

SECTION **AV**

AUDIO, VISUAL & NAVIGATION SYSTEM

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PRECAUTION

PRECAUTIONS

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

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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. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Precaution for Trouble Diagnosis

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AV COMMUNICATION SYSTEM

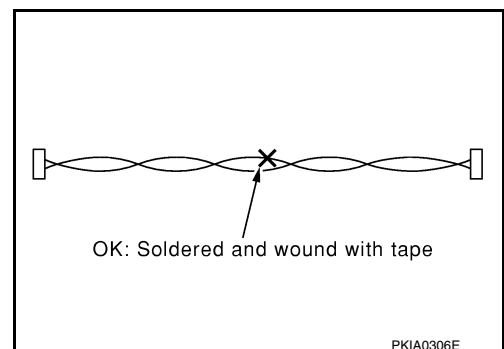
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

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AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



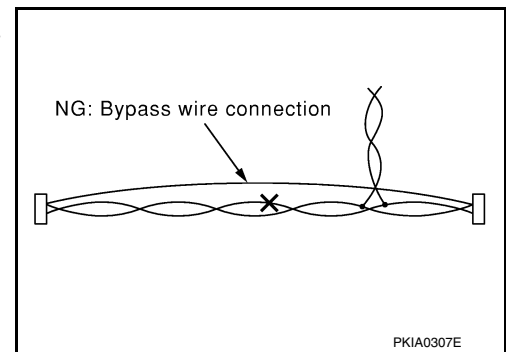
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PRECAUTIONS

< PRECAUTION >

[BASE AUDIO]

- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)



Precaution for Work

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- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
 - Water soluble dirt:
 - Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
 - Then rub with a soft, dry cloth.
 - Oily dirt:
 - Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
 - Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
 - Then rub with a soft, dry cloth.
 - Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
 - For genuine leather seats, use a genuine leather seat cleaner.

PREPARATION

< PREPARATION >

[BASE AUDIO]

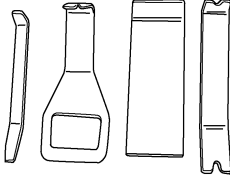
PREPARATION

PREPARATION

Special Service Tools

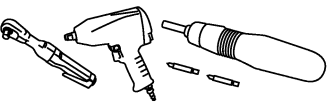
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The actual shape of the tools may differ from those illustrated here.

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

Commercial Service Tools

INFOID:000000009758797

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

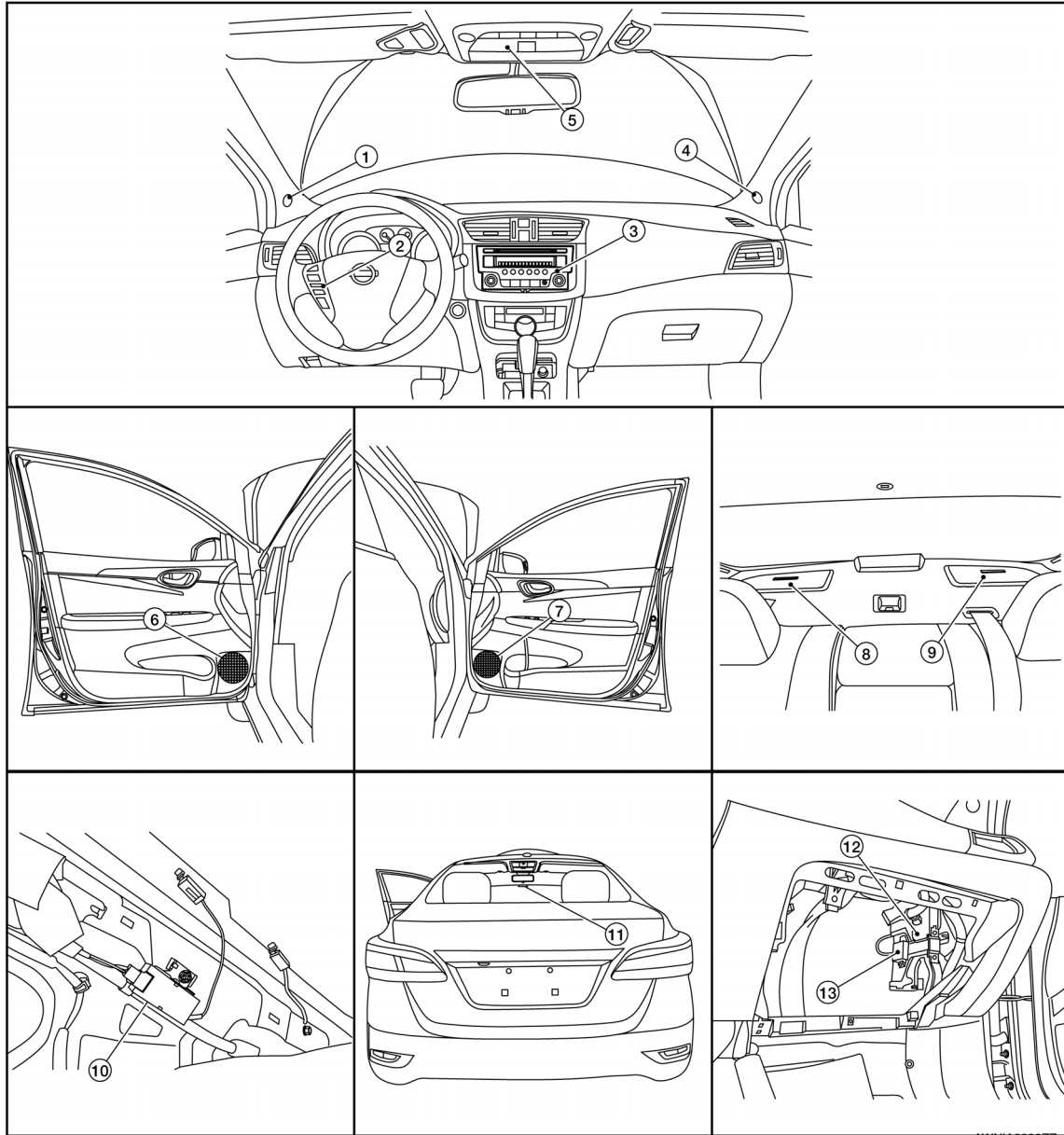
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SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

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AWN1A2828Z

- | | | |
|--------------------------------------|-----------------------------|---|
| 1. Front tweeter LH (if equipped) | 2. Steering switches | 3. Audio unit |
| 4. Front tweeter RH (if equipped) | 5. Microphone (if equipped) | 6. Front door speaker LH |
| 7. Front door speaker RH | 8. Rear speaker RH | 9. Rear speaker LH |
| 10. Antenna amp. | 11. Window antenna | 12. Bluetooth® control unit (if equipped) |
| 13. Bluetooth® antenna (if equipped) | | |

Component Description

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

[BASE AUDIO]

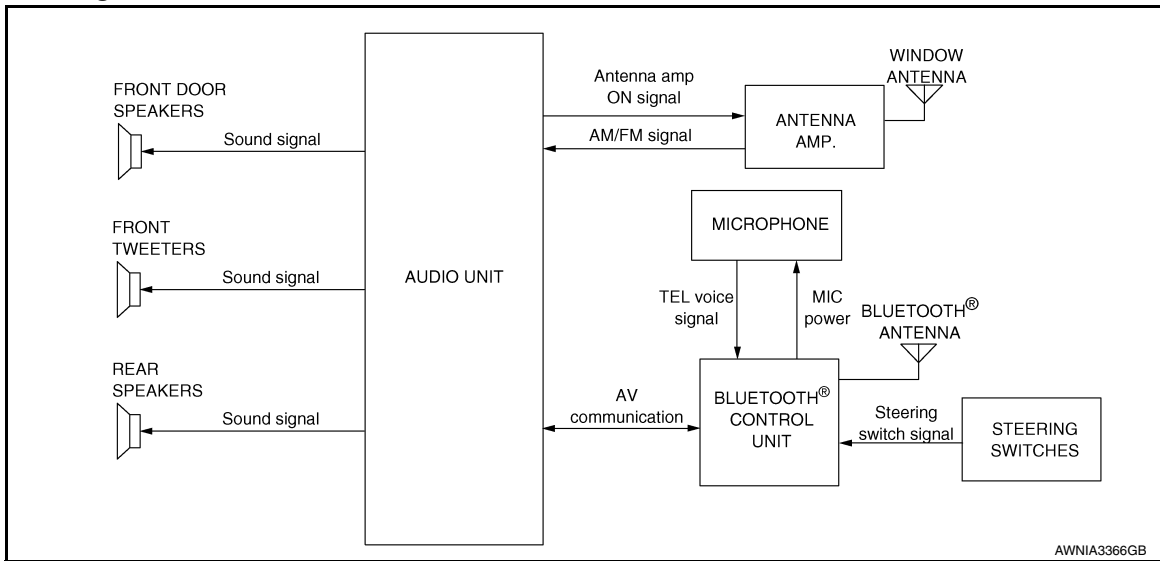
Part name	Description	
Audio unit	<ul style="list-style-type: none"> Controls audio and AUX IN connection functions. 	A
Front door speakers	Outputs high, mid and low range audio signals from audio unit.	B
Front tweeters (if equipped)		
Rear speakers		
Steering switches	<p>With Bluetooth®</p> <ul style="list-style-type: none"> Operations for audio, hands-free phone and voice recognition are possible. Steering switch signal is output to Bluetooth® control unit. Bluetooth® control unit outputs steering switch signal to audio unit. <p>Without Bluetooth®</p> <ul style="list-style-type: none"> Operations for audio are possible. Steering switch signal is output to audio unit. 	C D
Microphone (if equipped)	<ul style="list-style-type: none"> Used for hands-free phone operations. Microphone signal is transmitted to Bluetooth® control unit. Power is supplied from Bluetooth® control unit. 	E
Bluetooth® control unit (if equipped)	<ul style="list-style-type: none"> Inputs TEL voice signal from Bluetooth® antenna and outputs it to audio unit. Controlled via AV communication by audio unit. 	F
Bluetooth® antenna (if equipped)	Receives TEL voice signal and outputs it to Bluetooth® control unit.	G
Antenna amp.	<ul style="list-style-type: none"> AM/FM signal received by window antenna is amplified and transmitted to audio unit. Power is supplied from audio unit. 	H
Window antenna	AM/FM signal is received and transmitted to antenna amp.	I
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AV

SYSTEM

System Diagram

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AWNIA3366GB

System Description

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AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Front door speakers
- Front tweeters (if equipped)
- Rear speakers
- Steering switches
- Antenna amp.
- Window antenna

When the audio system is on, AM/FM signals received by the window antenna are amplified by the antenna amp. and sent to the audio unit. The audio unit then sends audio signals to the front door speakers, front tweeters and rear speakers.

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

HANDS-FREE PHONE SYSTEM (IF EQUIPPED)

System Operation

NOTE:

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

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

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

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 20 seconds. If a phone is present in the vehicle and paired with the Bluetooth® control unit, Nissan Voice Recognition will then become active. Bluetooth® telephone functions can be turned off using the Nissan Voice Recognition system.

SYSTEM

< SYSTEM DESCRIPTION >

[BASE AUDIO]

Steering Switches

When buttons on the steering switches 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 switches:

- 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.

SPEED SENSITIVE VOLUME SYSTEM

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

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AV

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[BASE AUDIO]

DIAGNOSIS SYSTEM (AUDIO UNIT)

Diagnosis Description

INFOID:000000009758802

The audio unit on board diagnosis performs the functions listed in the table below:

Mode	Description
Hardware/Software Versions	The following information is available for the audio unit: <ul style="list-style-type: none"> • hardware version. • software version. • EQ pin info.
Speaker Channel Check	The connection of the speakers to the audio unit can be confirmed.
Communication Diagnosis	The AV communication (M-CAN) message history can be monitored.

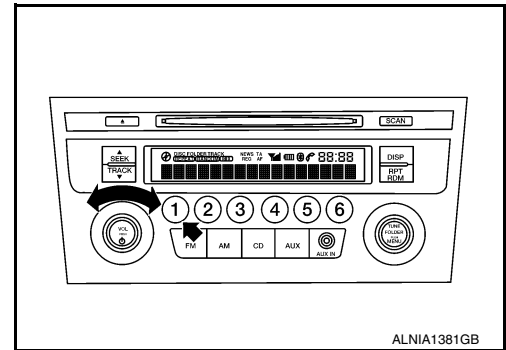
On Board Diagnosis Function

INFOID:000000009758803

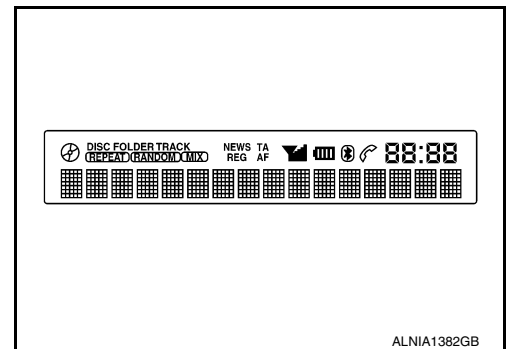
METHOD OF STARTING

Hardware/Software Versions and Speaker Channel Check

1. Turn the ignition ON.
2. Turn the audio system OFF.
3. While pressing the preset 1 button, turn the volume control dial clockwise or counterclockwise 30 clicks or more.



4. Initially, all display segments will be illuminated.



5. To exit hardware/software versions and speaker channel check, turn the ignition OFF.

Communication Diagnosis

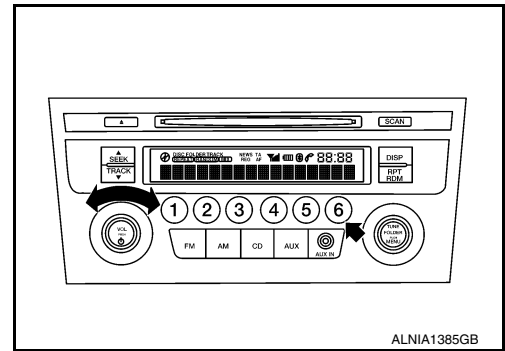
1. Turn the ignition ON.
2. Turn the audio system OFF.

DIAGNOSIS SYSTEM (AUDIO UNIT)

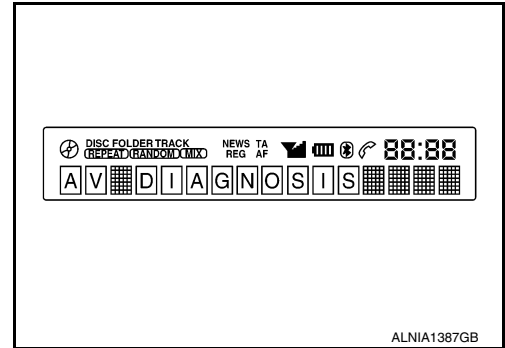
[BASE AUDIO]

< SYSTEM DESCRIPTION >

- While pressing the preset 6 button, turn the volume control dial clockwise or counterclockwise 30 clicks or more.



- Initially, the communication diagnosis mode is displayed.

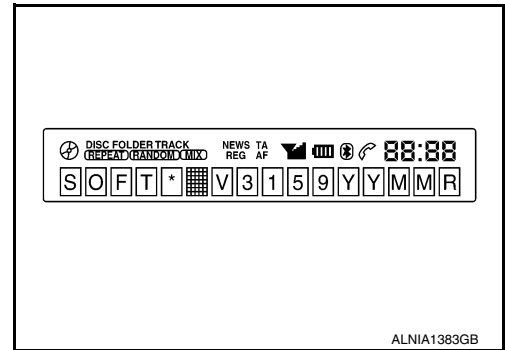


- To exit communication diagnosis, turn the ignition OFF.

SELF DIAGNOSIS MODE

Hardware/Software Versions

- Press the DISP button to enter versions display, and the audio head unit software version is displayed.



- With each additional press of the DISP button, the following information is available:

- HARD V##### (hardware version)
- EEP V##### (EEPROM version)
- @@@@ EQ1-4 # (EQ pin info)

If an EQ error is present, INVALID EQ is displayed

- Hold the DISP button down to return to all display segments screen.

Speaker Channel Check

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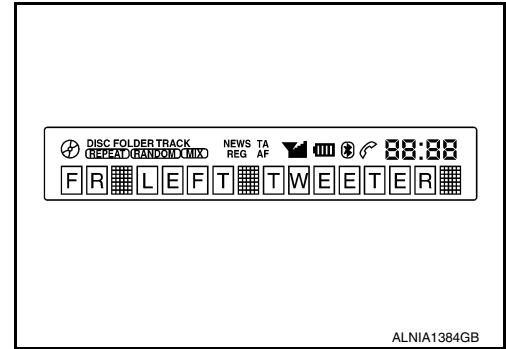
AV

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[BASE AUDIO]

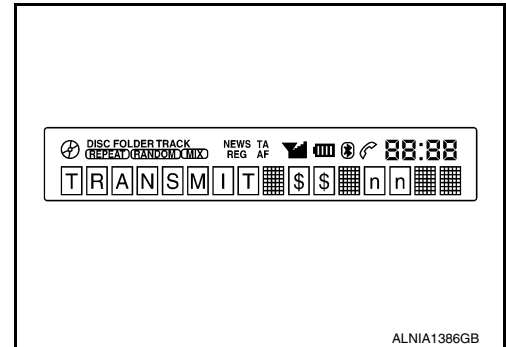
1. Press the RPT/DRM button to enter speaker channel check, and the front left tweeter (front tweeter LH) is displayed.



2. With each additional press of the RPT/DRM button, the following information is available:
 - FR RIGHT TWEETER (front tweeter RH)
 - FR RIGHT (front door speaker RH)
 - RR RIGHT (rear speaker RH)
 - RR LEFT (rear speaker LH)
 - FR LEFT (front door speaker LH)
3. Hold the RPT/DRM button down to return to all display segments screen.

Communication Diagnosis

1. Press the DISP button, and the M-CAN message transmission error history screen is displayed.



2. Press the DISP button again, and the TEL \$\$ nn (CMF message reception error history from M-CAN TEL) screen is displayed.
3. Press the DISP button again, and the TROUBLE DEL. (deletion of M-CAN message communication history) screen is displayed. To retain the M-CAN message communication history and return to the communication diagnosis mode screen, press the DISP button.
4. To proceed to the M-CAN message communication history deletion screen, press the SEEK/TRACK Δ button. The REC DEL-NO? (selection of M-CAN message communication history deletion) screen is displayed. To cancel M-CAN message communication history deletion, wait 6 seconds and you will be returned to the TROUBLE DEL. (deletion of M-CAN message communication history) screen. To proceed with M-CAN message communication history deletion, press the SEEK/TRACK Δ button again.
5. The REC DEL-YES?@ (selection of M-CAN message communication history deletion) screen is displayed. To cancel M-CAN message communication history deletion, press the SEEK/TRACK ∇ button and you will be returned to the REC DEL-NO? (selection of M-CAN message communication history deletion) screen. To proceed with M-CAN message communication history deletion, wait 6 seconds and the communication history deletion will be executed. After the communication history deletion has been executed, you will be returned to the TROUBLE DEL. (deletion of M-CAN message communication history) screen. To return to the communication diagnosis mode screen, press the DISP button.

DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BASE AUDIO]

DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

Diagnosis Description

INFOID:000000009758804

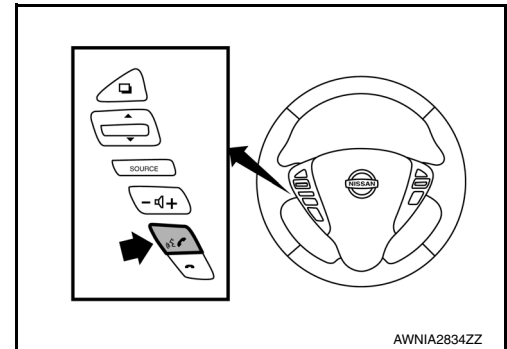
The Bluetooth® control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

Bluetooth® CONTROL UNIT INITIALIZATION CHECKS

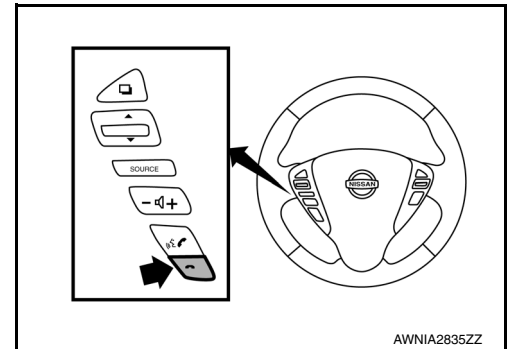
- Internal control unit failure
- Bluetooth® antenna connection open or shorted
- Steering wheel audio control switches [☰ (PHONE/SEND), ☷ (PHONE/END)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth® inquiry check

OPERATION PROCEDURE

1. Turn ignition switch to ACC or ON.
2. Wait for the Bluetooth® system to complete initialization. This may take up to 20 seconds.
3. Press and hold the steering wheel audio control switch ☰ (PHONE/SEND) 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 ☷ (PHONE/END) 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 ☷ (PHONE/END) button again until you hear prompts.
6. The Bluetooth® system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician. Refer to [AV-19, "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-19, "Work Flow"](#).



Work Flow

INFOID:000000009758805

Failure Message	Action
"Internal failure"	Replace Bluetooth® control unit. Refer to AV-68, "Removal and Installation" .
"Bluetooth® antenna open"	1. Inspect harness connection. 2. Replace Bluetooth® antenna. Refer to AV-68, "Removal and Installation" .
"Bluetooth® antenna shorted"	
"Phone/Send for Hands Free System is stuck"	Check steering switches. Refer to AV-50, "Diagnosis Procedure" .
"Phone/End for the Hands Free System is stuck"	
"Microphone test" (failed interactive test)	1. Inspect harness between Bluetooth® control unit and microphone. 2. Replace microphone. Refer to AV-69, "Removal and Installation" .

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO]

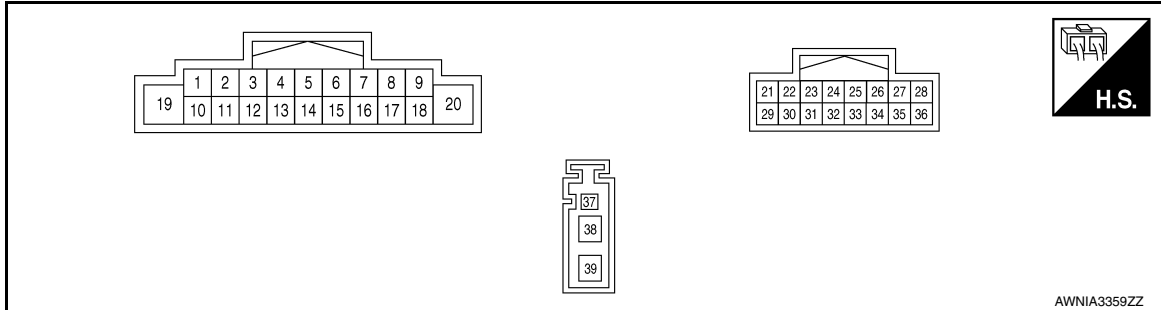
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

INFOID:000000009758806

TERMINAL LAYOUT



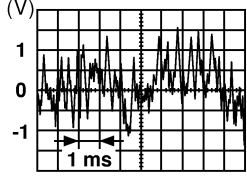
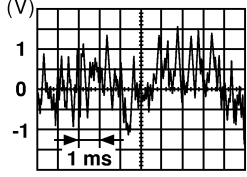
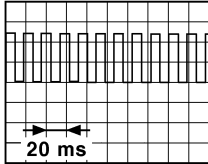
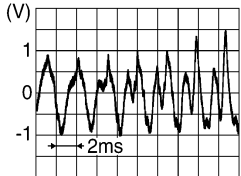
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
2 (L)	3 (P)	Sound signal front speaker LH	Output	ON	Sound output	 SKIA0177E
4 (LG)	5 (W)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIA0177E
6 ¹ (G)	15 ¹ (V)	Steering switch signal A	Input	Ignition switch ON	Press SOURCE switch	0V
					Press Δ switch	1.0V
					Press ∇ switch	2.0V
					Except above	5.0V
6 ² (G)	15 ² (P)	Steering switch signal A	Input	Ignition switch ON	Press SOURCE switch	0V
					Press Δ switch	1.0V
					Press ∇ switch	2.0V
					Press ↙ ↘ switch	3.0V
					Except above	5.0V
7 (P)	Ground	ACC power supply	Input	ACC	Ignition switch ACC or ON	Battery voltage
9 (R)	8 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
11 (SB)	12 (V)	Sound signal front speaker RH	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
13 (BR)	14 (Y)	Sound signal rear speaker RH	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
16 ¹ (R)	15 ¹ (V)	Steering switch signal B	Input	Ignition switch ON	Press - switch	0V
					Press + switch	1.0V
					Except above	5.0V
16 ² (LG)	15 ² (P)	Steering switch signal B	Input	Ignition switch ON	Press - switch	0V
					Press + switch	1.0V
					Press switch	2.0V
					Except above	5.0V
18 (Y)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH).	 <p style="text-align: right; font-size: small;">JSNIA0012GB</p>
19 (Y)	Ground	Battery power supply	Input	-	-	Battery voltage
23 (B)	Ground	EQ03 Ground	—	Ignition switch ON		0 V
27 (SB)	—	M CAN1-H	Input/ Output	—	—	—
28 (LG)	—	M CAN1-L	Input/ Output	—	—	—
29 (Y)	Ground	TEL ON	Output	ON	—	—
30	—	Shield	—	—	—	—
32 (BR)	31 (GR)	TEL voice signal	Input	Ignition switch ON	During voice guide output with switch pressed.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>

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AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
35 (B)	—	M CAN2-H	Input/ Output	—	—	—
36 (R)	—	M CAN2-L	Input/ Output	—	—	—
37 (B)	Ground	Antenna amp. ON signal	Output	ON	—	Battery voltage
38 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V

1: without Bluetooth®

2: with Bluetooth®

BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

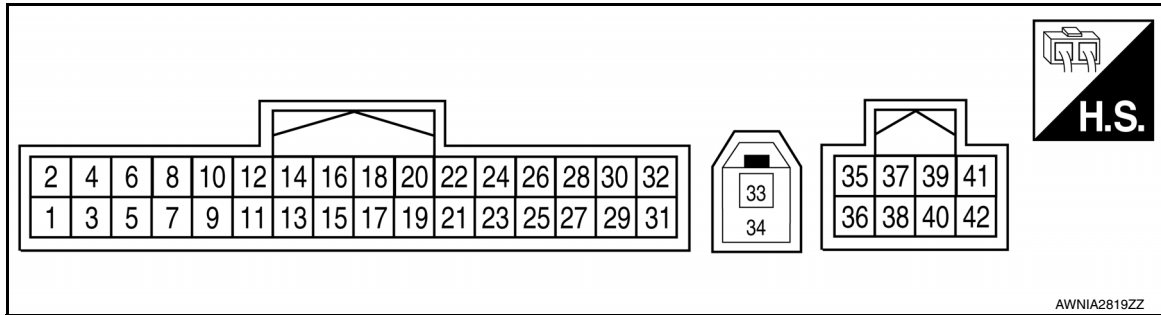
[BASE AUDIO]

BLUETOOTH® CONTROL UNIT

Reference Value

INFOID:00000009758807

TERMINAL LAYOUT



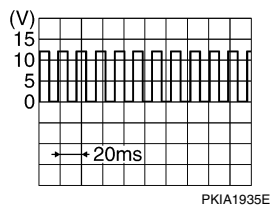
PHYSICAL VALUES

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/output			
1 (Y)	Ground	Battery power	Input	-	-	Battery voltage
2 (W)	Ground	ACC power	Input	Ignition switch ACC/ON	-	Battery voltage
3 (BR)	Ground	IGN power	Input	Ignition switch ON/ START	-	Battery voltage
4 (B)	Ground	Ground	-	Ignition switch ON	-	0V
7 (G)	8	MIC in signal	Input	-	-	-
9 (BR)	10 (GR)	Audio out	Output	Ignition switch ACC/ON	Bluetooth® control unit sends audio signal	
11 (Y)	-	Mute control	Output	-	-	-
12 (G)	14 (V)	LAD IN 1	Input	Ignition switch ON	Press SOURCE switch	0V
					Press Δ switch	1.0V
					Press ∇ switch	2.0V
					Press ↙ ↘ switch	3.0V
					Except above	5.0V

BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO]

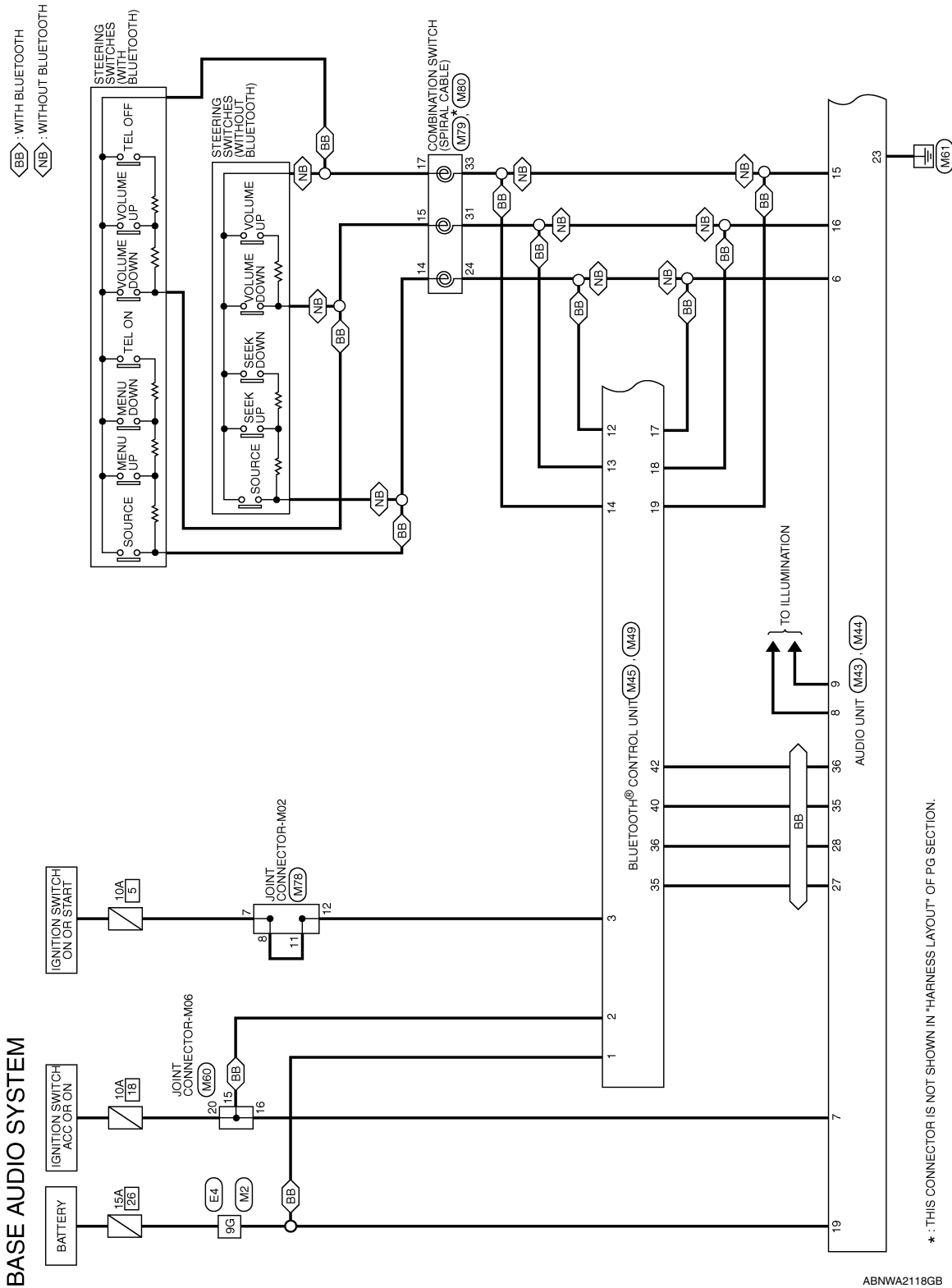
Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/out-put			
13 (R)	14 (V)	LAD IN 2	Input	Ignition switch ON	Press switch	0V
					Press switch	1.0V
					Press switch	2.0V
					Except above	5.0V
17 (G)	19 (P)	LAD OUT 1	Output	Ignition switch ON	Press SOURCE switch	0V
					Press switch	1.0V
					Press switch	2.0V
					Press switch	3.0V
					Except above	5.0V
18 (LG)	19 (P)	LAD OUT 2	Output	Ignition switch ON	Press switch	0V
					Press switch	1.0V
					Press switch	2.0V
					Except above	5.0V
21 (B)	Ground	CONT2 Ground	-	Ignition switch ON	-	0V
22 (B)	Ground	CONT3 Ground	-	Ignition switch ON	-	0V
23 (B)	Ground	CONT4 Ground	-	Ignition switch ON	-	0V
27 (B)	Ground	CONT6 Ground	-	Ignition switch ON	-	0V
28 (Y)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	
29 (R)	Ground	Microphone power	Output	Ignition switch ON	-	5V
33 (B)	-	Bluetooth® antenna	-	-	-	-
34	-	Shield	-	-	-	-
35 (SB)	-	M CAN1-H	-	-	-	-
36 (LG)	-	M CAN1-L	-	-	-	-
40 (B)	-	M CAN2-H	-	-	-	-
42 (R)	-	M CAN2-L	-	-	-	-

WIRING DIAGRAM

BASE AUDIO

Wiring Diagram

INFOID:000000009758808



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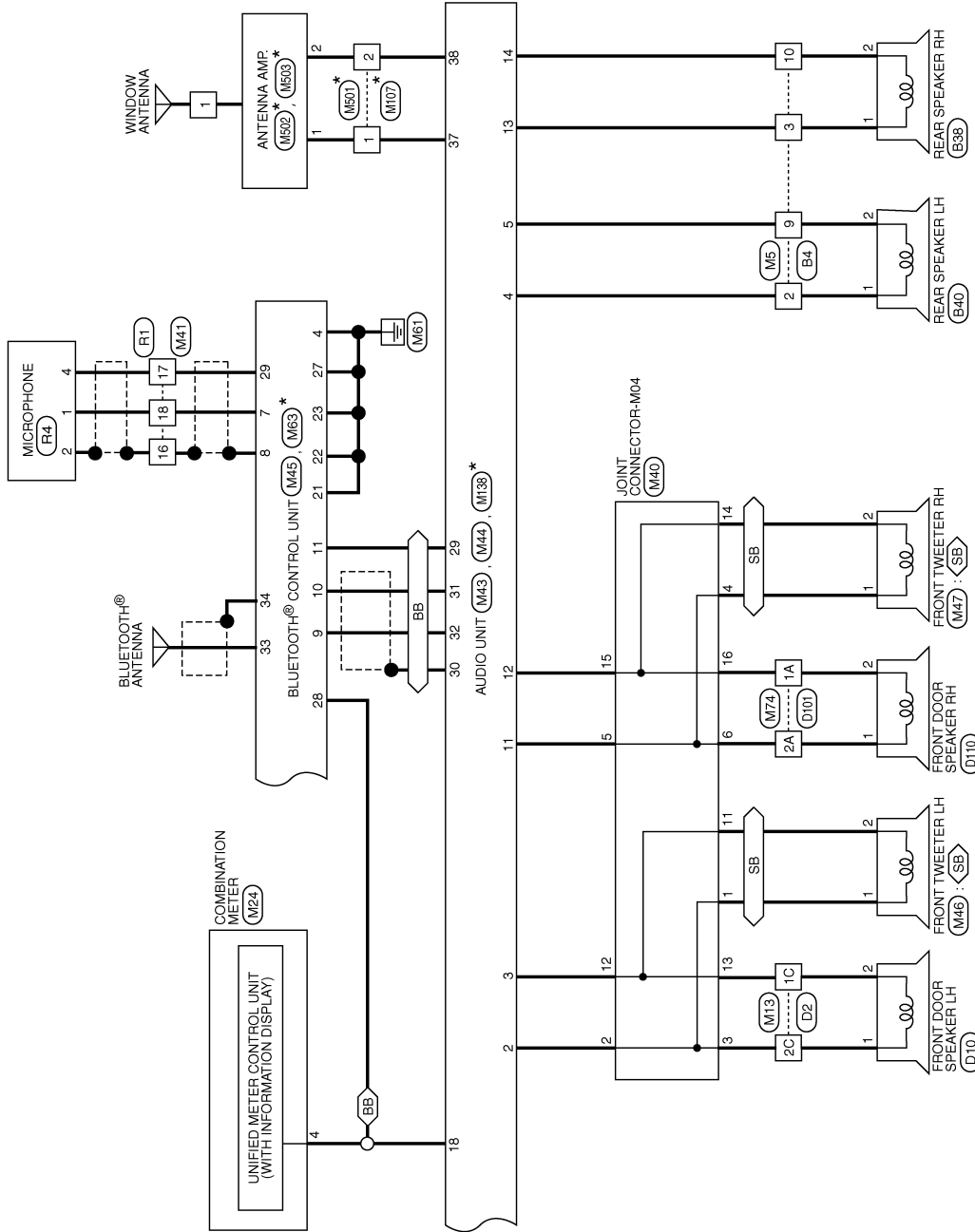
AV

BASE AUDIO

< WIRING DIAGRAM >

[BASE AUDIO]

◊(BB)◊ : WITH BLUETOOTH
◊(SB)◊ : WITH 6 SPEAKERS

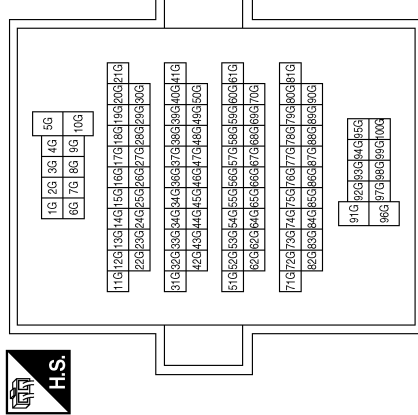


* : THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

ABNWA2119GB

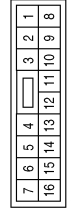
BASE AUDIO SYSTEM CONNECTORS

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



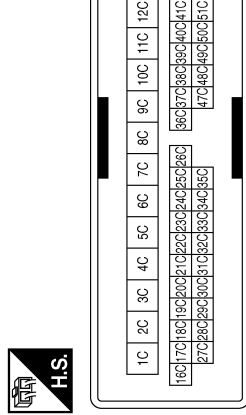
Terminal No.	9G	Color of Wire	Y	Signal Name	-
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Connector No.	M5
Connector Name	WIRE TO WIRE
Connector Color	WHITE



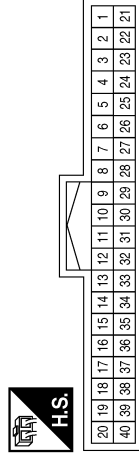
Terminal No.	Color of Wire	Signal Name
2	LG	-
3	BR	-
9	W	-
10	Y	-

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	4	Color of Wire	Y	Signal Name	8 P/R OUTPUT
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ABNIA5775GB

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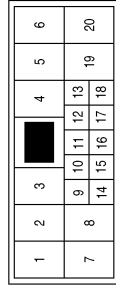


BASE AUDIO

< WIRING DIAGRAM >

[BASE AUDIO]

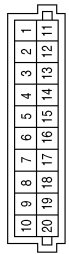
Connector No.	M41
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
16	SHIELD	-
17	R	-
18	G	-

Terminal No.	Color of Wire	Signal Name
6	G	-
11	Y	-(WITHOUT BOSE AUDIO SYSTEM)
12	P	-(WITHOUT BOSE AUDIO SYSTEM)
13	GR	-(WITHOUT BOSE AUDIO SYSTEM)
14	LG	-(WITHOUT BOSE AUDIO SYSTEM)
15	V	-(WITHOUT BOSE AUDIO SYSTEM)
16	P	-(WITHOUT BOSE AUDIO SYSTEM)

Connector No.	M40
Connector Name	JOINT CONNECTOR-M04
Connector Color	ORANGE

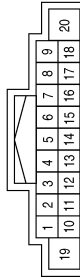


Terminal No.	Color of Wire	Signal Name
1	W	-
2	L	-
3	R	-
4	BR	-
5	SB	-

Terminal No.	Color of Wire	Signal Name
17	-	-
18	Y	SPEED 8P/R
19	Y	+B
20	-	-

Terminal No.	Color of Wire	Signal Name
7	P	ACC
8	GR	ILL (-)
9	R	ILL (+)
10	-	-
11	SB	FR RH SP (+)
12	V	FR RH SP (-)
13	BR	RR RH SP (+)
14	Y	RR RH SP (-)
15	P	STRG SW GND (WITH BLUETOOTH)
15	V	STRG SW GND (WITHOUT BLUETOOTH)
16	LG	STRG SW B (WITH BLUETOOTH)
16	R	STRG SW B (WITHOUT BLUETOOTH)

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



Terminal No.	Color of Wire	Signal Name
1	-	-
2	L	FRLH SP (+)
3	P	FRLH SP (-)
4	LG	RR LH SP (+)
5	W	RR LH SP (-)
6	G	STRG SW A

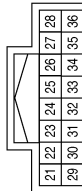
ABNIA5776GB

BASE AUDIO

< WIRING DIAGRAM >

[BASE AUDIO]

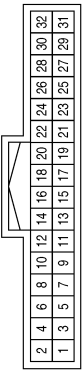
Connector No.	M44
Connector Name	AUDIO UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	-	-
22	-	-
23	B	EQ03

Terminal No.	Color of Wire	Signal Name
24	-	-
25	-	-
26	-	-
27	SB	M CAN1-H
28	LG	M CAN1-L
29	Y	TEL ON
30	SHIELD	TEL SHIELD
31	GR	TEL I/F (-)
32	BR	TEL I/F (+)
33	-	-
34	-	-
35	B	M CAN2-H
36	R	M CAN2-L

Connector No.	M45
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	BATT
2	W	ACC
3	BR	IGN
4	B	GND
5	-	-
6	-	-

Terminal No.	Color of Wire	Signal Name
7	G	MIC IN +
8	SHIELD	MIC IN -
9	BR	AUDIO OUT (+)
10	GR	AUDIO OUT (-)
11	Y	MUTE CONTROL
12	G	LAD IN1
13	R	LAD IN 2
14	V	LAD IN3 (GND)
15	-	-
16	-	-
17	G	LAD OUT1
18	LG	LAD OUT2
19	P	LAD OUT3 (GND)
20	-	-
21	B	CONT2

Terminal No.	Color of Wire	Signal Name
22	B	CONT3
23	B	CONT4
24	-	-
25	-	-
26	-	-
27	B	CONT6
28	Y	SPEED SIGNAL
29	R	MIC PWR
30	-	-
31	-	-
32	-	-

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BASE AUDIO

< WIRING DIAGRAM >

[BASE AUDIO]

Connector No.	M47
Connector Name	FRONT TWEETER RH
Connector Color	BROWN



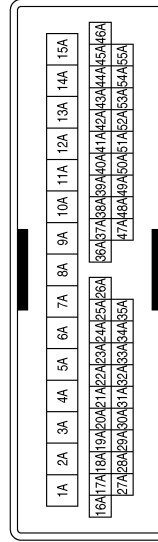
Terminal No.	Color of Wire	Signal Name
1	BR	-
2	LG	-

Connector No.	M46
Connector Name	FRONT TWEETER LH
Connector Color	BROWN



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

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE



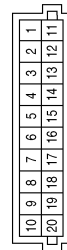
Terminal No.	Color of Wire	Signal Name
1A	P	-
2A	G	-

Connector No.	M63
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE



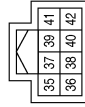
Terminal No.	Color of Wire	Signal Name
33	B	BT ANT
34	SHIELD	BT SHIELD

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
15	W	-
16	P	-
20	L	-

Connector No.	M49
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
35	SB	M CAN1-H
36	LG	M CAN1-L
37	-	-
38	-	-
39	-	-
40	B	M CAN2-H
41	-	-
42	R	M CAN2-L

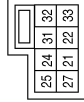
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BASE AUDIO

< WIRING DIAGRAM >

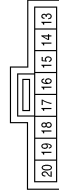
[BASE AUDIO]

Connector No.	M80
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



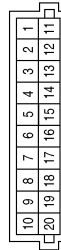
Terminal No.	Color of Wire	Signal Name
24	G	-
31	R	-
33	V	-

Connector No.	M79
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



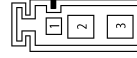
Terminal No.	Color of Wire	Signal Name
14	B	-
15	GR	-
17	BR	-

Connector No.	M78
Connector Name	JOINT CONNECTOR-M02
Connector Color	PINK



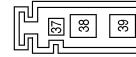
Terminal No.	Color of Wire	Signal Name
7	G	-
8	LG	-
11	LG	-
12	BR	-

Connector No.	M501
Connector Name	WIRE TO WIRE
Connector Color	GRAY



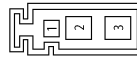
Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-

Connector No.	M138
Connector Name	AUDIO UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
37	B	-
38	B	-
39	-	-

Connector No.	M107
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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

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Connector No.	M502
Connector Name	ANTENNA AMP.
Connector Color	GRAY



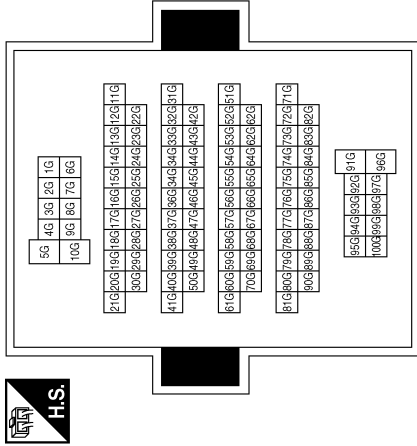
Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-

Connector No.	M503
Connector Name	ANTENNA AMP.
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
9G	R	-

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	G	-
3	W	-
9	GR	-
10	O	-

Connector No.	B38
Connector Name	REAR SPEAKER RH
Connector Color	WHITE



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

Connector No.	B40
Connector Name	REAR SPEAKER LH
Connector Color	WHITE



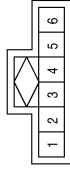
Terminal No.	Color of Wire	Signal Name
1	G	-
2	GR	-

BASE AUDIO

< WIRING DIAGRAM >

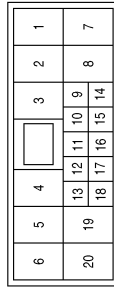
[BASE AUDIO]

Connector No.	R4
Connector Name	MICROPHONE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G	-
2	SHIELD	-
4	R	-

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



Terminal No.	Color of Wire	Signal Name
16	SHIELD	-
17	R	-
18	G	-

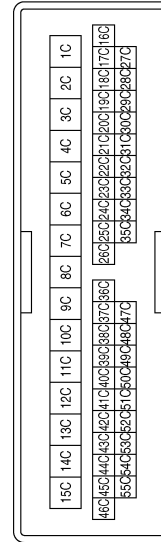
Connector No.	D10
Connector Name	FRONT DOOR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



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

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

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



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BASE AUDIO

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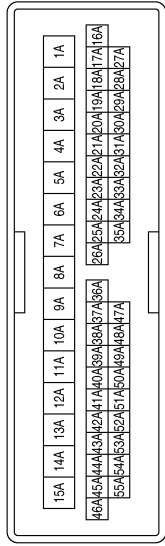
[BASE AUDIO]

Connector No.	D110
Connector Name	FRONT DOOR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



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

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



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

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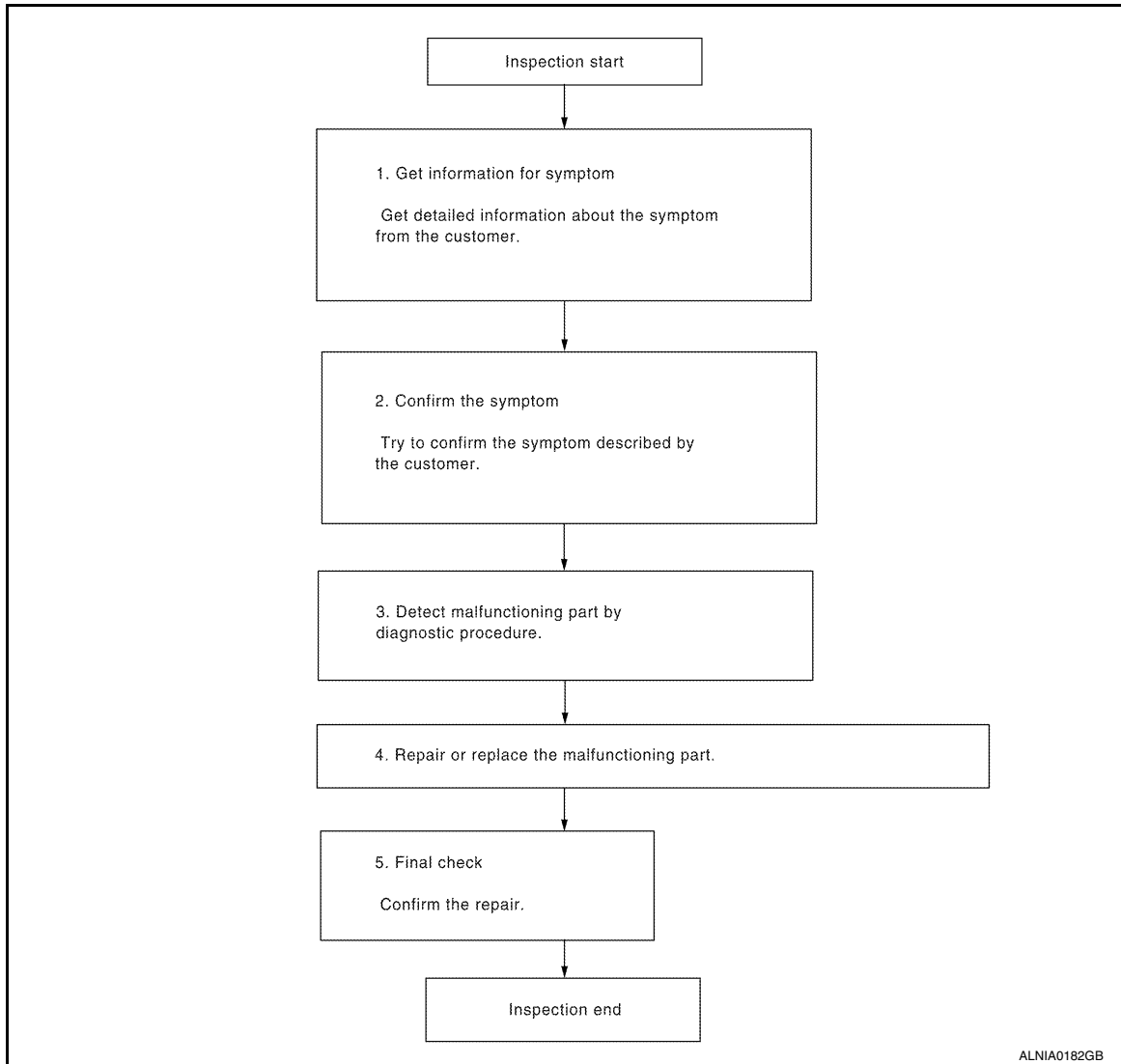
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000009758809

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2

2.CONFIRM THE SYMPTOM

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

>> GO TO 3

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[BASE AUDIO]

Is malfunctioning part detected?

