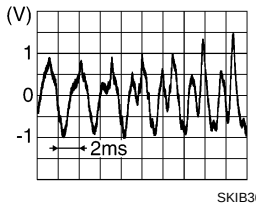
Are continuity results as specified?

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.



(+)		(-)	Reference signal
Connector	Terminal		
M41	21	Ground	
	22		

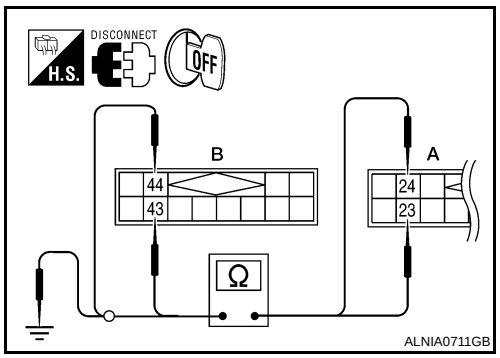
Are voltage readings as specified?

YES >> Replace audio unit. Refer to AV-164, "Removal and Installation".
NO >> Replace satellite radio tuner. Refer to AV-178, "Removal and Installation".

RIGHT CHANNEL

1.CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector 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.

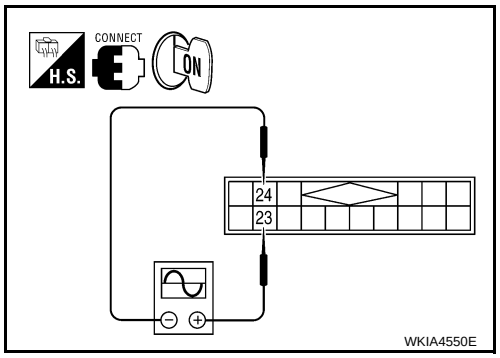
A		—	Continuity
Connector	Terminal		
M41	23	Ground	No
	24		

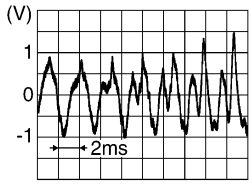
Are continuity results as specified?

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.



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

Are voltage readings as specified?

YES >> Replace audio unit. Refer to AV-164, "Removal and Installation".
NO >> Replace satellite radio tuner. Refer to AV-178, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000003301528

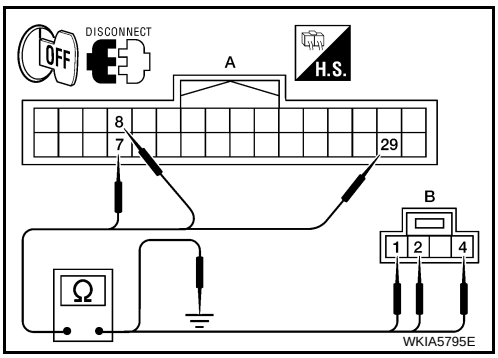
Voice signals are transmitted from the microphone to the Bluetooth control unit using the microphone signal circuits.

Diagnosis Procedure

INFOID:0000000003301529

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		

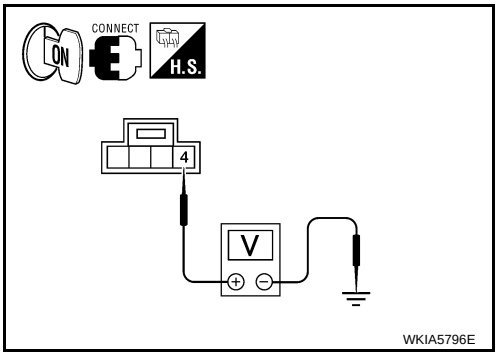
Are the continuity test results as specified?

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

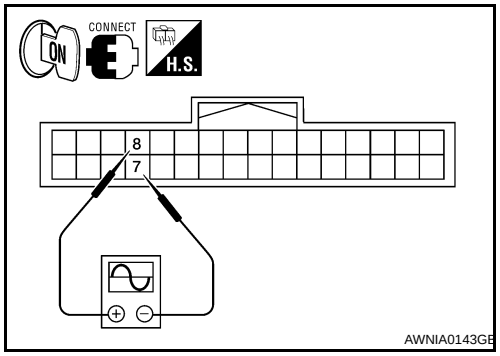


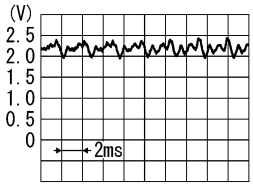
Is voltage reading approx. 5 volts?

YES >> GO TO 3
NO >> Replace Bluetooth control unit. Refer to AV-172, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

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



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

Are voltage readings as specified?

YES >> Replace Bluetooth control unit. Refer to AV-172, "Removal and Installation".
NO >> Replace microphone. Refer to AV-174, "Removal and Installation".

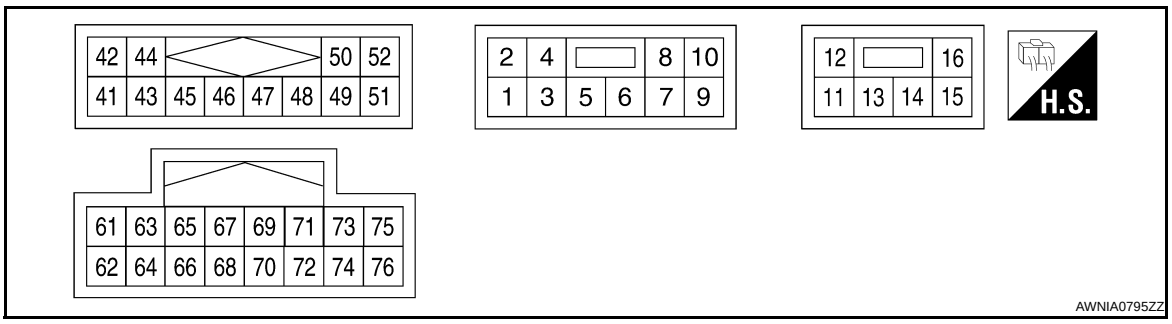
ECU DIAGNOSIS

AUDIO UNIT

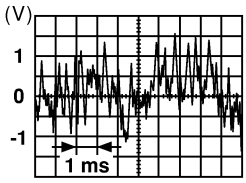
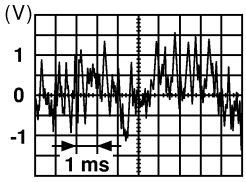
Reference Value

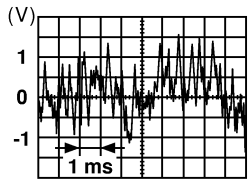
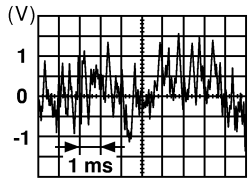
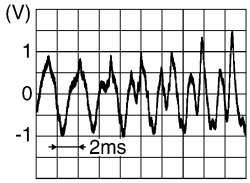
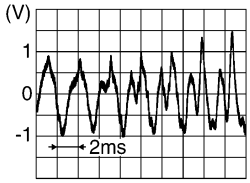
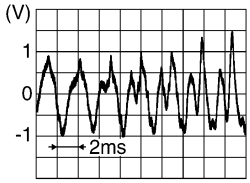
INFOID:0000000003301530

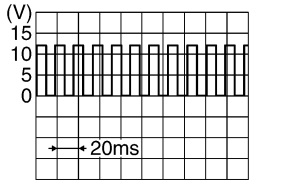
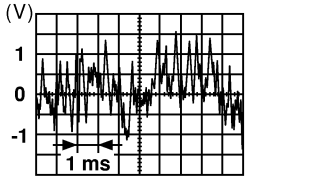
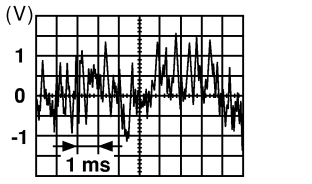
TERMINAL LAYOUT



PHYSICAL VALUES

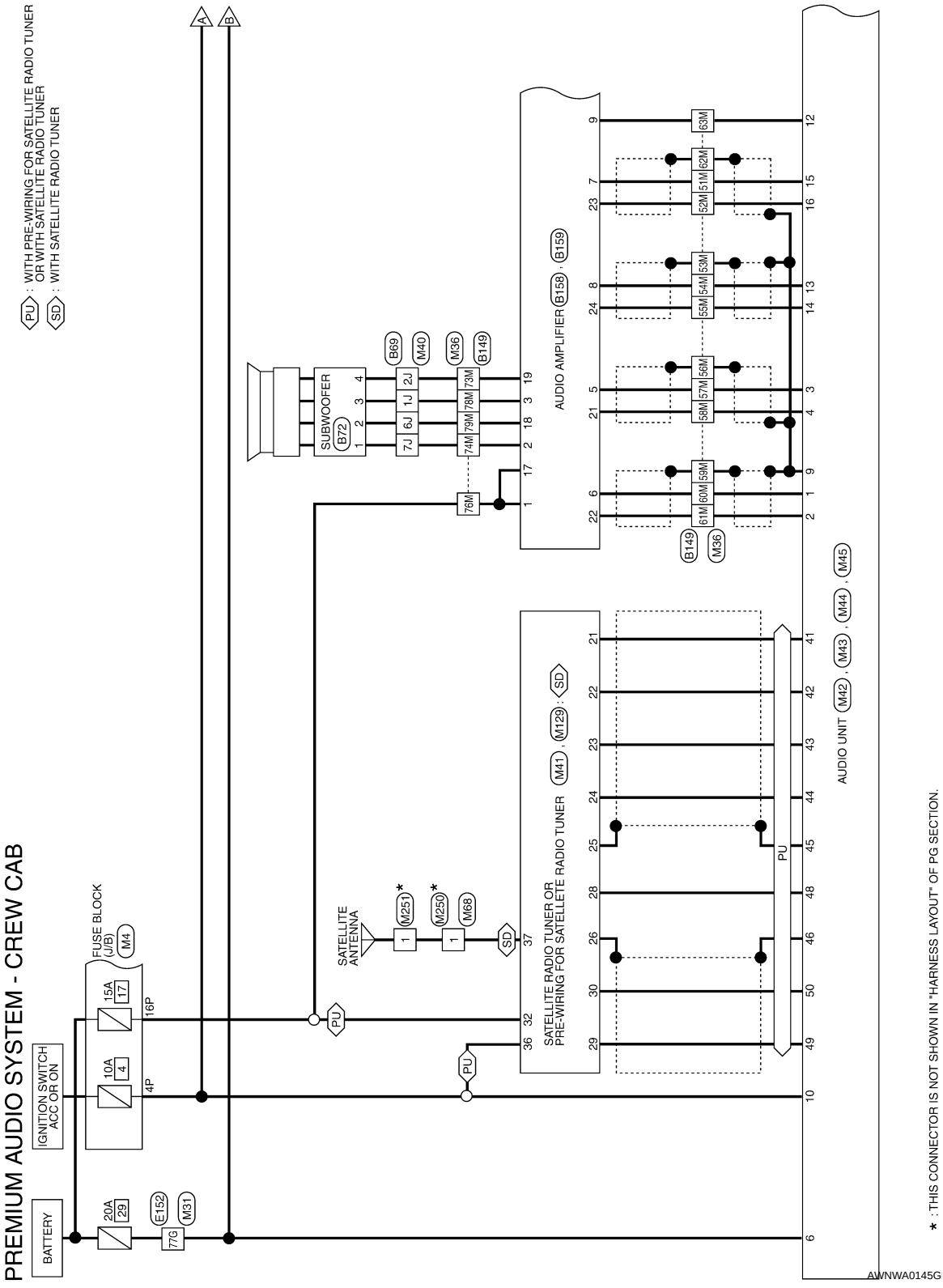
Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
2 (W)	1 (B)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio signal	
4 (Y)	3 (BR)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio signal	
6 (Y)	Ground	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

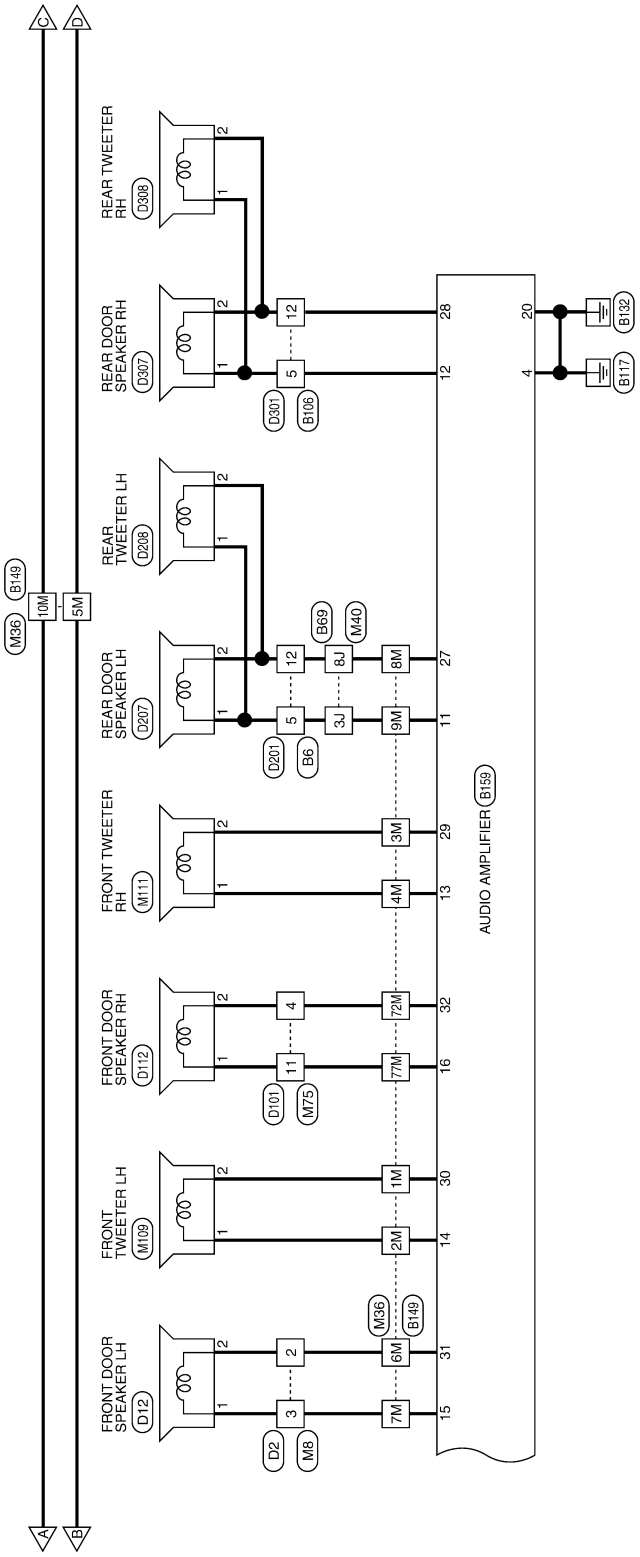
Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
14 (BR)	13 (B/R)	Audio sound signal rear LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
16 (L)	15 (B/W)	Audio sound signal rear RH	Output	Ignition switch ON	Receive audio signal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

Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
67	–	Shield	–	Ignition switch ON	–	0V
69 (R)	71 (L)	Steering switch signal A	Input	Ignition switch ON	Pressing switch	0V
					Pressing △ switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V
70 (GR)	71 (L)	Steering switch signal B	Input	Ignition switch ON	Pressing MODE switch	0V
					Pressing ▽ switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5 V
73 (SB)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	 PKIA1935E
74 (W)	Ground	Auxiliary audio input RH (+)	Input	Ignition switch ON	Receive audio signal (AUX input)	 SKIA0177E
75 (B)	Ground	Auxiliary audio input LH (+)	Input	Ignition switch ON	Receive audio signal (AUX input)	 SKIA0177E
76 (B)	–	Shield	–	–	–	0V

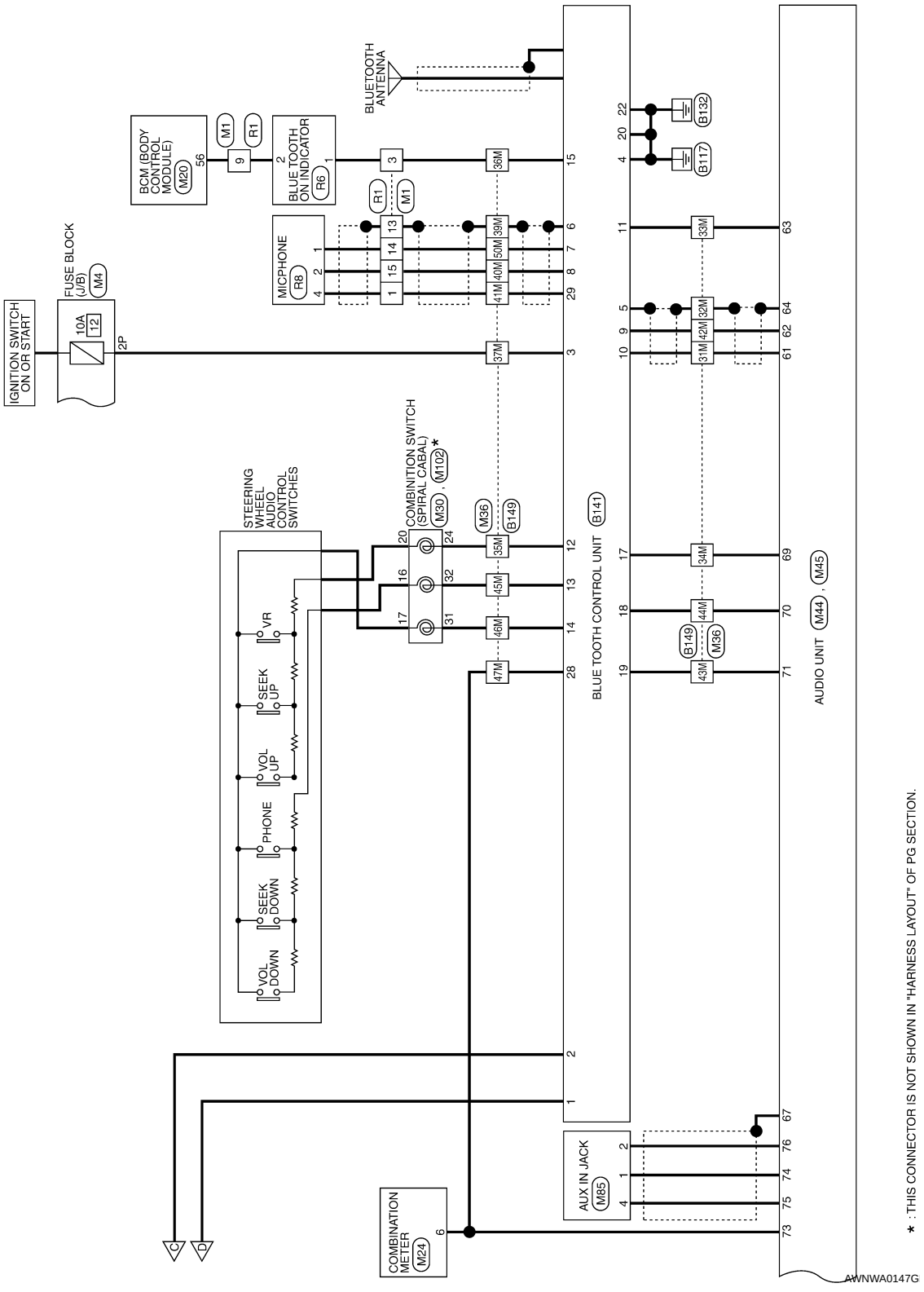
Wiring Diagram

INFOID:0000000003301531




C
D
A
B
B149
M36
10M
5M
REAR TWEETER RH
D308
REAR DOOR SPEAKER RH
D307
D301
B106
REAR TWEETER LH
D208
REAR DOOR SPEAKER LH
D207
D201
B6
B69
M40
8J
3J
FRONT TWEETER RH
M111
FRONT DOOR SPEAKER RH
D112
D101
M75
FRONT TWEETER LH
M109
FRONT DOOR SPEAKER LH
D12
D2
M8
M36
B149
AUDIO AMPLIFIER B159
B132
B117

AWNWA0146G


BLUETOOTH ANTENNA
BCM (BODY CONTROL MODULE) M20
BLUE TOOTH ON INDICATOR R6
MICPHONE R8
FUSE BLOCK (J/B) M4
IGNITION SWITCH ON OR START
10A
COMBINATION METER M24
STEERING WHEEL AUDIO CONTROL SWITCHES
VR
SEEK UP
VOL UP
PHONE
SEEK DOWN
VOL DOWN
COMBINITION SWITCH (SPIRAL CABAL) M30 , M102 *
BLUE TOOTH CONTROL UNIT B141
AUX IN JACK M85
AUDIO UNIT M44 , M45
B132
B117
B149
M36
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.
AWNWA0147G

PREMIUM AUDIO SYSTEM CONNECTORS - CREW CAB

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

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

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

H.S.