YES >> GO TO 4

NO >> GO TO 2

4.REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5

5.FINAL CHECK

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

Has the symptom been repaired?

YES >> Inspection End.

NO >> GO TO 2

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:000000009758810

Regarding Wiring Diagram information, refer to [AV-25, "Wiring Diagram"](#).

1. CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	18 (10A)
19	Battery power supply	26 (15A)

Are the fuses blown?

- YES >> Replace the blown fuse after repairing the affected circuit.
NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M43.
3. Check voltage between audio unit connector M43 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M43	7	—	Ignition switch: ON	Battery voltage
	19		Ignition switch: OFF	

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair or replace harness or connectors.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M44.
3. Check continuity between audio unit connector M44 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M44	23	—	Yes

Is the inspection result normal?

- YES >> Inspection End.
NO >> Repair or replace harness or connectors.

BLUETOOTH® CONTROL UNIT

BLUETOOTH® CONTROL UNIT : Diagnosis Procedure

INFOID:000000009758811

Regarding Wiring Diagram information, refer to [AV-25, "Wiring Diagram"](#).

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

1. CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
1	Battery power supply	26 (15A)
2	ACC power supply	18 (10A)
3	Ignition signal	5 (10A)

Are the fuses blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector M45.
3. Check voltage between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M45	1	—	Ignition switch: OFF	Battery voltage
	2		Ignition switch: ACC	
	3		Ignition switch: ON	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminal		
M45	4	—	Yes
	21		
	22		
	23		
	27		

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:000000009758812

Regarding Wiring Diagram information, refer to [AV-25. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M43 and suspect front door speaker connector.
2. Check continuity between audio unit connector M43 and suspect front door speaker connector.

Audio unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M43	2	D10 (LH)	1	Yes
	3		2	
	11	D110 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M43 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M43	2	—	No
	3		
	11		
	12		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK FRONT DOOR SPEAKER SIGNAL

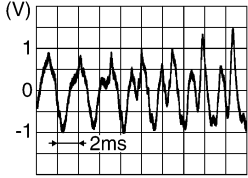
1. Connect audio unit connector M43 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M43.

Audio unit connector M43		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

2	3		
11	12	Audio signal output	

Is the inspection result normal?

- YES >> Replace front door speaker. Refer to [AV-60. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-58. "Removal and Installation"](#).

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

FRONT TWEETER

Diagnosis Procedure

INFOID:000000009758813

Regarding Wiring Diagram information, refer to [AV-25. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK FRONT TWEETER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M43 and suspect front tweeter connector.
2. Check continuity between audio unit connector M43 and suspect front tweeter connector.

Audio unit		Front tweeter		Continuity
Connector	Terminal	Connector	Terminal	
M43	2	M46 (LH)	1	Yes
	3		2	
	11	M47 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M43 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M43	2	—	No
	3		
	11		
	12		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK FRONT TWEETER SIGNAL

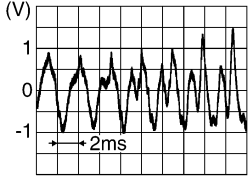
1. Connect audio unit connector M43 and suspect front tweeter connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M43.

Audio unit connector M43		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

2	3		
11	12	Audio signal output	

Is the inspection result normal?

- YES >> Replace front tweeter. Refer to [AV-59. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-58. "Removal and Installation"](#).

REAR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

REAR SPEAKER

Diagnosis Procedure

INFOID:000000009758814

Regarding Wiring Diagram information, refer to [AV-25. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK REAR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M43 and suspect rear speaker connector.
2. Check continuity between audio unit connector M43 and suspect rear speaker connector.

Audio unit		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
M43	4	B40 (LH)	1	Yes
	5		2	
	13	B38 (RH)	1	
	14		2	

3. Check continuity between audio unit connector M43 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M43	4	—	No
	5		
	13		
	14		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK REAR SPEAKER SIGNAL

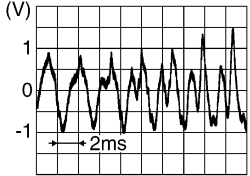
1. Connect audio unit connector M43 and suspect rear speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M43.

Audio unit connector M43		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

REAR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

4	5	Audio signal output	
13	14		

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Is the inspection result normal?

- YES >> Replace rear speaker. Refer to [AV-61. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-58. "Removal and Installation"](#).

BLUETOOTH® VOICE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

BLUETOOTH® VOICE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009758815

Regarding Wiring Diagram information, refer to [AV-25. "Wiring Diagram"](#).

1. CHECK BLUETOOTH® VOICE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M44 and Bluetooth® control unit connector M45.
3. Check continuity between audio unit connector M44 and Bluetooth® control unit connector M45.

Audio unit		Bluetooth® control unit		Continuity
Connector	Terminal	Connector	Terminal	
M44	32	M45	9	Yes

4. Check continuity between audio unit connector M44 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M44	32	—	No

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK BLUETOOTH® VOICE SIGNAL GROUND CIRCUIT CONTINUITY

Check continuity between audio unit connector M44 and Bluetooth® control unit connector M45.


Audio unit		Bluetooth® control unit		Continuity
Connector	Terminal	Connector	Terminal	
M42	31	M45	10	Yes

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK BLUETOOTH® VOICE SIGNAL

1. Connect audio unit connector M44 and Bluetooth® control unit connector M45.
2. Turn ignition switch to ACC.
3. Press  switch.
4. Check signal between the terminals of audio unit connector M44.


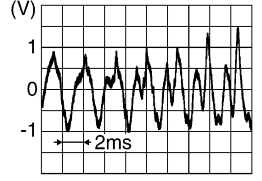
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BLUETOOTH® VOICE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

Audio unit connector M44		Condition	Reference value
(+) Terminal	(-) Terminal		
32	31	During voice guide output with  switch pressed.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>

Is the inspection result normal?

- YES >> Replace Bluetooth® control unit. Refer to [AV-68. "Removal and Installation"](#).
 NO >> Replace audio unit. Refer to [AV-58. "Removal and Installation"](#).

BLUETOOTH® CONTROL SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

BLUETOOTH® CONTROL SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009758816

Regarding Wiring Diagram information, refer to [AV-25. "Wiring Diagram"](#).

1. CHECK CONTROL SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector M45.
3. Check continuity between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminals		
M45	4	—	Yes
	21		
	22		
	23		
	27		

Is the inspection result normal?

- YES >> Replace Bluetooth® control unit. Refer to [AV-68. "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

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MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009758817

Regarding Wiring Diagram information, refer to [AV-25. "Wiring Diagram"](#).

1. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector M45 and microphone connector R4.
3. Check continuity between Bluetooth® control unit connector M45 and microphone connector R4.

Bluetooth® control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M45	7	R4	1	Yes
	8		2	
	29		4	

4. Check continuity between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminal		
M45	7	—	No
	29		

Are continuity results as specified?

YES >> GO TO 2

NO >> Repair harness or connectors.

2. CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth® control unit connector M45 and microphone connector R4.
2. Turn ignition switch ON.
3. Check voltage between microphone connector R4 and ground.

Microphone		Ground	Voltage (Approx.)
(+)			
Connector	Terminal		
R4	29	—	5V

Is the voltage reading as specified?

YES >> GO TO 3

NO >> Replace Bluetooth® control unit. Refer to [AV-68. "Removal and Installation"](#).

3. CHECK MICROPHONE SIGNAL

Check signal between terminals of Bluetooth® control unit connector M45.

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

Bluetooth® control unit connector M45		Condition	Reference value
(+) Terminal	(-) Terminal		
7	8	Speak into microphone.	

Were voltage readings as specified?

YES >> Replace Bluetooth® control unit. Refer to [AV-68. "Removal and Installation"](#).

NO >> Replace microphone. Refer to [AV-69. "Removal and Installation"](#).

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STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

STEERING SWITCH

Diagnosis Procedure





INFOID:000000009758818

Regarding Wiring Diagram information, refer to [AV-25. "Wiring Diagram"](#).

WITH BLUETOOTH®

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch (spiral cable) connector M79.
3. Check resistance between the terminals of combination switch (spiral cable) connector M79.

combination switch (spiral cable) connector M79		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress △ switch.	121
		Depress ▽ switch.	321
		Depress  switch.	723
15	17	Depress -  switch.	1
		Depress  + switch.	121
		Depress  switch.	321

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering switches. Refer to [AV-62. "Removal and Installation"](#).

2. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND COMBINATION SWITCH (SPIRAL CABLE)

1. Disconnect Bluetooth® control unit connector M45 and combination switch (spiral cable) connector M80.
2. Check continuity between Bluetooth® control unit connector M45 and combination switch (spiral cable) connector M80.

Bluetooth® control unit		Combination switch (spiral cable)		Continuity
Connector	Terminal	Connector	Terminal	
M45	12	M80	24	Yes
	13		31	
	14		33	

3. Check continuity between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminal		
M45	12	—	No
	13		
	14		

Is the inspection result normal?

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

- YES >> GO TO 3.
NO >> Repair or replace harness or connectors.

3.CHECK COMBINATION SWITCH (SPIRAL CABLE)

Check continuity between combination switch (spiral cable) connectors M79 and M80.

Combination switch (spiral cable)				Continuity
Connector	Terminal	Connector	Terminal	
M79	14	M80	24	Yes
	15		31	
	17		33	

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Replace combination switch (spiral cable). Refer to [SR-16, "Removal and Installation"](#).

4.CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND AUDIO UNIT

1. Disconnect audio unit connector M43.
2. Check continuity between Bluetooth® control unit connector M45 and audio unit connector M43.

Bluetooth® control unit		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
M45	17	M43	6	Yes
	18		16	
	19		15	

3. Check continuity between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminal		
M45	17	—	No
	18		
	19		

Is the inspection result normal?

- YES >> Replace audio unit. Refer to [AV-58, "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

WITHOUT BLUETOOTH®

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch (spiral cable) connector M79.
3. Check resistance between the terminals of combination switch (spiral cable) connector M79.



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STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

Combination switch (spiral cable) connector M79		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress △ switch.	121
		Depress ▽ switch.	321
15	17	Depress -  switch.	1
		Depress  + switch.	121

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering switches. Refer to [AV-62. "Removal and Installation"](#).

2. CHECK COMBINATION SWITCH (SPIRAL CABLE)

Check continuity between combination switch (spiral cable) connectors M79 and M80.

Combination switch (spiral cable)				Continuity
Connector	Terminal	Connector	Terminal	
M79	14	M80	24	Yes
	15		31	
	17		33	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace combination switch (spiral cable). Refer to [SR-16. "Removal and Installation"](#).

3. CHECK HARNESS BETWEEN COMBINATION SWITCH (SPIRAL CABLE) AND AUDIO UNIT

1. Disconnect audio unit connector M43.

2. Check continuity between combination switch (spiral cable) connector M80 and audio unit connector M43.

Combination switch (spiral cable)		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
M80	24	M43	6	Yes
	31		16	
	33		15	

3. Check continuity between combination switch (spiral cable) connector M80 and ground.

Combination switch (spiral cable)		Ground	Continuity
Connector	Terminal		
M80	24	—	No
	31		
	33		

Is the inspection result normal?

YES >> Replace audio unit. Refer to [AV-58. "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:000000009758819

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-58, "Removal and Installation" .
No sound comes out or the level of the sound is low.	No sound from all speakers.	<ul style="list-style-type: none"> • Speaker circuit shorted to ground. Refer to AV-25, "Wiring Diagram". • Audio unit power supply and ground circuits malfunction. Refer to AV-37, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, rear speaker LH, rear speaker RH) does not output sound.	<ul style="list-style-type: none"> • Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: <ul style="list-style-type: none"> - AV-39, "Diagnosis Procedure" (front door speaker). - AV-41, "Diagnosis Procedure" (front tweeter). - AV-43, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. Refer to: <ul style="list-style-type: none"> - AV-60, "Removal and Installation" (front door speaker). - AV-59, "Removal and Installation" (front tweeter). - AV-61, "Removal and Installation" (rear speaker). • Malfunction in audio unit. Refer to AV-16, "On Board Diagnosis Function".

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AV

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[BASE AUDIO]

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in audio unit. Refer to AV-16, "On Board Diagnosis Function" .
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, rear speaker LH, rear speaker RH).	<ul style="list-style-type: none"> • Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: <ul style="list-style-type: none"> - AV-39, "Diagnosis Procedure" (front door speaker). - AV-41, "Diagnosis Procedure" (front tweeter). - AV-43, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: <ul style="list-style-type: none"> - AV-60, "Removal and Installation" (front door speaker). - AV-59, "Removal and Installation" (front tweeter). - AV-61, "Removal and Installation" (rear speaker). • Malfunction in audio unit. Refer to AV-16, "On Board Diagnosis Function".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna or antenna feeder. Refer to AV-63, "Location of Antenna" .
No radio reception or poor reception.	<ul style="list-style-type: none"> • Other audio sounds are normal. • Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises). 	<ul style="list-style-type: none"> • Antenna amp. ON signal circuit malfunction. Refer to AV-20, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-63, "Location of Antenna".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

- Before performing diagnosis, confirm that the cellular phone being used by the customer is compatible with the vehicle.
- It is possible that a malfunction is occurring due to a version change of the phone even though the phone is a compatible type. This can be confirmed by changing the cellular phone to another compatible type, and check that it operates normally. It is important to determine whether the cause of the malfunction is the vehicle or the cellular phone.

Check Compatibility

1. Make sure the customer's Bluetooth[®] related concern is understood.
2. Verify the customer's concern.
NOTE:
The customer's phone may be required, depending upon their concern.
3. Write down the customer's phone brand, model and service provider.
NOTE:
It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.
4. Go to "www.nissanusa.com/bluetooth/".
 - a. Using the website's search engine, find out if the customer's phone is on the approved list.
 - b. If the customer's phone is NOT on the approved list:









AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[BASE AUDIO]

Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.

- c. If the feature related to the customer’s concern shows as “N” (not compatible):
Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as “Y” (compatible) in the “Basic Features”.
- d. If the feature related to the customer’s concern shows as “Y” (compatible):
Perform diagnosis as per the following table.

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	
Hands-free phone cannot be established.	<ul style="list-style-type: none"> • Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation. 	Malfunction in audio unit. Replace audio unit. Refer to AV-58, "Removal and Installation" .
The other party’s voice cannot be heard by hands-free phone.	Check the “microphone speaker” in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-48, "Diagnosis Procedure" .
The system cannot be operated.	<ul style="list-style-type: none"> • The voice recognition can be controlled. • Steering switch’s , , and  switch works, but  does not work. 	Steering switch malfunction. Replace steering switch. Refer to AV-62, "Removal and Installation" .
	Steering switch’s  ,  ,  , and  switches do not work.	Steering switch signal circuit malfunction. Refer to AV-50, "Diagnosis Procedure" .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-50, "Diagnosis Procedure" .

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NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BASE AUDIO]

NORMAL OPERATING CONDITION

Description

INFOID:000000009758820

RELATED TO NOISE

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

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

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

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

NOTE:

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

Type of Noise and Possible Cause

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	<p>Some Bluetooth[®] enabled cellular phones may not be recognized by the in-vehicle phone module.</p> <p>Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in AV-53, "Symptom Table".</p>
Cannot use hands-free phone.	<p>Customer will not be able to use a hands-free phone under the following conditions:</p> <ul style="list-style-type: none"> • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. <p>NOTE:</p> <p>While a cellular phone is connected through the Bluetooth[®] wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth[®] Hands-Free Phone System cannot charge cellular phones.</p>

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BASE AUDIO]

Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

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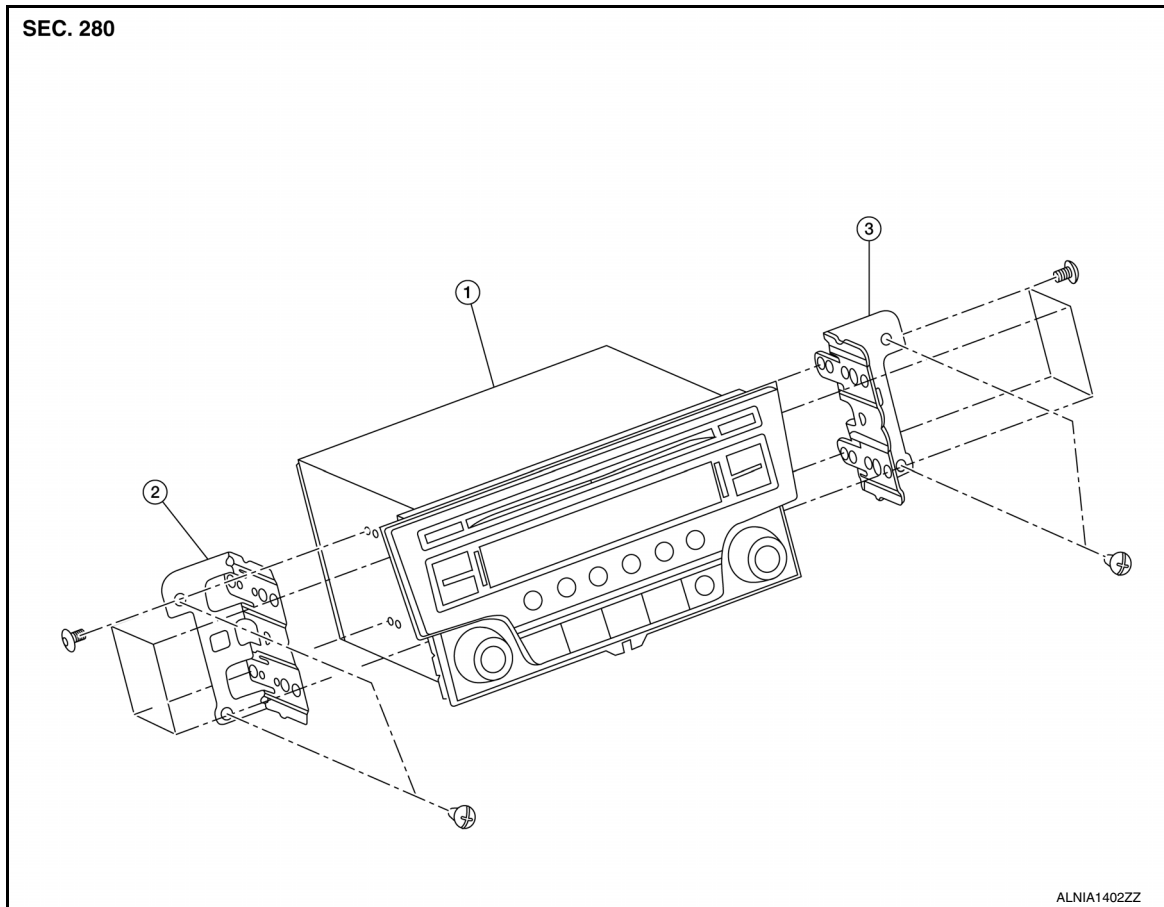
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REMOVAL AND INSTALLATION

AUDIO UNIT

Exploded View

INFOID:000000009758821



1. Audio unit

2. Audio unit bracket (LH)

3. Audio unit bracket (RH)

Removal and Installation

INFOID:000000009758822

REMOVAL

1. Disconnect the negative battery terminal. Refer to [PG-50. "Removal and Installation \(Battery\)"](#).
2. Remove cluster lid C lower. Refer to [IP-20. "Removal and Installation - Cluster Lid C Lower"](#).
3. Remove the audio unit screws, then pull out the audio unit.
4. Disconnect the harness connectors from the audio unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

FRONT TWEETER

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

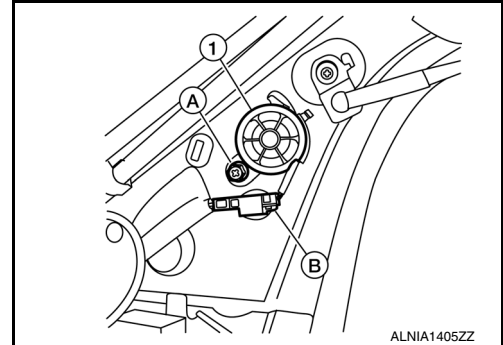
FRONT TWEETER

Removal and Installation

INFOID:000000009758823

REMOVAL

1. Remove the front pillar finisher. Refer to [INT-24. "FRONT PILLAR FINISHER : Removal and Installation"](#).
2. Disconnect the harness connector (B) from the front tweeter speaker.
3. Remove the front tweeter speaker screw (A) from the front tweeter speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

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FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

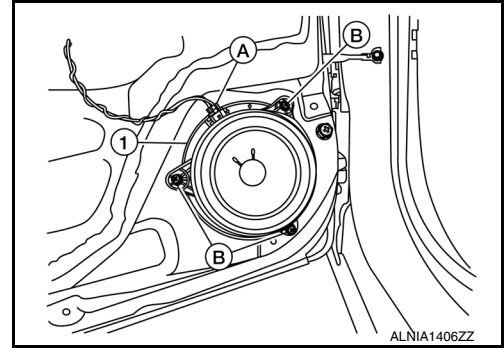
FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000009758824

REMOVAL

1. Remove the front door finisher. Refer to [INT-15, "Removal and Installation"](#).
2. Remove the front door speaker screws (B).
3. Disconnect the harness connector (A) from the front door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

REAR SPEAKER

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

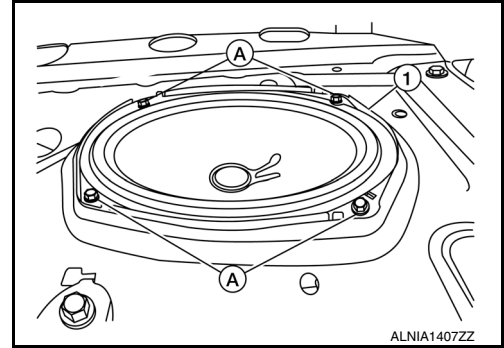
REAR SPEAKER

Removal and Installation

INFOID:000000009758825

REMOVAL

1. Remove the rear parcel shelf finisher. Refer to [INT-33, "Removal and Installation"](#).
2. Remove the rear speaker screws (A).
3. Disconnect the harness connector from the rear speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

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STEERING SWITCH

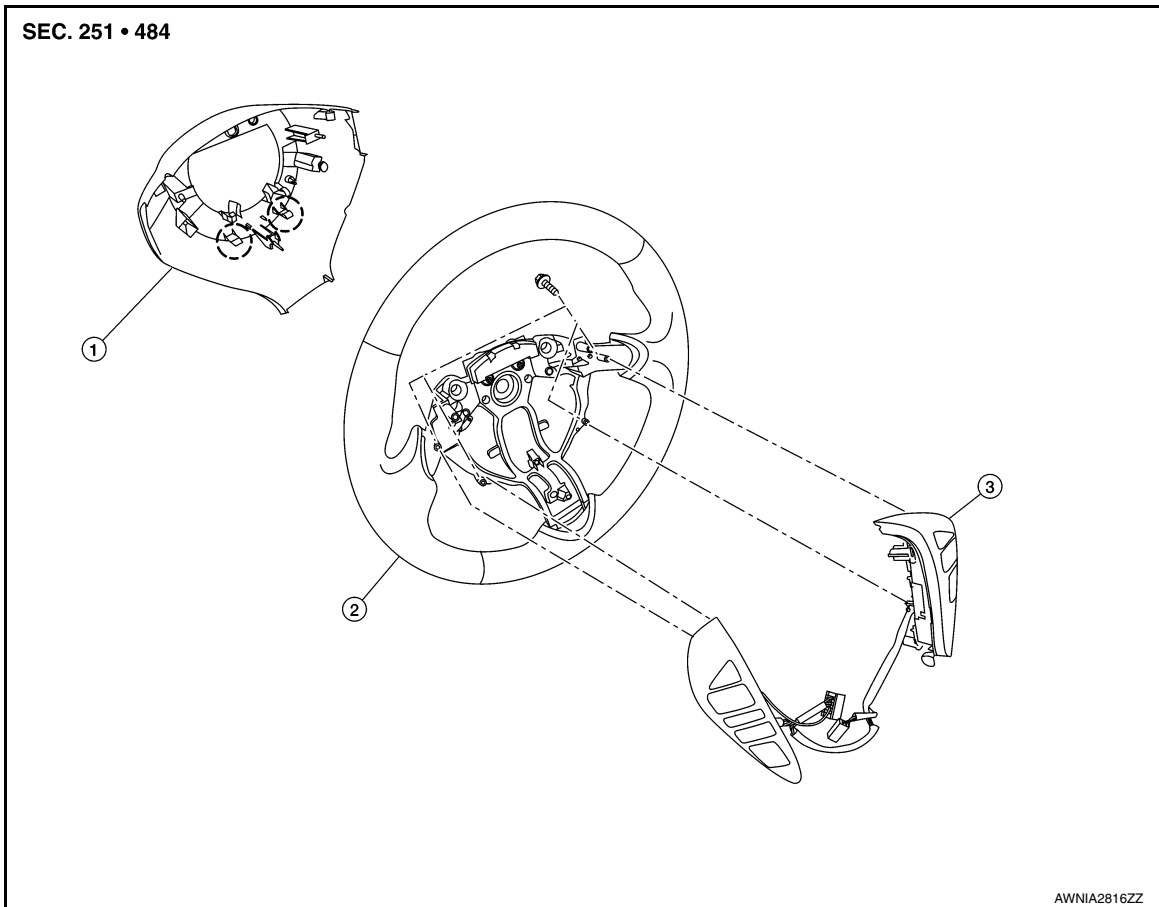
< REMOVAL AND INSTALLATION >

[BASE AUDIO]

STEERING SWITCH

Exploded View

INFOID:000000009758826



1. Steering wheel rear finisher

2. Steering wheel

3. Steering switches

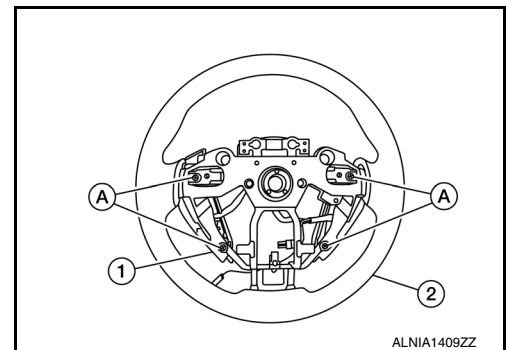
○ Pawl

Removal and Installation

INFOID:000000009758827

REMOVAL

1. Remove the steering wheel. Refer to [ST-10. "Removal and Installation"](#).
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (A).
4. Remove the steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

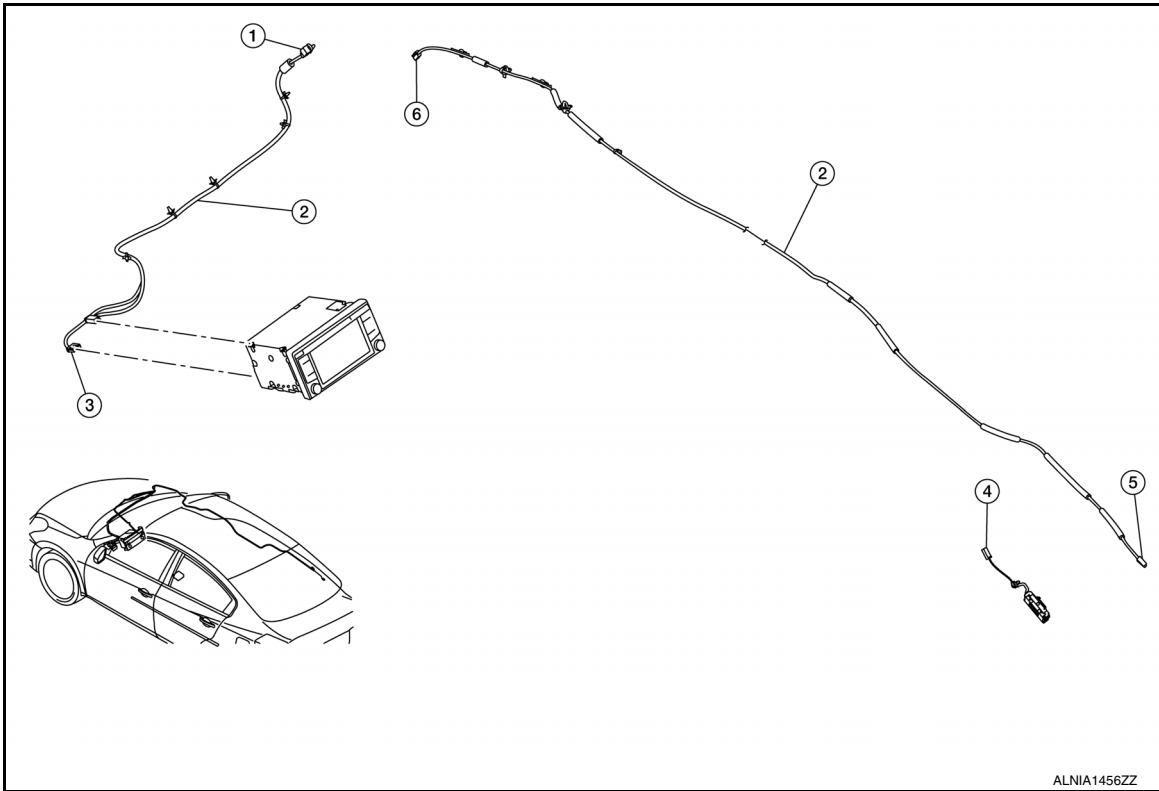
< REMOVAL AND INSTALLATION >

[BASE AUDIO]

ANTENNA FEEDER

Location of Antenna

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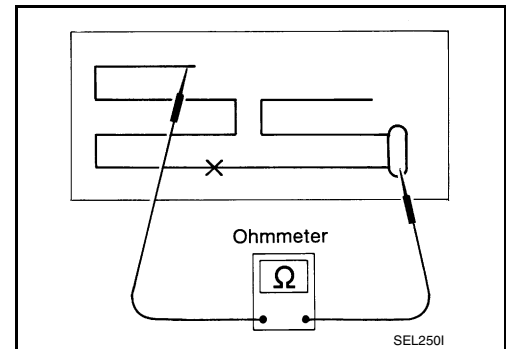
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|---------|-------------------|---------|
| 1. M107 | 2. Antenna feeder | 3. M138 |
| 4. M503 | 5. M502 | 6. M501 |

Window Antenna Repair

INFOID:000000009758829

ELEMENT CHECK

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

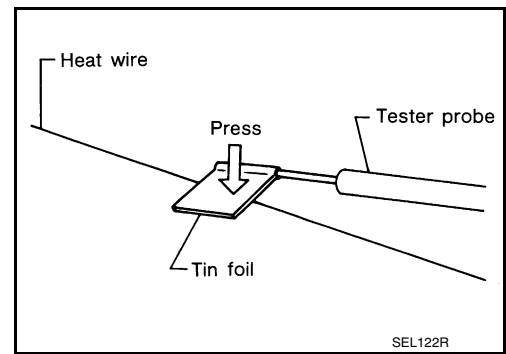


ANTENNA FEEDER

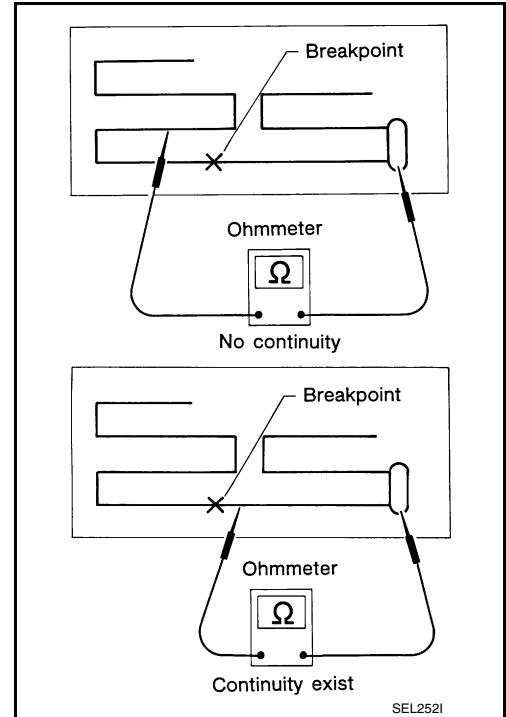
< REMOVAL AND INSTALLATION >

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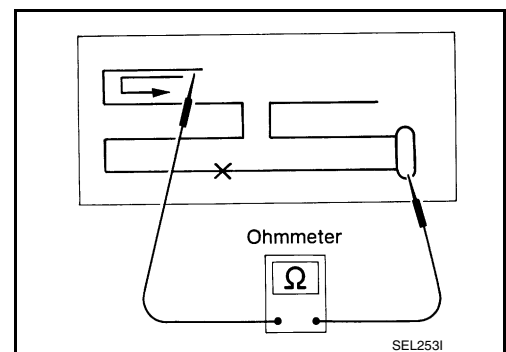
- When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



2. If an element is broken, no continuity will exist.



3. To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.



REPAIR EQUIPMENT

- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

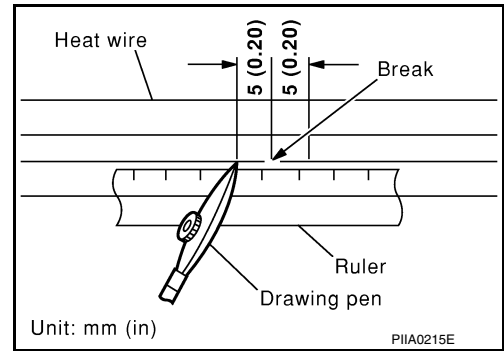
REPAIRING PROCEDURE

ANTENNA FEEDER

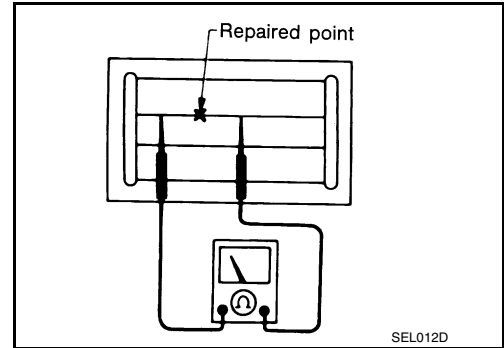
< REMOVAL AND INSTALLATION >

[BASE AUDIO]

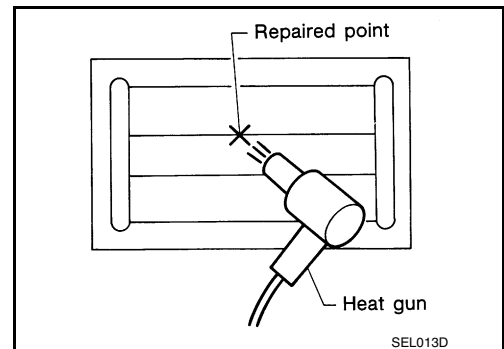
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen. Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.



4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited. Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.



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ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

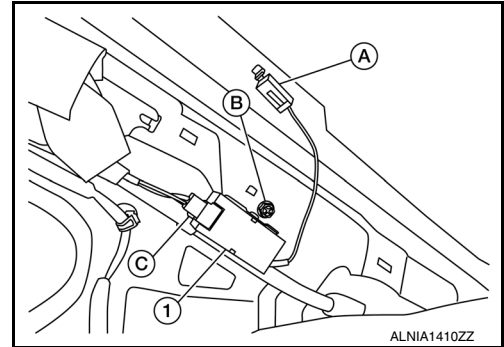
ANTENNA AMP.

Removal and Installation

INFOID:000000009758830

REMOVAL

1. Remove the rear pillar finisher (RH). Refer to [INT-29. "REAR PILLAR FINISHER : Removal and Installation"](#).
2. Disconnect the antenna amp. harness connector (A) from the rear window glass.
3. Disconnect the harness connector (C) from the antenna amp. (1).
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

WINDOW ANTENNA

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

WINDOW ANTENNA

Removal and Installation

INFOID:000000010296640

The window antenna is serviced as an assembly with the filament. Refer to [DEF-47. "Inspection and Repair"](#).

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BLUETOOTH CONTROL UNIT

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

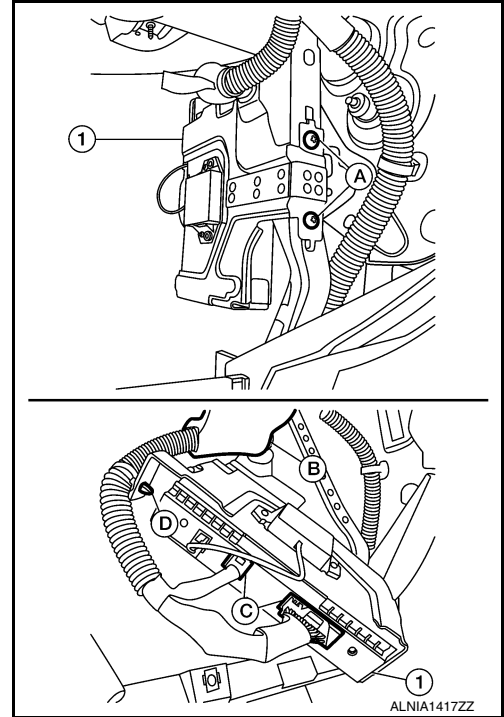
BLUETOOTH CONTROL UNIT

Removal and Installation

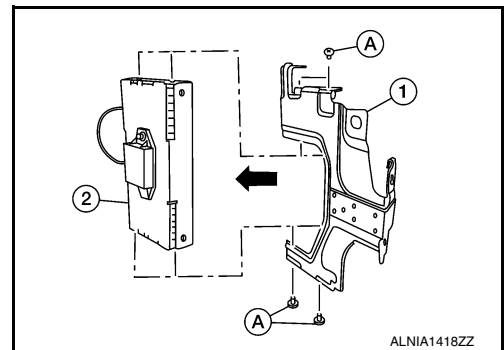
INFOID:000000009758831

REMOVAL

1. Remove the glove box assembly. Refer to [IP-22. "Removal and Installation"](#).
2. Remove the Bluetooth control unit screws (A) and position aside the Bluetooth control unit assembly (1).
3. Disconnect the Bluetooth control unit connectors (C) and release the harness retainer (B) from the Bluetooth control unit bracket.
4. Release the harness clip (D) from the Bluetooth control unit bracket and remove the Bluetooth control unit (1).



5. Remove the Bluetooth control unit bracket screws (A), then remove the Bluetooth control unit (2) from the Bluetooth control unit bracket (1).



INSTALLATION

Installation is in the reverse order of removal.

MICROPHONE

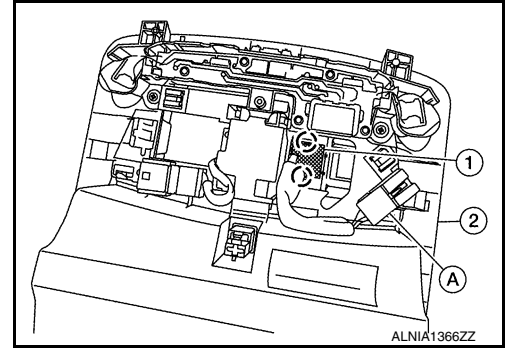
Removal and Installation

INFOID:000000009758832

REMOVAL

1. Remove the front room/map lamp assembly. Refer to [INL-52. "Removal and Installation"](#).
2. Disconnect the microphone connector (A) from the front room/map lamp assembly (2).
3. Release the microphone pawls, then remove the microphone (1).

○: Pawl



INSTALLATION

Installation is in the reverse order of removal.

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PRECAUTION

PRECAUTIONS

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

INFOID:000000010296642

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. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Precaution for Trouble Diagnosis

INFOID:000000009758834

AV COMMUNICATION SYSTEM

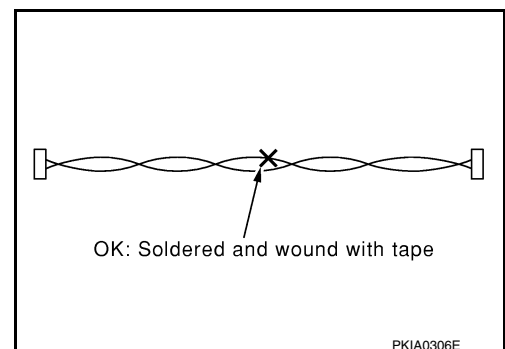
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

INFOID:000000009758835

AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



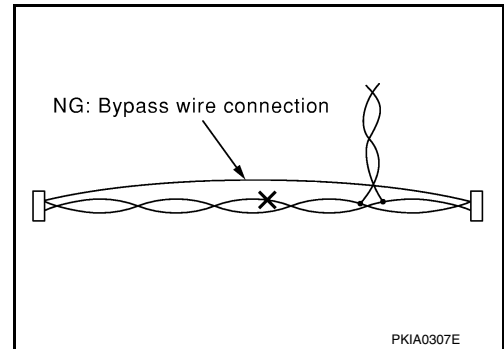
PKIA0306E

PRECAUTIONS

< PRECAUTION >

[DISPLAY AUDIO WITHOUT BOSE]

- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)



Precaution for Work

INFOID:000000009758836

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
 - Water soluble dirt:
 - Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
 - Then rub with a soft, dry cloth.
 - Oily dirt:
 - Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
 - Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
 - Then rub with a soft, dry cloth.
 - Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
 - For genuine leather seats, use a genuine leather seat cleaner.