7P	6P	5P	4P		3P	2P	1P
16P	15P	14P	13P	12P	11P	10P	9P	8P

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

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

H.S.

5	4		3	2	1
12	11	10	9	8	7	6

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

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

H.S.

7	6	5	4		3	2	1
16	15	14	13	12	11	10	9	8

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

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

H.S.

56	57	58	59	60	61	62	63	64
65	66	67	68		68	69	70	

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

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

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

AWNIA0691GB

Connector No.	M30
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

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.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Connector No.	M36
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

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

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	–

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	–

AWNIA0692GB

Connector No.	M42
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

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
Connector Color	WHITE

H.S.

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

H.S.

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

AWNIA0693GB

Connector No.	M43
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

2	4		8	10
1	3	5	6	7	9

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.	M44
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

12		16
11	13	14	15

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

Connector No.	M45
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

61	63	65	67	69	71	73	75
62	64	66	68	70	72	74	76

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	R	REMOTE_A_SWC
70	GR	REMOTE_B_SWC
71	L	REMOTE_GND_SWC
72	–	–
73	SB	SPEED SIGNAL
74	W	AUX_R+
75	B	AUX_L+
76	R	AUX_GND

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

H.S.

1

Terminal No.	Color of Wire	Signal Name
1	–	–

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

H.S.

5	4		3	2	1
12	11	10	9	8	7	6

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

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

H.S.

4	3	2	1

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

AWNIA0694GB

Connector No.	M102
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

14 15 16 17 18 19 20 21

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

Connector No.	M109
Connector Name	FRONT TWEETER LH
Connector Color	BROWN

H.S.

2 1

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	GR	–

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

H.S.

2 1

Terminal No.	Color of Wire	Signal Name
1	W	–
2	P	–

Connector No.	M129
Connector Name	SATELLITE RADIO TUNER OR PRE-WIRING FOR SATELLITE RADIO RUNER
Connector Color	VIOLET

H.S.

37

Terminal No.	Color of Wire	Signal Name
37	–	–

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

H.S.

1

Terminal No.	Color of Wire	Signal Name
1	–	–

Connector No.	M251
Connector Name	SATELLITE ANTENNA
Connector Color	BROWN

H.S.

1

Terminal No.	Color of Wire	Signal Name
1	–	–

AWNIA0695GB

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	–

AWNIA0696GB

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

H.S.

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

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_-

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	–	–
29	–	–
30	–	–
31	–	–
32	–	–

AWNIA0697GB

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

H.S.

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

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	–

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	–

AWNIA0703GB

Connector No.	B158
Connector Name	AUDIO AMPLIFIER
Connector Color	WHITE

H.S.

4	3	2	1
20	19	18	17

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	WOORER(-)2
20	B	GND

Connector No.	B159
Connector Name	AUDIO AMPLIFIER
Connector Color	WHITE

H.S.

16	15	14	13	12	11	10	9	8	7	6	5
32	31	30	29	28	27	26	25	24	23	22	21

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 (+)

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.	B163
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

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

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

H.S.

12	11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13

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

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

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	GR	LED_1(AMBER)
2	R/Y	LED_POWER

AWNIA0698GB

Connector No.	R8
Connector Name	MICOPHONE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	MIC_OUT_+
2	L	MIC_OUT_-
4	Y	MIC_POWER

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

H.S.

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

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

H.S.

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

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

H.S.

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

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

H.S.

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

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

H.S.

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

AWNIA0699GB

Connector No.	D207
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE

H.S.

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

Connector No.	D208
Connector Name	REAR DOOR TWEETER LH
Connector Color	BROWN

H.S.

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

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

H.S.

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

Connector No.	D307
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE

H.S.

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

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

H.S.

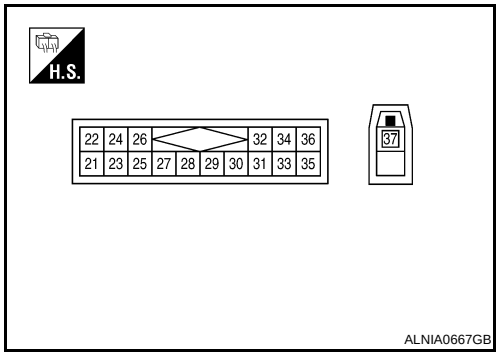
Terminal No.	Color of Wire	Signal Name
1	L	–
2	O	–

AWNIA0700GB

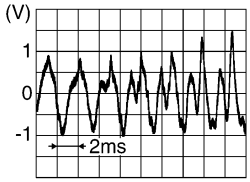
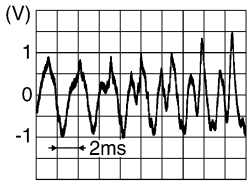
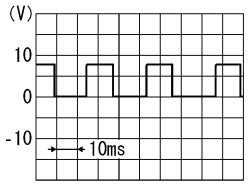
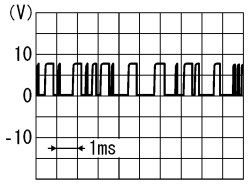
SATELLITE RADIO TUNER

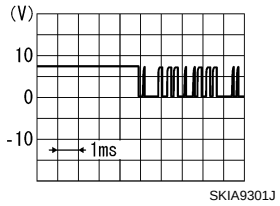
Reference Value

INFOID:0000000003301532



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	 SKIB3609E
24 (B)	23 (W)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	 SKIB3609E
25	—	Shield	—	—	—	—
26	—	Shield	—	—	—	—
28 (O)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9299J
29 (P)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9300J

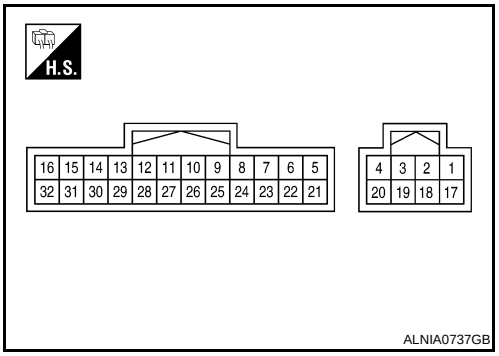
Terminal		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
30 (L)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	 SKIA9301J
32 (R/B)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
36 (G/B)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

AUDIO AMP

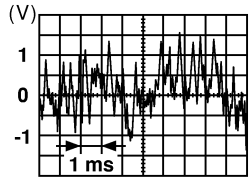
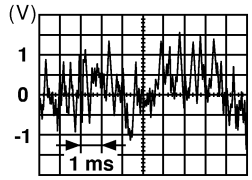
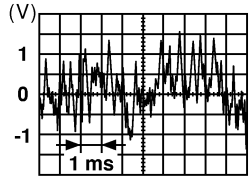
Reference Value