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PREPARATION

< PREPARATION >

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PREPARATION

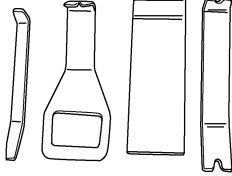
PREPARATION

Special Service Tools

INFOID:000000009758837

The actual shape of the tools may differ from those illustrated here.

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




AWJIA0483ZZ

Commercial Service Tools

INFOID:000000009758838

Tool name	Description
Power tool	Loosening nuts, screws and bolts



PIIB1407E

COMPONENT PARTS

< SYSTEM DESCRIPTION >

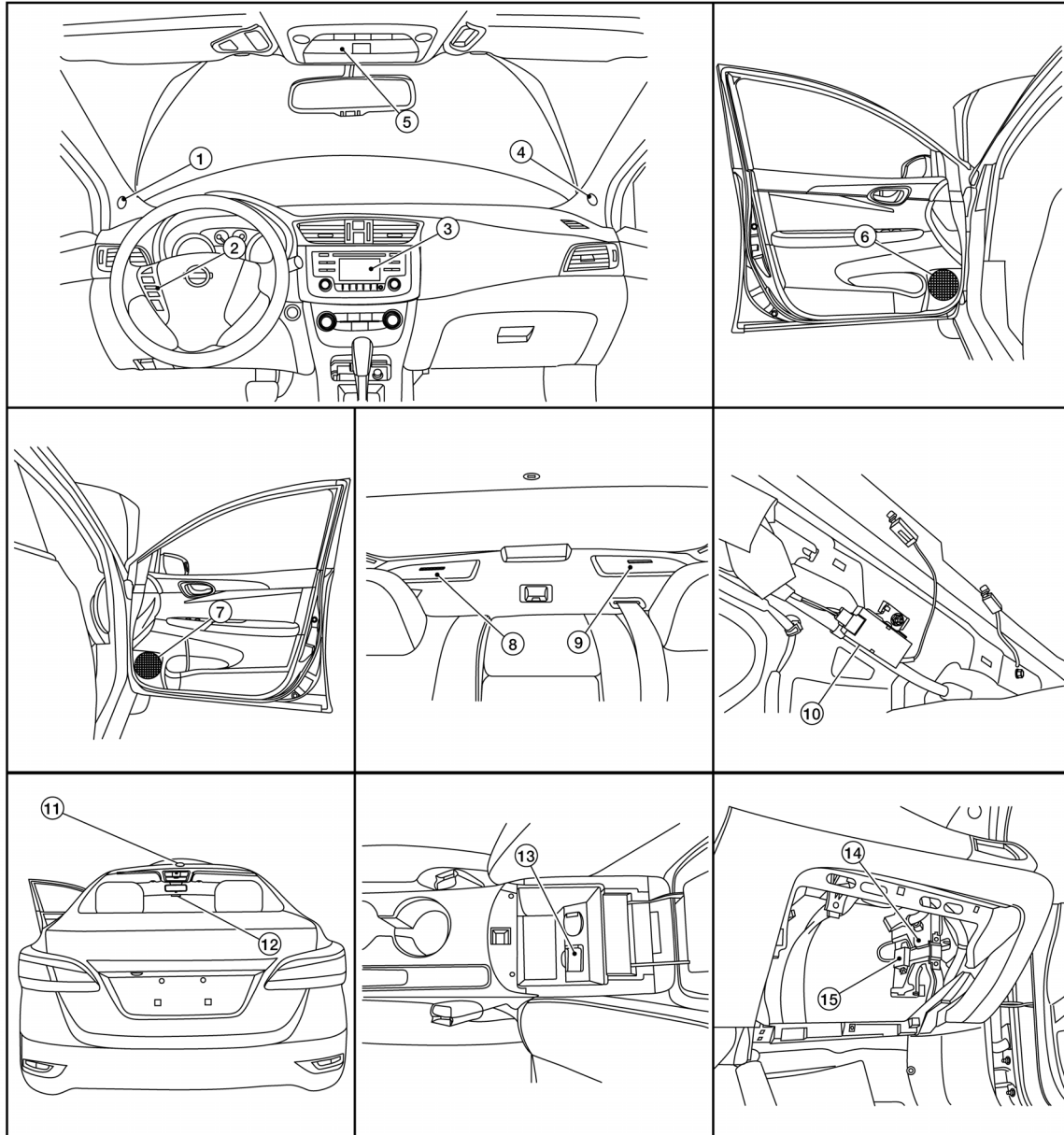
[DISPLAY AUDIO WITHOUT BOSE]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000009758839



- | | | |
|--------------------------|-----------------------------|--------------------------|
| 1. Front tweeter LH | 2. Steering switches | 3. Audio unit |
| 4. Front tweeter RH | 5. Microphone | 6. Front door speaker LH |
| 7. Front door speaker RH | 8. Rear speaker RH | 9. Rear speaker LH |
| 10. Antenna amp. | 11. Satellite antenna | 12. Window antenna |
| 13. USB interface | 14. Bluetooth® control unit | 15. Bluetooth® antenna |

Component Description

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COMPONENT PARTS

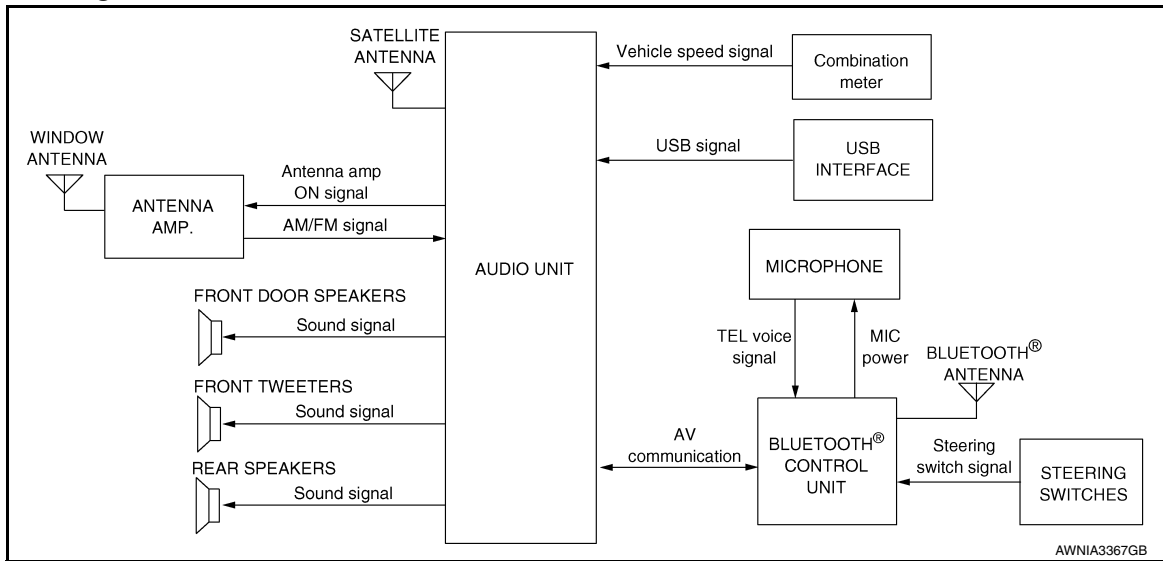
< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITHOUT BOSE]

Part name	Description
Audio unit	<ul style="list-style-type: none">Controls audio, USB connection, AUX IN connection and satellite radio functions.Display unit is built in to audio unit.
Front door speakers	Outputs high, mid and low range audio signals from audio unit.
Front tweeters	
Rear speakers	
Steering switches	<ul style="list-style-type: none">Operations for audio, hands-free phone and voice recognition are possible.Steering switch signal is output to Bluetooth® control unit.Bluetooth® control unit outputs steering switch signal to audio unit.
Microphone	<ul style="list-style-type: none">Used for hands-free phone operations.Microphone signal is transmitted to Bluetooth® control unit.Power is supplied from Bluetooth® control unit.
USB interface	USB sound and data input signals are transmitted to audio unit.
Bluetooth® control unit	<ul style="list-style-type: none">Inputs TEL voice signal from Bluetooth® antenna and outputs it to audio unit.Controlled via AV communication by audio unit.
Bluetooth® antenna	Receives TEL voice signal and outputs it to Bluetooth® control unit.
Satellite antenna	Satellite radio signal is received and transmitted to audio unit.
Antenna amp.	<ul style="list-style-type: none">AM/FM signal received by window antenna is amplified and transmitted to audio unit.Power is supplied from audio unit.
Window antenna	AM/FM signal is received and transmitted to antenna amp.

SYSTEM

System Diagram



System Description

INFOID:000000009758842

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Front door speakers
- Front tweeters
- Rear speakers
- Steering switches
- USB interface
- Satellite antenna
- Antenna amp.
- Window antenna

When the audio system is on, AM/FM signals received by the window antenna are amplified by the antenna amp. and sent to the audio unit. The audio unit then sends audio signals to the front door speakers, front tweeters and rear speakers.

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

HANDS-FREE PHONE SYSTEM

System Operation

NOTE:

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

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

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

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 20 seconds. If a phone is present in the vehicle and paired with the Bluetooth® control unit, Nissan Voice Recognition

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SYSTEM

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITHOUT BOSE]

will then become active. Bluetooth[®] telephone functions can be turned off using the Nissan Voice Recognition system.

Steering Switches

When buttons on the steering switches 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 switches:

- 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.

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.

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITHOUT BOSE]

DIAGNOSIS SYSTEM (AUDIO UNIT)

Description

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The audio unit on board diagnosis performs the functions listed in the table below:

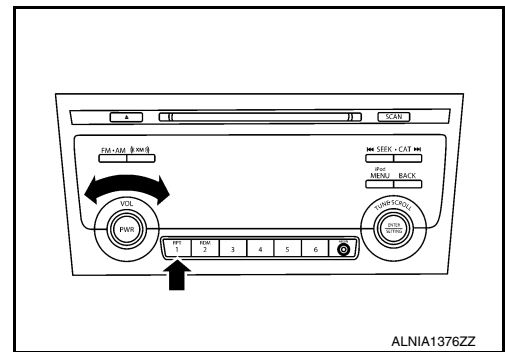
Mode		Description
Self Diagnosis		<ul style="list-style-type: none"> • Audio unit diagnosis. • Diagnoses the connections across system components.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, lights, reverse, EQ pin, destination and camera type.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera System	Displayed but not used.
	AV COMM Diagnosis	The communication condition of each unit of display audio system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Initialize Setting	Initializes the audio unit memory.

On Board Diagnosis Function

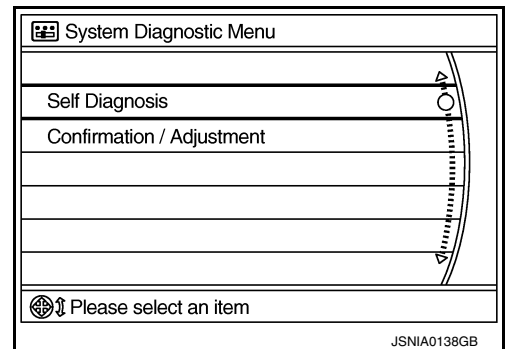
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METHOD OF STARTING

1. Turn the ignition ON.
2. Turn the audio system OFF.
3. While pressing the preset 1 button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. Shifting from current screen to previous screen is performed by pressing BACK button.



4. The trouble diagnosis initial screen is displayed, and Self Diagnosis or Confirmation/Adjustment can be selected.



SELF DIAGNOSIS MODE

Audio Unit Self Diagnosis

1. Select Self Diagnosis.

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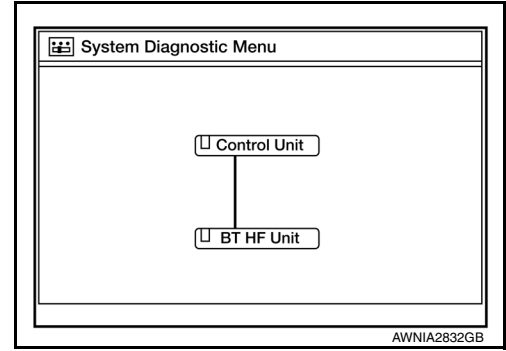
AV

DIAGNOSIS SYSTEM (AUDIO UNIT)

[DISPLAY AUDIO WITHOUT BOSE]

< SYSTEM DESCRIPTION >

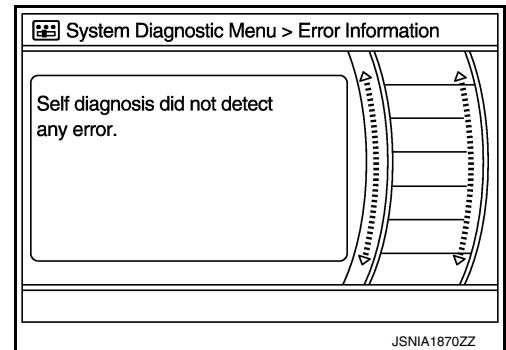
2. Self diagnosis screen is displayed. The bar graph visible in center of screen indicates progress of self diagnosis.
3. Diagnosis results are displayed after the self diagnosis is completed. The unit names and the connection lines are color coded according to the diagnostic results.



Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction ¹	Red	Green

1: Control unit (audio unit) is displayed in red.

- Replace audio unit if Self Diagnosis did not run because control unit malfunction is indicated. The symptom is audio unit internal error. Refer to [AV-122. "Removal and Installation"](#).
 - If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.
4. Comments of self diagnosis results can be viewed in the diagnosis result screen.



Audio Unit Self Diagnosis Results

Only Unit Part Is Displayed In Red		
Screen switch	Description	Possible cause
Control unit	Malfunction is detected in audio unit power supply and ground circuits.	<ul style="list-style-type: none"> • Audio unit power supply or ground circuits. Refer to AV-101. "AUDIO UNIT : Diagnosis Procedure". • If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to AV-122. "Removal and Installation".

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

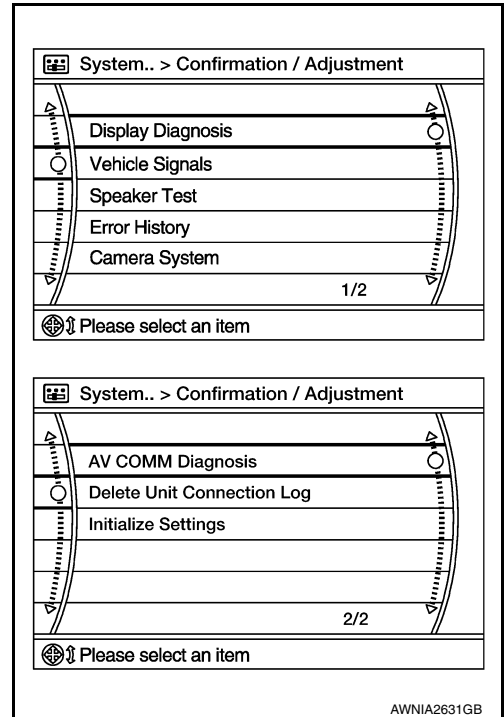
[DISPLAY AUDIO WITHOUT BOSE]

A Connecting Cable Between Units Is Displayed In Yellow

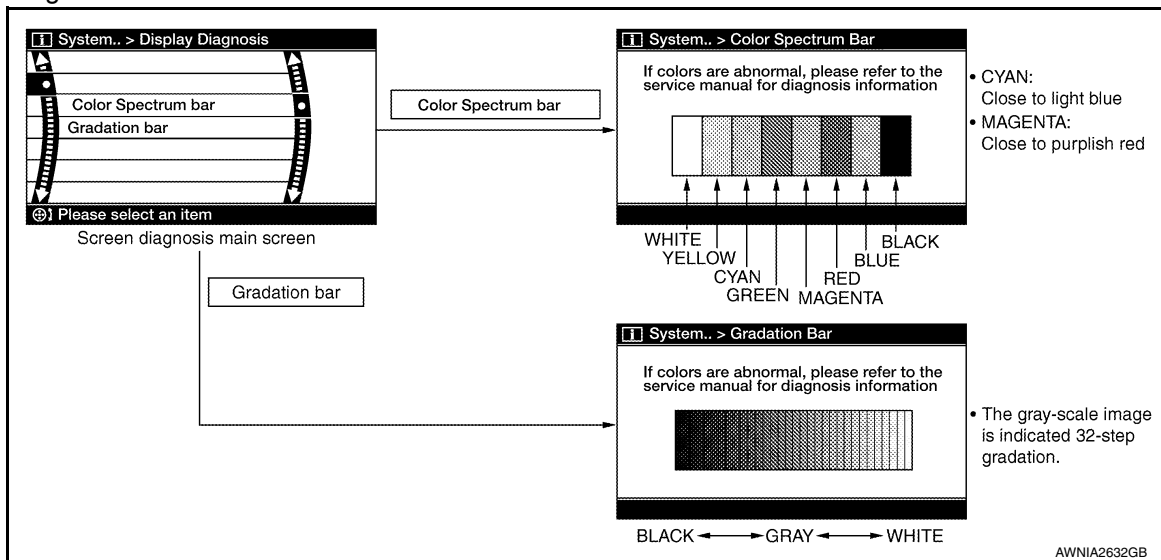
Area with yellow connection lines	Description	Possible cause
Control unit ↔ BT HF Unit	When one of the following is detected: <ul style="list-style-type: none"> malfunction is detected in Bluetooth® control unit power supply and ground circuits. malfunction is detected in AV communication circuits between audio unit and Bluetooth® control unit. 	<ul style="list-style-type: none"> Bluetooth® control unit power supply or ground circuits. Refer to AV-101. "BLUETOOTH® CONTROL UNIT : Diagnosis Procedure". AV communication circuits between audio unit and Bluetooth® control unit.

Audio Unit Confirmation/Adjustment

- Select Confirmation/Adjustment.
- Select each switch on the Confirmation/Adjustment screen to display the relevant trouble diagnosis screen. Press the BACK switch to return to the initial Confirmation/Adjustment screen.



Display Diagnosis



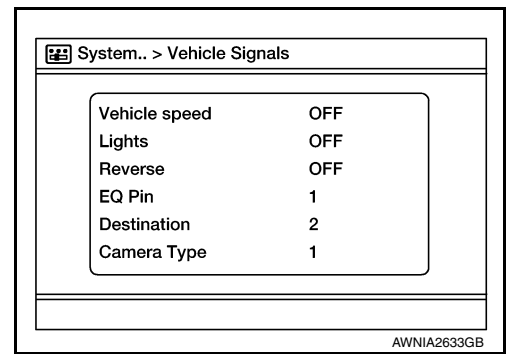
Vehicle Signals

DIAGNOSIS SYSTEM (AUDIO UNIT)

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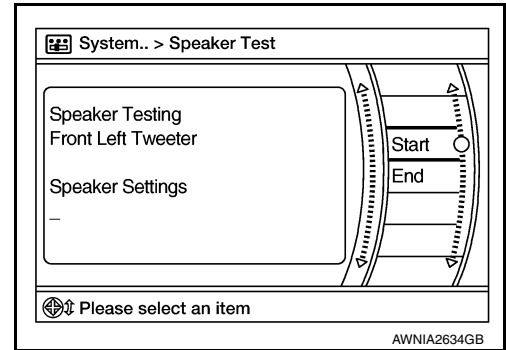
[DISPLAY AUDIO WITHOUT BOSE]

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



Speaker Test

Select Speaker Test to display the Speaker Diagnosis screen. Press Start to generate a test tone in a speaker. Press Start again to generate a test tone in the next speaker. Press End to stop the test tones.



Error History

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

However, the diagnosis results are judged normal if an error has occurred before the ignition switch is turned ON and then no error has occurred until the self diagnosis start. Check the Error Record to detect any error that may have occurred before the self diagnosis start because of this situation.

The frequency of occurrence is displayed in a count up manner. The actual count up method differs depending on the error item.

Count up method A

- The counter is set to 40 if an error occurs. 1 is subtracted from the counter if the condition is normal at a next ignition ON cycle.
- The counter lower limit is 1. The counter can be reset (no error record display) with the Delete log switch.

Count up method B

- The counter increases by 1 if an error occurs when ignition switch is ON. The counter will not decrease even if the condition is normal at the next ignition ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. The counter can be reset (no error record display) with the Delete log switch.

Display type of occurrence frequency	Error history display item
Count up method A	AV communication line, control unit (AV)
Count up method B	Other than the above

Error item

Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITHOUT BOSE]

Error item	Description	Possible cause
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	Replace the audio unit if the malfunction occurs constantly. Refer to AV-122, "Removal and Installation"
AV COMM CIRCUIT	When one of the following is detected: <ul style="list-style-type: none"> malfunction is detected in Bluetooth® control unit power supply and ground circuits. malfunction is detected in AV communication circuits between audio unit and Bluetooth® control unit. 	<ul style="list-style-type: none"> Bluetooth® control unit power supply or ground circuits. Refer to AV-101, "BLUETOOTH® CONTROL UNIT : Diagnosis Procedure". AV communication circuits between audio unit and Bluetooth® control unit.

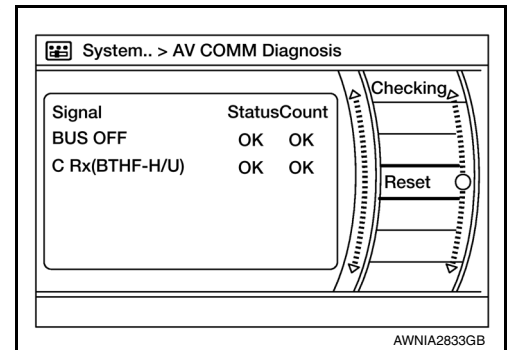
AV COMM Diagnosis

- Displays the communication status between audio unit (master unit) and Bluetooth® control unit.
- The error counter displays OK if any malfunction was not detected in the past and displays 0 if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if Reset is pressed.

Items	Status (Current)	Counter (Past)
BUS OFF	OK / ???	OK / 0 – 39
C Rx(BTHF-H/U)	OK / ???	OK / 0 – 39

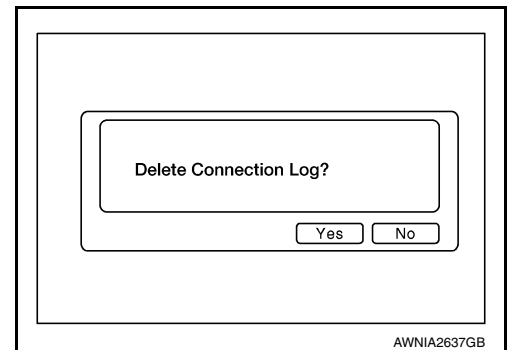
NOTE:

“???” indicates UNKWN.



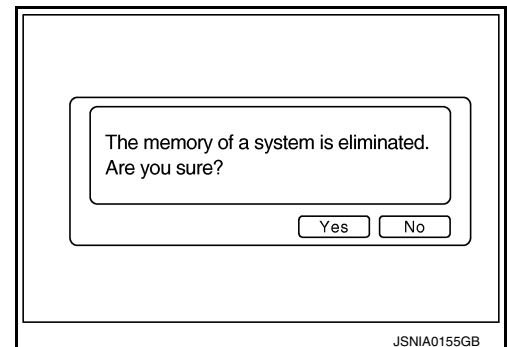
Delete Unit Connection Log

Deletes any unit connection records and error records from the audio unit memory (clears the records of the unit that has been removed).



Initialize Settings

Deletes data stored from the audio unit.



DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITHOUT BOSE]



DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

Diagnosis Description


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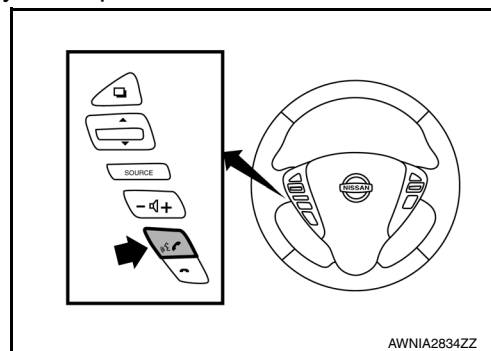
The Bluetooth® control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.



Bluetooth® CONTROL UNIT INITIALIZATION CHECKS

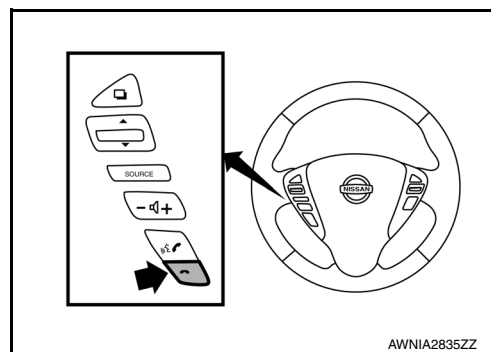
- Internal control unit failure
- Bluetooth® antenna connection open or shorted
- Steering wheel audio control switches [ (PHONE/SEND),  (PHONE/END)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth® inquiry check

OPERATION PROCEDURE

1. Turn ignition switch to ACC or ON.
2. Wait for the Bluetooth® system to complete initialization. This may take up to 20 seconds.
3. Press and hold the steering wheel audio control switch  (PHONE/SEND) 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  (PHONE/END) 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  (PHONE/END) button again until you hear prompts.
6. The Bluetooth® system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician. Refer to [AV-82, "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-82, "Work Flow"](#).



Work Flow

INFOID:000000009758846

Failure Message	Action
"Internal failure"	Replace Bluetooth® control unit. Refer to AV-134, "Removal and Installation" .
"Bluetooth® antenna open"	<ol style="list-style-type: none"> 1. Inspect harness connection. 2. Replace Bluetooth® antenna. Refer to AV-134, "Removal and Installation".
"Bluetooth® antenna shorted"	
"Phone/Send for Hands Free System is stuck"	Check steering wheel audio control switches. Refer to AV-114, "Diagnosis Procedure" .
"Phone/End for the Hands Free System is stuck"	
"Microphone test" (failed interactive test)	<ol style="list-style-type: none"> 1. Inspect harness between Bluetooth® control unit and microphone. 2. Replace microphone. Refer to AV-135, "Removal and Installation".

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITHOUT BOSE]

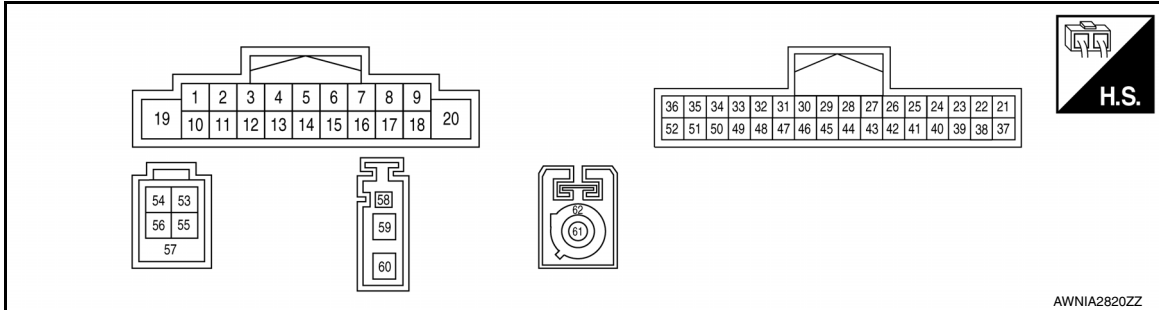
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

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TERMINAL LAYOUT



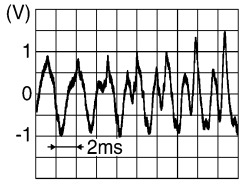
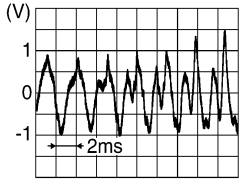



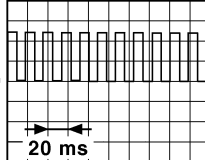


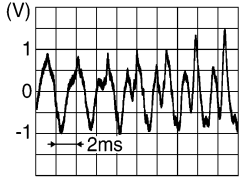
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
2 (L)	3 (P)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
4 (LG)	5 (W)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIB3609E
6 (G)	15 (P)	Steering switch signal A	Input	Ignition switch ON	Press SOURCE switch	0V
					Press Δ switch	1.0V
					Press ∇ switch	2.0V
					Press ↶ ↷ switch	3.0V
					Except above	5.0V
7 (P)	Ground	ACC power supply	Input	ACC	—	Battery voltage
9 (R)	8 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITHOUT BOSE]

Terminal (Wire color)		Description	Input/ Output	Condition		Reference value (Approx.)
+	-			Signal name	Ignition switch	
11 (SB)	12 (V)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E
13 (BR)	14 (Y)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
16 (LG)	15 (P)	Steering switch signal B	Input	Ignition switch ON	Press -  switch	0V
					Press  switch	1.0V
					Press  switch	2.0V
					Except above	5.0V
18 (Y)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (B)	Ground	Ground	—	ON	—	0 V
25 (BR)	24 (GR)	TEL voice signal	Input	Ignition switch ON	During voice guide output with   switch pressed.	 SKIB3609E
26	—	Shield	—	—	—	—
28 (B)	—	M CAN2-H	Input/ Output	—	—	—
29 (R)	—	M CAN2-L	Input/ Output	—	—	—
31 (SB)	—	M CAN1-H	Input/ Output	—	—	—
32 (LG)	—	M CAN1-L	Input/ Output	—	—	—
47 (B)	Ground	EQ03 Ground	—	ON	—	0 V

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITHOUT BOSE]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
53 (W)	—	V BUS signal	—	—	—	—
54 (G)	—	USB ground	—	—	—	—
55 (L)	—	USB D +signal	—	—	—	—
56 (R)	—	USB D- signal	—	—	—	—
57	—	Shield	—	—	—	—
58 (B)	Ground	Antenna amp. ON signal	Output	ON	—	Battery voltage
59 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V
61 (B)	Ground	Satellite antenna signal	Input	ON	—	5.0 V
62	—	Shield	—	—	—	—

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BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

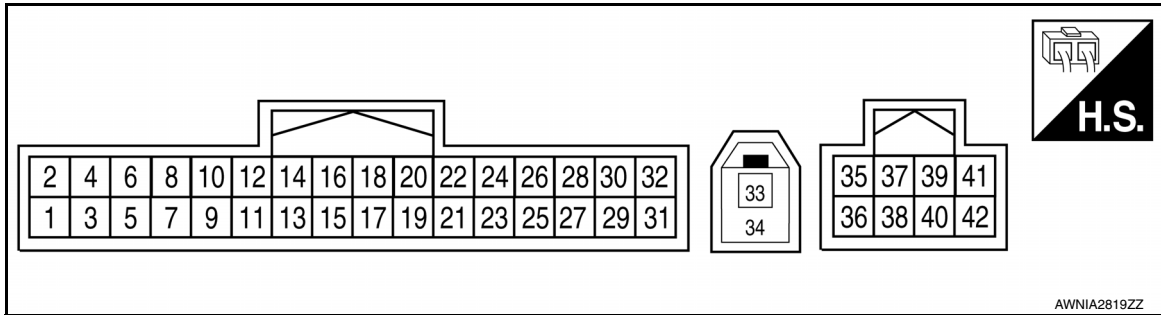
[DISPLAY AUDIO WITHOUT BOSE]

BLUETOOTH® CONTROL UNIT

Reference Value

INFOID:000000009758848

TERMINAL LAYOUT



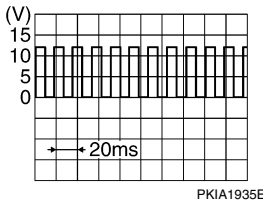
PHYSICAL VALUES

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/output			
1 (Y)	Ground	Battery power	Input	-	-	Battery voltage
2 (W)	Ground	ACC power	Input	Ignition switch ACC/ON	-	Battery voltage
3 (BR)	Ground	IGN power	Input	Ignition switch ON/ START	-	Battery voltage
4 (B)	Ground	Ground	-	Ignition switch ON	-	0V
7 (G)	8	MIC in signal	Input	-	-	-
9 (BR)	10 (GR)	Audio out	Output	Ignition switch ACC/ON	Bluetooth® control unit sends audio signal	
12 (G)	14 (V)	LAD IN 1	Input	Ignition switch ON	Press SOURCE switch	0V
					Press Δ switch	1.0V
					Press ∇ switch	2.0V
					Press w/ e/ switch	3.0V
					Except above	5.0V
13 (R)	14 (V)	LAD IN 2	Input	Ignition switch ON	Press w/ e/ switch	0V
					Press w/ + switch	1.0V
					Press w/ switch	2.0V
					Except above	5.0V

BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITHOUT BOSE]

Terminal (wire color)		Description		Condition	Reference value (Approx.)	
+	-	Signal name	Input/out-put			
17 (G)	19 (P)	LAD OUT 1	Output	Ignition switch ON	Press SOURCE switch	0V
					Press △ switch	1.0V
					Press ▽ switch	2.0V
					Press switch	3.0V
					Except above	5.0V
18 (LG)	19 (P)	LAD OUT 2	Output	Ignition switch ON	Press - switch	0V
					Press + switch	1.0V
					Press switch	2.0V
					Except above	5.0V
21 (B)	Ground	CONT2 Ground	-	Ignition switch ON	-	0V
22 (B)	Ground	CONT3 Ground	-	Ignition switch ON	-	0V
24 (B)	Ground	CONT5 Ground	-	Ignition switch ON	-	0V
28 (Y)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	
29 (R)	Ground	Microphone power	Output	Ignition switch ON	-	5V
33 (B)	-	Bluetooth® antenna	-	-	-	-
34	-	Shield	-	-	-	-
35 (SB)	-	M CAN1-H	-	-	-	-
36 (LG)	-	M CAN1-L	-	-	-	-
40 (B)	-	M CAN2-H	-	-	-	-
42 (R)	-	M CAN2-L	-	-	-	-

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DISPLAY AUDIO WITHOUT BOSE

< WIRING DIAGRAM >

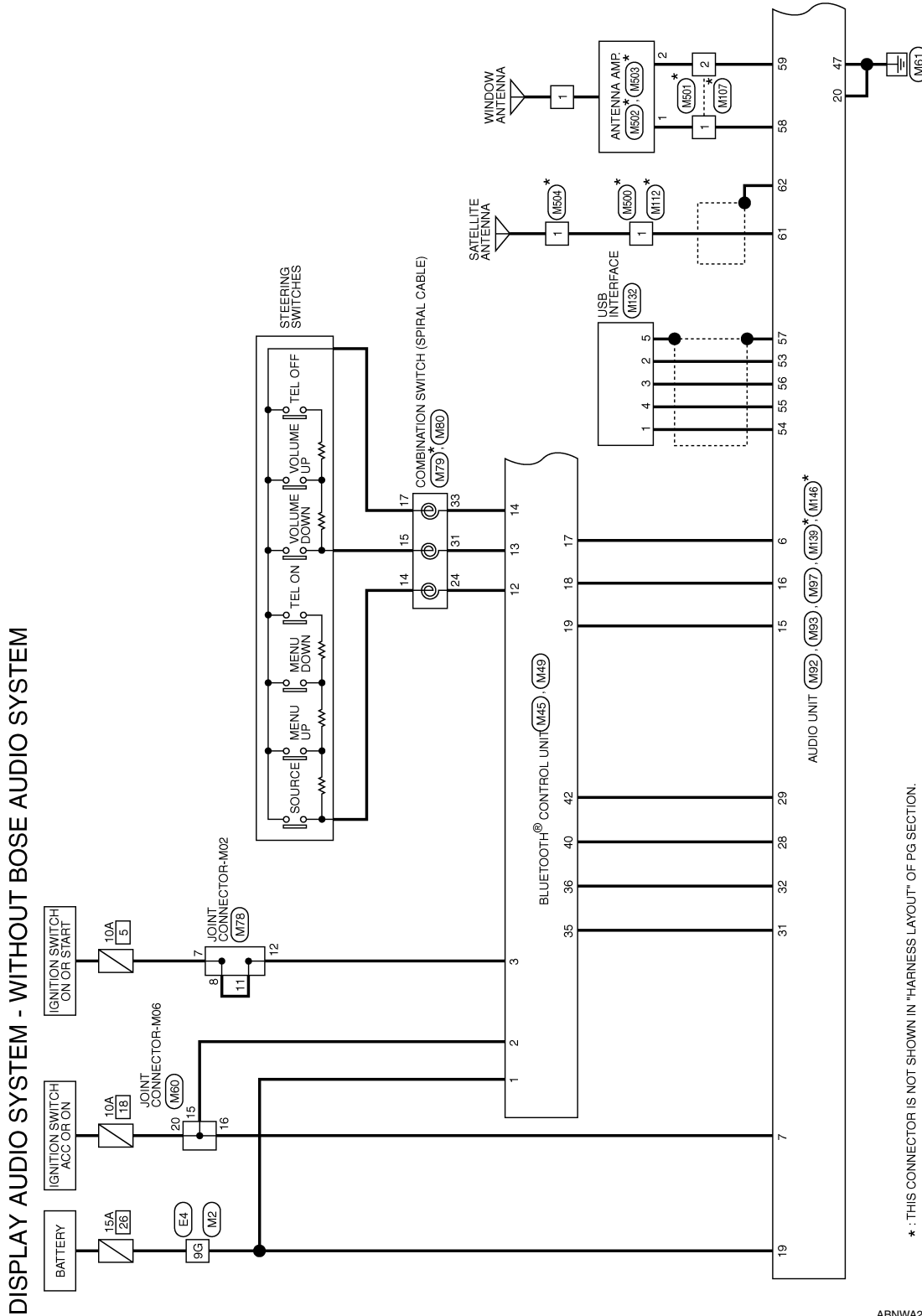
[DISPLAY AUDIO WITHOUT BOSE]

WIRING DIAGRAM

DISPLAY AUDIO WITHOUT BOSE

Wiring Diagram

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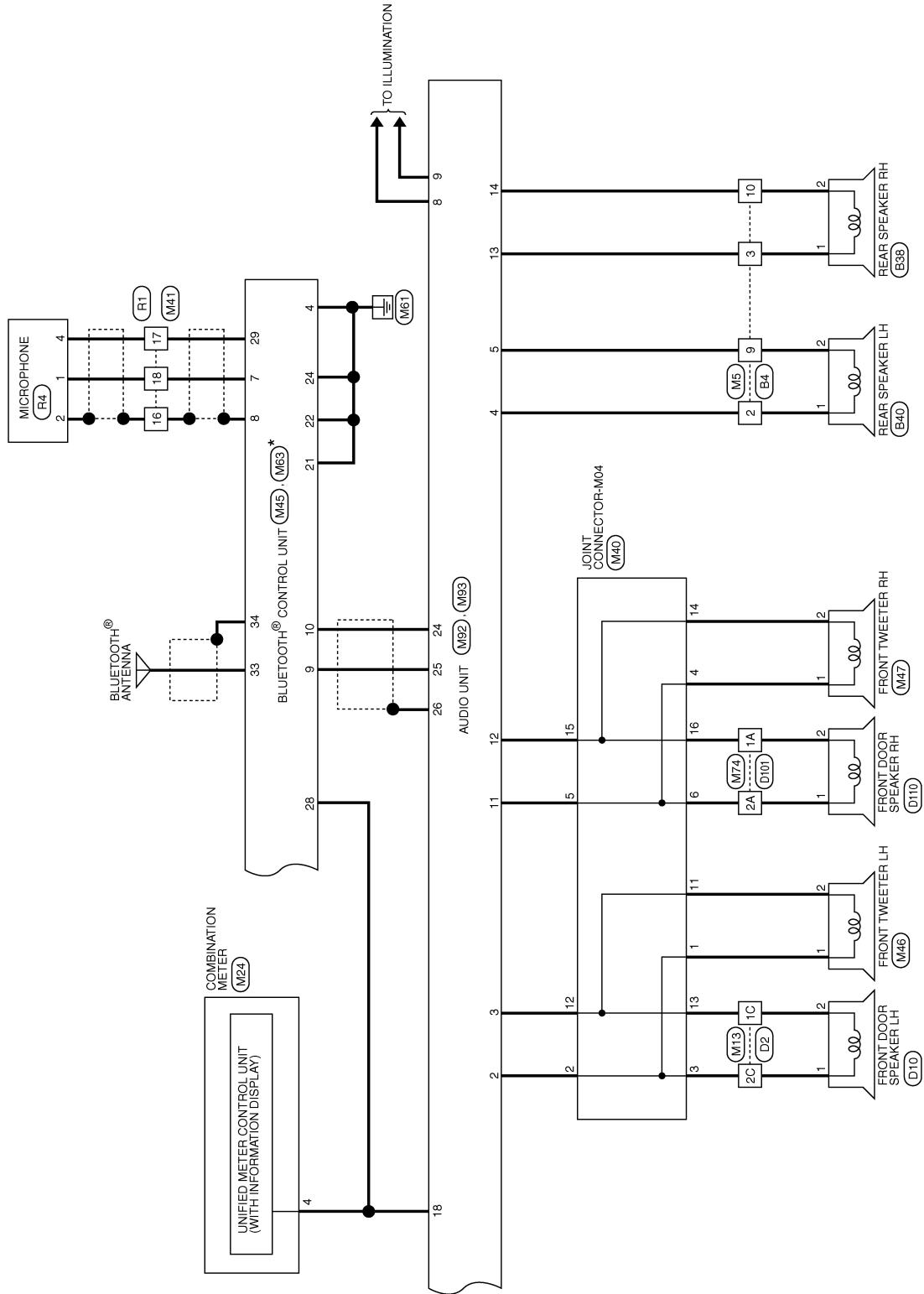


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DISPLAY AUDIO WITHOUT BOSE

< WIRING DIAGRAM >

[DISPLAY AUDIO WITHOUT BOSE]



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

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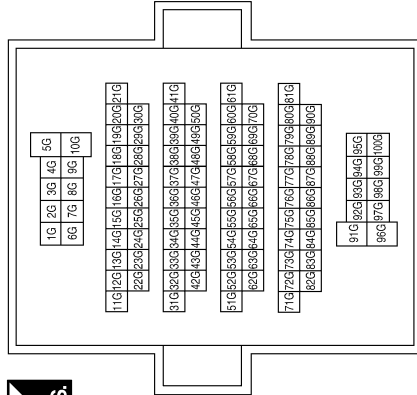
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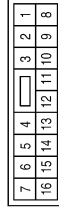
DISPLAY AUDIO SYSTEM CONNECTORS - WITHOUT BOSE AUDIO SYSTEM

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
9G	Y	-



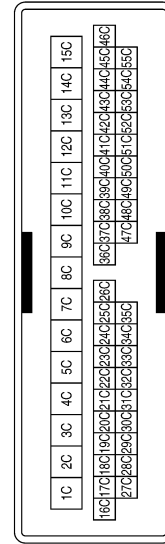
Connector No.	M5
Connector Name	WIRE TO WIRE
Connector Color	WHITE



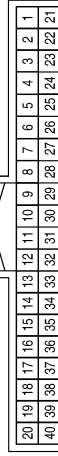
Terminal No.	Color of Wire	Signal Name
2	LG	-
3	BR	-
9	W	-
10	Y	-

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



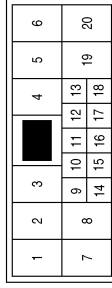
Terminal No.	Color of Wire	Signal Name
4	Y	8 P/R OUTPUT

DISPLAY AUDIO WITHOUT BOSE

[DISPLAY AUDIO WITHOUT BOSE]

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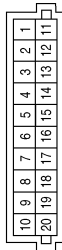
Connector No.	M41
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
16	SHIELD	-
17	R	-
18	G	-

Terminal No.	Color of Wire	Signal Name
6	G	-
11	Y	-(WITHOUT BOSE AUDIO SYSTEM)
12	P	-(WITHOUT BOSE AUDIO SYSTEM)
13	GR	-(WITHOUT BOSE AUDIO SYSTEM)
14	LG	-(WITHOUT BOSE AUDIO SYSTEM)
15	V	-(WITHOUT BOSE AUDIO SYSTEM)
16	P	-(WITHOUT BOSE AUDIO SYSTEM)

Connector No.	M40
Connector Name	JOINT CONNECTOR-M04
Connector Color	ORANGE



Terminal No.	Color of Wire	Signal Name
1	W	-
2	L	-
3	R	-
4	BR	-
5	SB	-

Terminal No.	Color of Wire	Signal Name
22	B	CONT3
23	-	-
24	B	CONT5
25	-	-
26	-	-
27	-	-
28	Y	SPEED SIGNAL
29	R	MIC PWR
30	-	-
31	-	-
32	-	-

Terminal No.	Color of Wire	Signal Name
7	G	MIC IN +
8	SHIELD	MIC IN -
9	BR	AUDIO OUT (+)
10	GR	AUDIO OUT (-)
11	-	-
12	G	LAD IN1
13	R	LAD IN 2
14	V	LAD IN3 (GND)
15	-	-
16	-	-
17	G	LAD OUT1
18	LG	LAD OUT2
19	P	LAD OUT3 (GND)
20	-	-
21	B	CONT2

Connector No.	M45
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	BATT
2	W	ACC
3	BR	IGN
4	B	GND
5	-	-
6	-	-

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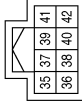
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DISPLAY AUDIO WITHOUT BOSE

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[DISPLAY AUDIO WITHOUT BOSE]

Connector No.	M49
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
35	SB	M CAN1-H
36	LG	M CAN1-L
37	-	-
38	-	-
39	-	-
40	B	M CAN2-H
41	-	-
42	R	M CAN2-L