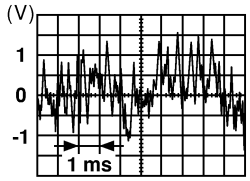
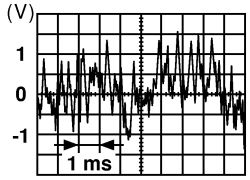
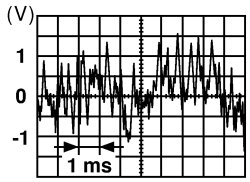
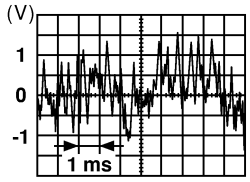
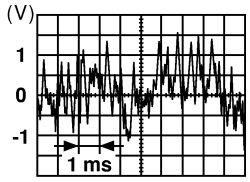
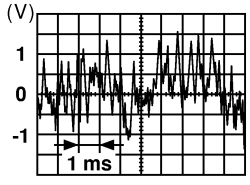
INFOID:0000000003301533

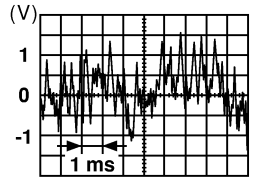
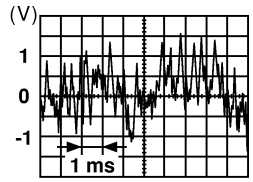
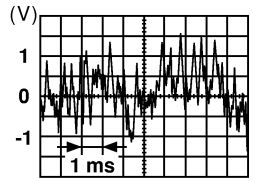
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (wire color) +	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 signal	 SKIA0177E
3 (O)	19 (BR)	Subwoofer	Output	Ignition switch ON	Receive audio signal	 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 speaker LH and rear door tweeter LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E

Terminal (wire color) +	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	 SKIA0177E
13 (W)	29 (P)	Front door tweeter RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
14 (Y)	30 (GR)	Front tweeter LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
15 (BR)	31 (L)	Front door speaker LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
16 (LG)	32 (R)	Front door speaker RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
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	 SKIA0177E

Terminal (wire color) +	Terminal (wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
22 (W)	6 (B)	Audio sound signal front LH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E
23 (L)	7 (B/W)	Audio sound signal rear RH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E
24 (BR)	8 (B/R)	Audio sound signal rear LH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E

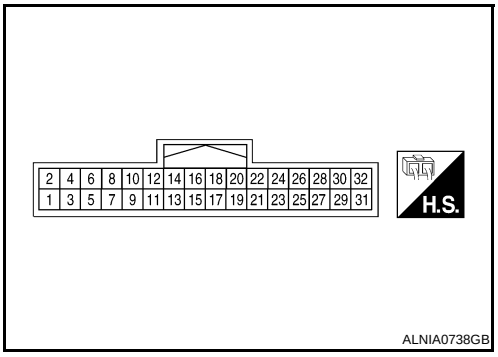
BLUETOOTH CONTROL UNIT

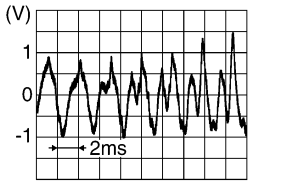
Reference Value

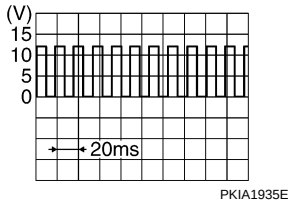
INFOID:0000000003301534

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	–	Ignition switch ON	–	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	
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

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 MODE 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 MODE switch	0V
					Pressing ▽ switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5V
22 (B)	Ground	Ground	–	–	–	0V
24 (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)	 PKIA1935E
29 (Y)	Ground	Microphone power	Output	Ignition switch ON	–	5V

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000003301535

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	• Audio unit power circuit • Audio unit	• AV-106 • AV-106
Steering wheel audio control switch does not operate	• Steering wheel audio control switch • Audio unit	• AV-127 • AV-106
All speakers do not sound	• Audio unit • Audio unit power circuit • Audio amp. ON signal • Audio amp. power/ground circuit • Audio amp.	• AV-106 • AV-106 • AV-126 • AV-107 • AV-107
One or several speakers do not sound	• Front door speaker • Front tweeter • Rear door speaker • Rear door tweeter • Subwoofer	• AV-111 • AV-114 • AV-117 • AV-120 • AV-123

CD

Symptom	Possible cause	Reference page
CD cannot be inserted.	Audio unit	AV-106
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	• Satellite radio tuner power or ground circuit • Satellite radio tuner communication circuit • Satellite radio tuner	• AV-106 • AV-129 • AV-178
Right or left channel does not sound	• Satellite radio tuner right channel audio signal circuit • Satellite radio tuner left channel audio signal circuit • Satellite radio tuner	• AV-132

HANDS-FREE PHONE

Symptom	Possible cause	Reference page
Inoperative	• Bluetooth control unit power circuit • Bluetooth control unit	• AV-108 • AV-105
Steering wheel audio switch does not operate	• Steering wheel audio control switch • Bluetooth control unit	• AV-127 • AV-105
Voice activated control does not activate	• Microphone • Steering wheel audio control switch • Bluetooth control unit	• AV-109 • AV-127 • AV-105

NORMAL OPERATING CONDITION

Description

INFOID:0000000003301536

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, AV control 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 (crew cab) • 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

PRECAUTION

PRECAUTIONS

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

INFOID:0000000003302262

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:

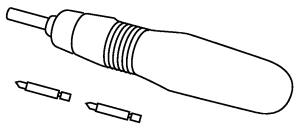
- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal 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:0000000003302263

Tool name	Description
Power tool  PBIC0191E	Loosening bolts and nuts

ON-VEHICLE REPAIR

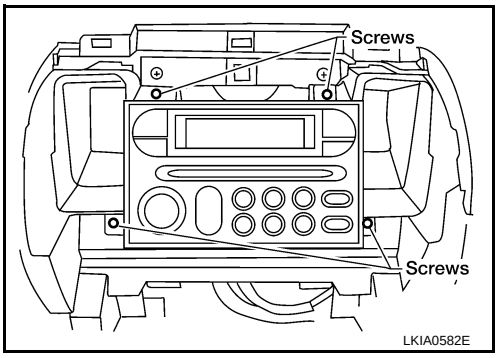
AUDIO UNIT

Removal and Installation

INFOID:0000000003302264

REMOVAL

1. Remove the cluster lid C. Refer to IP-10, "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.

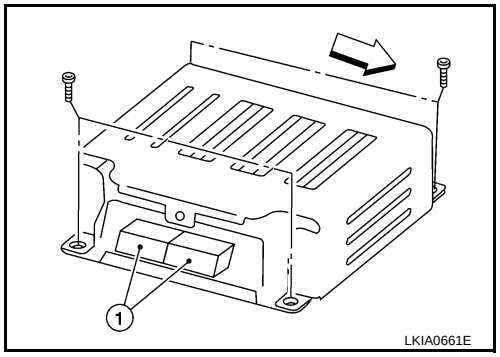
AUDIO AMP

Removal and Installation

INFOID:0000000003302265

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

Removal and Installation

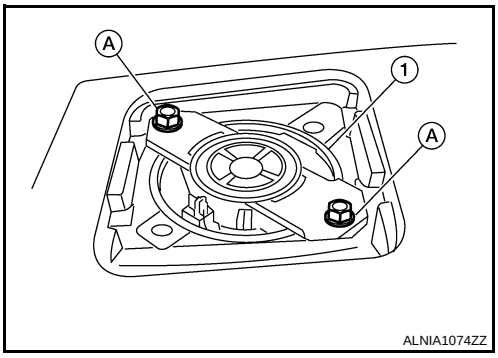
INFOID:0000000003302266

REMOVAL

CAUTION:

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

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



INSTALLATION

Installation is in the reverse order of removal.