Connector No.	M47
Connector Name	FRONT TWEETER RH
Connector Color	BROWN



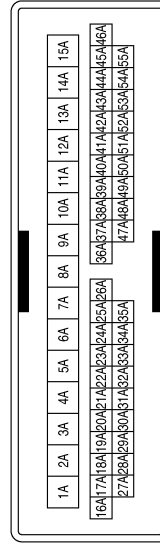
Terminal No.	Color of Wire	Signal Name
1	BR	-
2	LG	-

Connector No.	M46
Connector Name	FRONT TWEETER LH
Connector Color	BROWN



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

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE



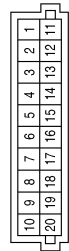
Terminal No.	Color of Wire	Signal Name
1A	P	-
2A	G	-

Connector No.	M63
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE



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

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
15	W	-
16	P	-
20	L	-

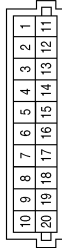
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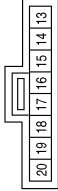
< WIRING DIAGRAM >

Connector No.	M78
Connector Name	JOINT CONNECTOR-M02
Connector Color	PINK



Terminal No.	Color of Wire	Signal Name
7	G	-
8	LG	-
11	LG	-
12	BR	-

Connector No.	M79
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



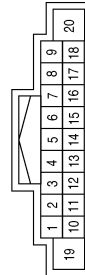
Terminal No.	Color of Wire	Signal Name
14	B	-
15	GR	-
17	BR	-

Connector No.	M80
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
24	G	-
31	R	-
33	V	-

Connector No.	M92
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	-	-
2	L	FR LH SP (+)
3	P	FR LH SP (-)
4	LG	RR LH SP (+)
5	W	RR LH SP (-)
6	G	STRG SW A

Terminal No.	Color of Wire	Signal Name
7	P	ACC
8	GR	ILL (-)
9	R	ILL (+)
10	-	-
11	SB	FR RH SP (+)
12	V	FR RH SP (-)
13	BR	RR RH SP (+)
14	Y	RR RH SP (-)
15	P	STRG SW GND
16	LG	STRG SW B
17	-	-
18	Y	SPEED 8P/R
19	Y	+B
20	B	GND

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DISPLAY AUDIO WITHOUT BOSE

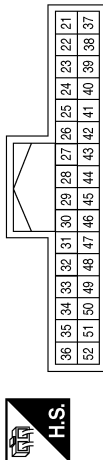
[DISPLAY AUDIO WITHOUT BOSE]

< WIRING DIAGRAM >

Terminal No.	Color of Wire	Signal Name
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	B	EQ03
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-

Terminal No.	Color of Wire	Signal Name
26	SHIELD	TEL SHIELD
27	-	-
28	B	M CAN2-H
29	R	M CAN2-L
30	-	-
31	SB	M CAN1-H
32	LG	M CAN1-L
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-

Connector No.	M93
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

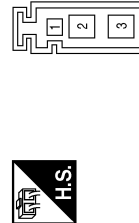


Terminal No.	Color of Wire	Signal Name
21	-	-
22	-	-
23	-	-
24	GR	TEL I/F (-)
25	BR	TEL I/F (+)

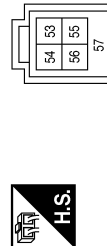
Connector No.	M112
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Connector No.	M107
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Connector No.	M97
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	B	-

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

Terminal No.	Color of Wire	Signal Name
53	W	V BUS
54	G	USB GND
55	L	USB D (+)
56	R	USB D (-)
57	SHIELD	USB SHIELD

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DISPLAY AUDIO WITHOUT BOSE

< WIRING DIAGRAM >

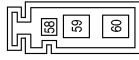
[DISPLAY AUDIO WITHOUT BOSE]

Connector No.	M146
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color	PINK



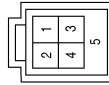
Terminal No.	Color of Wire	Signal Name
61	B	SAT ANT
62	SHIELD	SAT SHIELD

Connector No.	M139
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
58	B	-
59	B	-
60	-	-

Connector No.	M132
Connector Name	USB INTERFACE
Connector Color	GREEN



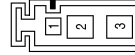
Terminal No.	Color of Wire	Signal Name
1	G	-
2	W	-
3	R	-
4	L	-
5	SHIELD	-

Connector No.	M502
Connector Name	ANTENNA AMP.
Connector Color	GRAY



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

Connector No.	M501
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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

Connector No.	M500
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-

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< WIRING DIAGRAM >

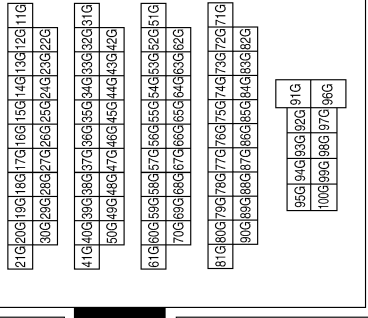
[DISPLAY AUDIO WITHOUT BOSE]

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	M504
Connector Name	SATELLITE ANTENNA
Connector Color	GREEN

Connector No.	M503
Connector Name	ANTENNA AMP.
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	B	-

Terminal No.	Color of Wire	Signal Name
1	B	-

Terminal No.	Color of Wire	Signal Name
9G	R	-

Connector No.	B38
Connector Name	REAR SPEAKER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	G	-
3	W	-
9	GR	-
10	O	-

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Color	WHITE



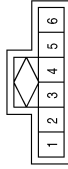
Terminal No.	Color of Wire	Signal Name
1	W	-
2	O	-

DISPLAY AUDIO WITHOUT BOSE

< WIRING DIAGRAM >

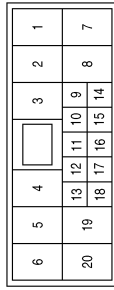
[DISPLAY AUDIO WITHOUT BOSE]

Connector No.	R4
Connector Name	MICROPHONE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G	-
2	SHIELD	-
4	R	-

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



Terminal No.	Color of Wire	Signal Name
16	SHIELD	-
17	R	-
18	G	-

Connector No.	B40
Connector Name	REAR SPEAKER LH
Connector Color	WHITE



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

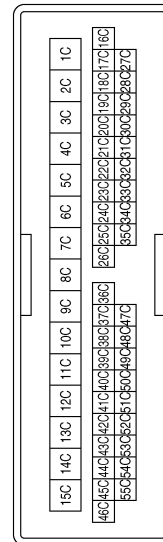
Connector No.	D10
Connector Name	FRONT DOOR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



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

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

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



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DISPLAY AUDIO WITHOUT BOSE

< WIRING DIAGRAM >

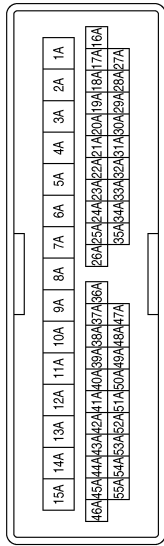
[DISPLAY AUDIO WITHOUT BOSE]

Connector No.	D110
Connector Name	FRONT DOOR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



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

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



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

ABNIA5798GB

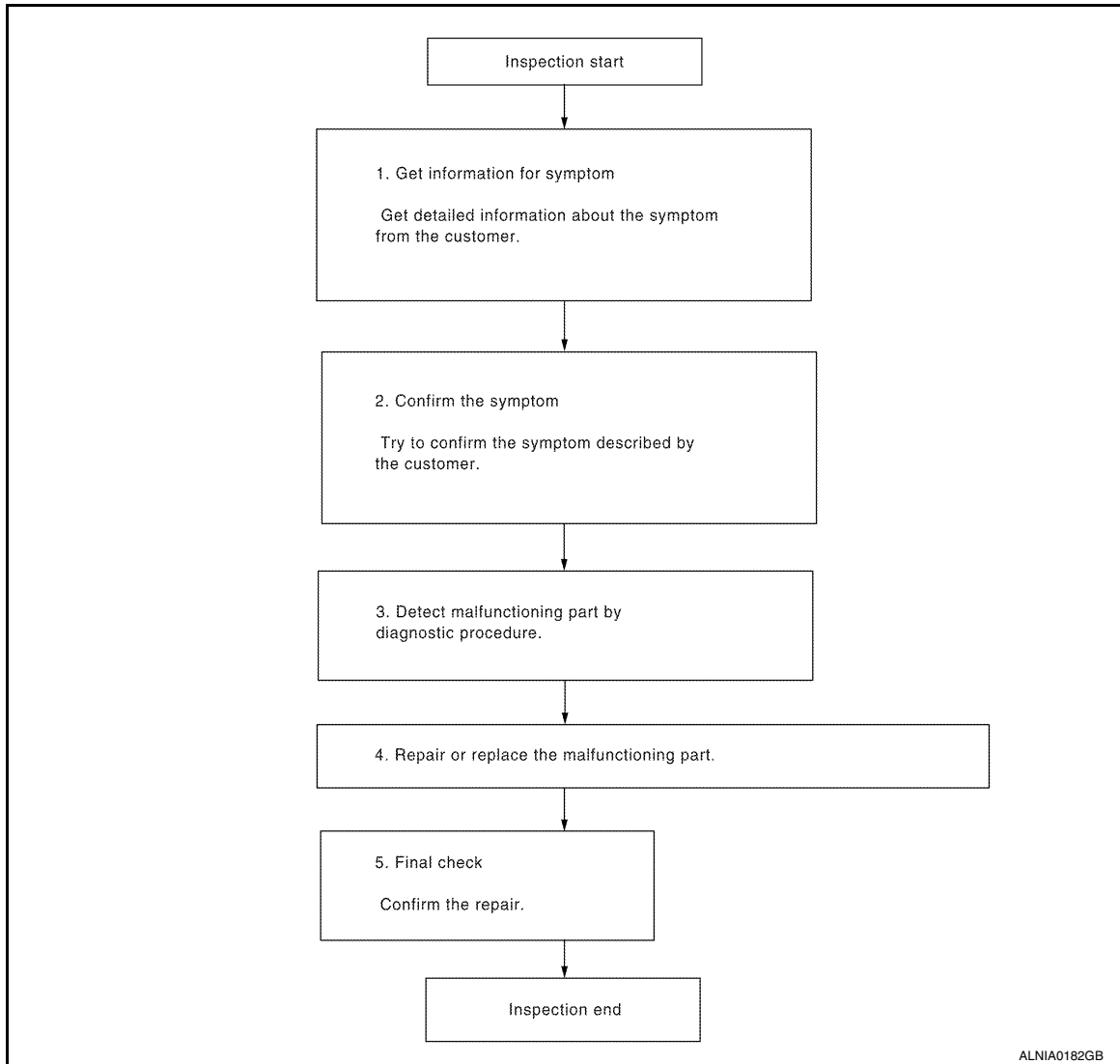
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000009758850

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[DISPLAY AUDIO WITHOUT BOSE]

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.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:000000009758851

Regarding Wiring Diagram information, refer to [AV-88, "Wiring Diagram"](#).

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	18 (10A)
19	Battery power supply	26 (15A)

Are the fuses blown?

- YES >> Replace the blown fuse after repairing the affected circuit.
NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M92.
3. Check voltage between audio unit connector M92 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M92	7	—	Ignition switch: ON	Battery voltage
	19		Ignition switch: OFF	

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair or replace harness or connectors.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M93.
3. Check continuity between audio unit connectors and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M92	20	—	Yes
M93	47		

Is the inspection result normal?

- YES >> Inspection End.
NO >> Repair or replace harness or connectors.

BLUETOOTH® CONTROL UNIT

BLUETOOTH® CONTROL UNIT : Diagnosis Procedure

INFOID:000000009758852

Regarding Wiring Diagram information, refer to [AV-88, "Wiring Diagram"](#).

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

1. CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
1	Battery power supply	26 (15A)
2	ACC power supply	18 (10A)
3	Ignition signal	5 (10A)

Are the fuses blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector M45.
3. Check voltage between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M45	1	—	Ignition switch: OFF	Battery voltage
	2		Ignition switch: ACC	
	3		Ignition switch: ON	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminal		
M45	4	—	Yes
	21		
	22		
	24		

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:000000009758853

Regarding Wiring Diagram information, refer to [AV-88. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M92 and suspect front door speaker connector.
2. Check continuity between audio unit connector M92 and suspect front door speaker connector.

Audio unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M92	2	D10 (LH)	1	Yes
	3		2	
	11	D110 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M92 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M92	2	—	No
	3		
	11		
	12		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK FRONT DOOR SPEAKER SIGNAL

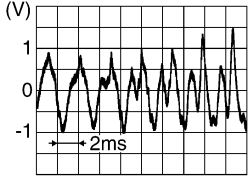
1. Connect audio unit connector M92 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M92.

Audio unit connector M92		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

2	3		
11	12	Audio signal output	

Is the inspection result normal?

- YES >> Replace front door speaker. Refer to [AV-124. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-122. "Removal and Installation"](#).

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

FRONT TWEETER

Diagnosis Procedure

INFOID:000000009758854

Regarding Wiring Diagram information, refer to [AV-88. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK FRONT TWEETER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M92 and suspect front tweeter connector.
2. Check continuity between audio unit connector M92 and suspect front tweeter connector.

Audio unit		Front tweeter		Continuity
Connector	Terminal	Connector	Terminal	
M92	2	M46 (LH)	1	Yes
	3		2	
	11	M47 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M92 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M92	2	—	No
	3		
	11		
	12		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK FRONT TWEETER SIGNAL

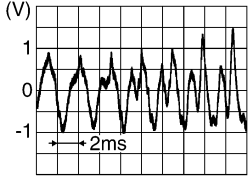
1. Connect audio unit connector M92 and suspect front tweeter connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M92.

Audio unit connector M92		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

2	3		
11	12	Audio signal output	

Is the inspection result normal?

- YES >> Replace front tweeter. Refer to [AV-123. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-122. "Removal and Installation"](#).

REAR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

REAR SPEAKER

Diagnosis Procedure

INFOID:000000009758855

Regarding Wiring Diagram information, refer to [AV-88. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK REAR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M92 and suspect rear speaker connector.
2. Check continuity between audio unit connector M92 and suspect rear speaker connector.

Audio unit		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
M92	4	B40 (LH)	1	Yes
	5		2	
	13	B38 (RH)	1	
	14		2	

3. Check continuity between audio unit connector M92 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M92	4	—	No
	5		
	13		
	14		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK REAR SPEAKER SIGNAL

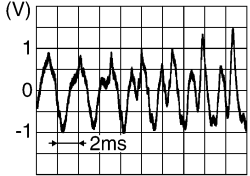
1. Connect audio unit connector M92 and suspect rear speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M92.

Audio unit connector M92		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

REAR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

4	5	Audio signal output	
13	14		

SKIB3609E

Is the inspection result normal?

- YES >> Replace rear speaker. Refer to [AV-125. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-122. "Removal and Installation"](#).

BLUETOOTH® VOICE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

BLUETOOTH® VOICE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009758856

Regarding Wiring Diagram information, refer to [AV-88. "Wiring Diagram"](#).

1. CHECK BLUETOOTH® VOICE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M93 and Bluetooth® control unit connector M45.
3. Check continuity between audio unit connector M93 and Bluetooth® control unit connector M45.

Audio unit		Bluetooth® control unit		Continuity
Connector	Terminal	Connector	Terminal	
M93	25	M45	9	Yes

4. Check continuity between audio unit connector M93 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M93	25	—	No

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK BLUETOOTH® VOICE SIGNAL GROUND CIRCUIT CONTINUITY

Check continuity between audio unit connector M93 and Bluetooth® control unit connector M45.


Audio unit		Bluetooth® control unit		Continuity
Connector	Terminal	Connector	Terminal	
M93	24	M45	10	Yes

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK BLUETOOTH® VOICE SIGNAL

1. Connect audio unit connector M93 and Bluetooth® control unit connector M45.
2. Turn ignition switch to ACC.
3. Press  switch.
4. Check signal between the terminals of audio unit connector M93.


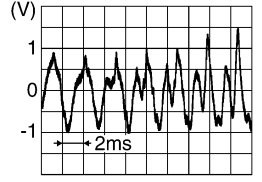
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BLUETOOTH® VOICE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

Audio unit connector M93		Condition	Reference value
(+) Terminal	(-) Terminal		
25	24	During voice guide output with  switch pressed.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>

Is the inspection result normal?

- YES >> Replace Bluetooth® control unit. Refer to [AV-134. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-122. "Removal and Installation"](#).

BLUETOOTH® CONTROL SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

BLUETOOTH® CONTROL SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009758857

Regarding Wiring Diagram information, refer to [AV-88. "Wiring Diagram"](#).

1. CHECK CONTROL SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector M45.
3. Check continuity between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminals		
M45	4	—	Yes
	21		
	22		
	24		

Is the inspection result normal?

- YES >> Replace Bluetooth® control unit. Refer to [AV-134. "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

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MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009758858

Regarding Wiring Diagram information, refer to [AV-88. "Wiring Diagram"](#).

1. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector M45 and microphone connector R4.
3. Check continuity between Bluetooth® control unit connector M45 and microphone connector R4.

Bluetooth® control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M45	7	R4	1	Yes
	8		2	
	29		4	

4. Check continuity between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminal		
M45	7	—	No
	29		

Are continuity results as specified?

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

2. CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth® control unit connector M45 and microphone connector R4.
2. Turn ignition switch ON.
3. Check voltage between microphone connector R4 and ground.

Microphone		Ground	Voltage (Approx.)
(+)			
Connector	Terminal		
R4	29	—	5V

Is the voltage reading as specified?

- YES >> GO TO 3
NO >> Replace Bluetooth® control unit. Refer to [AV-134. "Removal and Installation"](#).

3. CHECK MICROPHONE SIGNAL

Check signal between terminals of Bluetooth® control unit connector M45.

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

Bluetooth® control unit connector M45		Condition	Reference value
(+) Terminal	(-) Terminal		
7	8	Speak into microphone.	

Were voltage readings as specified?

YES >> Replace Bluetooth® control unit. Refer to [AV-134. "Removal and Installation"](#).

NO >> Replace microphone. Refer to [AV-135. "Removal and Installation"](#).

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STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

STEERING SWITCH





Diagnosis Procedure

INFOID:000000009758859

Regarding Wiring Diagram information, refer to [AV-88. "Wiring Diagram"](#).

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch (spiral cable) connector M79.
3. Check resistance between the terminals of combination switch (spiral cable) connector M79.

Combination switch (spiral cable) connector M79		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress Δ switch.	121
		Depress ∇ switch.	321
		Depress  switch.	723
15		Depress $-$  switch.	1
		Depress  + switch.	121
		Depress  switch.	321

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering switches. Refer to [AV-208. "Removal and Installation"](#).

2. CHECK HARNESS BETWEEN BLUETOOTH[®] CONTROL UNIT AND COMBINATION SWITCH (SPIRAL CABLE)

1. Disconnect Bluetooth[®] control unit connector M45 and combination switch (spiral cable) connector M80.
2. Check continuity between Bluetooth[®] control unit connector M45 and combination switch (spiral cable) connector M80.

Bluetooth [®] control unit		Combination switch (spiral cable)		Continuity
Connector	Terminal	Connector	Terminal	
M45	12	M80	24	Yes
	13		31	
	14		33	

3. Check continuity between Bluetooth[®] control unit connector M45 and ground.

Bluetooth [®] control unit		Ground	Continuity
Connector	Terminal		
M45	12	—	No
	13		
	14		

Is the inspection result normal?

YES >> GO TO 3.

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

NO >> Repair or replace harness or connectors.

3. CHECK COMBINATION SWITCH (SPIRAL CABLE)

Check continuity between combination switch (spiral cable) connectors M79 and M80.

Combination switch (spiral cable)				Continuity
Connector	Terminal	Connector	Terminal	
M79	14	M80	24	Yes
	15		31	
	17		33	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace combination switch (spiral cable). Refer to [SR-16. "Removal and Installation"](#).

4. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND AUDIO UNIT

1. Disconnect audio unit connector M92.
2. Check continuity between Bluetooth® control unit connector M45 and audio unit connector M92.

Bluetooth® control unit		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
M45	17	M92	6	Yes
	18		16	
	19		15	

3. Check continuity between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminal		
M45	17	—	No
	18		
	19		

Is the inspection result normal?

YES >> Replace audio unit. Refer to [AV-203. "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

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USB CONNECTOR

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

USB CONNECTOR

Diagnosis Procedure

INFOID:000000009758860

Regarding Wiring Diagram information, refer to [AV-88. "Wiring Diagram"](#).

1. CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M97 and USB interface connector M132.
3. Check continuity between audio unit connector M97 and USB interface connector M132.

Audio unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M97	53	M132	2	Yes
	54		1	
	55		4	
	56		3	
	57		5	

4. Check continuity between audio unit connector M97 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M97	53	Ground	No
	55		

Is the inspection result normal?

- YES >> Replace the USB interface. Refer to [AV-132. "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:000000009758861

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-77, "On Board Diagnosis Function" .
No sound comes out or the level of the sound is low.	No sound from all speakers.	<ul style="list-style-type: none"> • Speaker circuit shorted to ground. Refer to AV-88, "Wiring Diagram". • Audio unit power supply and ground circuits malfunction. Refer to AV-101, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, rear speaker LH, rear speaker RH) does not output sound.	<ul style="list-style-type: none"> • Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: <ul style="list-style-type: none"> - AV-103, "Diagnosis Procedure" (front door speaker). - AV-105, "Diagnosis Procedure" (front tweeter). - AV-107, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. Refer to: <ul style="list-style-type: none"> - AV-124, "Removal and Installation" (front door speaker). - AV-123, "Removal and Installation" (front tweeter). - AV-125, "Removal and Installation" (rear speaker). • Malfunction in audio unit. Refer to AV-77, "On Board Diagnosis Function".

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AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in audio unit. Refer to AV-77, "On Board Diagnosis Function" .
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, rear speaker LH, rear speaker RH).	<ul style="list-style-type: none"> • Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: <ul style="list-style-type: none"> - AV-103, "Diagnosis Procedure" (front door speaker). - AV-105, "Diagnosis Procedure" (front tweeter). - AV-107, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: <ul style="list-style-type: none"> - AV-124, "Removal and Installation" (front door speaker). - AV-123, "Removal and Installation" (front tweeter). - AV-125, "Removal and Installation" (rear speaker). • Malfunction in audio unit. Refer to AV-77, "On Board Diagnosis Function".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna or antenna feeder. Refer to AV-127, "Location of Antenna" .
No radio reception or poor reception.	<ul style="list-style-type: none"> • Other audio sounds are normal. • Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises). 	<ul style="list-style-type: none"> • Antenna amp. ON signal circuit malfunction. Refer to AV-83, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-127, "Location of Antenna".
No satellite radio reception.	Satellite radio antenna malfunction.	<ul style="list-style-type: none"> • Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-127, "Location of Antenna".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

- Before performing diagnosis, confirm that the cellular phone being used by the customer is compatible with the vehicle.
- It is possible that a malfunction is occurring due to a version change of the phone even though the phone is a compatible type. This can be confirmed by changing the cellular phone to another compatible type, and check that it operates normally. It is important to determine whether the cause of the malfunction is the vehicle or the cellular phone.

Check Compatibility

1. Make sure the customer's Bluetooth[®] related concern is understood.
2. Verify the customer's concern.

NOTE:

The customer's phone may be required, depending upon their concern.

3. Write down the customer's phone brand, model and service provider.

NOTE:









AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.

4. Go to "www.nissanusa.com/bluetooth/".
 - a. Using the website's search engine, find out if the customer's phone is on the approved list.
 - b. If the customer's phone is NOT on the approved list:
Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.
 - c. If the feature related to the customer's concern shows as "N" (not compatible):
Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".
 - d. If the feature related to the customer's concern shows as "Y" (compatible):
Perform diagnosis as per the following table.

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	
Hands-free phone cannot be established.	<ul style="list-style-type: none"> • Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation. 	Malfunction in audio unit. Replace audio unit. Refer to AV-122, "Removal and Installation" .
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-112, "Diagnosis Procedure" .
The system cannot be operated.	<ul style="list-style-type: none"> • The voice recognition can be controlled. • Steering switch's , , and  switch works, but  does not work. 	Steering switch malfunction. Replace steering switch. Refer to AV-126, "Removal and Installation" .
	Steering switch's  ,  ,  , and  switches do not work.	Steering switch signal circuit malfunction. Refer to AV-114, "Diagnosis Procedure" .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-114, "Diagnosis Procedure" .

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

NORMAL OPERATING CONDITION

Description

INFOID:000000009758862

RELATED TO NOISE

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

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

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

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

NOTE:

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

Type of Noise and Possible Cause

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	<p>Some Bluetooth[®] enabled cellular phones may not be recognized by the in-vehicle phone module.</p> <p>Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in AV-117, "Symptom Table".</p>
Cannot use hands-free phone.	<p>Customer will not be able to use a hands-free phone under the following conditions:</p> <ul style="list-style-type: none"> • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. <p>NOTE:</p> <p>While a cellular phone is connected through the Bluetooth[®] wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth[®] Hands-Free Phone System cannot charge cellular phones.</p>

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

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AUDIO UNIT

< REMOVAL AND INSTALLATION >

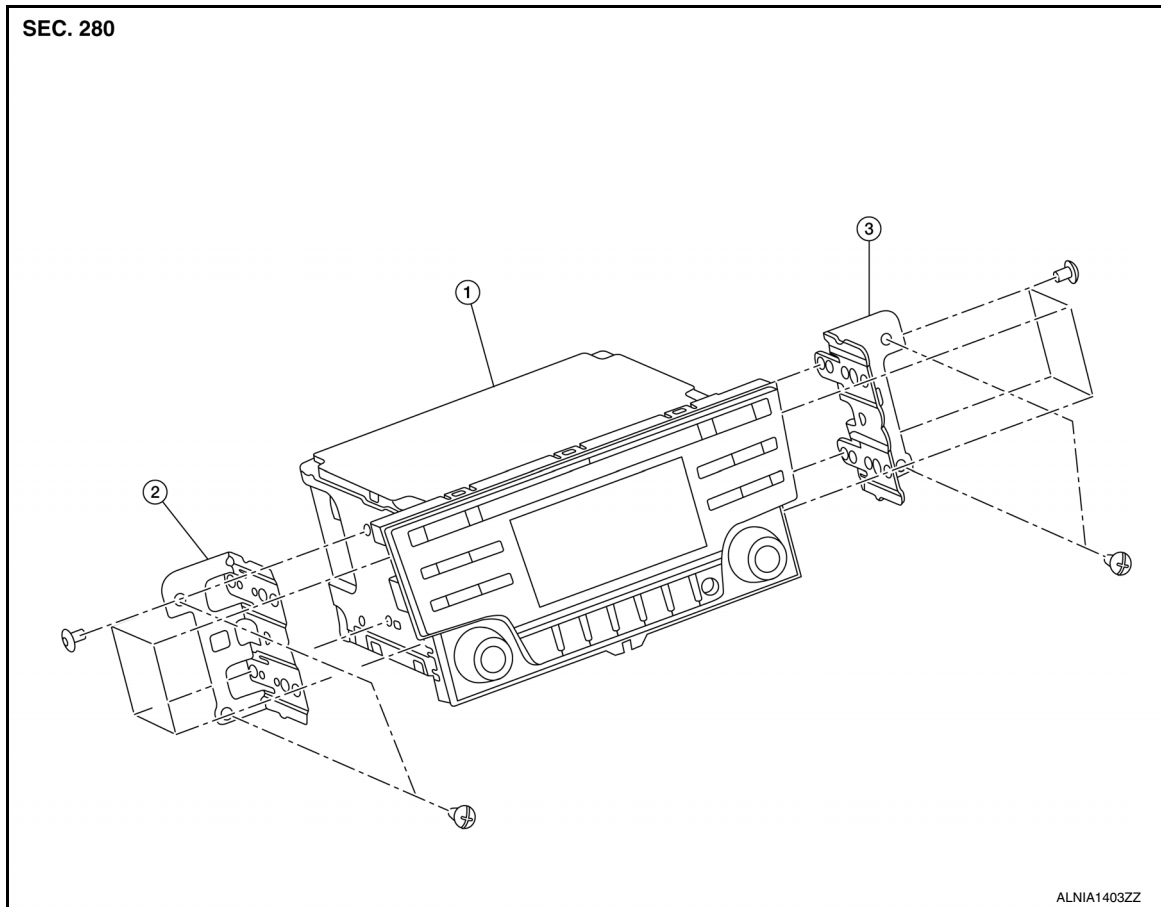
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REMOVAL AND INSTALLATION

AUDIO UNIT

Exploded View

INFOID:000000009758863



1. Audio unit

2. Audio unit bracket (LH)

3. Audio unit bracket (RH)

Removal and Installation

INFOID:000000009758864

REMOVAL

1. Disconnect the negative battery terminal. Refer to [PG-50. "Removal and Installation \(Battery\)"](#).
2. Remove cluster lid C lower. Refer to [IP-20. "Removal and Installation - Cluster Lid C Lower"](#).
3. Remove the audio unit screws, then pull out the audio unit.
4. Disconnect the harness connectors from the audio unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

FRONT TWEETER

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT BOSE]

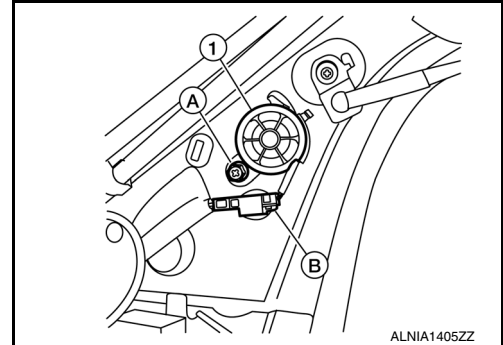
FRONT TWEETER

Removal and Installation

INFOID:000000009758865

REMOVAL

1. Remove the front pillar finisher. Refer to [INT-24. "FRONT PILLAR FINISHER : Removal and Installation"](#).
2. Disconnect the harness connector (B) from the front tweeter speaker.
3. Remove the front tweeter speaker screw (A) from the front tweeter speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

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AV

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT BOSE]

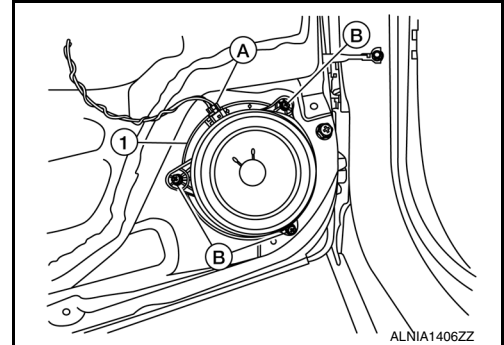
FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000009758866

REMOVAL

1. Remove the front door finisher. Refer to [INT-15, "Removal and Installation"](#).
2. Remove the front door speaker screws (B).
3. Disconnect the harness connector (A) from the front door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

REAR SPEAKER

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT BOSE]

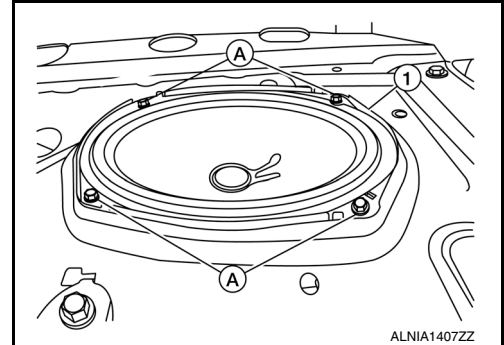
REAR SPEAKER

Removal and Installation

INFOID:000000009758867

REMOVAL

1. Remove the rear parcel shelf finisher. Refer to [INT-33, "Removal and Installation"](#).
2. Remove the rear speaker screws (A).
3. Disconnect the harness connector from the rear speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

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STEERING SWITCH

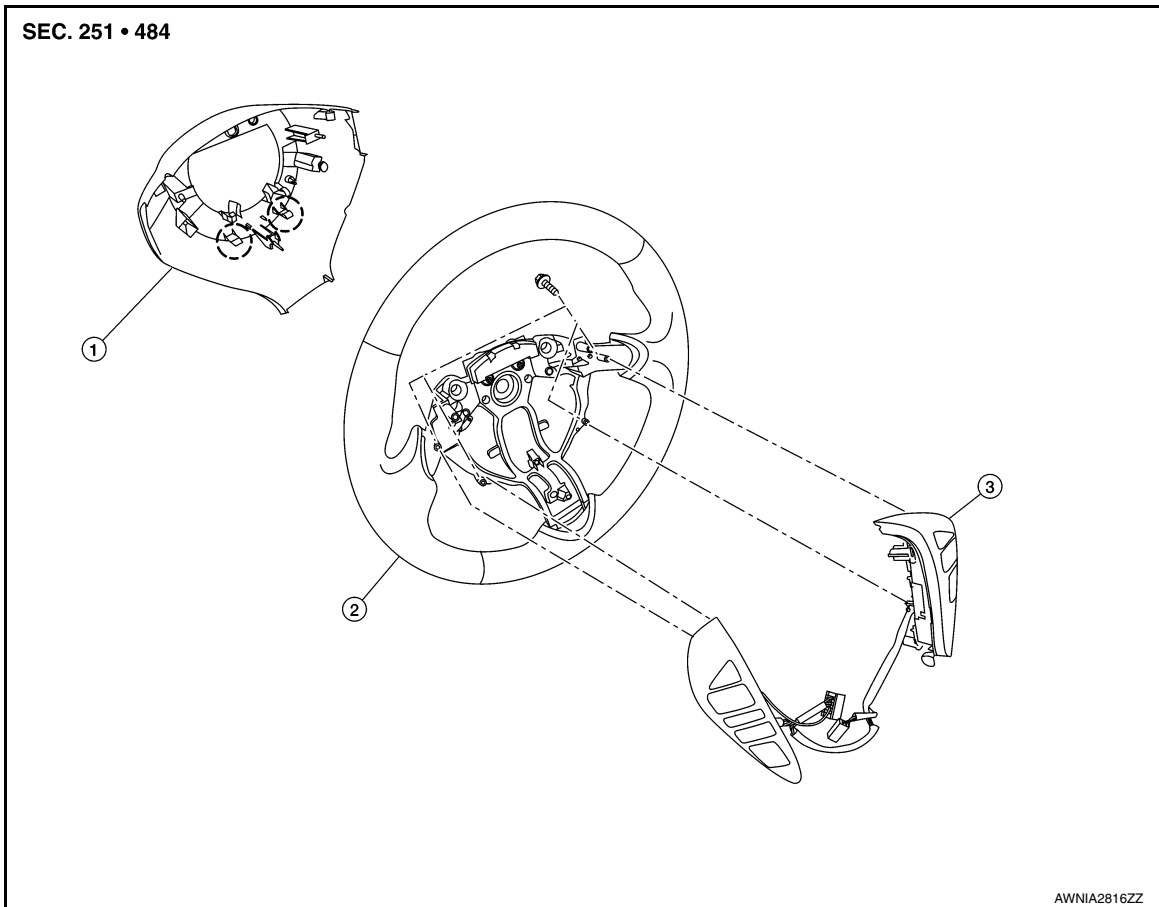
< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT BOSE]

STEERING SWITCH

Exploded View

INFOID:000000009758868



1. Steering wheel rear finisher

2. Steering wheel

3. Steering switches

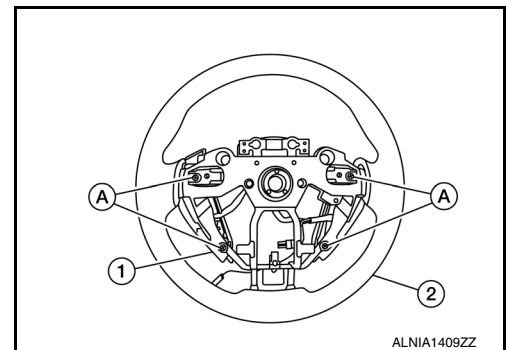
○ Pawl

Removal and Installation

INFOID:000000009758869

REMOVAL

1. Remove the steering wheel. Refer to [ST-10. "Removal and Installation"](#).
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (A).
4. Remove the steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

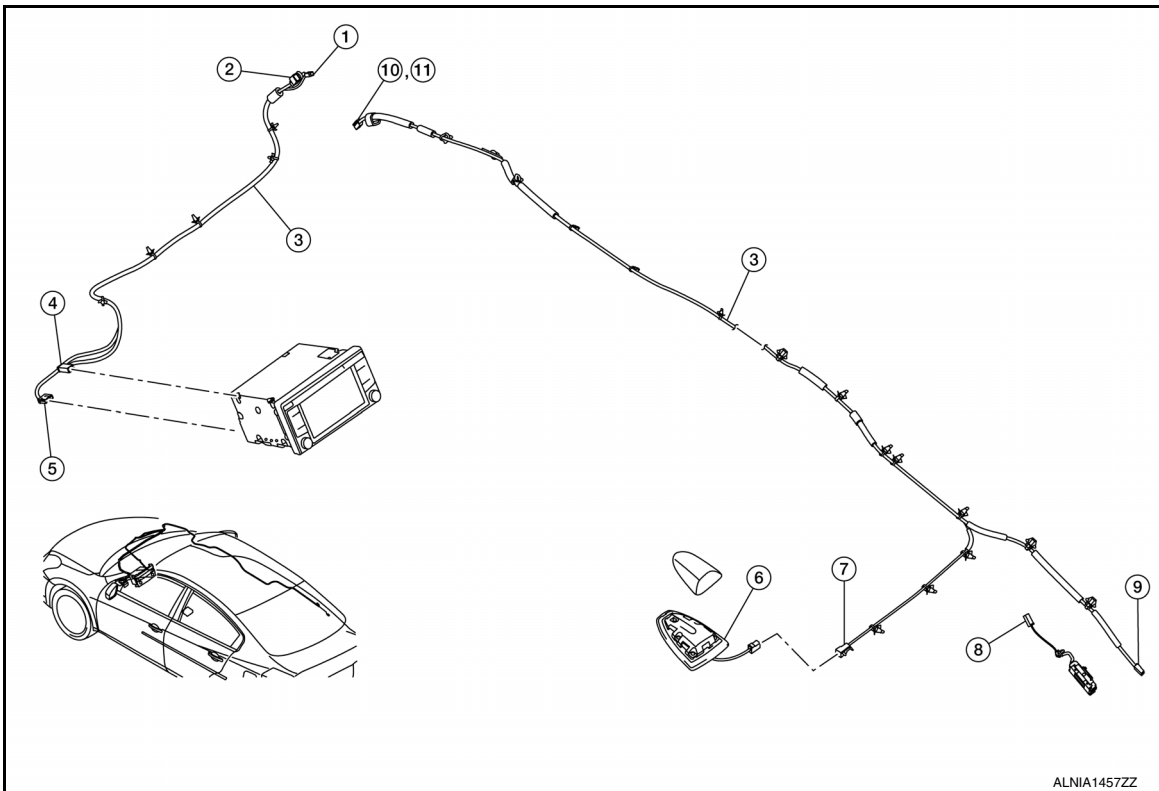
< REMOVAL AND INSTALLATION >

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ANTENNA FEEDER

Location of Antenna

INFOID:000000009758870



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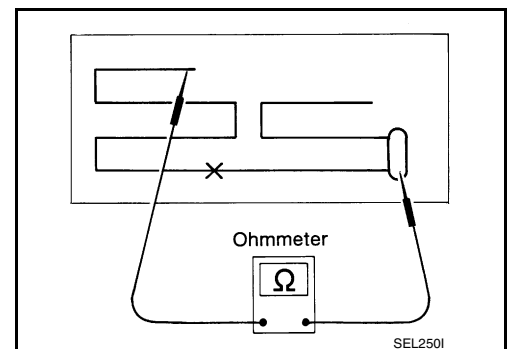
- | | | |
|----------|----------|----------------------|
| 1. M112 | 2. M107 | 3. Antenna feeder |
| 4. M146 | 5. M139 | 6. Satellite antenna |
| 7. M504 | 8. M503 | 9. M502 |
| 10. M500 | 11. M501 | |

Window Antenna Repair

INFOID:000000009758871

ELEMENT CHECK

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



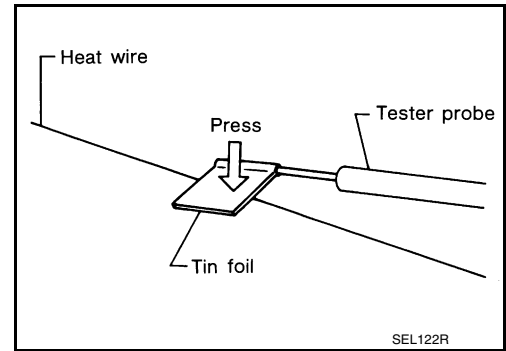
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ANTENNA FEEDER

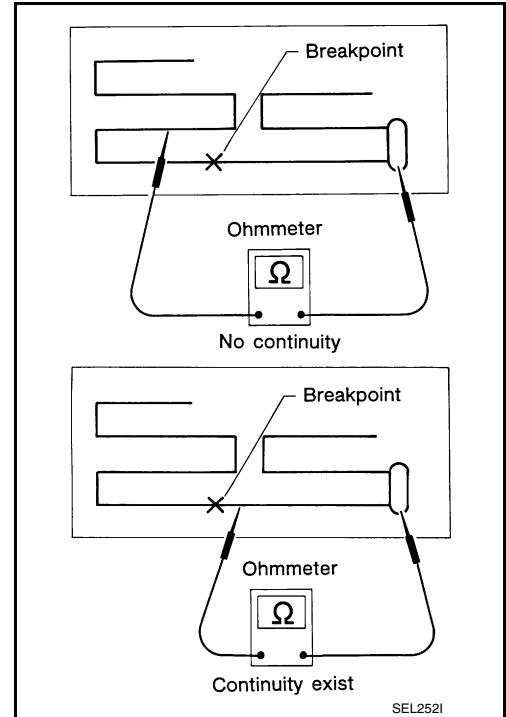
< REMOVAL AND INSTALLATION >

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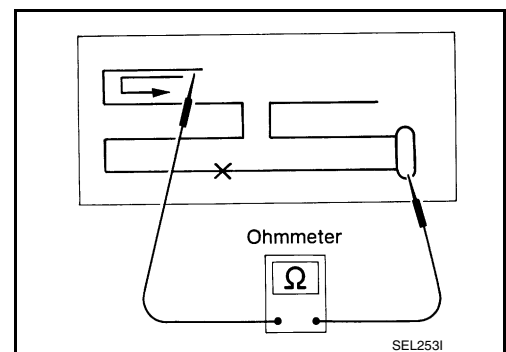
- When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



2. If an element is broken, no continuity will exist.



3. To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.



REPAIR EQUIPMENT

- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

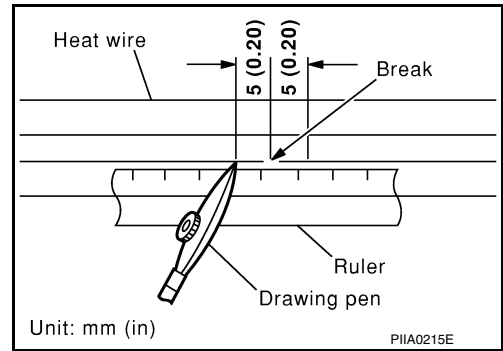
REPAIRING PROCEDURE

ANTENNA FEEDER

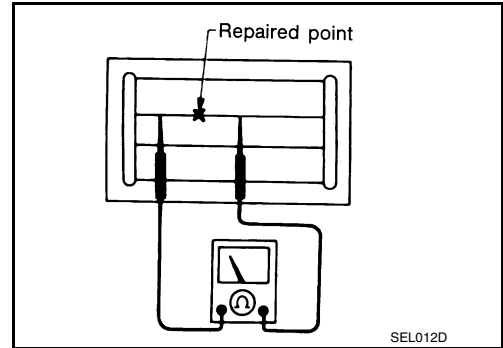
< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT BOSE]

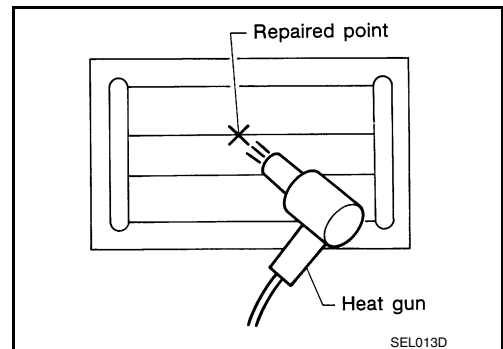
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen. Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.



4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited. Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.



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ANTENNA AMP.

< REMOVAL AND INSTALLATION >

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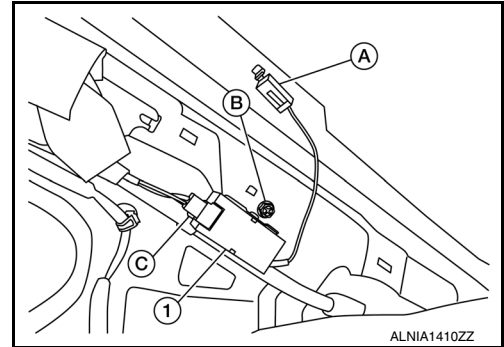
ANTENNA AMP.

Removal and Installation

INFOID:000000009758872

REMOVAL

1. Remove the rear pillar finisher (RH). Refer to [INT-29. "REAR PILLAR FINISHER : Removal and Installation"](#).
2. Disconnect the antenna amp. harness connector (A) from the rear window glass.
3. Disconnect the harness connector (C) from the antenna amp. (1).
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

WINDOW ANTENNA

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT BOSE]

WINDOW ANTENNA

Removal and Installation

INFOID:000000010296643

The window antenna is serviced as an assembly with the filament. Refer to [DEF-47. "Inspection and Repair"](#).