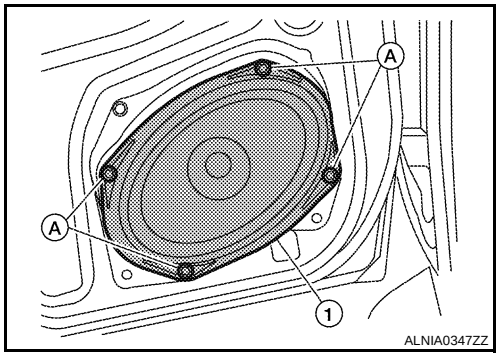
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000003302267

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.

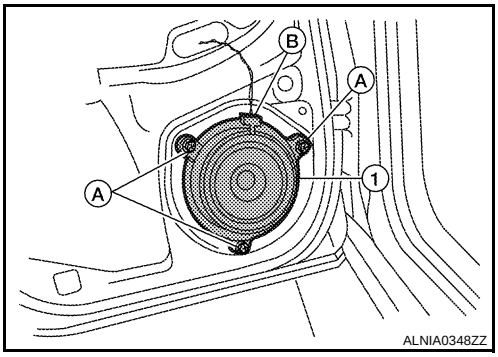
REAR DOOR SPEAKER

Removal and Installation

INFOID:0000000003302269

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.

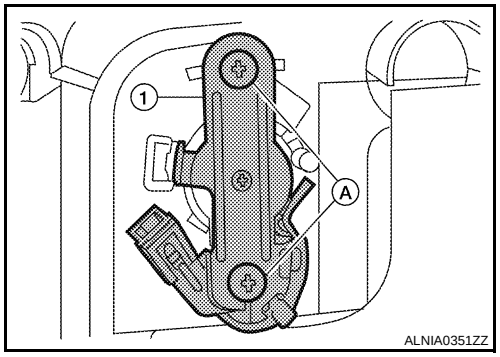
REAR DOOR TWEETER

Removal and Installation

INFOID:0000000003302369

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).



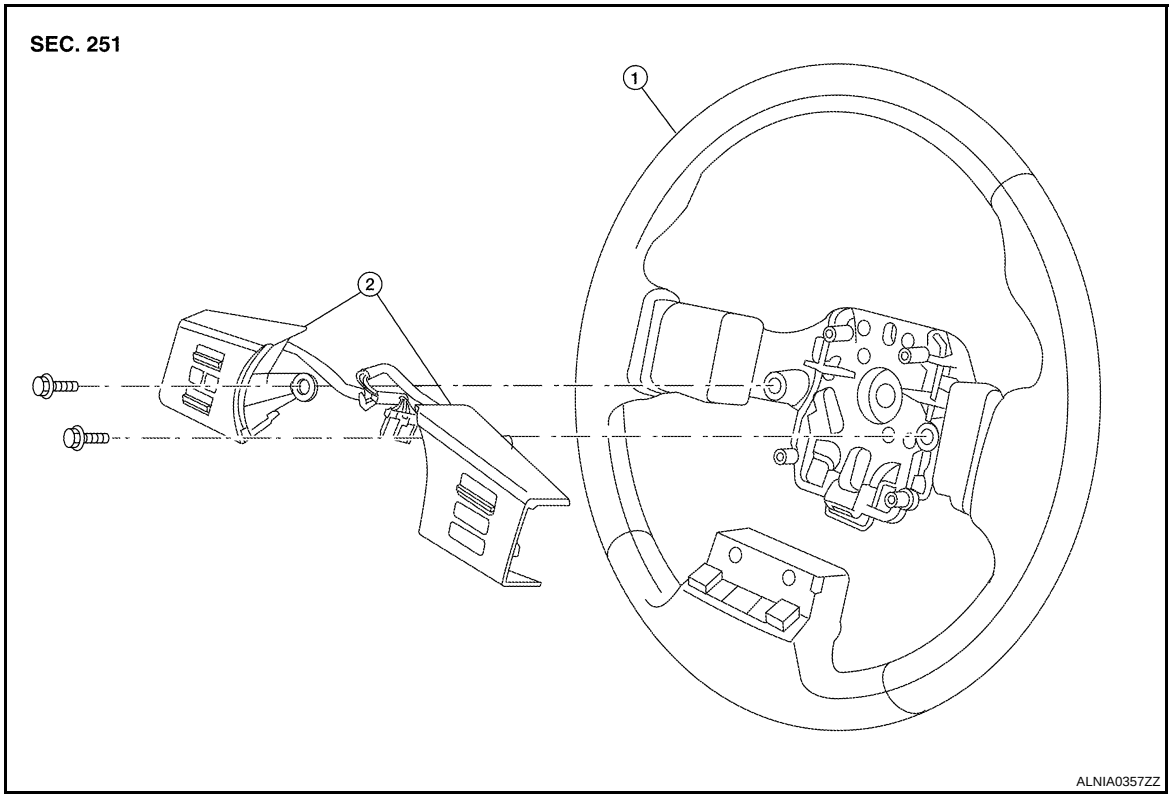
INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

Removal and Installation

INFOID:0000000003302271



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.