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USB CONNECTOR

< REMOVAL AND INSTALLATION >

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USB CONNECTOR

Removal and Installation

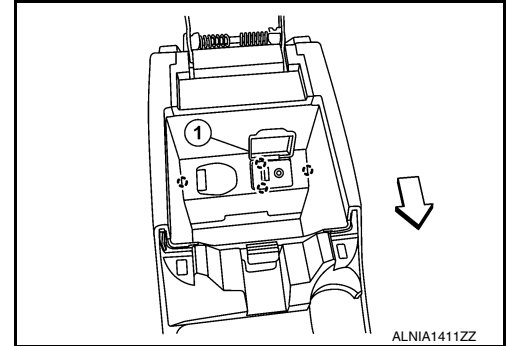
INFOID:000000009758873

Removal

1. Remove the center console rear finisher cover. Refer to [IP-23, "Exploded View"](#).
2. Release the pawls and remove the USB connector (1) from the center console rear finisher cover.

○: Pawl

◀: Front



Installation

Installation is in the reverse order of removal.

SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT BOSE]

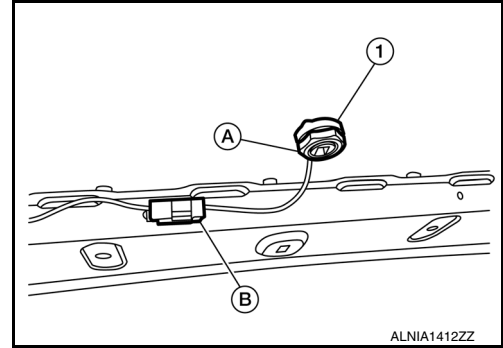
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:000000009758874

REMOVAL

1. Lower the headlining at the rear. Refer to [INT-38, "Exploded View"](#).
2. Remove the satellite radio antenna nut (A).
3. Disconnect the harness connector (B) from the satellite radio antenna (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

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BLUETOOTH CONTROL UNIT

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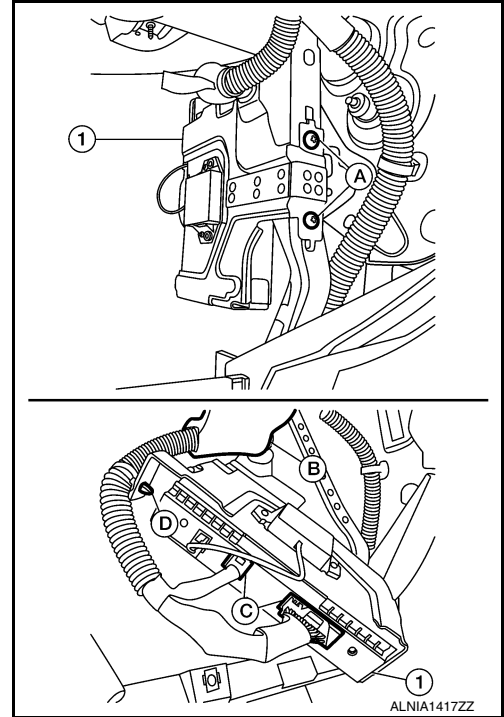
BLUETOOTH CONTROL UNIT

Removal and Installation

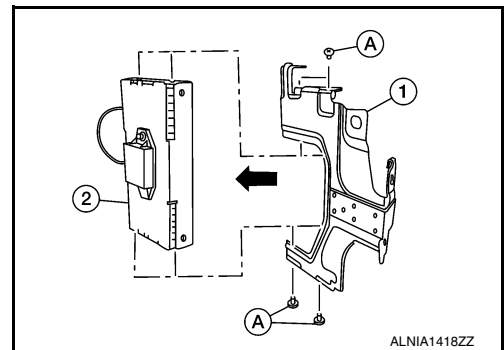
INFOID:000000009758875

REMOVAL

1. Remove the glove box assembly. Refer to [IP-22. "Removal and Installation"](#).
2. Remove the Bluetooth control unit screws (A) and position aside the Bluetooth control unit assembly (1).
3. Disconnect the Bluetooth control unit connectors (C) and release the harness retainer (B) from the Bluetooth control unit bracket.
4. Release the harness clip (D) from the Bluetooth control unit bracket and remove the Bluetooth control unit (1).



5. Remove the Bluetooth control unit bracket screws (A), then remove the Bluetooth control unit (2) from the Bluetooth control unit bracket (1).



INSTALLATION

Installation is in the reverse order of removal.

MICROPHONE

< REMOVAL AND INSTALLATION >

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MICROPHONE

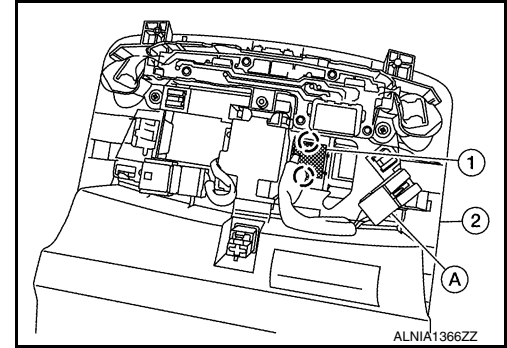
Removal and Installation

INFOID:000000009758876

REMOVAL

1. Remove the front room/map lamp assembly. Refer to [INL-52. "Removal and Installation"](#).
2. Disconnect the microphone connector (A) from the front room/map lamp assembly (2).
3. Release the microphone pawls, then remove the microphone (1).

○: Pawl



INSTALLATION

Installation is in the reverse order of removal.

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PRECAUTION

PRECAUTIONS

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

INFOID:000000010296646

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. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Precaution for Trouble Diagnosis

INFOID:000000009758878

AV COMMUNICATION SYSTEM

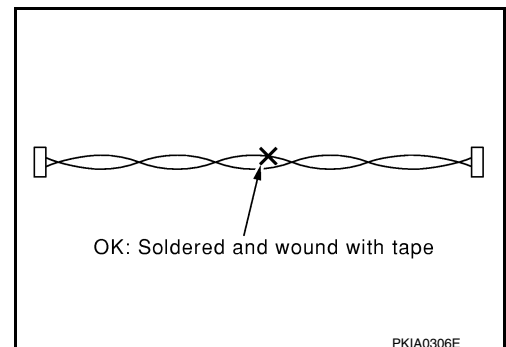
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

INFOID:000000009758879

AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]

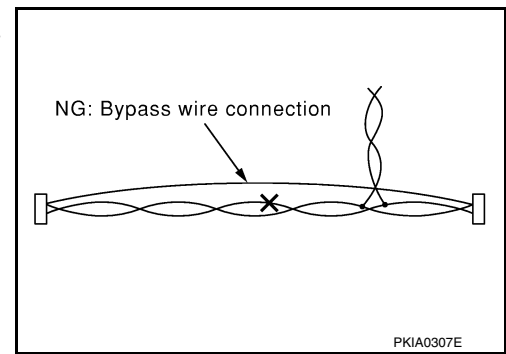


PRECAUTIONS

< PRECAUTION >

[DISPLAY AUDIO WITH BOSE]

- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)



Precaution for Work

INFOID:000000009758880

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
 - Water soluble dirt:
 - Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
 - Then rub with a soft, dry cloth.
 - Oily dirt:
 - Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
 - Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
 - Then rub with a soft, dry cloth.
 - Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
 - For genuine leather seats, use a genuine leather seat cleaner.

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PREPARATION

< PREPARATION >

[DISPLAY AUDIO WITH BOSE]

PREPARATION

PREPARATION

Special Service Tools

INFOID:000000009758881

The actual shape of the tools may differ from those illustrated here.

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

AWJIA0483ZZ

Commercial Service Tools

INFOID:000000009758882

Tool name	Description
Power tool	Loosening nuts, screws and bolts

PIIB1407E

COMPONENT PARTS

< SYSTEM DESCRIPTION >

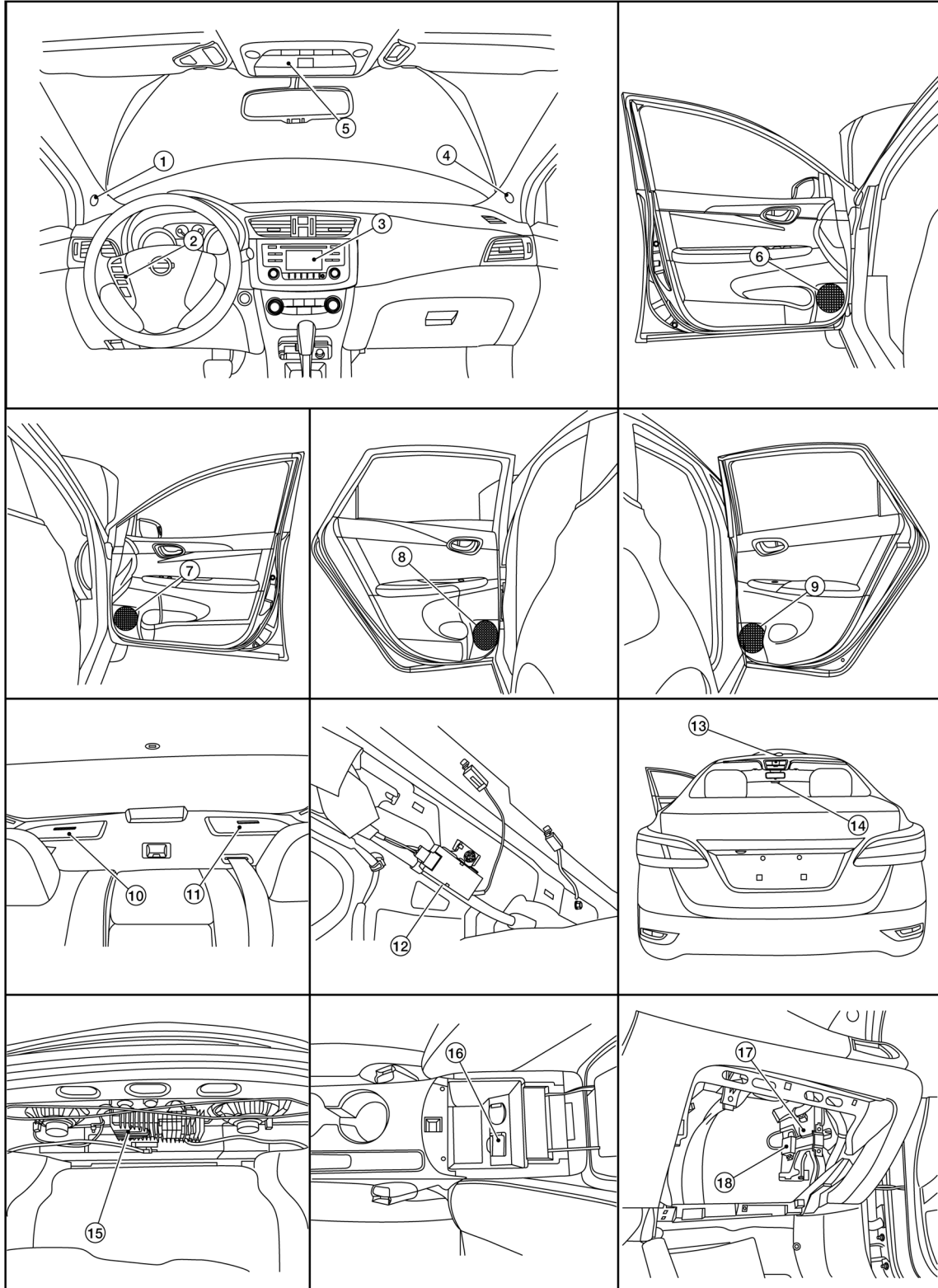
[DISPLAY AUDIO WITH BOSE]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:00000009758883



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COMPONENT PARTS

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITH BOSE]

- | | | |
|--------------------------|-----------------------------|--------------------------|
| 1. Front tweeter LH | 2. Steering switches | 3. Audio unit |
| 4. Front tweeter RH | 5. Microphone | 6. Front door speaker LH |
| 7. Front door speaker RH | 8. Rear door speaker LH | 9. Rear door speaker RH |
| 10. Rear woofer RH | 11. Rear woofer LH | 12. Antenna amp. |
| 13. Satellite antenna | 14. Window antenna | 15. Bose speaker amp. |
| 16. USB interface | 17. Bluetooth® control unit | 18. Bluetooth® antenna |

Component Description

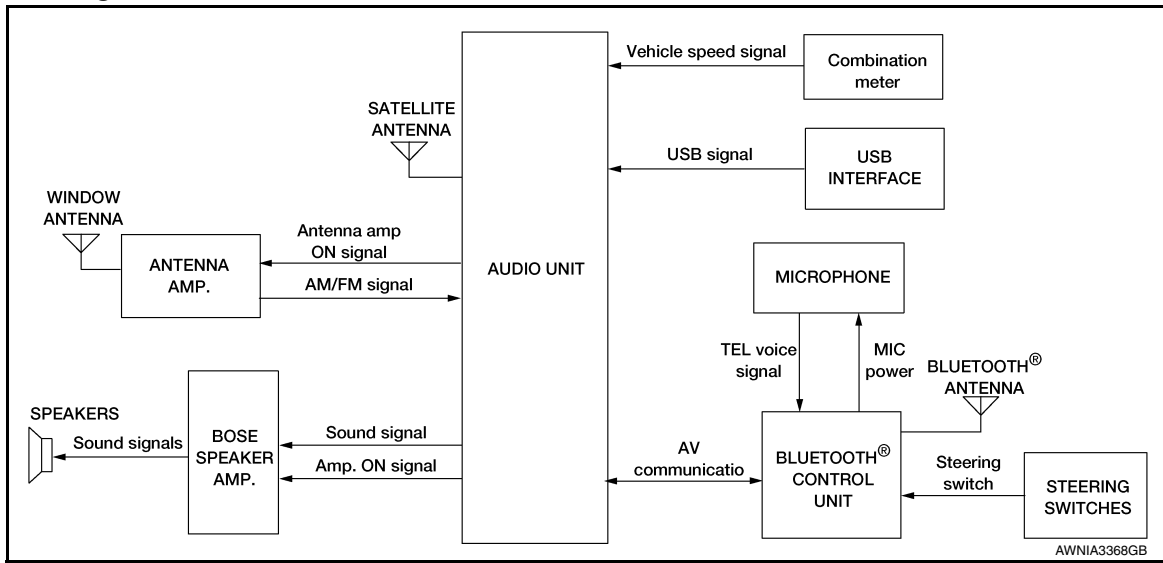
INFOID:000000009758884

Part name	Description
Audio unit	<ul style="list-style-type: none"> Controls audio, hands-free phone, USB connection, AUX IN connection and satellite radio and functions. Display unit is built in to audio unit.
Bose speaker amp.	Receives audio signals from audio unit and outputs audio signals to each speaker.
Front tweeters	Outputs high, mid and low range audio signals from Bose speaker amp.
Front door speakers	
Rear door speakers	
Rear woofers	
Steering switches	<ul style="list-style-type: none"> Operations for audio, hands-free phone and voice recognition are possible. Steering switch signal is output to Bluetooth® control unit. Bluetooth® control unit outputs steering switch signal to audio unit.
Microphone	<ul style="list-style-type: none"> Used for hands-free phone operations. Microphone signal is transmitted to Bluetooth® control unit. Power is supplied from Bluetooth® control unit.
USB interface	USB sound and data input signals are transmitted to audio unit.
Bluetooth® control unit	<ul style="list-style-type: none"> Inputs TEL voice signal from Bluetooth® antenna and outputs it to audio unit. Controlled via AV communication by audio unit.
Bluetooth® antenna	Receives TEL voice signal and outputs it to Bluetooth® control unit.
Satellite antenna	Satellite radio signal is received and transmitted to audio unit.
Antenna amp.	<ul style="list-style-type: none"> AM/FM signal received by window antenna is amplified and transmitted to audio unit. Power is supplied from audio unit.
Window antenna	AM/FM signal is received and transmitted to antenna amp.

SYSTEM

System Diagram

INFOID:000000009758885



System Description

INFOID:000000009758886

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Bose speaker amp.
- Front tweeters
- Front door speakers
- Rear door speakers
- Rear woofers
- Steering switches
- USB interface
- satellite antenna
- Antenna amp.
- Window antenna

When the audio system is on, AM/FM signals received by the window antenna are amplified by the antenna amp. and sent to the audio unit. The audio unit then sends audio signals to the Bose speaker amp. The Bose speaker amp. then sends audio signals to the front tweeters, front door speakers, rear door speakers and rear woofers.

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

HANDS-FREE PHONE SYSTEM

System Operation

NOTE:

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

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

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

Bluetooth® Control Unit

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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 20 seconds. If a phone is present in the vehicle and paired with the Bluetooth® control unit, Nissan Voice Recognition will then become active. Bluetooth® telephone functions can be turned off using the Nissan Voice Recognition system.

Steering Switches

When buttons on the steering switches 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 switches:

- 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 Bose speaker amp. The Bose speaker amp. then sends the audio signals to the speakers.

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.

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITH BOSE]

DIAGNOSIS SYSTEM (AUDIO UNIT)

Description

INFOID:000000009758887

The audio unit on board diagnosis performs the functions listed in the table below:

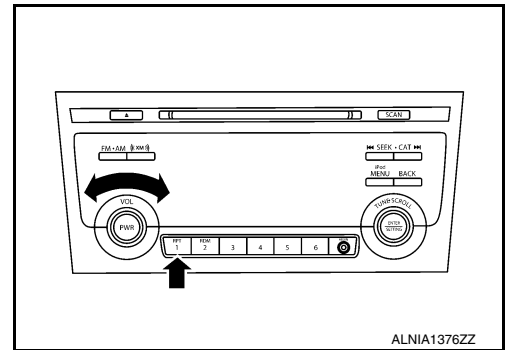
Mode		Description
Self Diagnosis		<ul style="list-style-type: none"> • Audio unit diagnosis. • Diagnoses the connections across system components.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, lights, reverse, EQ pin, destination and camera type.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera System	Displayed but not used.
	AV COMM Diagnosis	The communication condition of each unit of display audio system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Initialize Setting	Initializes the audio unit memory.

On Board Diagnosis Function

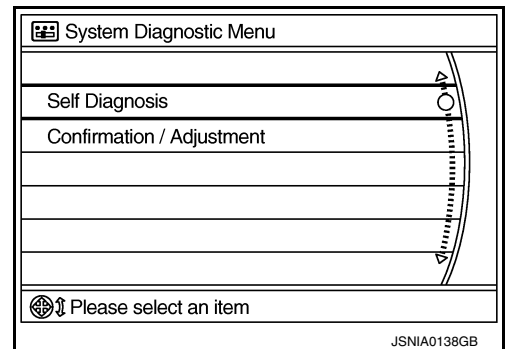
INFOID:000000009758888

METHOD OF STARTING

1. Turn the ignition ON.
2. Turn the audio system OFF.
3. While pressing the preset 1 button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. Shifting from current screen to previous screen is performed by pressing BACK button.



4. The trouble diagnosis initial screen is displayed, and Self Diagnosis or Confirmation/Adjustment can be selected.



SELF DIAGNOSIS MODE

Audio Unit Self Diagnosis

1. Select Self Diagnosis.

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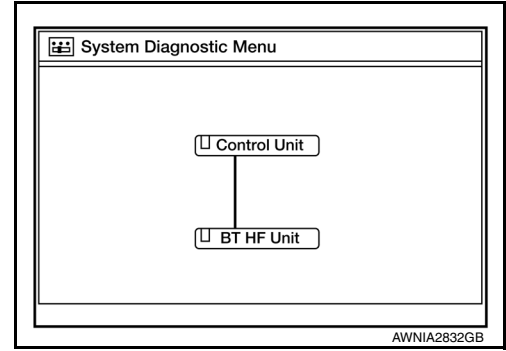
AV

DIAGNOSIS SYSTEM (AUDIO UNIT)

[DISPLAY AUDIO WITH BOSE]

< SYSTEM DESCRIPTION >

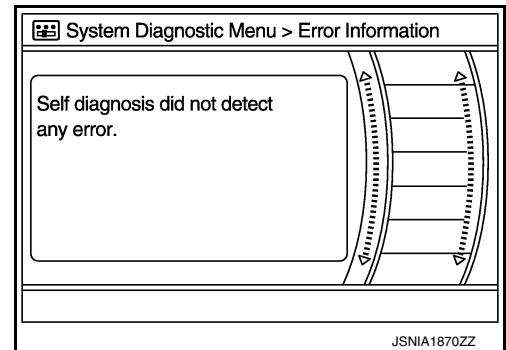
2. Self diagnosis screen is displayed. The bar graph visible in center of screen indicates progress of self diagnosis.
3. Diagnosis results are displayed after the self diagnosis is completed. The unit names and the connection lines are color coded according to the diagnostic results.



Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction ¹	Red	Green

1: Control unit (audio unit) is displayed in red.

- Replace audio unit if Self Diagnosis did not run because control unit malfunction is indicated. The symptom is audio unit internal error. Refer to [AV-203. "Removal and Installation"](#).
 - If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.
4. Comments of self diagnosis results can be viewed in the diagnosis result screen.



Audio Unit Self Diagnosis Results

Only Unit Part Is Displayed In Red		
Screen switch	Description	Possible cause
Control unit	Malfunction is detected in audio unit power supply and ground circuits.	<ul style="list-style-type: none"> • Audio unit power supply or ground circuits. Refer to AV-173. "AUDIO UNIT : Diagnosis Procedure". • If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to AV-203. "Removal and Installation".

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

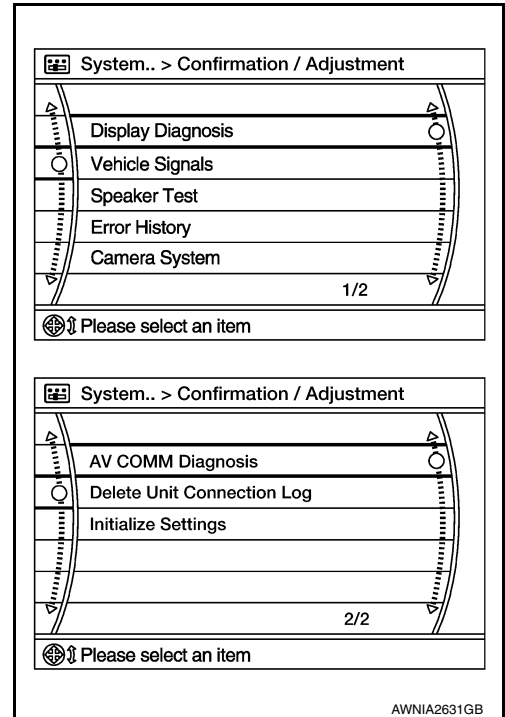
[DISPLAY AUDIO WITH BOSE]

A Connecting Cable Between Units Is Displayed In Yellow

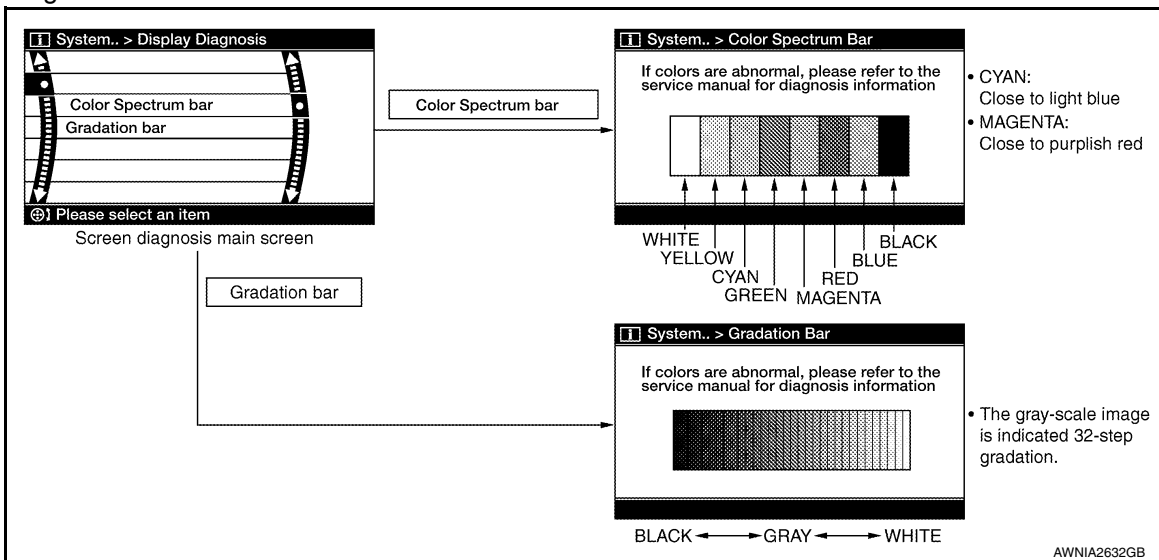
Area with yellow connection lines	Description	Possible cause
Control unit ↔ BT HF Unit	When one of the following is detected: <ul style="list-style-type: none"> malfunction is detected in Bluetooth® control unit power supply and ground circuits. malfunction is detected in AV communication circuits between audio unit and Bluetooth® control unit. 	<ul style="list-style-type: none"> Bluetooth® control unit power supply or ground circuits. Refer to AV-174. "BLUETOOTH® CONTROL UNIT : Diagnosis Procedure". AV communication circuits between audio unit and Bluetooth® control unit.

Audio Unit Confirmation/Adjustment

- Select Confirmation/Adjustment.
- Select each switch on the Confirmation/Adjustment screen to display the relevant trouble diagnosis screen. Press the BACK switch to return to the initial Confirmation/Adjustment screen.



Display Diagnosis



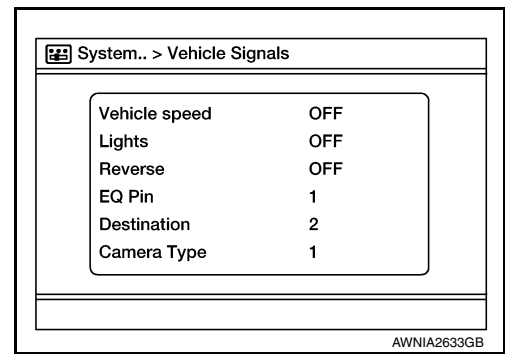
Vehicle Signals

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

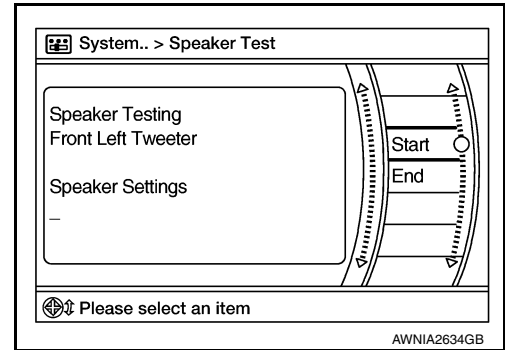
[DISPLAY AUDIO WITH BOSE]

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



Speaker Test

Select Speaker Test to display the Speaker Diagnosis screen. Press Start to generate a test tone in a speaker. Press Start again to generate a test tone in the next speaker. Press End to stop the test tones.



Error History

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

However, the diagnosis results are judged normal if an error has occurred before the ignition switch is turned ON and then no error has occurred until the self diagnosis start. Check the Error Record to detect any error that may have occurred before the self diagnosis start because of this situation.

The frequency of occurrence is displayed in a count up manner. The actual count up method differs depending on the error item.

Count up method A

- The counter is set to 40 if an error occurs. 1 is subtracted from the counter if the condition is normal at a next ignition ON cycle.
- The counter lower limit is 1. The counter can be reset (no error record display) with the Delete log switch.

Count up method B

- The counter increases by 1 if an error occurs when ignition switch is ON. The counter will not decrease even if the condition is normal at the next ignition ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. The counter can be reset (no error record display) with the Delete log switch.

Display type of occurrence frequency	Error history display item
Count up method A	AV communication line, control unit (AV)
Count up method B	Other than the above

Error item

Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITH BOSE]

Error item	Description	Possible cause
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	Replace the audio unit if the malfunction occurs constantly. Refer to AV-203, "Removal and Installation"
AV COMM CIRCUIT	When one of the following is detected: <ul style="list-style-type: none"> • malfunction is detected in Bluetooth® control unit power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and Bluetooth® control unit. 	<ul style="list-style-type: none"> • Bluetooth® control unit power supply or ground circuits. Refer to AV-174, "BLUETOOTH® CONTROL UNIT : Diagnosis Procedure". • AV communication circuits between audio unit and Bluetooth® control unit.

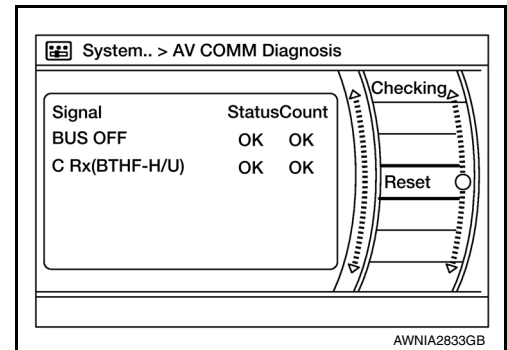
AV COMM Diagnosis

- Displays the communication status between audio unit (master unit) and Bluetooth® control unit.
- The error counter displays OK if any malfunction was not detected in the past and displays 0 if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if Reset is pressed.

Items	Status (Current)	Counter (Past)
BUS OFF	OK / ???	OK / 0 – 39
C Rx(BTHF-H/U)	OK / ???	OK / 0 – 39

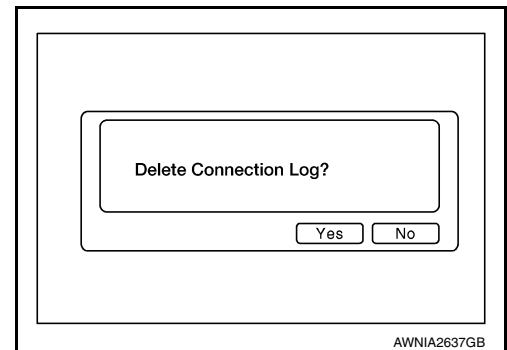
NOTE:

“???” indicates UNKWN.



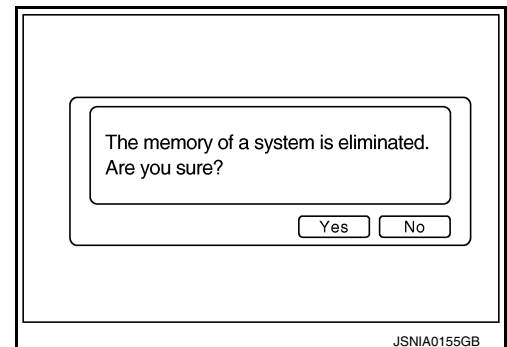
Delete Unit Connection Log

Deletes any unit connection records and error records from the audio unit memory (clears the records of the unit that has been removed).



Initialize Settings

Deletes data stored from the audio unit.



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DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITH BOSE]



DIAGNOSIS SYSTEM (BLUETOOTH® CONTROL UNIT)

Diagnosis Description


INFOID:000000009758889

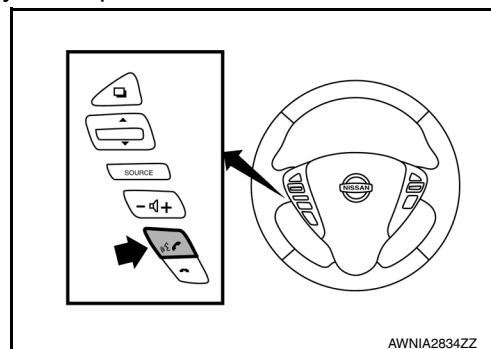
The Bluetooth® control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.



Bluetooth® CONTROL UNIT INITIALIZATION CHECKS

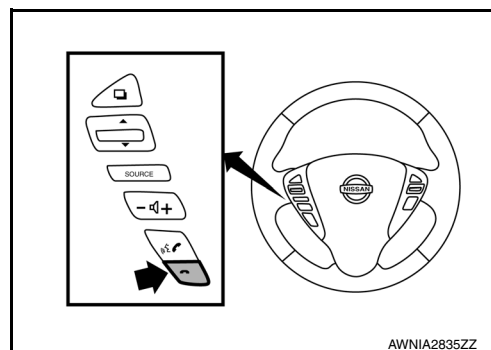
- Internal control unit failure
- Bluetooth® antenna connection open or shorted
- Steering wheel audio control switches [ (PHONE/SEND),  (PHONE/END)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth® inquiry check

OPERATION PROCEDURE

1. Turn ignition switch to ACC or ON.
2. Wait for the Bluetooth® system to complete initialization. This may take up to 20 seconds.
3. Press and hold the steering wheel audio control switch  (PHONE/SEND) 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  (PHONE/END) 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  (PHONE/END) button again until you hear prompts.
6. The Bluetooth® system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician. Refer to [AV-148, "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-148, "Work Flow"](#).



Work Flow

INFOID:000000009758890

Failure Message	Action
“Internal failure”	Replace Bluetooth® control unit. Refer to AV-217, "Removal and Installation" .
“Bluetooth® antenna open”	1. Inspect harness connection.
“Bluetooth® antenna shorted”	2. Replace Bluetooth® antenna. Refer to AV-217, "Removal and Installation" .
“Phone/Send for Hands Free System is stuck”	Check steering wheel audio control switches. Refer to AV-194, "Diagnosis Procedure" .
“Phone/End for the Hands Free System is stuck”	
“Microphone test” (failed interactive test)	1. Inspect harness between Bluetooth® control unit and microphone. 2. Replace microphone. Refer to AV-218, "Removal and Installation" .

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITH BOSE]

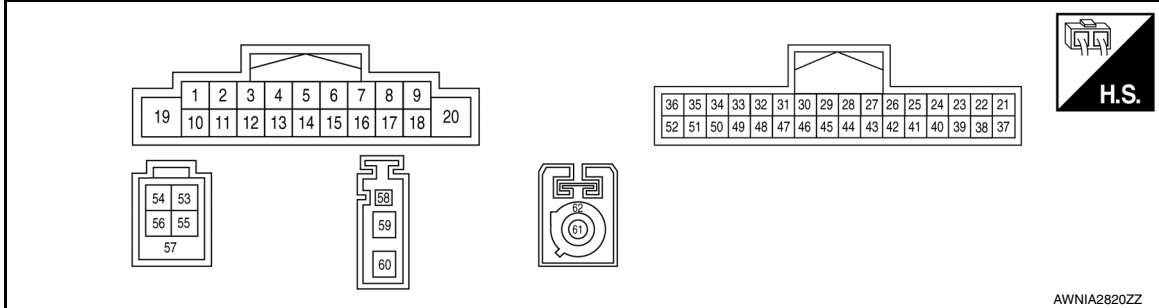
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

INFOID:000000009758891

TERMINAL LAYOUT



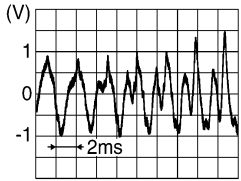
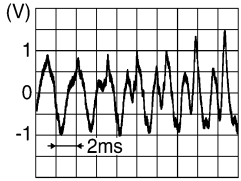



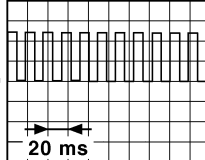

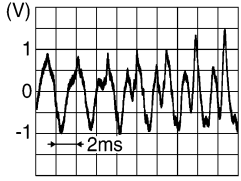
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
1 (GR)	Ground	BOSE amp. ON signal	Output	ACC	—	Battery voltage
2 (L)	3 (P)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
4 (LG)	5 (V)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIB3609E
6 (G)	15 (P)	Steering switch signal A	Input	Ignition switch ON	Press SOURCE switch	0V
					Press Δ switch	1.0V
					Press ∇ switch	2.0V
					Press \swarrow \searrow switch	3.0V
					Except above	5.0V
7 (P)	Ground	ACC power supply	Input	ACC	—	Battery voltage
9 (R)	8 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITH BOSE]

Terminal (Wire color)		Description	Condition		Reference value (Approx.)	
+	-	Signal name	Input/ Output	Ignition switch		Operation
11 (G)	12 (R)	Sound signal front speaker RH	Output	ON	Sound output  SKIB3609E	
13 (BR)	14 (Y)	Sound signal rear speaker RH	Output	ON	Sound output  SKIB3609E	
16 (LG)	15 (P)	Steering switch signal B	Input	Ignition switch ON	Press -  switch	0V
					Press  + switch	1.0V
					Press  switch	2.0V
					Except above	5.0V
18 (Y)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)  JSNIA0012GB	
19 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (B)	Ground	Ground	—	ON	—	0 V
25 (BR)	24 (GR)	TEL voice signal	Input	Ignition switch ON	During voice guide output with  switch pressed.	 SKIB3609E
26	—	Shield	—	—	—	—
28 (B)	—	M CAN2-H	Input/ Output	—	—	—
29 (R)	—	M CAN2-L	Input/ Output	—	—	—
31 (SB)	—	M CAN1-H	Input/ Output	—	—	—
32 (LG)	—	M CAN1-L	Input/ Output	—	—	—
46 (B)	Ground	EQ02 Ground	—	ON	—	0 V

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITH BOSE]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
47 (B)	Ground	EQ03 Ground	—	ON	—	0 V
53 (W)	—	V BUS signal	—	—	—	—
54 (G)	—	USB ground	—	—	—	—
55 (L)	—	USB D+ signal	—	—	—	—
56 (R)	—	USB D- signal	—	—	—	—
57	—	Shield	—	—	—	—
58 (B)	Ground	Antenna amp. ON signal	Input	ON	—	5.0 V
59 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V
61 (B)	Ground	Satellite antenna signal	Input	ON	—	5.0 V
62	—	Shield	—	—	—	—

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BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

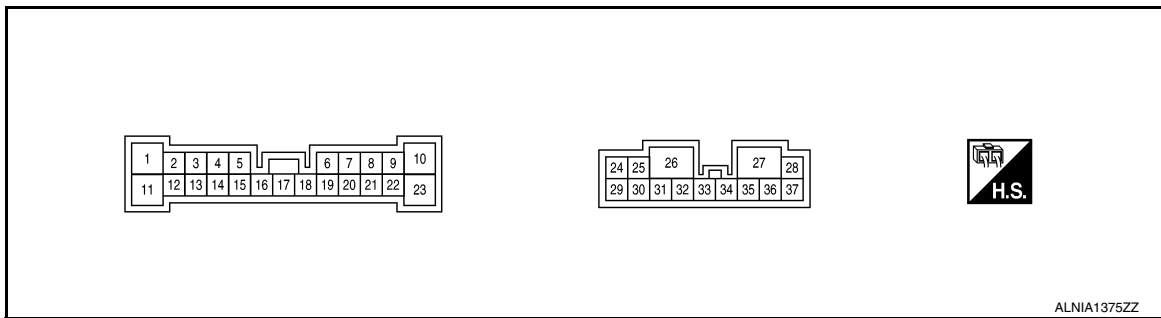
[DISPLAY AUDIO WITH BOSE]

BOSE SPEAKER AMP

Reference Value

INFOID:000000009758892

TERMINAL LAYOUT



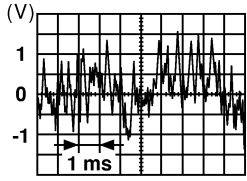
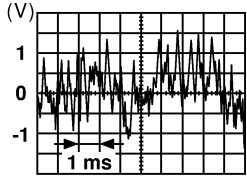
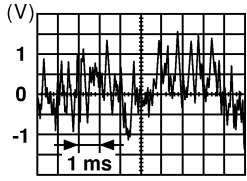
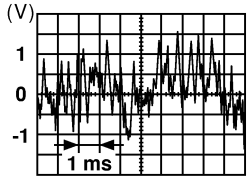
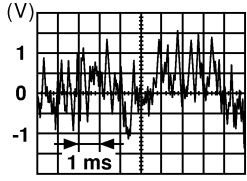
PHYSICAL VALUES

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output	Ignition switch	Operation	
3 (W)	2 (B)	Sound signal front speaker LH	Input	ON	Sound output	<p>SKIA0177E</p>
5 (G)	4 (R)	Sound signal front speaker RH	Input	ON	Sound output	<p>SKIA0177E</p>
7 (SB)	6 (V)	Front door speaker signal RH	Output	ON	Sound output	<p>SKIA0177E</p>
10 (G)	23 (GR)	Rear door speaker signal LH	Output	ON	Sound output	<p>SKIA0177E</p>

BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITH BOSE]

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
12 (BR)	13 (Y)	Sound signal rear speaker RH	Input	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
14 (LG)	15 (V)	Sound signal rear speaker LH	Input	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
18 (L)	Ground	Amp. ON signal	Input	ON	-	Greater than 6.5V
20 (W)	19 (Y)	Front door speaker signal LH	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
24 (W)	29 (O)	Rear door speaker signal RH	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
25 (Y)	30 (L)	Rear speaker signal LH	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
26 (B)	Ground	Ground	-	ON	-	0V
27 (G)	Ground	Battery power supply	Input	-	-	Battery voltage
28 (LG)						
31 (B)	Ground	Ground	-	ON	-	0V

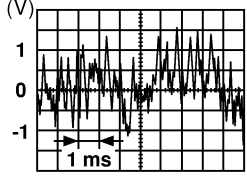
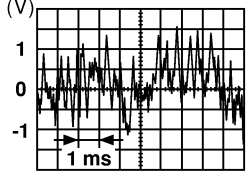
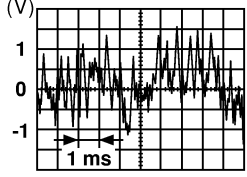
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BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITH BOSE]

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
33 (R)	32 (W)	Rear speaker signal RH	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
34 (P)	35 (V)	Front speaker signal RH	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
37 (GR)	36 (SB)	Front speaker signal LH	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>

BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

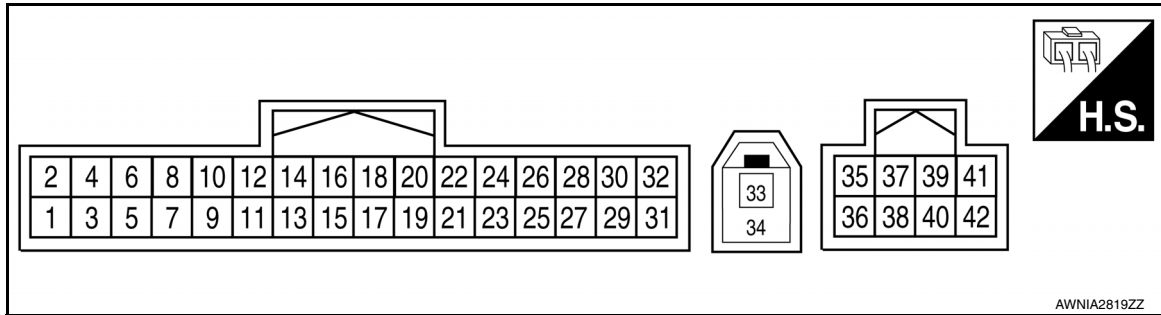
[DISPLAY AUDIO WITH BOSE]

BLUETOOTH® CONTROL UNIT

Reference Value

INFOID:00000009758893

TERMINAL LAYOUT



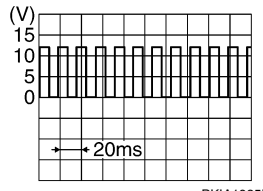
PHYSICAL VALUES

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/output			
1 (Y)	Ground	Battery power	Input	-	-	Battery voltage
2 (W)	Ground	ACC power	Input	Ignition switch ACC/ON	-	Battery voltage
3 (BR)	Ground	IGN power	Input	Ignition switch ON/ START	-	Battery voltage
4 (B)	Ground	Ground	-	Ignition switch ON	-	0V
7 (G)	8	MIC in signal	Input	-	-	-
9 (BR)	10 (GR)	Audio out	Output	Ignition switch ACC/ON	Bluetooth® control unit sends audio signal	
12 (G)	14 (V)	LAD IN 1	Input	Ignition switch ON	Press SOURCE switch	0V
					Press Δ switch	1.0V
					Press ∇ switch	2.0V
					Press w/ f switch	3.0V
					Except above	5.0V
13 (R)	14 (V)	LAD IN 2	Input	Ignition switch ON	Press w/ f switch	0V
					Press w/ + switch	1.0V
					Press w/ f switch	2.0V
					Except above	5.0V

BLUETOOTH® CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITH BOSE]

Terminal (wire color)		Description		Condition	Reference value (Approx.)	
+	-	Signal name	Input/out-put			
17 (G)	19 (P)	LAD OUT 1	Output	Ignition switch ON	Press SOURCE switch	0V
					Press △ switch	1.0V
					Press ▽ switch	2.0V
					Press switch	3.0V
					Except above	5.0V
18 (LG)	19 (P)	LAD OUT 2	Output	Ignition switch ON	Press - switch	0V
					Press + switch	1.0V
					Press switch	2.0V
					Except above	5.0V
21 (B)	Ground	CONT2 Ground	-	Ignition switch ON	-	0V
22 (B)	Ground	CONT3 Ground	-	Ignition switch ON	-	0V
24 (B)	Ground	CONT5 Ground	-	Ignition switch ON	-	0V
28 (Y)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	
29 (R)	Ground	Microphone power	Output	Ignition switch ON	-	5V
33 (B)	-	Bluetooth® antenna	-	-	-	-
34	-	Shield	-	-	-	-
35 (SB)	-	M CAN1-H	-	-	-	-
36 (LG)	-	M CAN1-L	-	-	-	-
40 (B)	-	M CAN2-H	-	-	-	-
42 (R)	-	M CAN2-L	-	-	-	-

DISPLAY AUDIO WITH BOSE

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH BOSE]

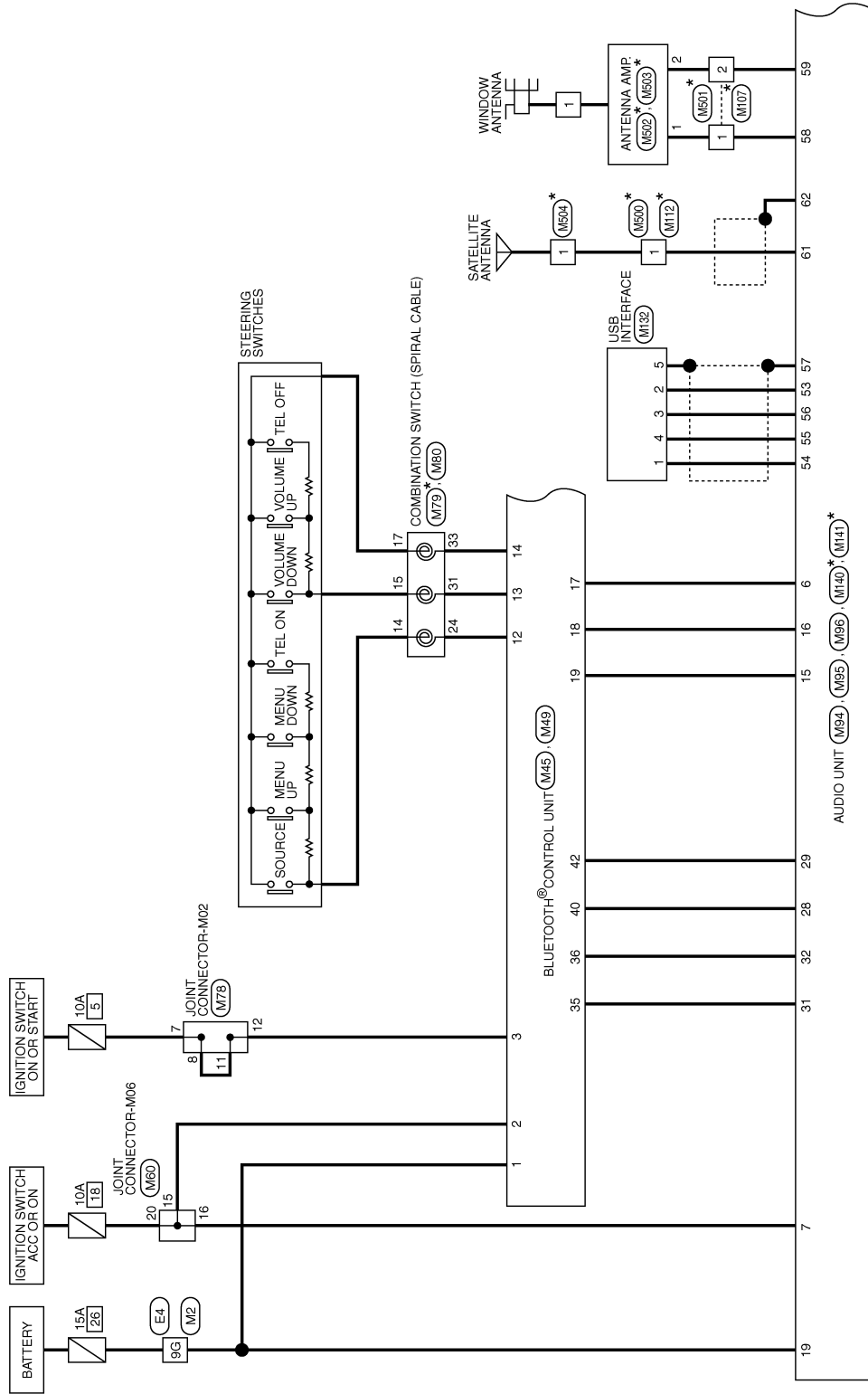
WIRING DIAGRAM

DISPLAY AUDIO WITH BOSE

Wiring Diagram

INFOID:000000009758894

DISPLAY AUDIO SYSTEM - WITH BOSE AUDIO SYSTEM



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

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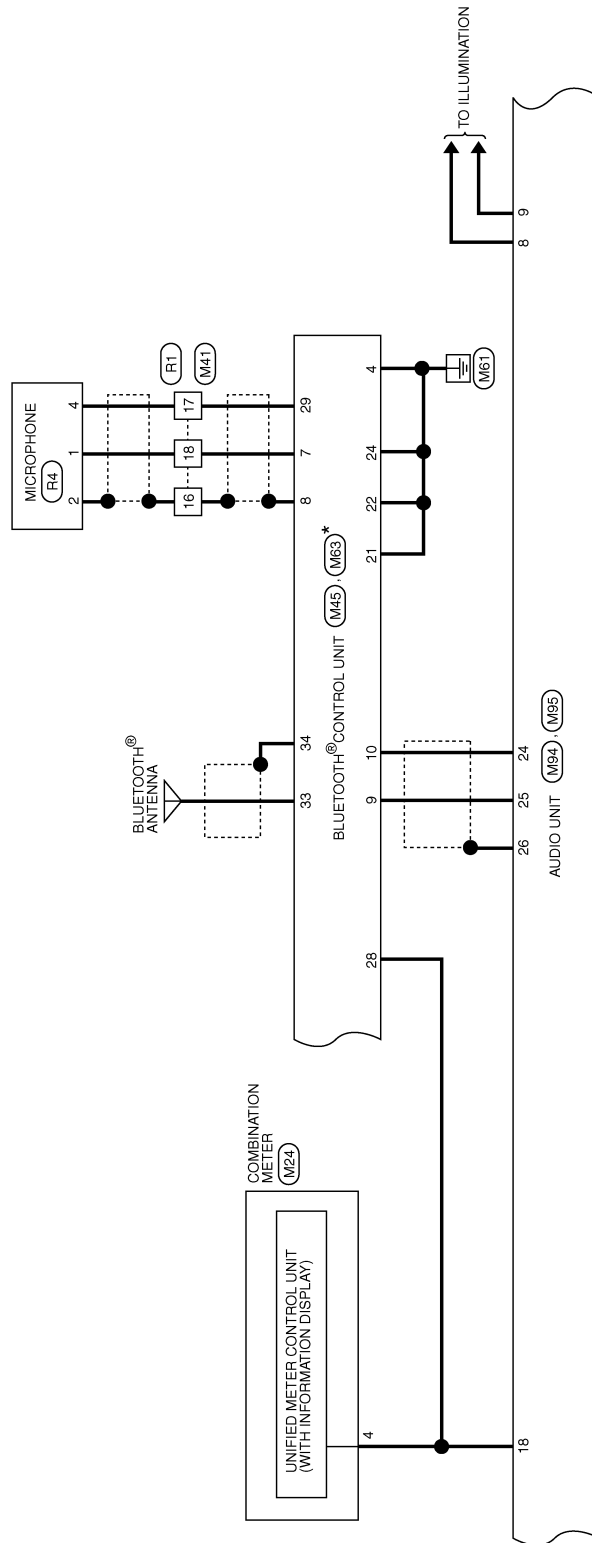
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DISPLAY AUDIO WITH BOSE

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH BOSE]



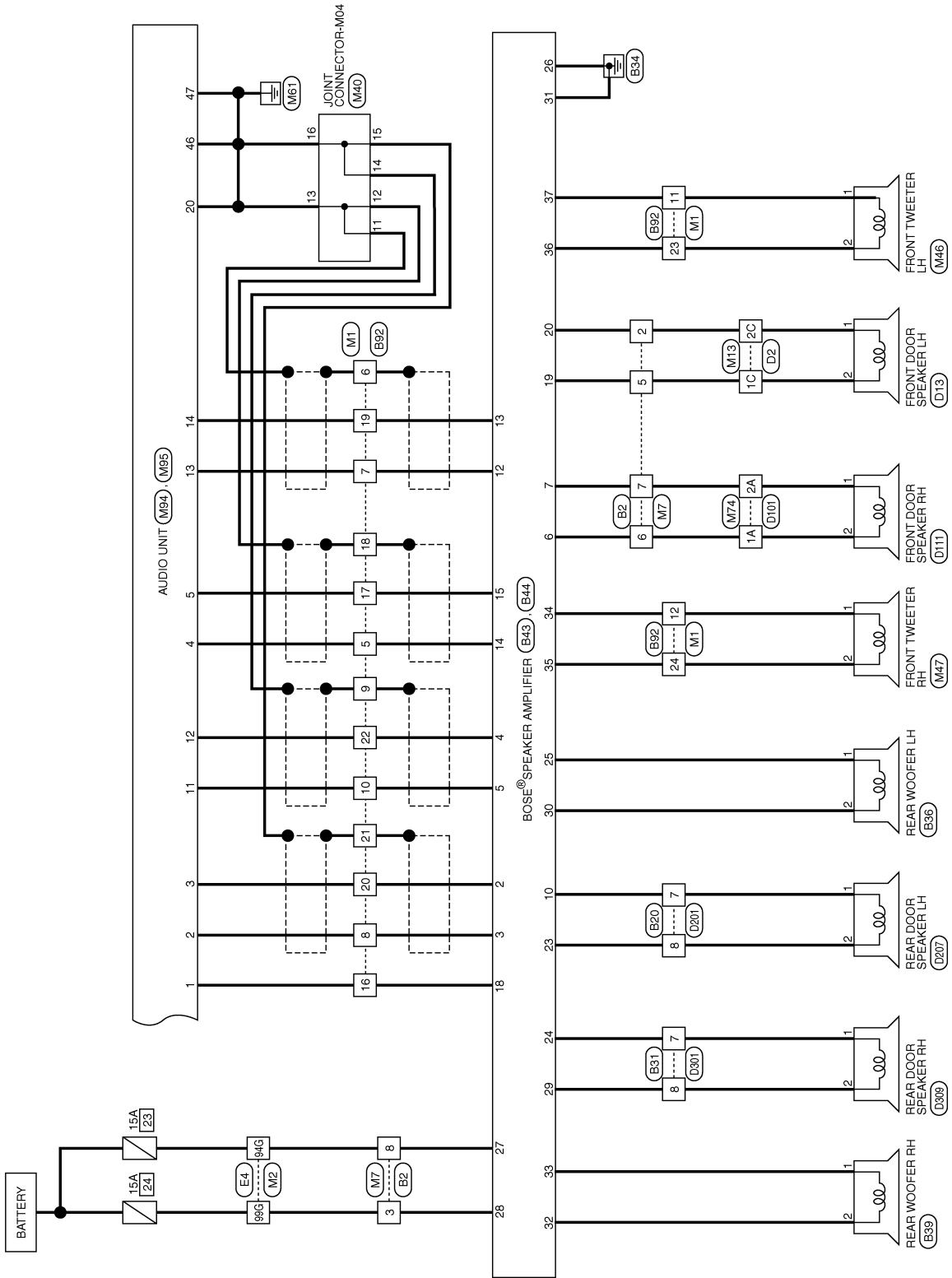
*: THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

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DISPLAY AUDIO WITH BOSE

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH BOSE]

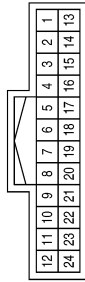


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DISPLAY AUDIO SYSTEM CONNECTORS - WITH BOSE AUDIO SYSTEM

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

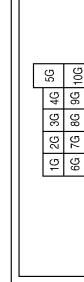


Terminal No.	Color of Wire	Signal Name
5	LG	-
6	SHIELD	-
7	BR	-

Terminal No.	Color of Wire	Signal Name
8	L	-
9	SHIELD	-
10	G	-
11	W	-
12	BR	-
16	GR	-
17	V	-
18	SHIELD	-

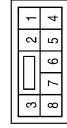
Terminal No.	Color of Wire	Signal Name
19	Y	-
20	P	-
21	SHIELD	-
22	R	-
23	Y	-
24	LG	-

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

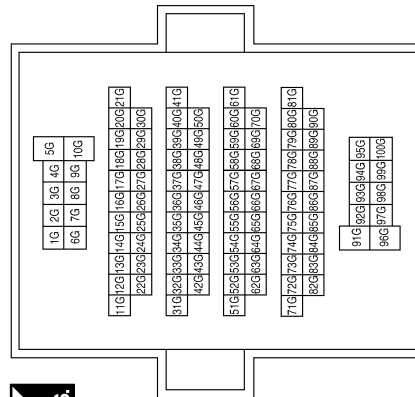


Terminal No.	Color of Wire	Signal Name
9G	Y	-
94G	LG	-
99G	W	-

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	R	-
3	W	-
5	GR	-
6	P	-
7	G	-
8	LG	-

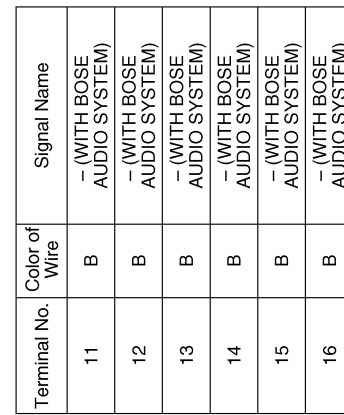
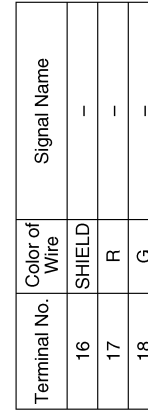
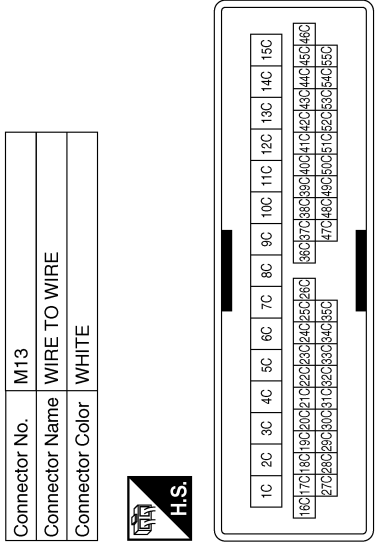
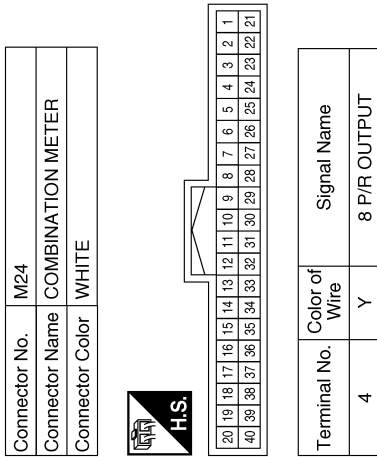


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DISPLAY AUDIO WITH BOSE

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH BOSE]



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DISPLAY AUDIO WITH BOSE

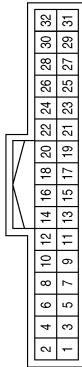
< WIRING DIAGRAM >

[DISPLAY AUDIO WITH BOSE]

Terminal No.	Color of Wire	Signal Name
22	B	CONT3
23	-	-
24	B	CONT5
25	-	-
26	-	-
27	-	-
28	Y	SPEED SIGNAL
29	R	MIC PWR
30	-	-
31	-	-
32	-	-

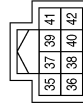
Terminal No.	Color of Wire	Signal Name
7	G	MIC IN +
8	SHIELD	MIC IN -
9	BR	AUDIO OUT (+)
10	GR	AUDIO OUT (-)
11	-	-
12	G	LAD IN1
13	R	LAD IN 2
14	V	LAD IN3 (GND)
15	-	-
16	-	-
17	G	LAD OUT1
18	LG	LAD OUT2
19	P	LAD OUT3 (GND)
20	-	-
21	B	CONT2

Connector No.	M45
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	BATT
2	W	ACC
3	BR	IGN
4	B	GND
5	-	-
6	-	-

Connector No.	M49
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE



Connector No.	M47
Connector Name	FRONT TWEETER RH
Connector Color	BROWN



Connector No.	M46
Connector Name	FRONT TWEETER LH
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
35	SB	M CAN1-H
36	LG	M CAN1-L
37	-	-
38	-	-
39	-	-
40	B	M CAN2-H
41	-	-
42	R	M CAN2-L

Terminal No.	Color of Wire	Signal Name
1	BR	-
2	LG	-

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

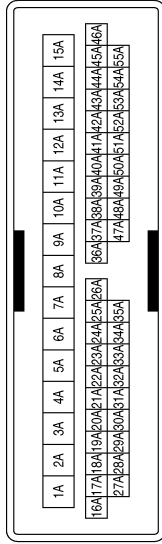
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DISPLAY AUDIO WITH BOSE

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH BOSE]

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Connector No.	M63
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE



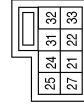
Terminal No.	Color of Wire	Signal Name
33	B	BT ANT
34	SHIELD	BT SHIELD

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE



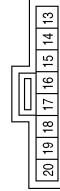
Terminal No.	Color of Wire	Signal Name
15	W	-
16	P	-
20	L	-

Connector No.	M80
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



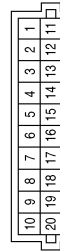
Terminal No.	Color of Wire	Signal Name
24	G	-
31	R	-
33	V	-

Connector No.	M79
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
14	B	-
15	GR	-
17	BR	-

Connector No.	M78
Connector Name	JOINT CONNECTOR-M02
Connector Color	PINK



Terminal No.	Color of Wire	Signal Name
7	G	-
8	LG	-
11	LG	-
12	BR	-

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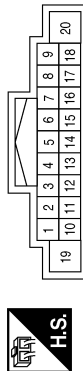
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DISPLAY AUDIO WITH BOSE

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH BOSE]

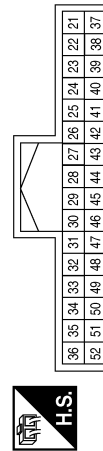
Connector No.	M94
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	GR	AMP ON
2	L	FR LH SP (+)
3	P	FR LH SP (-)
4	LG	RR LH SP (+)
5	V	RR LH SP (-)
6	G	STRG SW A

Terminal No.	Color of Wire	Signal Name
7	P	ACC
8	GR	ILL (-)
9	R	ILL (+)
10	-	-
11	G	FR RH SP (+)
12	R	FR RH SP (-)
13	BR	RR RH SP (+)
14	Y	RR RH SP (-)
15	P	STRG SW GND
16	LG	STRG SW B
17	-	-
18	Y	SPEED 8P/R
19	Y	+B
20	B	GND

Connector No.	M95
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	-	-
22	-	-
23	-	-
24	GR	TEL I/F (-)
25	BR	TEL I/F (+)

Terminal No.	Color of Wire	Signal Name
26	SHIELD	TEL SHIELD
27	-	-
28	B	M CAN2-H
29	R	M CAN2-L
30	-	-
31	SB	M CAN1-H
32	LG	M CAN1-L
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-

Terminal No.	Color of Wire	Signal Name
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	B	EQ02
47	B	EQ03
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-

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DISPLAY AUDIO WITH BOSE

< WIRING DIAGRAM >

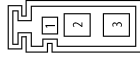
[DISPLAY AUDIO WITH BOSE]

Connector No.	M112
Connector Name	WIRE TO WIRE
Connector Color	BROWN



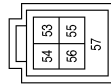
Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M107
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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

Connector No.	M96
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITH BOSE AUDIO SYSTEM)
Connector Color	BLUE



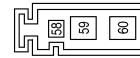
Terminal No.	Color of Wire	Signal Name
53	W	V BUS
54	G	USB GND
55	L	USB D (+)
56	R	USB D (-)
57	SHIELD	USB SHIELD

Connector No.	M141
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITH BOSE AUDIO SYSTEM)
Connector Color	PINK



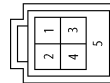
Terminal No.	Color of Wire	Signal Name
61	B	SAT ANT
62	SHIELD	SAT SHIELD

Connector No.	M140
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITH BOSE AUDIO SYSTEM)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
58	B	-
59	B	-
60	-	-

Connector No.	M132
Connector Name	USB INTERFACE
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	G	-
2	W	-
3	R	-
4	L	-
5	SHIELD	-

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DISPLAY AUDIO WITH BOSE

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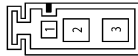
[DISPLAY AUDIO WITH BOSE]

Connector No.	M502
Connector Name	ANTENNA AMP.
Connector Color	GRAY



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

Connector No.	M501
Connector Name	WIRE TO WIRE
Connector Color	GRAY



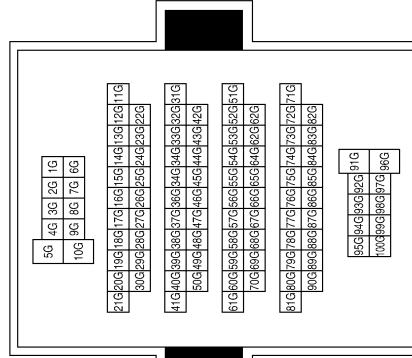
Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-

Connector No.	M500
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	M504
Connector Name	SATELLITE ANTENNA
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M503
Connector Name	ANTENNA AMP.
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	B	-

Terminal No.	Color of Wire	Signal Name
9G	R	-
94G	R	-
99G	R	-

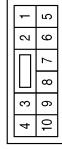
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DISPLAY AUDIO WITH BOSE

< WIRING DIAGRAM >

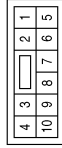
[DISPLAY AUDIO WITH BOSE]

Connector No.	B31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



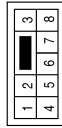
Terminal No.	Color of Wire	Signal Name
7	W	-
8	O	-

Connector No.	B20
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	G	-
8	GR	-

Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	W	-
3	LG	-
5	Y	-
6	V	-
7	SB	-
8	G	-

Connector No.	B39
Connector Name	REAR WOOFER RH
Connector Color	WHITE



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

Connector No.	B36
Connector Name	REAR WOOFER LH
Connector Color	WHITE



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

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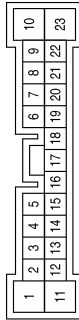
DISPLAY AUDIO WITH BOSE

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH BOSE]

Terminal No.	Color of Wire	Signal Name
8	-	-
9	-	-
10	G	RR DOOR LH+ OUT
11	-	-
12	BR	RR RH+ IN
13	Y	RR RH- IN
14	LG	RR LH+ IN
15	V	RR LH- IN
16	-	-
17	-	-
18	L	AMP ON
19	Y	FR DOOR LH- OUT
20	W	FR DOOR LH+ OUT
21	-	-
22	-	-
23	GR	RR DOOR LH- OUT

Connector No.	B43
Connector Name	BOSE® SPEAKER AMPLIFIER
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	-	-
2	B	FR LH- IN
3	W	FR LH+ IN
4	R	FR RH- IN
5	G	FR RH+ IN
6	V	FR DOOR RH- OUT
7	SB	FR DOOR RH+ OUT

Terminal No.	Color of Wire	Signal Name
28	LG	BAT
29	O	RR DOOR RH- OUT
30	L	LH WOOFER- OUT
31	B	GND
32	W	RH WOOFER- OUT
33	R	RH WOOFER+ OUT
34	P	FR TW RH+ OUT
35	V	FR TW RH- OUT
36	SB	FR TW LH- OUT
37	GR	FR TW LH+ OUT

Connector No.	B44
Connector Name	BOSE® SPEAKER AMPLIFIER
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
24	W	RR DOOR RH+ OUT
25	Y	LH WOOFER+ OUT
26	B	GND
27	G	BAT

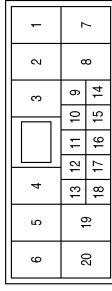
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DISPLAY AUDIO WITH BOSE

< WIRING DIAGRAM >

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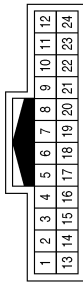
Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
16	SHIELD	-
17	R	-
18	G	-

Terminal No.	Color of Wire	Signal Name
11	GR	-
12	P	-
16	L	-
17	V	-
18	SHIELD	-
19	Y	-
20	B	-
21	SHIELD	-
22	R	-
23	SB	-
24	V	-

Connector No.	B92
Connector Name	WIRE TO WIRE
Connector Color	WHITE



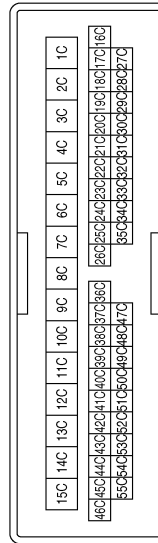
Terminal No.	Color of Wire	Signal Name
5	LG	-
6	SHIELD	-
7	BR	-
8	W	-
9	SHIELD	-
10	G	-

Connector No.	D13
Connector Name	FRONT DOOR SPEAKER LH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN



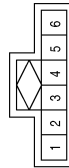
Terminal No.	Color of Wire	Signal Name
1	W	-
2	P	-

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



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

Connector No.	R4
Connector Name	MICROPHONE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G	-
2	SHIELD	-
4	R	-

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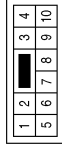


DISPLAY AUDIO WITH BOSE

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH BOSE]

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



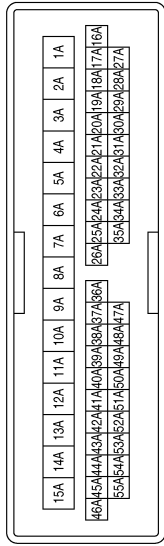
Terminal No.	Color of Wire	Signal Name
7	LG	-
8	GR	-

Connector No.	D111
Connector Name	FRONT DOOR SPEAKER RH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN



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

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



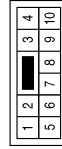
Terminal No.	Color of Wire	Signal Name
1A	P	-
2A	W	-

Connector No.	D309
Connector Name	REAR DOOR SPEAKER RH
Connector Color	BROWN



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

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



Terminal No.	Color of Wire	Signal Name
7	LG	-
8	GR	-

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



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

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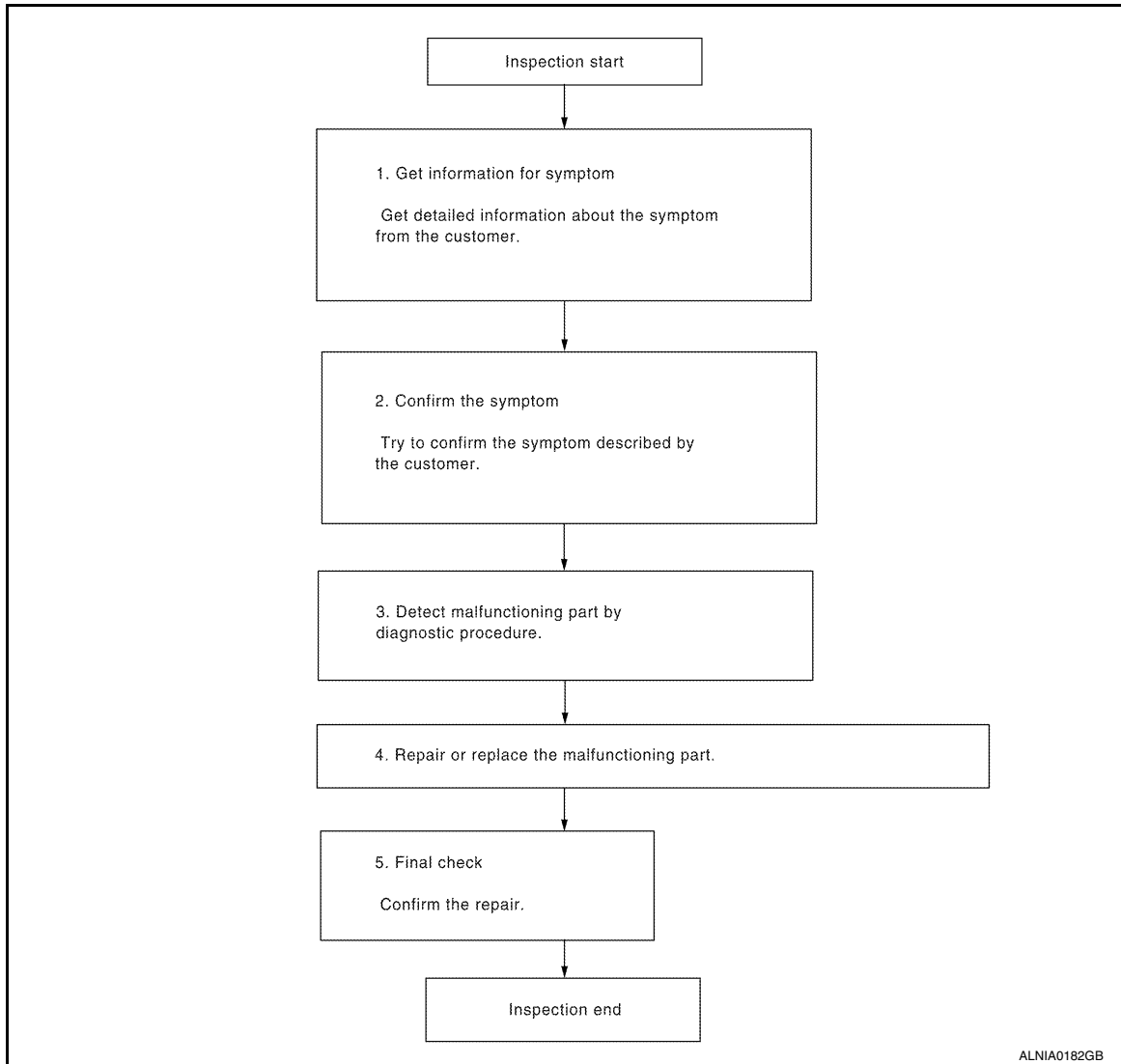
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000009758895

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2

2.CONFIRM THE SYMPTOM

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

>> GO TO 3

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[DISPLAY AUDIO WITH BOSE]

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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:000000009758896

Regarding Wiring Diagram information, refer to [AV-157, "Wiring Diagram"](#).

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	18 (10A)
19	Battery power supply	26 (15A)

Are the fuses blown?

- YES >> Replace the blown fuse after repairing the affected circuit.
NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M94.
3. Check voltage between audio unit connector M94 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M94	7	—	Ignition switch: ON	Battery voltage
	19		Ignition switch: OFF	

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair or replace harness or connectors.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M95.
3. Check continuity between audio unit connectors and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M94	20	—	Yes
M95	46		
	47		

Is the inspection result normal?

- YES >> Inspection End.
NO >> Repair or replace harness or connectors.

BOSE SPEAKER AMP

BOSE SPEAKER AMP : Diagnosis Procedure

INFOID:000000009758897

Regarding Wiring Diagram information, refer to [AV-157, "Wiring Diagram"](#).

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

1. CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
27	Battery power supply	23 (15A)
28		24 (15A)

Are the fuses blown?

- YES >> Replace the blown fuse after repairing the affected circuit.
NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bose speaker amp. connector B44.
3. Check voltage between Bose speaker amp. connector B44 and ground.

Bose speaker amp.		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
B44	27	—	Ignition switch: OFF	Battery voltage
	28			

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair or replace harness or connectors.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bose speaker amp. connector B44.
3. Check continuity between Bose speaker amp. connector B44 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B44	26	—	Yes
	31		

Is the inspection result normal?

- YES >> Inspection End.
NO >> Repair or replace harness or connectors.

BLUETOOTH® CONTROL UNIT

BLUETOOTH® CONTROL UNIT : Diagnosis Procedure

INFOID:000000009758898

Regarding Wiring Diagram information, refer to [AV-157, "Wiring Diagram"](#).

1. CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
1	Battery power supply	26 (15A)
2	ACC power supply	18 (10A)
3	Ignition signal	5 (10A)

Are the fuses blown?

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector M45.
3. Check voltage between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M45	1	—	Ignition switch: OFF	Battery voltage
	2		Ignition switch: ACC	
	3		Ignition switch: ON	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminal		
M45	4	—	Yes
	21		
	22		
	24		

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

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FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:000000009758899

Regarding Wiring Diagram information, refer to [AV-157. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the audio unit, Bose speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B43 and suspect front door speaker connector.
2. Check continuity between Bose speaker amp. connector B43 and suspect front door speaker connector.

Bose speaker amp.		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
B43	20	D13 (LH)	1	Yes
	19		2	
	7	D111 (RH)	1	
	6		2	

3. Check continuity between Bose speaker amp. connector B43 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B43	20	—	No
	19		
	7		
	6		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK FRONT DOOR SPEAKER SIGNAL (BOSE SPEAKER AMP.)

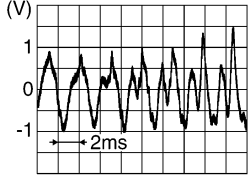
1. Connect Bose speaker amp. connector B43 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of Bose speaker amp. connector B43.

Bose speaker amp. connector B43		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

20	19	Audio signal output	
7	6		

Is the inspection result normal?

- YES >> Replace front door speaker. Refer to [AV-205. "Removal and Installation"](#).
 NO >> GO TO 4

4. CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY (AUDIO UNIT)

- Turn ignition switch to OFF.
- Disconnect Bose speaker amp. connector B43 and audio unit connector M94.
- Check continuity between Bose speaker amp. connector B43 and audio unit connector M94.

Bose speaker amp.		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
B43	2	M94	3	Yes
	3		2	
	4		12	
	5		11	

- Check continuity between Bose speaker amp. connector B43 and ground.

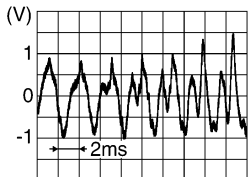
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B43	2	—	No
	3		
	4		
	5		

Is the inspection result normal?

- YES >> GO TO 5
 NO >> Repair or replace harness or connectors.

5. CHECK FRONT DOOR SPEAKER SIGNAL (AUDIO UNIT)

- Connect Bose speaker amp. connector B43 and audio unit connector M94.
- Turn ignition switch to ACC.
- Push audio unit POWER switch.
- Check signal between the terminals of audio unit connector M94.

Audio unit connector M94		Condition	Reference value
(+) Terminal	(-) Terminal		
2	3	Audio signal output	
11	12		

Is the inspection result normal?

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

-
- YES >> Replace Bose speaker amp. Refer to [AV-214, "Removal and Installation"](#).
NO >> Replace audio unit. Refer to [AV-203, "Removal and Installation"](#).

FRONT TWEETER

Diagnosis Procedure

INFOID:000000009758900

Regarding Wiring Diagram information, refer to [AV-157. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the audio unit, Bose speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK FRONT TWEETER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B44 and suspect front tweeter connector.
2. Check continuity between Bose speaker amp. connector B44 and suspect front tweeter connector.

Bose speaker amp.		Front tweeter		Continuity
Connector	Terminal	Connector	Terminal	
B44	37	M46 (LH)	1	Yes
	36		2	
	34	M47 (RH)	1	
	35		2	

3. Check continuity between Bose speaker amp. connector B44 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B44	36	—	No
	37		
	34		
	35		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK FRONT TWEETER SIGNAL (BOSE SPEAKER AMP.)

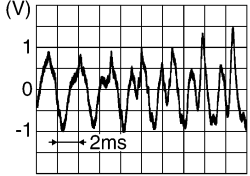
1. Connect Bose speaker amp. connector B44 and suspect front tweeter connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of Bose speaker amp. connector B44.

Bose speaker amp. connector B44		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

37	36	Audio signal output	
34	35		

Is the inspection result normal?

- YES >> Replace front tweeter. Refer to [AV-204, "Removal and Installation"](#).
 NO >> GO TO 4

4. CHECK FRONT TWEETER SIGNAL CIRCUIT CONTINUITY (AUDIO UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B43 and audio unit connector M94.
3. Check continuity between Bose speaker amp. connector B43 and audio unit connector M94.

Bose speaker amp.		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
B43	2	M94	3	Yes
	3		2	
	4		12	
	5		11	

4. Check continuity between Bose speaker amp. connector B43 and ground.

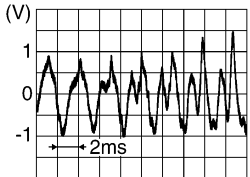
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B43	2	—	No
	3		
	4		
	5		

Is the inspection result normal?

- YES >> GO TO 5
 NO >> Repair or replace harness or connectors.

5. CHECK FRONT TWEETER SIGNAL (AUDIO UNIT)

1. Connect Bose speaker amp. connector B43 and audio unit connector M94.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M94.

Audio unit connector M94		Condition	Reference value
(+) Terminal	(-) Terminal		
2	3	Audio signal output	
11	12		

Is the inspection result normal?

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

-
- YES >> Replace Bose speaker amp. Refer to [AV-214, "Removal and Installation"](#).
 - NO >> Replace audio unit. Refer to [AV-203, "Removal and Installation"](#).

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REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:000000009758901

Regarding Wiring Diagram information, refer to [AV-157. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the audio unit, Bose speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connectors and suspect rear door speaker connector.
2. Check continuity between Bose speaker amp. connectors and suspect rear door speaker connector.

Bose speaker amp.		Rear door speaker		Continuity
Connector	Terminal	Connector	Terminal	
B43	10	D207 (LH)	1	Yes
	23		2	
B44	24	D309 (RH)	1	
	29		2	

3. Check continuity between Bose speaker amp. connectors and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B43	10	—	No
	23		
B44	24		
	29		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK REAR DOOR SPEAKER SIGNAL (BOSE SPEAKER AMP.)

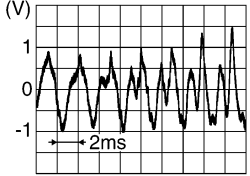
1. Connect Bose speaker amp. connectors and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of Bose speaker amp. connectors.

Bose speaker amp.			Condition	Reference value
Connector	(+)	(-)		
		Terminal	Terminal	

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

B43	10	23	Audio signal output	
B44	24	29		

SKIB3609E

Is the inspection result normal?

- YES >> Replace rear door speaker. Refer to [AV-206. "Removal and Installation"](#).
- NO >> GO TO 4

4. CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY (AUDIO UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B43 and audio unit connector M94.
3. Check continuity between Bose speaker amp. connector B43 and audio unit connector M94.

Bose speaker amp.		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
B43	14	M94	4	Yes
	15		5	
	12		13	
	13		14	

4. Check continuity between Bose speaker amp. connector B43 and ground.

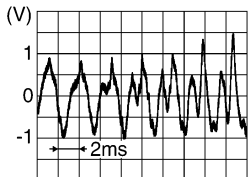
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B43	14	—	No
	15		
	12		
	13		

Is the inspection result normal?

- YES >> GO TO 5
- NO >> Repair or replace harness or connectors.

5. CHECK REAR DOOR SPEAKER SIGNAL (AUDIO UNIT)

1. Connect Bose speaker amp. connector B43 and audio unit connector M94.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M94.

Audio unit connector M94		Condition	Reference value
(+) Terminal	(-) Terminal		
4	5	Audio signal output	
13	14		

SKIB3609E

Is the inspection result normal?

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

-
- YES >> Replace Bose speaker amp. Refer to [AV-214, "Removal and Installation"](#).
NO >> Replace audio unit. Refer to [AV-203, "Removal and Installation"](#).

REAR WOOFER

Diagnosis Procedure

INFOID:000000009758902

Regarding Wiring Diagram information, refer to [AV-157. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the audio unit, Bose speaker amp. and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK REAR WOOFER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B44 and suspect rear woofer connector.
2. Check continuity between Bose speaker amp. connector B44 and suspect rear woofer connector.

Bose speaker amp.		Rear woofer		Continuity
Connector	Terminal	Connector	Terminal	
B44	25	B36 (LH)	1	Yes
	30		2	
	33	B39 (RH)	1	
	32		2	

3. Check continuity between Bose speaker amp. connector B44 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B44	30	—	No
	25		
	33		
	32		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK REAR WOOFER SIGNAL (BOSE SPEAKER AMP.)

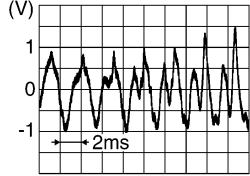
1. Connect Bose speaker amp. connector B44 and suspect rear woofer connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of Bose speaker amp. connector B44.

Bose speaker amp. connector B44		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

REAR WOOFER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

25	30	Audio signal output	
33	32		

Is the inspection result normal?

- YES >> Replace rear woofer. Refer to [AV-207. "Removal and Installation"](#).
 NO >> GO TO 4

4. CHECK REAR WOOFER SIGNAL CIRCUIT CONTINUITY (AUDIO UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B43 and audio unit connector M94.
3. Check continuity between Bose speaker amp. connector B43 and audio unit connector M94.

Bose speaker amp.		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
B43	14	M94	4	Yes
	15		5	
	12		13	
	13		14	

4. Check continuity between Bose speaker amp. connector B43 and ground.

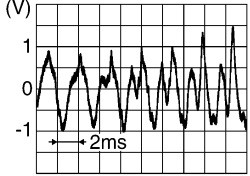
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B43	14	—	No
	15		
	12		
	13		

Is the inspection result normal?

- YES >> GO TO 5
 NO >> Repair or replace harness or connectors.

5. CHECK REAR WOOFER SIGNAL (AUDIO UNIT)

1. Connect Bose speaker amp. connector B43 and audio unit connector M94.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M94.

Audio unit connector M94		Condition	Reference value
(+)	(-)		
Terminal	Terminal	Audio signal output	
4	5		
13	14		

Is the inspection result normal?

REAR WOOFER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

YES >> Replace Bose speaker amp. Refer to [AV-214, "Removal and Installation"](#).
NO >> Replace audio unit. Refer to [AV-203, "Removal and Installation"](#).

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AMP ON SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

AMP ON SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009758903

Regarding Wiring Diagram information, refer to [AV-157. "Wiring Diagram"](#).

1. CHECK CONTINUITY BETWEEN AUDIO UNIT AND BOSE SPEAKER AMP.

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M94 and Bose speaker amp. connector B43.
3. Check continuity between audio unit connector M94 and Bose speaker amp. connector B43.

Audio unit		Bose speaker amp.		Continuity
Connector	Terminal	Connector	Terminal	
M94	1	B43	18	Yes

4. Check continuity between audio unit connector M94 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M94	1	—	No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK AUDIO UNIT VOLTAGE

1. Connect audio unit connector M94.
2. Turn ignition switch ON.
3. Check voltage between audio unit connector M94 and ground.

Audio unit (+)		Ground (-)	Voltage (Approx.)
Connector	Terminal		
M94	1	—	Battery voltage

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to [AV-214. "Removal and Installation"](#).

NO >> Replace audio unit. Refer to [AV-203. "Removal and Installation"](#).

BLUETOOTH® VOICE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

BLUETOOTH® VOICE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009758904

Regarding Wiring Diagram information, refer to [AV-157. "Wiring Diagram"](#).

1. CHECK BLUETOOTH® VOICE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M95 and Bluetooth® control unit connector M45.
3. Check continuity between audio unit connector M95 and Bluetooth® control unit connector M45.

Audio unit		Bluetooth® control unit		Continuity
Connector	Terminal	Connector	Terminal	
M95	25	M45	9	Yes

4. Check continuity between audio unit connector M95 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M95	25	—	No

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK BLUETOOTH® VOICE SIGNAL GROUND CIRCUIT CONTINUITY

Check continuity between audio unit connector M95 and Bluetooth® control unit connector M45.


Audio unit		Bluetooth® control unit		Continuity
Connector	Terminal	Connector	Terminal	
M95	24	M45	10	Yes

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK BLUETOOTH® VOICE SIGNAL

1. Connect audio unit connector M95 and Bluetooth® control unit connector M45.
2. Turn ignition switch to ACC.
3. Press  switch.
4. Check signal between the terminals of audio unit connector M95.


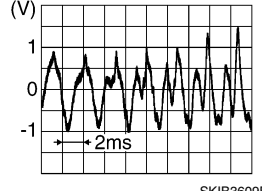
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BLUETOOTH® VOICE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

Audio unit connector M95		Condition	Reference value
(+) Terminal	(-) Terminal		
25	24	During voice guide output with  switch pressed.	

Is the inspection result normal?

- YES >> Replace Bluetooth® control unit. Refer to [AV-217. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-203. "Removal and Installation"](#).

BLUETOOTH® CONTROL SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

BLUETOOTH® CONTROL SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009758905

Regarding Wiring Diagram information, refer to [AV-157, "Wiring Diagram"](#).

1. CHECK CONTROL SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector M45.
3. Check continuity between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminals		
M45	4	—	Yes
	21		
	22		
	24		

Is the inspection result normal?

- YES >> Replace Bluetooth® control unit. Refer to [AV-217, "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

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MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009758906

Regarding Wiring Diagram information, refer to [AV-157, "Wiring Diagram"](#).

1. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector M45 and microphone connector R4.
3. Check continuity between Bluetooth® control unit connector M45 and microphone connector R4.

Bluetooth® control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M45	7	R4	1	Yes
	8		2	
	29		4	

4. Check continuity between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminal		
M45	7	—	No
	29		

Are continuity results as specified?

YES >> GO TO 2

NO >> Repair harness or connectors.

2. CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth® control unit connector M45 and microphone connector R4.
2. Turn ignition switch ON.
3. Check voltage between microphone connector R4 and ground.

Microphone		Ground	Voltage (Approx.)
(+)			
Connector	Terminal		
R4	29	—	5V

Is the voltage reading as specified?

YES >> GO TO 3

NO >> Replace Bluetooth® control unit. Refer to [AV-217, "Removal and Installation"](#).

3. CHECK MICROPHONE SIGNAL

Check signal between terminals of Bluetooth® control unit connector M45.

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

Bluetooth® control unit connector M45		Condition	Reference value
(+) Terminal	(-) Terminal		
7	8	Speak into microphone.	

Were voltage readings as specified?

YES >> Replace Bluetooth® control unit. Refer to [AV-217. "Removal and Installation"](#).

NO >> Replace microphone. Refer to [AV-218. "Removal and Installation"](#).

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STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

STEERING SWITCH






Diagnosis Procedure

INFOID:000000009758907

Regarding Wiring Diagram information, refer to [AV-157. "Wiring Diagram"](#).

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch (spiral cable) connector M79.
3. Check resistance between the terminals of combination switch (spiral cable) connector M79.

Combination switch (spiral cable) connector M79		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress Δ switch.	121
		Depress ∇ switch.	321
		Depress  switch.	723
15		Depress   switch.	1
		Depress  + switch.	121
		Depress  switch.	321

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering switches. Refer to [AV-208. "Removal and Installation"](#).

2. CHECK HARNESS BETWEEN BLUETOOTH[®] CONTROL UNIT AND COMBINATION SWITCH (SPIRAL CABLE)

1. Disconnect Bluetooth[®] control unit connector M45 and combination switch (spiral cable) connector M80.
2. Check continuity between Bluetooth[®] control unit connector M45 and combination switch (spiral cable) connector M80.