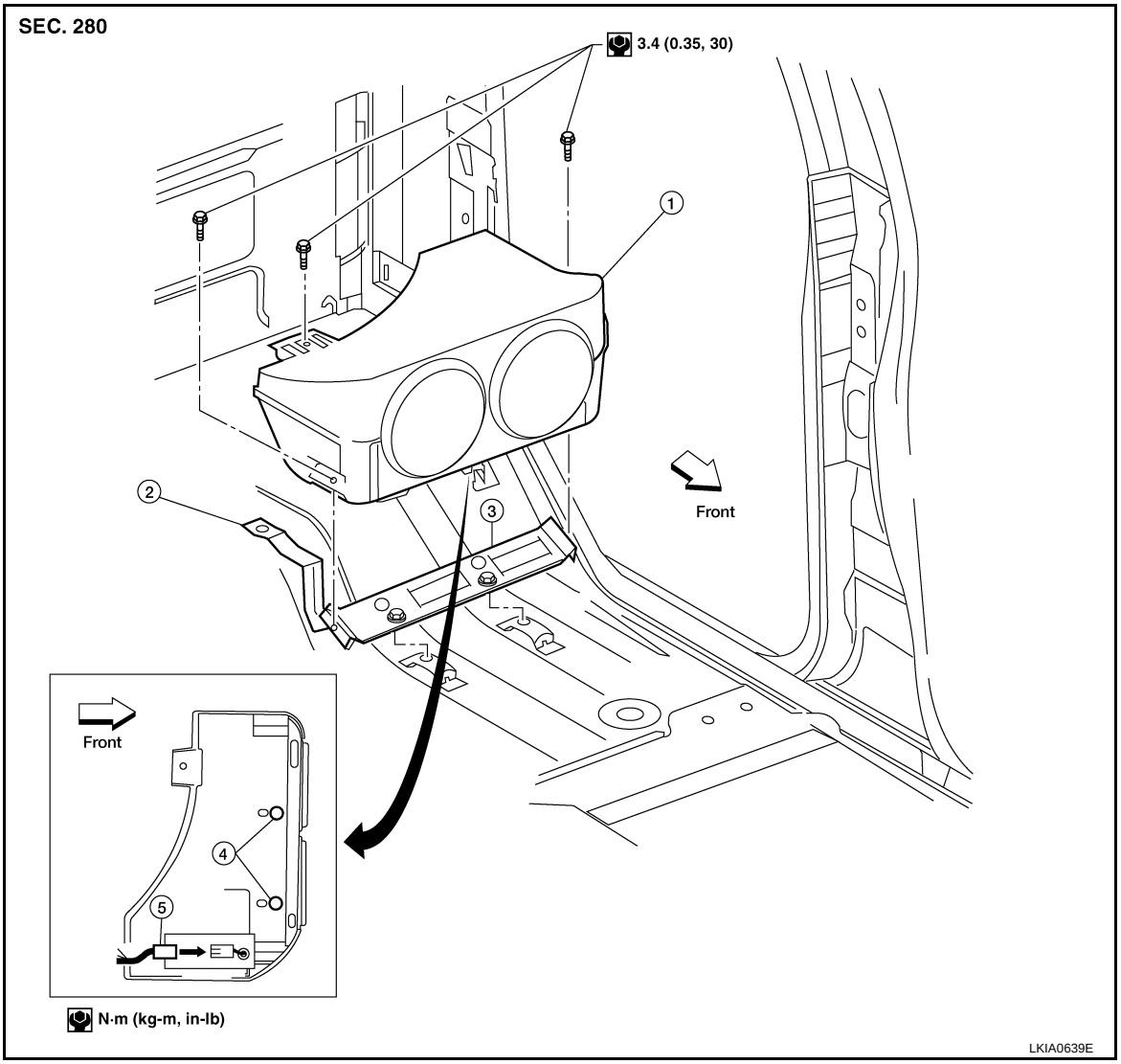
INSTALLATION

Installation is in the reverse order of removal.

SUBWOOFER

Removal and Installation

INFOID:0000000003302280



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.

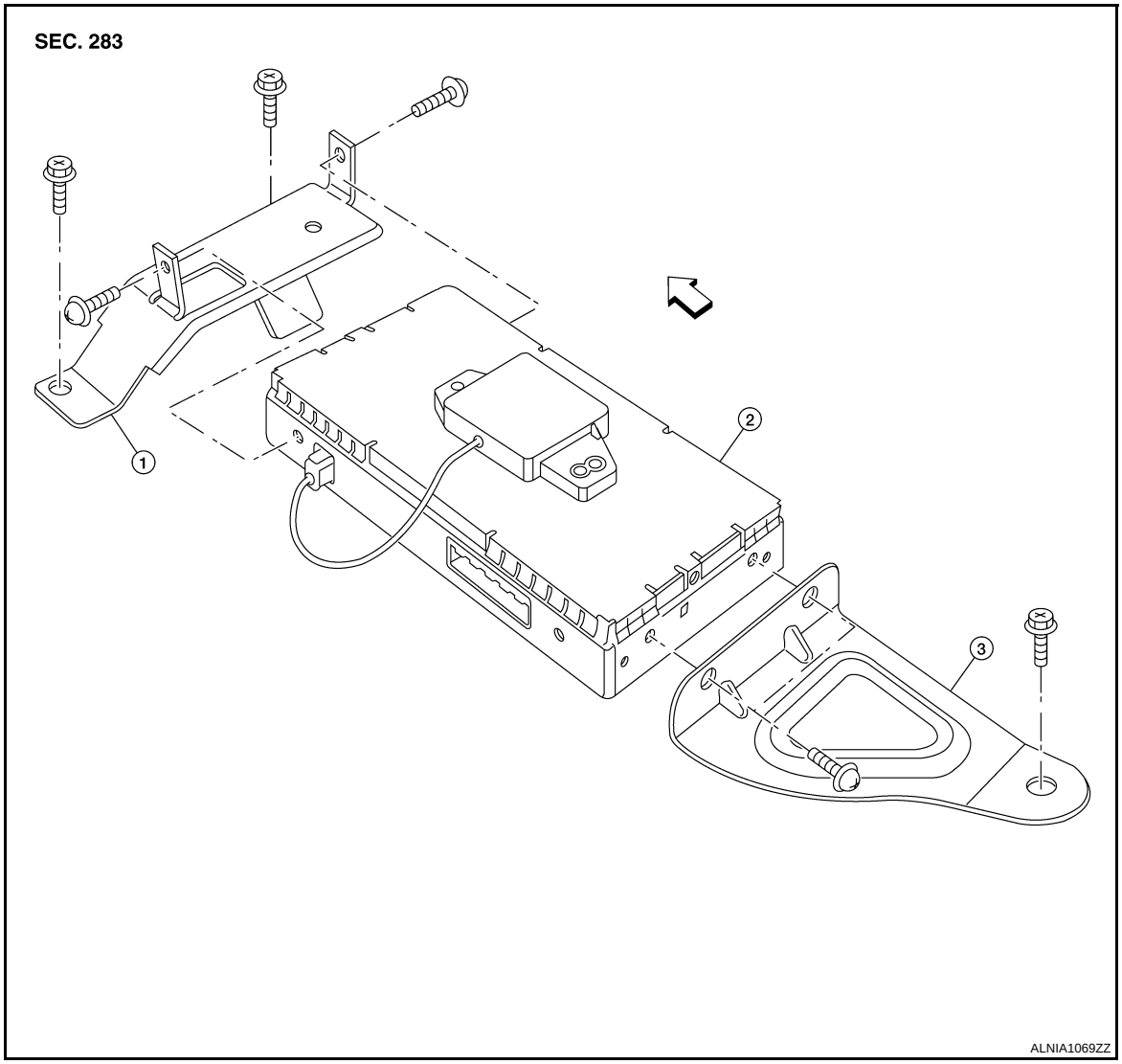
INSTALLATION

Installation is in the reverse order of removal.

BLUETOOTH CONTROL UNIT

Removal and Installation

INFOID:0000000003302273

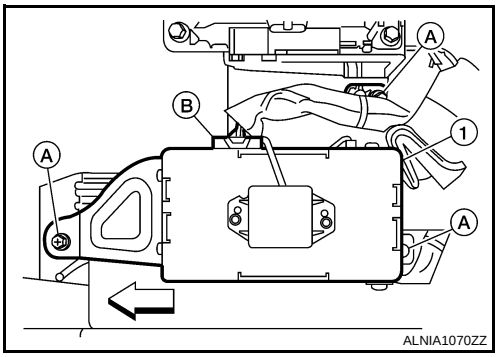


1. Bluetooth control unit front bracket
2. Bluetooth control unit/antenna
3. Bluetooth control unit rear bracket

⇦ 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).
   - ⇦:Vehicle front
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

Installation is in the reverse order of removal.

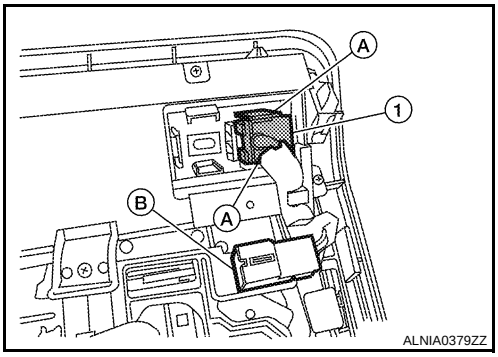
MICROPHONE

Removal and Installation

INFOID:0000000003302274

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).



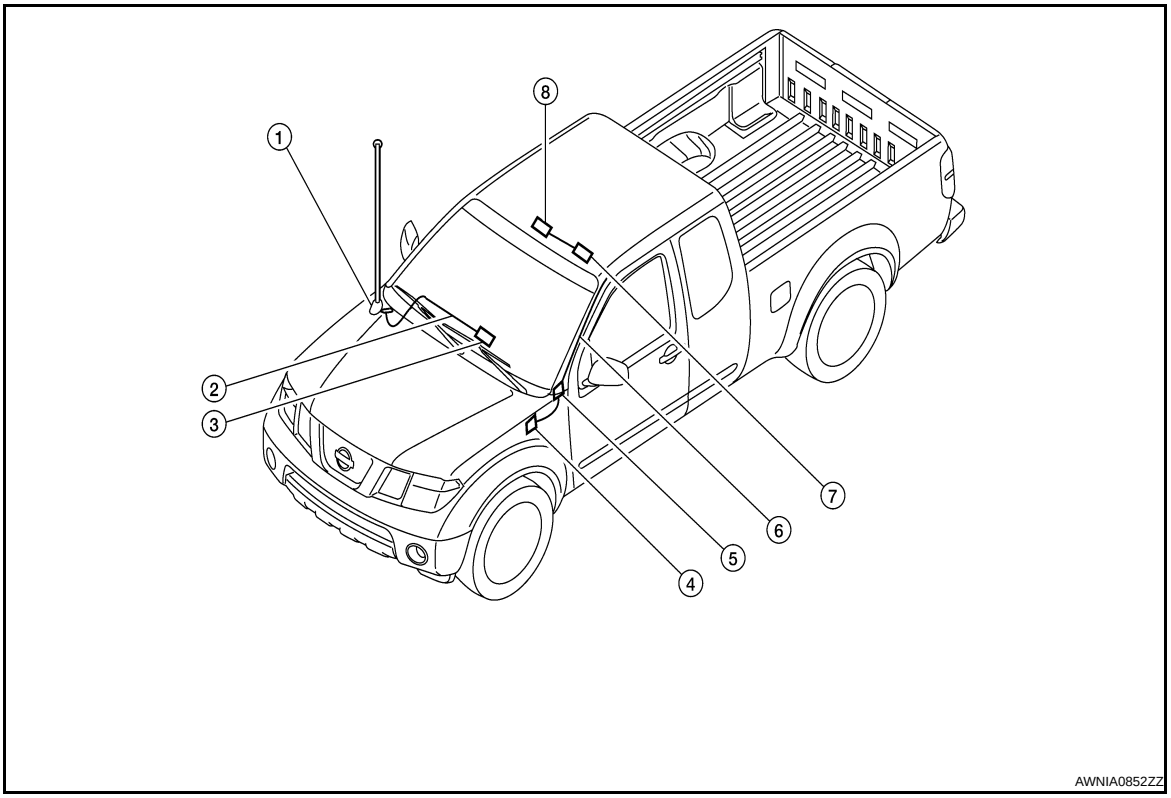
INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:0000000003302295



1. Audio antenna
2. Antenna feeder
3. Audio unit M42, M43, M44, M45
4. Satellite radio tuner M41, M129
5. Harness connector M250, M68
6. Satellite antenna feeder
7. Harness connector M251
8. Satellite antenna

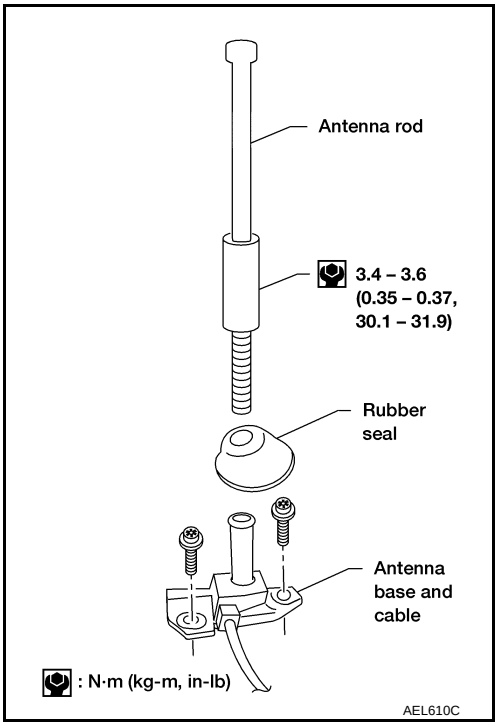
Removal and Installation

INFOID:0000000003302276

REMOVAL

1. Remove lower glove box. Refer to IP-10, "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.



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.

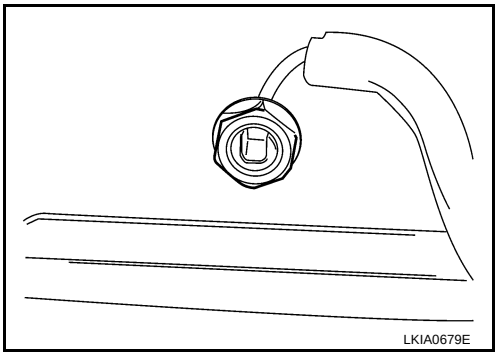
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:0000000003302277

REMOVAL

1. Remove the front cover. Refer to EXT-27, "Removal and Installation".
2. Lower the headlining. Refer to INT-23, "Removal and Installation".
3. Disconnect the satellite radio antenna connector.
4. Remove the satellite radio antenna nut.
5. Remove the satellite radio antenna.



INSTALLATION

Installation is in the reverse order of removal.

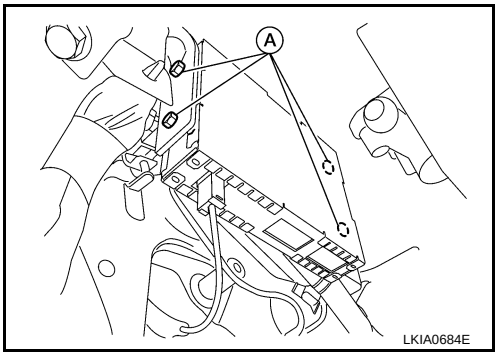
SATELLITE RADIO TUNER

Removal and Installation

INFOID:0000000003302278

REMOVAL

1. Disconnect the battery negative terminal.
2. Remove the lower instrument panel. Refer to IP-10, "Removal and Installation".
3. Disconnect the satellite radio tuner connectors.
4. Remove satellite radio tuner screws (A), and remove satellite radio tuner from above the parking brake pedal.



INSTALLATION

Installation is in the reverse order of removal.