Bluetooth [®] control unit		Combination switch (spiral cable)		Continuity
Connector	Terminal	Connector	Terminal	
M45	12	M80	24	Yes
	13		31	
	14		33	

3. Check continuity between Bluetooth[®] control unit connector M45 and ground.

Bluetooth [®] control unit		Ground	Continuity
Connector	Terminal		
M45	12	—	No
	13		
	14		

Is the inspection result normal?

YES >> GO TO 3.

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

NO >> Repair or replace harness or connectors.

3. CHECK COMBINATION SWITCH (SPIRAL CABLE)

Check continuity between combination switch (spiral cable) connectors M79 and M80.

Combination switch (spiral cable)				Continuity
Connector	Terminal	Connector	Terminal	
M79	14	M80	24	Yes
	15		31	
	17		33	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace combination switch (spiral cable). Refer to [SR-16. "Removal and Installation"](#).

4. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND AUDIO UNIT

1. Disconnect audio unit connector M92.
2. Check continuity between Bluetooth® control unit connector M45 and audio unit connector M94.

Bluetooth® control unit		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
M45	17	M94	6	Yes
	18		16	
	19		15	

3. Check continuity between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminal		
M45	17	—	No
	18		
	19		

Is the inspection result normal?

YES >> Replace audio unit. Refer to [AV-203. "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

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USB CONNECTOR

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

USB CONNECTOR

Diagnosis Procedure

INFOID:000000009758908

Regarding Wiring Diagram information, refer to [AV-157. "Wiring Diagram"](#).

1. CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M96 and USB interface connector M132.
3. Check continuity between audio unit connector M96 and USB interface connector M132.

Audio unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M96	53	M132	2	Yes
	54		1	
	55		4	
	56		3	
	57		5	

4. Check continuity between audio unit connector M96 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M96	53	Ground	No
	55		

Is the inspection result normal?

- YES >> Replace the USB interface. Refer to [AV-215. "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:000000009758909

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-143. "On Board Diagnosis Function" .
No sound comes out or the level of the sound is low.	No sound from all speakers.	<ul style="list-style-type: none"> • Speaker circuit shorted to ground. Refer to AV-157. "Wiring Diagram". • Bose amp. ON signal circuit malfunction. Refer to AV-188. "Diagnosis Procedure". • Bose speaker amp. power supply and ground circuits malfunction. Refer to AV-173. "BOSE SPEAKER AMP : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, rear door speaker LH, rear door speaker RH, rear woofer LH, rear woofer RH) does not output sound.	<ul style="list-style-type: none"> • Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and Bose speaker amp. Refer to: <ul style="list-style-type: none"> - AV-176. "Diagnosis Procedure" (front door speaker). - AV-179. "Diagnosis Procedure" (front tweeter). - AV-182. "Diagnosis Procedure" (rear door speaker). - AV-185. "Diagnosis Procedure" (rear woofer). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: <ul style="list-style-type: none"> - AV-176. "Diagnosis Procedure" (front door speaker). - AV-179. "Diagnosis Procedure" (front tweeter). - AV-182. "Diagnosis Procedure" (rear door speaker). - AV-185. "Diagnosis Procedure" (rear woofer). • Malfunction in speaker. Refer to: <ul style="list-style-type: none"> - AV-205. "Removal and Installation" (front door speaker). - AV-204. "Removal and Installation" (front tweeter). - AV-206. "Removal and Installation" (rear door speaker). - AV-207. "Removal and Installation" (rear woofer). • Malfunction in audio unit. Refer to AV-143. "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-214. "Removal and Installation".

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AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

Symptoms	Check items	Probable malfunction location
	Noise comes out from all speakers.	<ul style="list-style-type: none"> • Malfunction in audio unit. Refer to AV-143. "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-214. "Removal and Installation".
Noise is mixed with audio.	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, rear door speaker LH, rear door speaker RH, rear woofer LH, rear woofer RH).	<ul style="list-style-type: none"> • Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and Bose speaker amp. Refer to: <ul style="list-style-type: none"> - AV-176. "Diagnosis Procedure" (front door speaker). - AV-179. "Diagnosis Procedure" (front tweeter). - AV-182. "Diagnosis Procedure" (rear door speaker). - AV-185. "Diagnosis Procedure" (rear woofer). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: <ul style="list-style-type: none"> - AV-176. "Diagnosis Procedure" (front door speaker). - AV-179. "Diagnosis Procedure" (front tweeter). - AV-182. "Diagnosis Procedure" (rear door speaker). - AV-185. "Diagnosis Procedure" (rear woofer). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: <ul style="list-style-type: none"> - AV-205. "Removal and Installation" (front door speaker). - AV-204. "Removal and Installation" (front tweeter). - AV-206. "Removal and Installation" (rear door speaker). - AV-207. "Removal and Installation" (rear woofer). • Malfunction in audio unit. Refer to AV-143. "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-214. "Removal and Installation".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna or antenna feeder. Refer to AV-209. "Location of Antenna" .
No radio reception or poor reception.	<ul style="list-style-type: none"> • Other audio sounds are normal. • Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises). 	<ul style="list-style-type: none"> • Antenna amp. ON signal circuit malfunction. Refer to AV-149. "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-209. "Location of Antenna".

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

Symptoms	Check items	Probable malfunction location
No satellite radio reception.	Satellite radio antenna malfunction.	<ul style="list-style-type: none"> • Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-209, "Location of Antenna".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

- Before performing diagnosis, confirm that the cellular phone being used by the customer is compatible with the vehicle.
- It is possible that a malfunction is occurring due to a version change of the phone even though the phone is a compatible type. This can be confirmed by changing the cellular phone to another compatible type, and check that it operates normally. It is important to determine whether the cause of the malfunction is the vehicle or the cellular phone.

Check Compatibility









1. Make sure the customer's Bluetooth[®] related concern is understood.
2. Verify the customer's concern.
NOTE:
The customer's phone may be required, depending upon their concern.
3. Write down the customer's phone brand, model and service provider.
NOTE:
It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.
4. Go to "www.nissanusa.com/bluetooth/".
 - a. Using the website's search engine, find out if the customer's phone is on the approved list.
 - b. If the customer's phone is NOT on the approved list:
Stop diagnosis here. The customer needs to obtain a Bluetooth[®] phone that is on the approved list before any further action.
 - c. If the feature related to the customer's concern shows as "N" (not compatible):
Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".
 - d. If the feature related to the customer's concern shows as "Y" (compatible):
Perform diagnosis as per the following table.

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	Malfunction in audio unit. Replace audio unit. Refer to AV-203, "Removal and Installation" .
Hands-free phone cannot be established.	<ul style="list-style-type: none"> • Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation. 	
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-192, "Diagnosis Procedure" .

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

Symptoms	Check items	Probable malfunction location
The system cannot be operated.	<ul style="list-style-type: none"> • The voice recognition can be controlled. • Steering switch's , , and  switch works, but   does not work. 	Steering switch malfunction. Replace steering switch. Refer to AV-208. "Removal and Installation" .
	Steering switch's  ,  , and  switches do not work.	Steering switch signal circuit malfunction. Refer to AV-194. "Diagnosis Procedure" .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-194. "Diagnosis Procedure" .

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

NORMAL OPERATING CONDITION

Description

INFOID:000000009758910

RELATED TO NOISE

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

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

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

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

NOTE:

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

Type of Noise and Possible Cause

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	<p>Some Bluetooth[®] enabled cellular phones may not be recognized by the in-vehicle phone module.</p> <p>Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in AV-197. "Symptom Table".</p>
Cannot use hands-free phone.	<p>Customer will not be able to use a hands-free phone under the following conditions:</p> <ul style="list-style-type: none"> • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. <p>NOTE:</p> <p>While a cellular phone is connected through the Bluetooth[®] wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth[®] Hands-Free Phone System cannot charge cellular phones.</p>

NORMAL OPERATING CONDITION

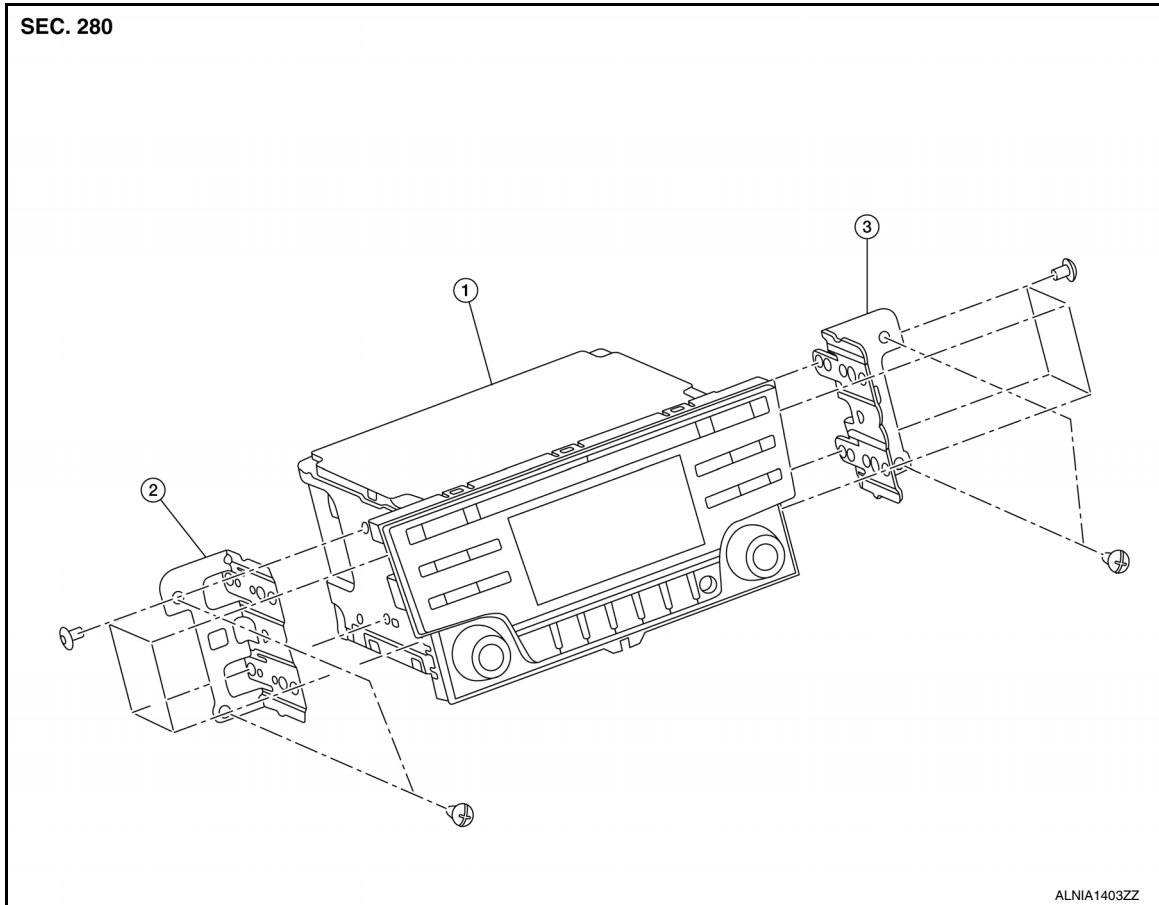
< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

REMOVAL AND INSTALLATION**AUDIO UNIT****Exploded View**

INFOID:000000009758911



1. Audio unit

2. Audio unit bracket (LH)

3. Audio unit bracket (RH)

Removal and Installation

INFOID:000000009758912

REMOVAL

1. Disconnect the negative battery terminal. Refer to [PG-50. "Removal and Installation \(Battery\)"](#).
2. Remove cluster lid C lower. Refer to [IP-20. "Removal and Installation - Cluster Lid C Lower"](#).
3. Remove the audio unit screws, then pull out the audio unit.
4. Disconnect the harness connectors from the audio unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

FRONT TWEETER

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

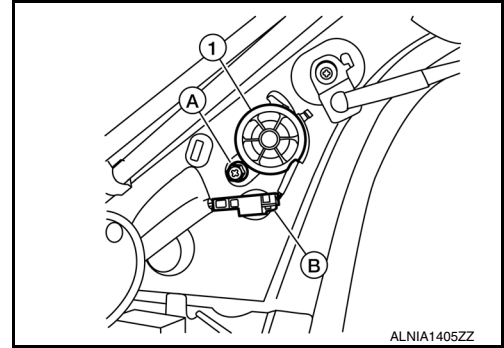
FRONT TWEETER

Removal and Installation

INFOID:000000009758913

REMOVAL

1. Remove the front pillar finisher. Refer to [INT-24, "FRONT PILLAR FINISHER : Removal and Installation"](#).
2. Disconnect the harness connector (B) from the front tweeter speaker.
3. Remove the front tweeter speaker screw (A) from the front tweeter speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

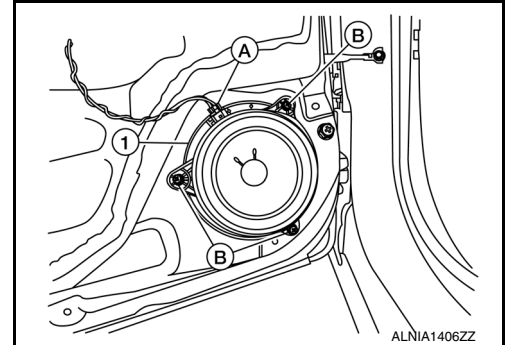
FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000009758914

REMOVAL

1. Remove the front door finisher. Refer to [INT-15, "Removal and Installation"](#).
2. Remove the front door speaker screws (B).
3. Disconnect the harness connector (A) from the front door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

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AV

REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

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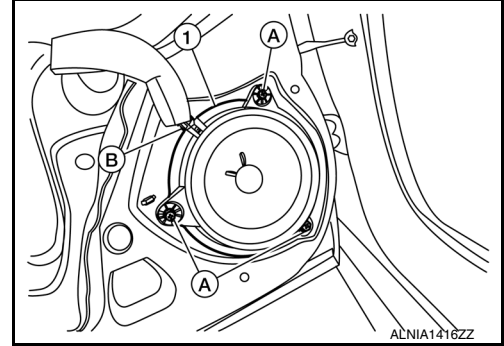
REAR DOOR SPEAKER

Removal and Installation

INFOID:000000009758915

REMOVAL

1. Remove the rear door finisher. Refer to [INT-19. "Removal and Installation"](#).
2. Remove the rear door speaker screws (A).
3. Disconnect the harness connector (B) from the rear door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

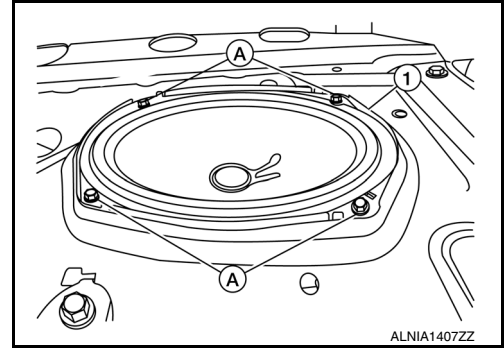
REAR WOOFER

Removal and Installation

INFOID:000000009758916

REMOVAL

1. Remove the rear parcel shelf finisher. Refer to [INT-33. "Removal and Installation"](#).
2. Remove the rear woofer screws (A).
3. Disconnect the harness connector from the rear woofer (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

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AV

STEERING SWITCH

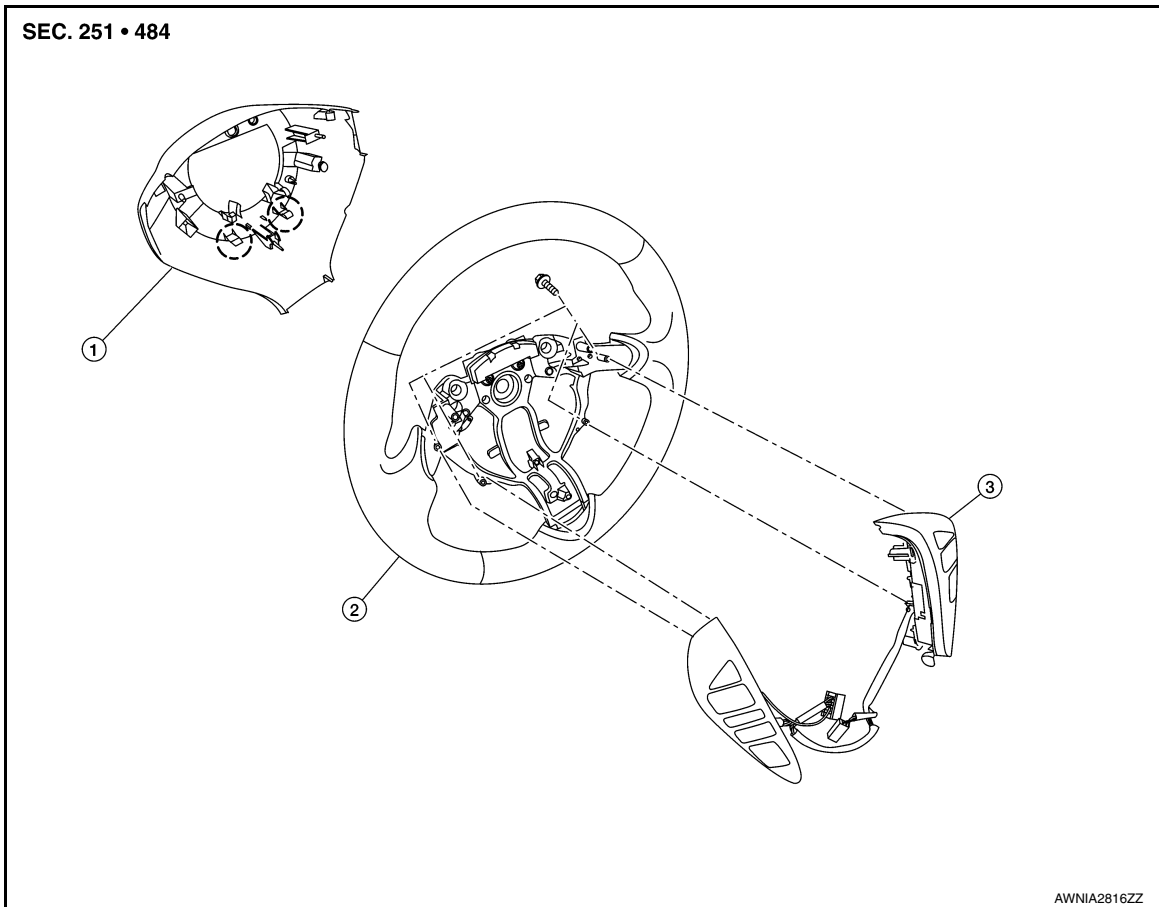
< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

STEERING SWITCH

Exploded View


INFOID:000000009758917



1. Steering wheel rear finisher

2. Steering wheel

3. Steering switches

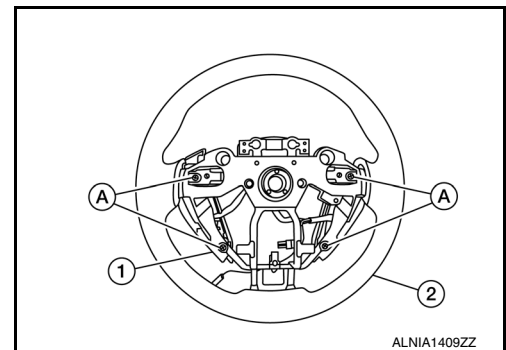
 Pawl

Removal and Installation

INFOID:000000009758918

REMOVAL

1. Remove the steering wheel. Refer to [ST-10. "Removal and Installation"](#).
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (A).
4. Remove the steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

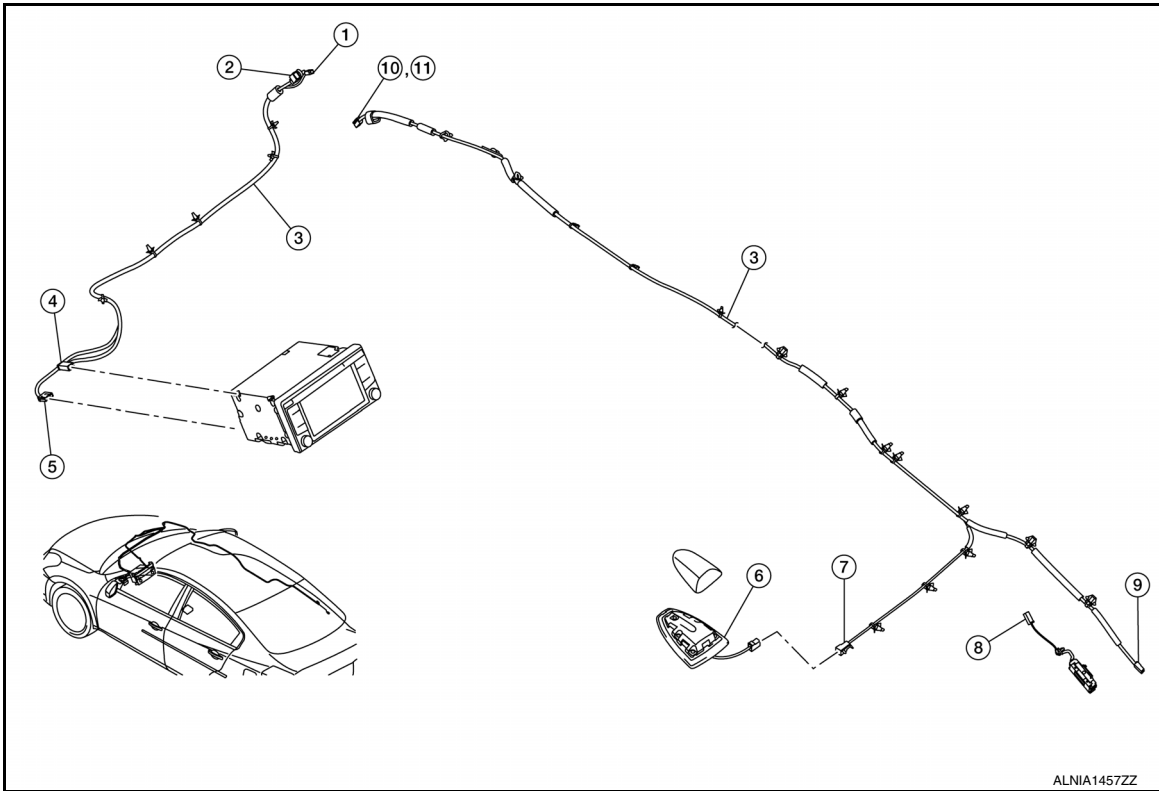
< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

ANTENNA FEEDER

Location of Antenna

INFOID:000000009758919



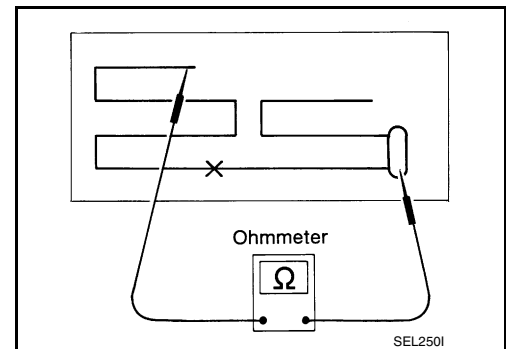
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|----------|----------|----------------------|
| 1. M112 | 2. M107 | 3. Antenna feeder |
| 4. M141 | 5. M140 | 6. Satellite antenna |
| 7. M504 | 8. M503 | 9. M502 |
| 10. M500 | 11. M501 | |

Window Antenna Repair

INFOID:000000009758920

ELEMENT CHECK

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



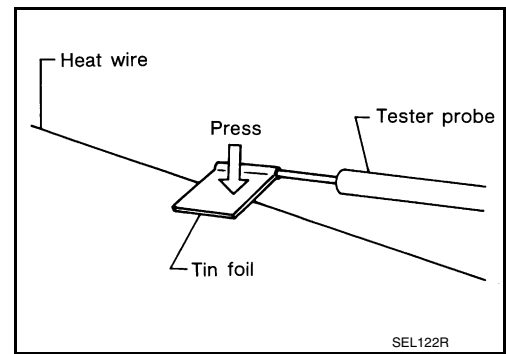
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ANTENNA FEEDER

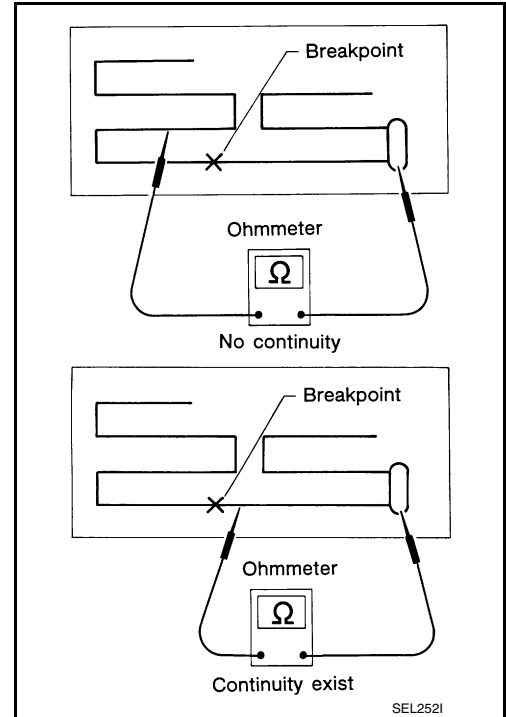
< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

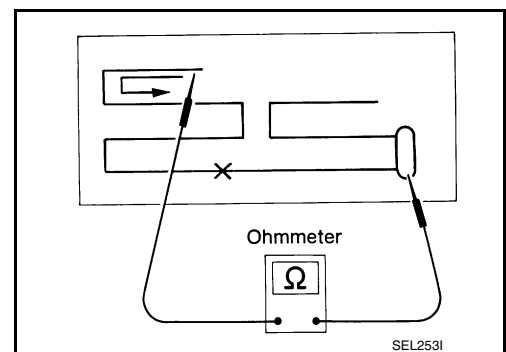
- When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



2. If an element is broken, no continuity will exist.



3. To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.



REPAIR EQUIPMENT

- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

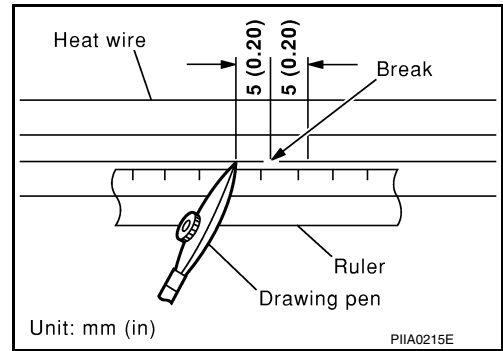
REPAIRING PROCEDURE

ANTENNA FEEDER

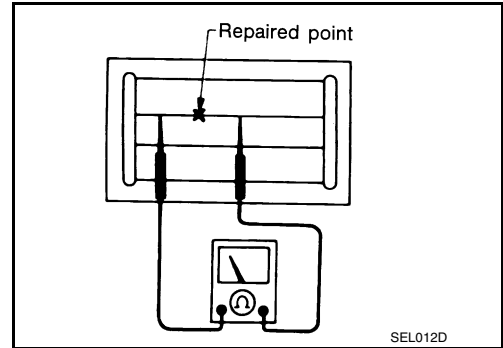
< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

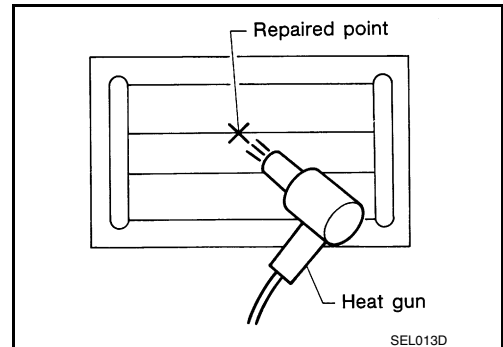
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen. Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.



4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited. Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.



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AV

ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

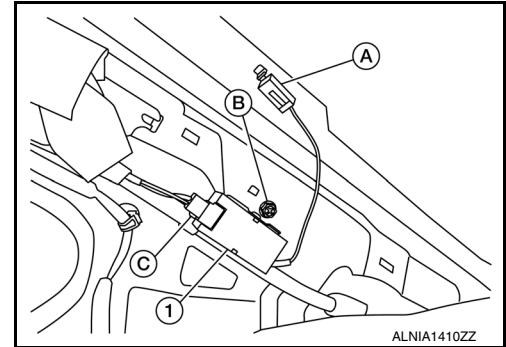
ANTENNA AMP.

Removal and Installation

INFOID:000000009758921

REMOVAL

1. Remove the rear pillar finisher (RH). Refer to [INT-29. "REAR PILLAR FINISHER : Removal and Installation"](#).
2. Disconnect the antenna amp. harness connector (A) from the rear window glass.
3. Disconnect the harness connector (C) from the antenna amp. (1).
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

WINDOW ANTENNA

Removal and Installation

INFOID:000000010296647

The window antenna is serviced as an assembly with the filament. Refer to [DEF-47. "Inspection and Repair"](#).

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BOSE SPEAKER AMP

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

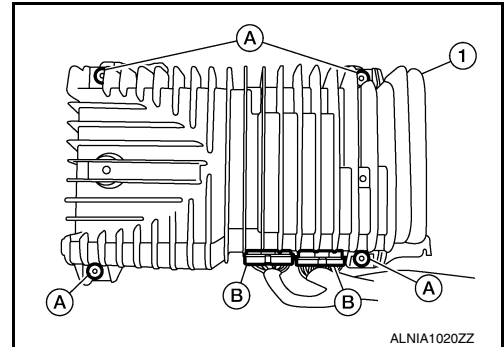
BOSE SPEAKER AMP

Removal and Installation

INFOID:000000009758922

REMOVAL

1. Open the trunk lid.
2. Remove the Bose speaker amp. screws (A).
3. Disconnect the harness connectors (B) from the Bose speaker amp. (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

USB CONNECTOR

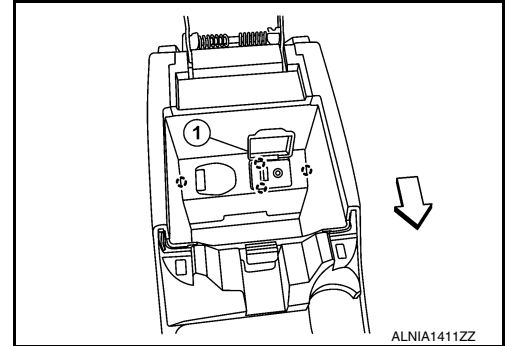
Removal and Installation

INFOID:000000009758923

Removal

1. Remove the center console rear finisher cover. Refer to [TM-253, "Exploded View"](#).
2. Release the pawls and remove the USB connector (1) from the center console rear finisher cover.

- : Pawl
- ⇐: Front



Installation

Installation is in the reverse order of removal.

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AV

SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

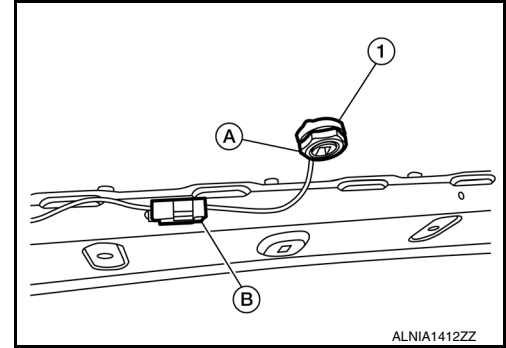
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:000000009758924

REMOVAL

1. Lower the headlining at the rear. Refer to [INT-38, "Exploded View"](#).
2. Remove the satellite radio antenna nut (A).
3. Disconnect the harness connector (B) from the satellite radio antenna (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

BLUETOOTH CONTROL UNIT

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

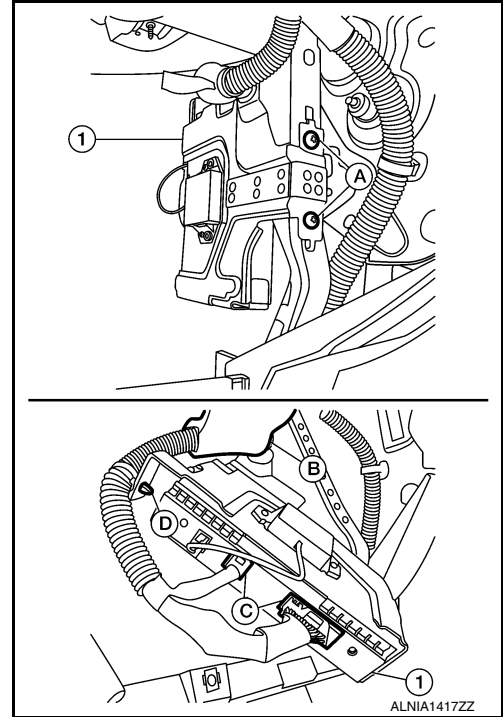
BLUETOOTH CONTROL UNIT

Removal and Installation

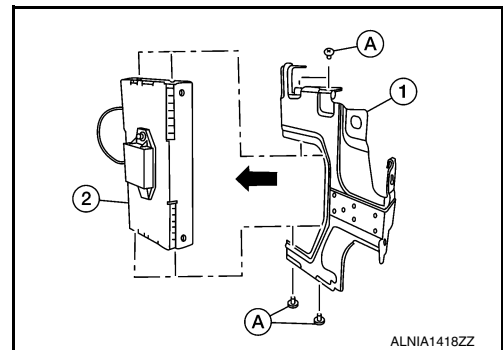
INFOID:000000009758925

REMOVAL

1. Remove the glove box assembly. Refer to [IP-22. "Removal and Installation"](#).
2. Remove the Bluetooth control unit screws (A) and position aside the Bluetooth control unit assembly (1).
3. Disconnect the Bluetooth control unit connectors (C) and release the harness retainer (B) from the Bluetooth control unit bracket.
4. Release the harness clip (D) from the Bluetooth control unit bracket and remove the Bluetooth control unit (1).



5. Remove the Bluetooth control unit bracket screws (A), then remove the Bluetooth control unit (2) from the Bluetooth control unit bracket (1).



INSTALLATION

Installation is in the reverse order of removal.

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AV

MICROPHONE

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

MICROPHONE

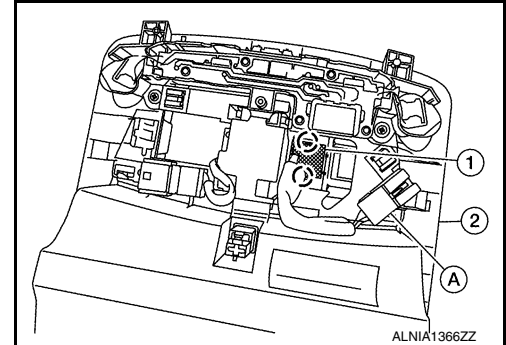
Removal and Installation

INFOID:000000009758926

REMOVAL

1. Remove the front room/map lamp assembly. Refer to [INL-52. "Removal and Installation"](#).
2. Disconnect the microphone connector (A) from the front room/map lamp assembly (2).
3. Release the microphone pawls, then remove the microphone (1).

○: Pawl



INSTALLATION

Installation is in the reverse order of removal.

PRECAUTION

PRECAUTIONS

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

INFOID:000000010296648

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. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Precaution for Trouble Diagnosis

INFOID:000000009758928

AV COMMUNICATION SYSTEM

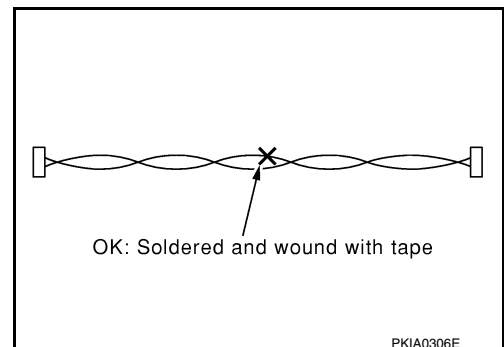
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

INFOID:000000009758929

AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



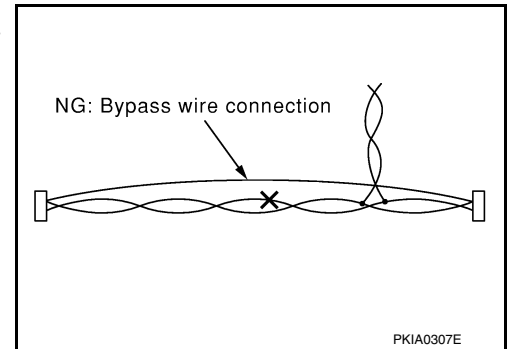
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PRECAUTIONS

< PRECAUTION >

[NAVIGATION WITHOUT BOSE]

- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)



Precaution for Work

INFOID:000000009758930

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
 - Water soluble dirt:
 - Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
 - Then rub with a soft, dry cloth.
 - Oily dirt:
 - Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
 - Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
 - Then rub with a soft, dry cloth.
 - Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
 - For genuine leather seats, use a genuine leather seat cleaner.

PREPARATION

< PREPARATION >

[NAVIGATION WITHOUT BOSE]

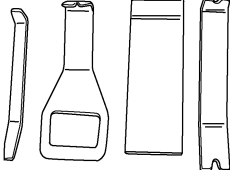
PREPARATION

PREPARATION

Special Service Tools


INFOID:000000009758931

The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set <div style="text-align: center;">  <p>AWJIA0483ZZ</p> </div>	Removing trim components

Commercial Service Tools

INFOID:000000009758932

Tool name	Description
Power tool <div style="text-align: center;">  <p>PIIB1407E</p> </div>	Loosening nuts, screws and bolts

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COMPONENT PARTS

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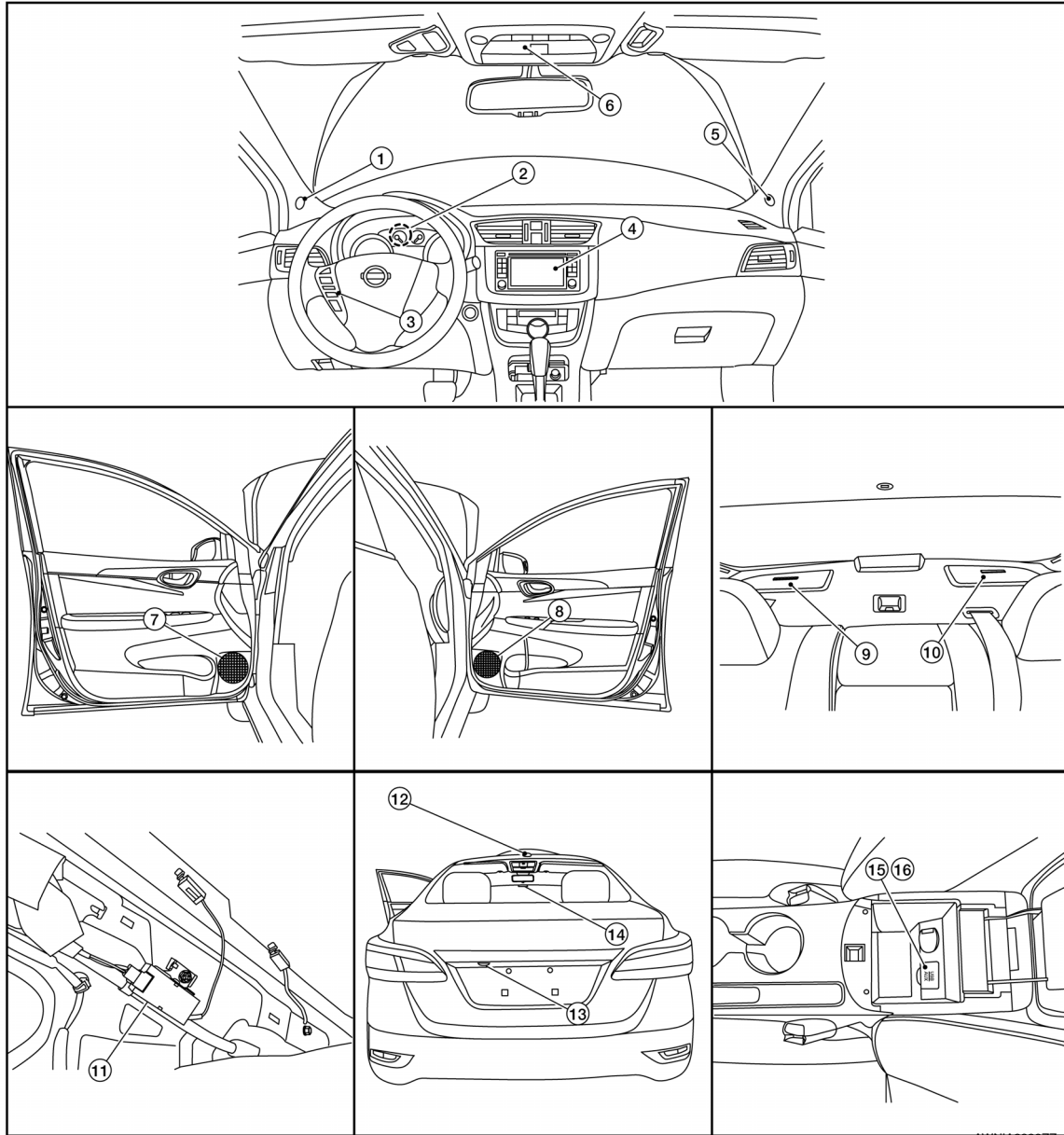
[NAVIGATION WITHOUT BOSE]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000009758933



AWNIA2629ZZ

- | | | |
|--------------------------|--------------------------|-----------------------|
| 1. Front tweeter LH | 2. GPS antenna | 3. Steering switches |
| 4. AV control unit | 5. Front tweeter RH | 6. Microphone |
| 7. Front door speaker LH | 8. Front door speaker RH | 9. Rear speaker RH |
| 10. Rear speaker LH | 11. Antenna amp. | 12. Satellite antenna |
| 13. Rear view camera | 14. Window antenna | 15. USB interface |
| 16. AUX jack | | |

Component Description

INFOID:000000009758934

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

Part name	Description
AV control unit	<ul style="list-style-type: none"> • Operation of navigation and audio systems are integrated. • Includes the audio, hands-free phone, navigation, satellite radio, rear view monitor, USB connection and AUX IN connection functions. • Map data can be loaded from SD-card inserted in SD-card slot. • Audio signals are output to each speaker. • Inputs illumination signals required for display dimming control. • Inputs signals for driving status recognition (vehicle speed and reverse). • Touch panel functions can be operated by touching display directly.
Map SD-card	A collection of Map data.
AUX jack	AUX sound and data input signals are transmitted to AV control unit.
Front door speakers	Outputs high, mid and low range audio signals from AV control unit.
Front tweeters	
Rear speakers	
Steering switches	<ul style="list-style-type: none"> • Operations for audio, hands-free phone and voice recognition are possible. • Steering switch signal is output to AV control unit.
Microphone	<ul style="list-style-type: none"> • Used for hands-free phone operations. • Microphone signal is transmitted to AV control unit. • Power is supplied from AV control unit.
USB interface	USB sound and data input signals are transmitted to AV control unit.
Rear view camera	<ul style="list-style-type: none"> • Outputs image of vehicle rear to AV control unit. • Power is supplied from AV control unit.
Satellite antenna	Satellite radio signal is received and transmitted to AV control unit.
GPS antenna	GPS signal is received and transmitted to AV control unit.
Antenna amp.	<ul style="list-style-type: none"> • AM/FM signal received by window antenna is amplified and transmitted to AV control unit. • Power is supplied from AV control unit.
Window antenna	AM/FM signal is received and transmitted to antenna amp.

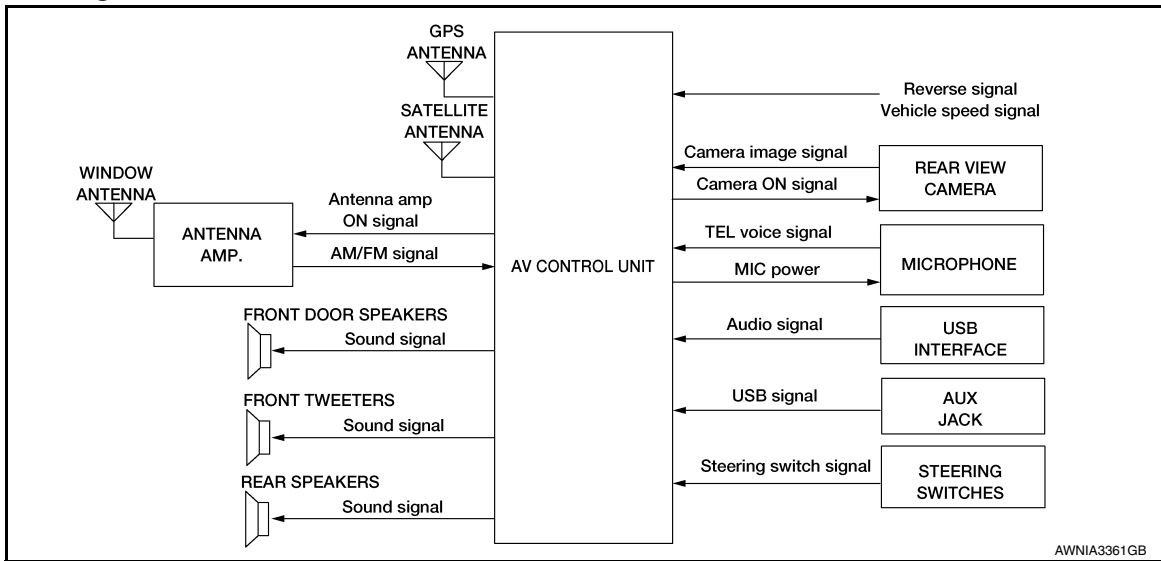
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AV

SYSTEM

System Diagram

INFOID:000000009758935



System Description

INFOID:000000009758936

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

Audio function and display are built into AV control unit.

This navigation has the following functions.

- Map data on SD-card.
- Full support for playback of music from iPod® and USB device
- High resolution color 5.8 inch display with touch panel function
- FM/AM twin digital tuner
- USB mass storage connection
- Satellite radio
- Hands-free phone system

iPod® is a trademark of Apple inc., registered in the U.S. and other countries.

NAVIGATION SYSTEM FUNCTION

Description

- The navigation system can be operated by control panel of the AV control unit and display (touch panel) of the AV control unit.
- Guide sound during the operation of the navigation system is output from AV control unit to front speakers.
- AV control unit calculates the vehicle location based on the signals from GYRO (angle speed sensor), vehicle sensor, and GPS satellite, as well as the map data from map SD-card. The vehicle location is displayed on the AV control unit.

POSITION DETECTION PRINCIPLE

The navigation system periodically calculates the vehicle's current position according to the following three signals:

- Travel distance of the vehicle as determined by the vehicle speed sensor
- Turning angle of the vehicle as determined by the gyroscope (angular velocity sensor)
- Direction of vehicle travel as determined by the GPS antenna (GPS information)

The current position of the vehicle is then identified by comparing the calculated vehicle position with map data read from the map SD-card (map-matching), and indicated on the screen as a vehicle mark. More accurate data is judged and used by comparing vehicle position detection results found by the GPS with the result by map-matching.

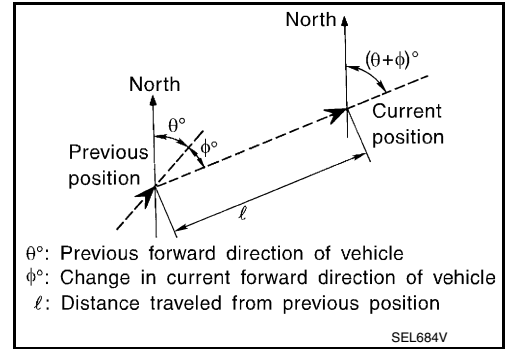
SYSTEM

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

The current vehicle position will be calculated by detecting the distance the vehicle moved from the previous calculation point and its direction.

- Travel distance
Travel distance calculations are based on the vehicle speed sensor input signal. Therefore, the calculation may become incorrect as the tires wear down. To prevent this, an automatic distance correction function has been adopted.
- Travel direction
Change in the travel direction of the vehicle is calculated by a gyroscope (angular velocity sensor) and a GPS antenna (GPS information). They have both advantages and disadvantages.



Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	Can detect the vehicle's turning angle quite accurately.	Direction errors may accumulate when vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	Can detect the vehicle's travel direction (North/South/East/West).	Correct direction cannot be detected when vehicle speed is low.

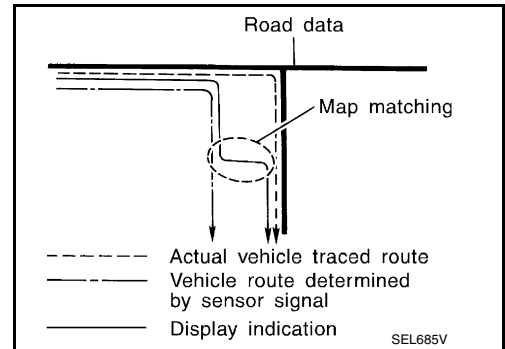
More accurate traveling direction is detected because priorities are set for the signals from these two devices according to the situation.

MAP-MATCHING

Map-matching compares a current location detected by the method in the "Location Detection Principle" with a road map data from map SD-card.

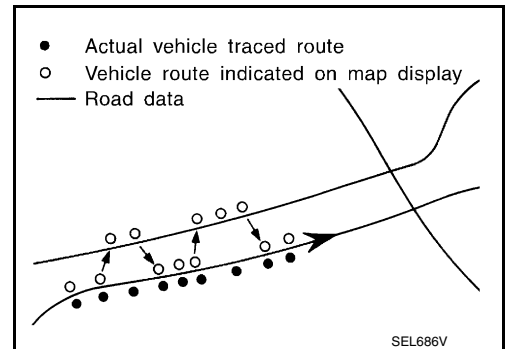
NOTE:

The road map data is based on data stored in the map SD-card.



The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

- In map-matching, alternative routes to reach the destination will be shown and prioritized, after the road on which the vehicle is currently driven has been judged and the vehicle mark has been repositioned. Alternative routes will be shown in different order of priority, and the incorrect road can be avoided if there is an error in distance and/or direction. Routes are of the same priority if two roads are running in parallel. Therefore, the vehicle mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.

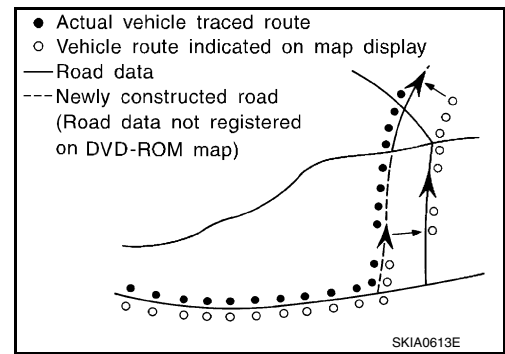


SYSTEM

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

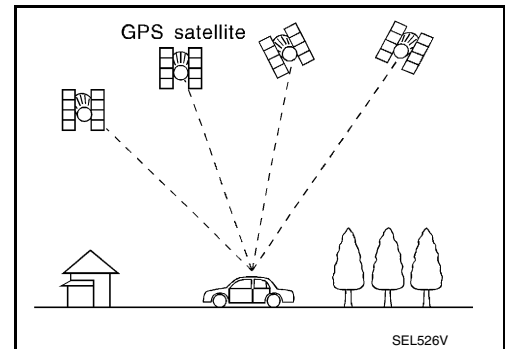
- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair. The map-matching function may find another road and position the vehicle mark on it when driving on a road not present in the map. Then, the vehicle mark may change to it when the correct road is detected.
- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data read from the map SD-card is limited. Therefore, correction by map-matching is not possible when there is an excessive gap between current vehicle position and the position on the map.



GPS (Global Positioning System)

GPS (Global Positioning System) is developed for and is controlled by the US Department of Defense. The system utilizes GPS satellites (NAVSTAR), transmitting out radio waves while flying on an orbit around the earth at an altitude of approximately 21,000 km (13,049 mile).

The receiver calculates the travel position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves that four or more GPS satellites transmit (three-dimensional positioning). The GPS receiver calculates the travel position in two dimensions (latitude/longitude) with the previous altitude data if the GPS receiver receives only three radio waves (two-dimensional positioning). GPS position correction is not performed while stopping the vehicle.



Accuracy of the GPS will deteriorate under the following conditions:

- In two-dimensional positioning, GPS accuracy will deteriorate when altitude of the vehicle position changes.
- The position of GPS satellite affects GPS detection precision. The position detection may not be precisely performed.
- The position detection is not performed if GPS receiver does not receive radio waves from GPS satellites. (Inside a tunnel, parking in a building, under an elevated highway etc.) GPS receiver may not receive radio waves from GPS satellites if any object is placed on the GPS antenna.

NOTE:

- The detection result has an error of approximately 10 m (32.81 ft) even with a high-precision three dimensional positioning.
- There may be cases when the accuracy is lowered and radio waves are stopped intentionally because the GPS satellite signal is controlled by the US trace control center.

SATELLITE RADIO FUNCTION

- Satellite radio function is built into AV control unit.
- Sound signal (satellite radio) is received by satellite antenna and transmitted to AV control unit. AV control unit outputs sound signal to each speaker.

AUXILIARY INPUT FUNCTION

- Sound can be output from an external device by connecting a device with USB connector and AUX jack.
- AUX sound signals are transmitted to each speaker via AV control unit.

REAR VIEW MONITOR FUNCTION

Camera Image Operation Principle

- The AV control unit supplies power to the rear view camera when receiving a reverse signal.
- The rear view camera transmits camera images to the AV control unit when power is supplied from the AV control unit.
- The AV control unit combines a warning message and fixed guide lines with an image received from the rear view camera to display a rear view camera image on the screen.

USB CONNECTION FUNCTION

- iPod® or music files in USB memory can be played.

SYSTEM

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

- Sound signals are transmitted from USB connector and AUX jack to the AV control unit and output to each speaker and tweeter. A
- iPod® is recharged when connected to USB connector and AUX jack.

NOTE:

Use the enclosed USB harness when connecting iPod® to USB connector and AUX jack. B

iPod® is a trademark of Apple inc., registered in the U.S. and other countries.

SPEED SENSITIVE VOLUME SYSTEM

- Volume level of this system goes up and down automatically in proportion to the vehicle speed. C
- The control level can be selected by the customer.

HANDS-FREE PHONE SYSTEM

- Bluetooth® control is built into AV control unit. D
- The connection between cellular phone and AV control unit is performed with Bluetooth® communication. E
- The voice guidance signal is input from the AV control unit and output to the front speakers when operating the cellular phone.

When A Call Is Originated

- Spoken voice sound output from the microphone (microphone signal) is input to AV control unit. F
- AV control unit outputs to cellular phone with Bluetooth® communication as a TEL voice signal.
- Voice sound is then heard at the other party.

When Receiving A Call

- Voice sound is input to own cellular phone from the other party. G
- TEL voice signal is input to AV control unit by establishing Bluetooth® communication from cellular phone, and the signal is output to front speakers. H

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DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:000000009758937

The AV control unit on board diagnosis performs the functions listed in the table below:

Mode		Item	Content
Version		—	Version data of the AV control unit is displayed.
User Configuration	Touch Display Calibration	—	Allows correction of the position detection accuracy of the touch panel.
Radio	FM monitor	—	Monitors the dynamic values of the current tuner
	AM monitor	—	
	XM monitor	—	Version data is displayed.
	XM functions	<ul style="list-style-type: none"> • Clear XM Chipset NVM • Reset All XM Settings • Clear IGS • XM CBM Debug Mode • External Diag Mode 	Current status is displayed.
System State	Running System Status	<ul style="list-style-type: none"> • SD card slot Access • Power Supply • Speed Signal • Direction Signal • Illumination Signal • GPS Antenna • GPS Tracking • Satellites Visible • Satellites Tracked • Microphone Current • Steering wheel key • Radio Antenna • USB Device • iPod® firmware version 	The current system status is displayed.
	Speaker Test 4kHz	—	This activates a sequence of test tone outputs to the audio circuits one after the other for 1 second.
	Speaker Test 100Hz		
		Display-Test	—
Self Test		<ul style="list-style-type: none"> • SD Card Access • BT Module Access • Radio Antenna • GPS Antenna • XM Antenna 	A system self test is executed and the results are stored into the error memory.

Perform CONSULT diagnosis if the AV control unit on board diagnosis does not start or the screen does not display anything.

On Board Diagnosis Function

INFOID:000000009758938

METHOD OF STARTING

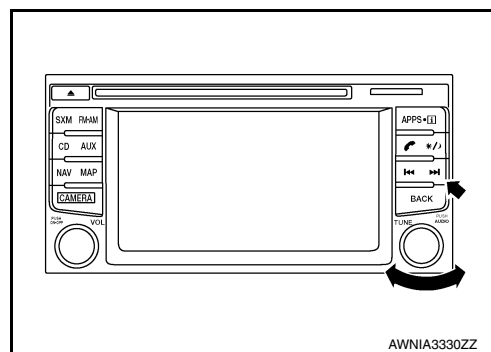
1. Turn the ignition ON.
2. Turn the audio system OFF.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

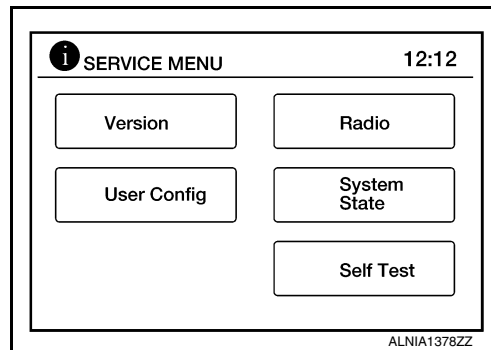
[NAVIGATION WITHOUT BOSE]

< SYSTEM DESCRIPTION >

- While pressing the FORWARD SEEK button, turn the TUNE-dial counterclockwise 3 or more clicks, then clockwise 3 or more clicks, then counterclockwise 3 or more clicks. Shifting from current screen to previous screen is performed by pressing BACK button.



- The trouble diagnosis initial screen is displayed, and Version, User Config, Radio, System State or Self Test can be selected.



CONSULT Function

INFOID:000000009758939

CONSULT FUNCTIONS

CONSULT performs the following functions via communication with the AV control unit.

Direct Diagnostic Mode	Description
Ecu Identification	The AV control unit part number is displayed.
Self Diagnostic Result	The AV control unit self diagnostic results are displayed.
Data Monitor	The AV control unit input/output data is displayed in real time.
Configuration	<ul style="list-style-type: none"> The vehicle specification can be read and saved. The vehicle specification can be written when replacing AV control unit.
CAN Diag Support Mntr	<ul style="list-style-type: none"> The result of transmit/receive diagnosis of AV communication is displayed. The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

The part number of AV control unit is displayed.

SELF DIAGNOSTIC RESULT

Refer to [AV-233, "DTC Index"](#).

DATA MONITOR

Monitor Item [Unit]	Description
VHCL SPD SIG [On/Off]	Indicates vehicle speed signal received from combination meter on CAN communication line.
ILLUM SIG [On/Off]	Indicates condition of illumination signal for the AV control unit.
IGN SIG [On/Off]	Indicates condition of ignition signal.
REV SIG [On/Off]	Indicates condition of reverse signal received from BCM.

CONFIGURATION

Refer to [AV-251, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

CAN DIAG SUPPORT MNTR

Refer to [LAN-13, "CAN Diagnostic Support Monitor"](#).

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AV

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

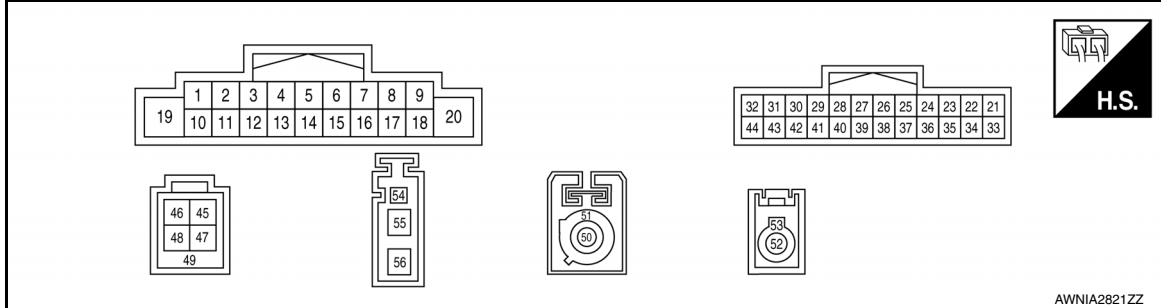
ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

INFOID:000000009758940

TERMINAL LAYOUT



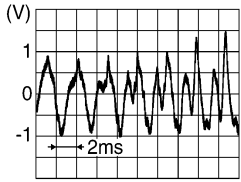
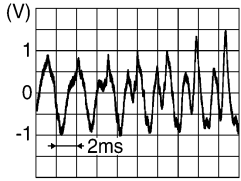



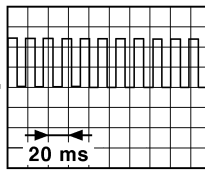
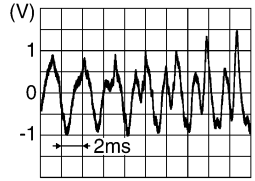
PHYSICAL VALUES

Terminal (Wire color)		Description	Input/ Output	Condition		Reference value (Approx.)
+	-			Ignition switch	Operation	
2 (L)	3 (P)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
4 (LG)	5 (W)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIB3609E
6 (G)	15 (V)	Steering switch signal A	Input	Ignition switch ON	Press SOURCE switch	0V
					Press Δ switch	1.0V
					Press ∇ switch	2.0V
					Press \swarrow switch	3.0V
					Except above	5.0V
7 (P)	Ground	ACC power supply	Input	ACC	—	Battery voltage
8 (L)	—	CAN (H)	Input/ Output	—	—	—
9 (R)	44 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

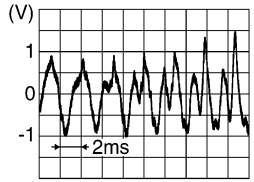
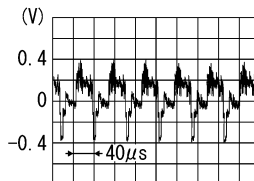
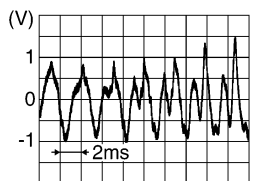
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
11 (SB)	12 (V)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E
13 (BR)	14 (Y)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
16 (R)	15 (V)	Steering switch signal B	Input	Ignition switch ON	Press -  switch	0V
					Press  switch	1.0V
					Press  switch	2.0V
					Except above	5.0V
17 (P)	—	CAN (L)	Input/ Output	—	—	—
18 (Y)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is ap- prox. 40 km/h (25 MPH)	 JSNIA0012GB
19 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (B)	Ground	Ground	—	ON	—	0 V
23 (O)	—	MR output	Output	—	—	—
28 (G)	Ground	Reverse signal	Input	ON	Selector lever in R (re- verse)	Battery voltage
					Selector lever in any posi- tion other than R (reverse)	0 V
30 (R)	Ground	AUX jack audio signal LH	Input	Ignition switch ON	Recieved audio signal (AUX input)	 SKIB3609E
31 (B)	Ground	AUX ground	—	ON	—	0V

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AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
32 (W)	Ground	AUX jack audio signal RH	Input	Ignition switch ON	Received audio signal (AUX input)	 <small>SKIB3609E</small>
33 (L)	Ground	Camera ground	—	ON	—	0 V
34 (LG)	Ground	Camera image signal	Input	ON	When camera image is displayed	 <small>SKIB2251J</small>
35	—	Camera shield	—	—	—	—
36 (V)	Ground	Camera power supply	Output	ON	When camera image is displayed	6.0 V
					Except for above	0 V
37 (BR)	Ground	Ignition power supply	Input	ON or START	—	Battery voltage
42 (R)	—	MIC VCC	Input	Ignition switch ON	—	—
43 (G)	41 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 <small>SKIB3609E</small>
45 (W)	—	V BUS signal	—	—	—	—
46 (G)	—	USB ground	—	—	—	—
47 (L)	—	USB D+ signal	—	—	—	—
48 (R)	—	USB D- signal	—	—	—	—
49	—	Shield	—	—	—	—
50 (B)	Ground	GPS antenna signal	Input	ON	—	5.0 V
51	—	GPS Shield	—	—	—	—
52 (B)	Ground	Satellite antenna signal	Input	ON	—	5.0 V
53	—	SAT Shield	—	—	—	—

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
54 (B)	Ground	Antenna amp. ON signal	Output	ON	—	Battery voltage
55 (B)	Ground	AM-FM main antenna	Input	ON	—	5.0 V

DTC Index

INFOID:000000009758941

CONSULT Display	Reference Page
U1000: CAN COMM CIRCUIT	AV-253, "DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-254, "DTC Logic"
U1217: BLUETOOTH MODULE	AV-255, "DTC Logic"
U1229: iPod CERTIFICATION	AV-256, "DTC Logic"
U122F: Digital broadcasting connection error	AV-257, "DTC Logic"
U1244: GPS ANTENNA CONN	AV-258, "DTC Logic"
U1258: XM ANTENNA CONN	AV-259, "DTC Logic"
U1263: USB OVERCURRENT	AV-260, "DTC Logic"
U1264: ANTENNA AMP TERMINAL	AV-261, "DTC Logic"
U12AA: Configuration Error	AV-262, "DTC Logic"
U12AC: Display Temperature too High	AV-263, "DTC Logic"
U12AD: ECU Temperature too High	AV-264, "DTC Logic"
U12AE: Internal Amplifier temperature Warning	AV-265, "DTC Logic"
U12AF: CD Mechanism Temperature Warning	AV-266, "DTC Logic"
U12B0: Supply Voltage Goes below 9V > 20s	AV-267, "DTC Logic"
U12B1: Supply Voltage Goes High > 16V for 20s	AV-268, "DTC Logic"
U1310: CONTROL UNIT (AV)	AV-269, "DTC Logic"

AV

< WIRING DIAGRAM >

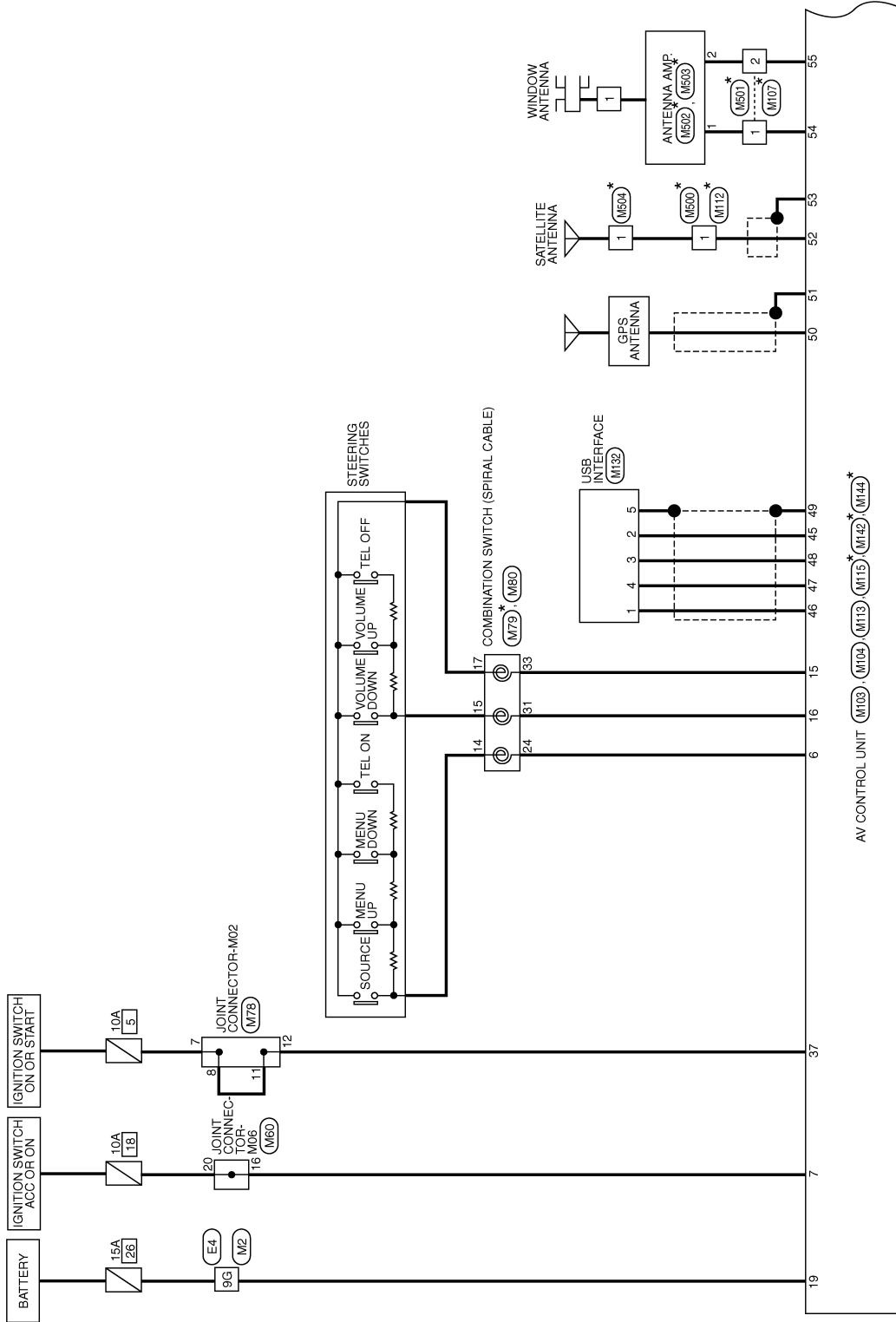
WIRING DIAGRAM

NAVIGATION WITHOUT BOSE

Wiring Diagram

INFOID:000000009758942

NAVIGATION SYSTEM - WITHOUT BOSE AUDIO SYSTEM



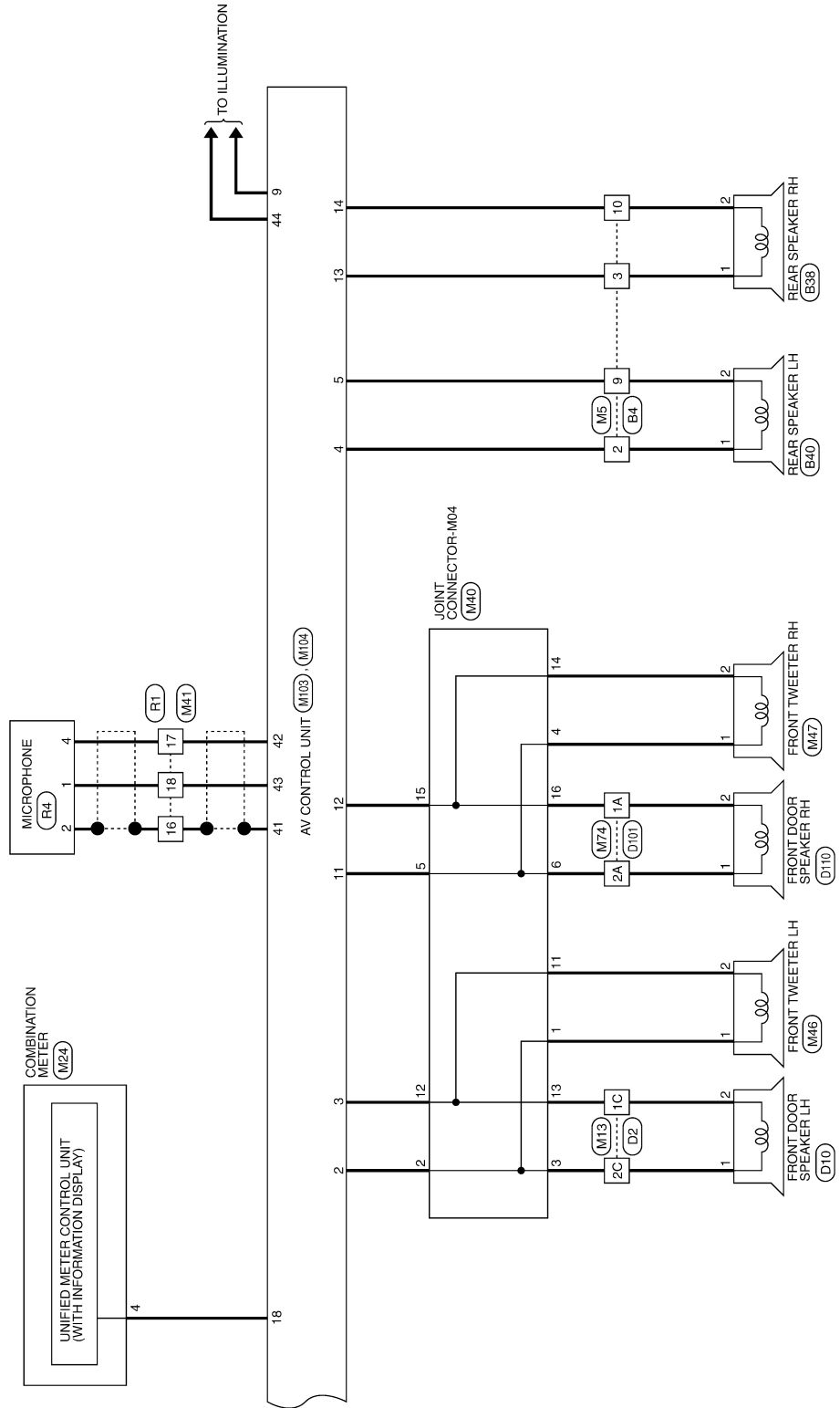
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

ABNWA2128GB

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

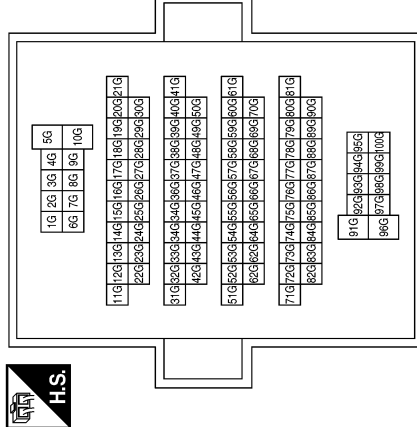
[NAVIGATION WITHOUT BOSE]



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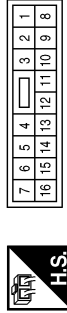
NAVIGATION SYSTEM CONNECTORS - WITHOUT BOSE AUDIO SYSTEM

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



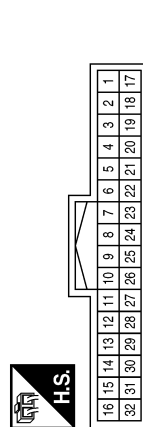
Terminal No.	Color of Wire	Signal Name
3G	SB	-
9G	Y	-

Connector No.	M5
Connector Name	WIRE TO WIRE
Connector Color	WHITE



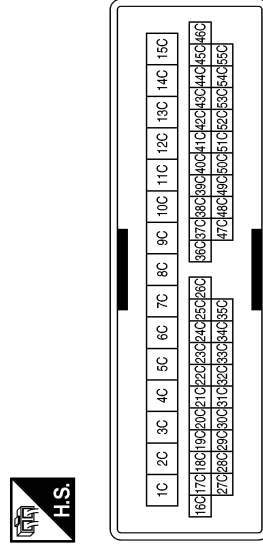
Terminal No.	Color of Wire	Signal Name
2	LG	-
3	BR	-
9	W	-
10	Y	-

Connector No.	M9
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
14	SHIELD	-
15	V	-
30	L	-
31	LG	-

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

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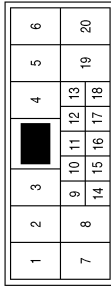


NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

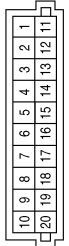
[NAVIGATION WITHOUT BOSE]

Connector No.	M41
Connector Name	WIRE TO WIRE
Connector Color	WHITE



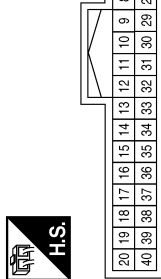
Terminal No.	Color of Wire	Signal Name
16	SHIELD	-
17	R	-
18	G	-

Connector No.	M40
Connector Name	JOINT CONNECTOR-M04
Connector Color	ORANGE



Terminal No.	Color of Wire	Signal Name
1	W	-
2	L	-
3	R	-
4	BR	-
5	SB	-
6	G	-
11	Y	-(WITHOUT BOSE AUDIO SYSTEM)
12	P	-(WITHOUT BOSE AUDIO SYSTEM)
13	GR	-(WITHOUT BOSE AUDIO SYSTEM)
14	LG	-(WITHOUT BOSE AUDIO SYSTEM)
15	V	-(WITHOUT BOSE AUDIO SYSTEM)
16	P	-(WITHOUT BOSE AUDIO SYSTEM)

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
4	Y	8 P/R OUTPUT

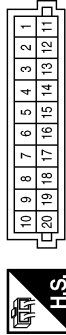
ABNIA5808GB

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

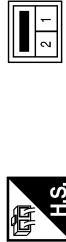
[NAVIGATION WITHOUT BOSE]

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE



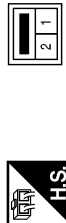
Terminal No.	Color of Wire	Signal Name
1	SB	-
3	G	-
16	P	-
20	L	-

Connector No.	M47
Connector Name	FRONT TWEETER RH
Connector Color	BROWN



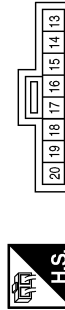
Terminal No.	Color of Wire	Signal Name
1	BR	-
2	LG	-

Connector No.	M46
Connector Name	FRONT TWEETER LH
Connector Color	BROWN



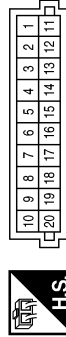
Terminal No.	Color of Wire	Signal Name
1	W	-
2	Y	-

Connector No.	M79
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



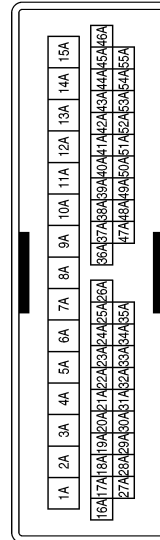
Terminal No.	Color of Wire	Signal Name
14	B	-
15	GR	-
17	BR	-

Connector No.	M78
Connector Name	JOINT CONNECTOR-M02
Connector Color	PINK



Terminal No.	Color of Wire	Signal Name
7	G	-
8	LG	-
11	LG	-
12	BR	-

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

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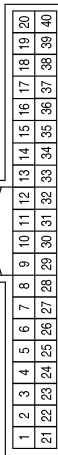
AV

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >


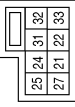
[NAVIGATION WITHOUT BOSE]

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

Terminal No.	Color of Wire	Signal Name
16	O	MR OUTPUT


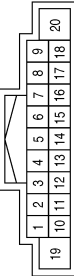
Connector No.	M80
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

Terminal No.	Color of Wire	Signal Name
24	G	-
31	R	-
33	V	-

Terminal No.	Color of Wire	Signal Name
7	P	ACC
8	L	CAN-H
9	R	ILL (+)
10	-	-
11	SB	FR RH SP (+)
12	V	FR RH SP (-)
13	BR	RR RH SP (+)
14	Y	RR RH SP (-)
15	V	STRG SW GND
16	R	STRG SW B
17	P	CAN-L
18	Y	SPEED 8P/R
19	Y	+B
20	B	GND

Connector No.	M103
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1	-	-
2	L	FR LH SP (+)
3	P	FR LH SP (-)
4	LG	RR LH SP (+)
5	W	RR LH SP (-)
6	G	STRG SW A

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NAVIGATION WITHOUT BOSE

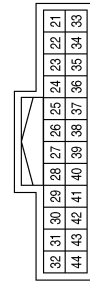
< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

Terminal No.	Color of Wire	Signal Name
36	V	CAMERA +
37	BR	IGNITION
38	-	-
39	-	-
40	-	-
41	SHIELD	MIC GND
42	R	MIC VCC
43	G	MIC SIGNAL
44	GR	ILL (-)

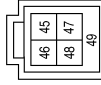
Terminal No.	Color of Wire	Signal Name
26	-	-
27	-	-
28	G	REVERSE
29	-	-
30	R	AUX L
31	B	AUX GND
32	W	AUX R
33	L	CAMERA GND
34	LG	CAMERA ON
35	SHIELD	CAMERA SHIELD

Connector No.	M104
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	-	-
22	-	-
23	O	MR OUTPUT
24	-	-
25	-	-

Connector No.	M113
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color	BLUE



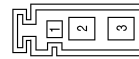
Terminal No.	Color of Wire	Signal Name
45	W	V BUS
46	G	USB GND
47	L	USB D (+)
48	R	USB D (-)
49	SHIELD	USB SHIELD

Connector No.	M112
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M107
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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

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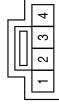
AV

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

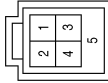
[NAVIGATION WITHOUT BOSE]

Connector No.	M133
Connector Name	AUX JACK
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R	-
3	B	-
4	W	-

Connector No.	M132
Connector Name	USB INTERFACE
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	G	-
2	W	-
3	R	-
4	L	-
5	SHIELD	-

Connector No.	M115
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color	BLUE



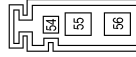
Terminal No.	Color of Wire	Signal Name
50	B	GPS ANT
51	SHIELD	GPS SHIELD

Connector No.	M500
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M144
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
54	B	ANT ON
55	B	MAIN ANT
56	-	-

Connector No.	M142
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color	PINK



Terminal No.	Color of Wire	Signal Name
52	B	SAT ANT
53	SHIELD	SAT SHIELD

ABNIA5811GB

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

Connector No.	M503
Connector Name	ANTENNA AMP.
Connector Color	BLACK



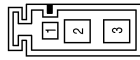
Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M502
Connector Name	ANTENNA AMP.
Connector Color	GRAY



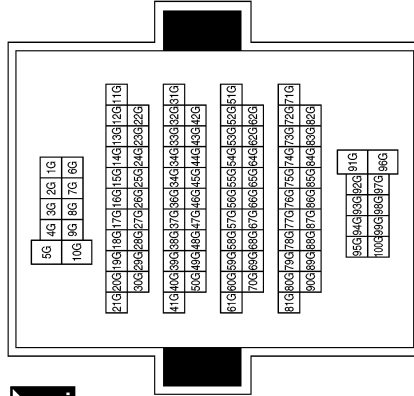
Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-

Connector No.	M501
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	M504
Connector Name	SATELLITE ANTENNA
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	B	-

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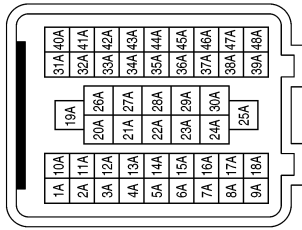
NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

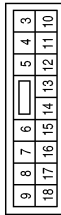
[NAVIGATION WITHOUT BOSE]

Terminal No.	Color of Wire	Signal Name
5A	O	-
18A	W	-

Connector No.	E64
Connector Name	WIRE TO WIRE
Connector Color	BLACK



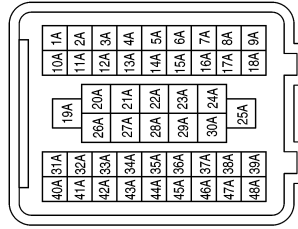
Connector No.	E43
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



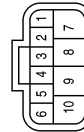
Terminal No.	Color of Wire	Signal Name
13	O	AT ECU IGN

Terminal No.	Color of Wire	Signal Name
5A	LG	-
18A	G	-

Connector No.	F50
Connector Name	WIRE TO WIRE
Connector Color	BLACK



Connector No.	F26
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
4	LG	-
8	G	-

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NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

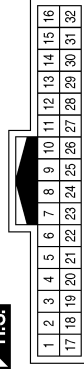
[NAVIGATION WITHOUT BOSE]

Connector No.	B30
Connector Name	REAR VIEW CAMERA
Connector Color	BLACK



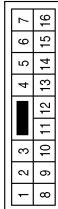
Terminal No.	Color of Wire	Signal Name
1	R	-
2	B	-
4	W	-
5	B	-

Connector No.	B10
Connector Name	WIRE TO WIRE
Connector Color	WHITE



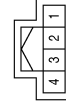
Terminal No.	Color of Wire	Signal Name
14	SHIELD	-
15	W	-
30	R	-
31	B	-

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	G	-
3	W	-
9	GR	-
10	O	-

Connector No.	B60
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	-
2	R	-
3	W	-
4	SHIELD	-

Connector No.	B40
Connector Name	REAR SPEAKER LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G	-
1	GR	-

Connector No.	B38
Connector Name	REAR SPEAKER RH
Connector Color	WHITE



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

ABNIA5812GB

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NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

Connector No.	B76
Connector Name	WIRE TO WIRE
Connector Color	WHITE



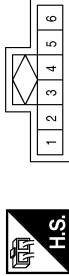
Terminal No.	Color of Wire	Signal Name
1	B	-
2	R	-
3	W	-
4	B	-

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



Terminal No.	Color of Wire	Signal Name
16	SHIELD	-
17	R	-
18	G	-

Connector No.	R4
Connector Name	MICROPHONE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G	-
2	SHIELD	-
4	R	-

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



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

Connector No.	D10
Connector Name	FRONT DOOR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



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

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

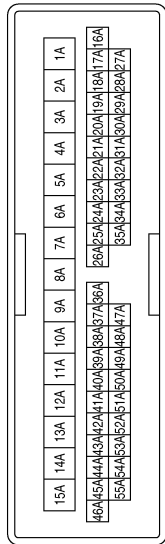
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Connector No.	D110
Connector Name	FRONT DOOR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



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

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



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

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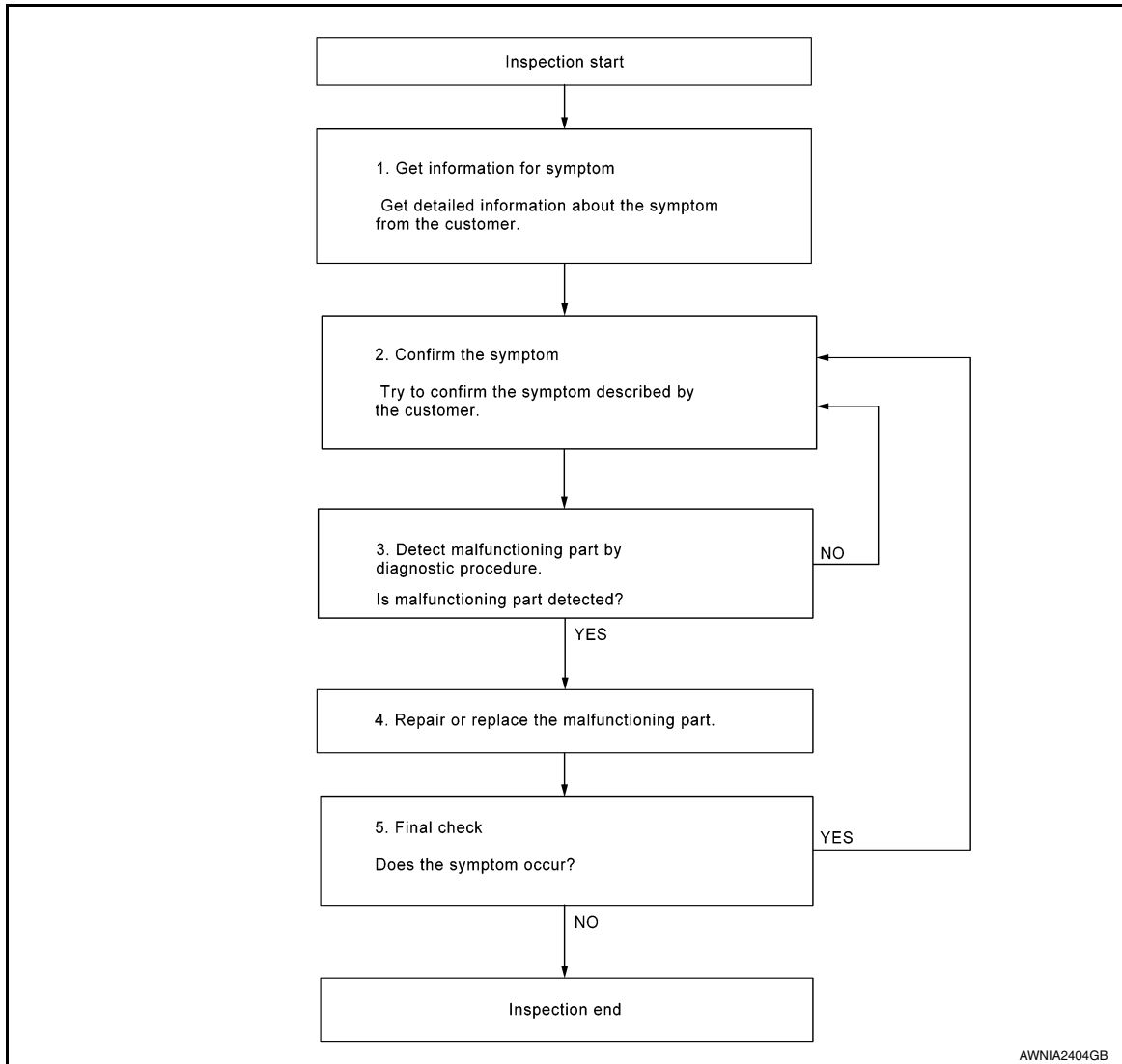
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000009758943

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. Refer to [AV-285. "Symptom Table"](#).

>> GO TO 3

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

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

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INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:000000009758944

BEFORE REPLACEMENT

When replacing AV control unit, save or print current vehicle specification with CONSULT configuration before replacement.

NOTE:

If "Before Replace ECU" cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing AV control unit.

AFTER REPLACEMENT

CAUTION:

When replacing AV control unit, you must perform "After Replace ECU" with CONSULT.

- Complete the procedure of "After Replace ECU" in order.
- If you set incorrect "After Replace ECU", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure

INFOID:000000009758944

1. SAVING VEHICLE SPECIFICATION

④-CONSULT

Enter "Re/Programming, Configuration" and perform "Before Replace ECU" to save or print current vehicle specification.

NOTE:

If "Before Replace ECU" cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing AV control unit.

>> GO TO 2.

2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to [AV-298, "Removal and Installation"](#).

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

④CONSULT

1. Enter "Re/Programming, Configuration".
2. If "Before Replace ECU" operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press "Confirm" to write vehicle specification. Refer to [AV-251, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).
3. If "Before Replace ECU" operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to [AV-251, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

>> GO TO 4.

4. OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines) are normal.

>> Work End.

CONFIGURATION (AV CONTROL UNIT)

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:000000009758946

Vehicle specification needs to be written with CONSULT because it is not written after replacing AV control unit.

Configuration has three functions as follows:

Function	Description
"Before Replace ECU"	<ul style="list-style-type: none">• Reads the vehicle configuration of current AV control unit.• Saves the read vehicle configuration.
"After Replace ECU"	Writes the vehicle configuration with manual selection.
"Select Saved Data List"	Writes the vehicle configuration with saved data.

CAUTION:

- When replacing AV control unit, you must perform "Select Saved Data List" or "After Replace ECU" with CONSULT.
- Complete the procedure of "Select Saved Data List" or "After Replace ECU" in order.
- If you set incorrect "Select Saved Data List" or "After Replace ECU", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.
- Never perform "Select Saved Data List" or "After Replace ECU" except for new AV control unit.

CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:000000009758947

1. WRITING MODE SELECTION

CONSULT

Select "Reprogramming, Configuration" of AV control unit.

When writing saved data >> GO TO 2.

When writing manually >> GO TO 3.

2. PERFORM "SAVED DATA LIST"

CONSULT

Automatically "Operation Log Selection" window will display if "Before Replace ECU" was performed. Select applicable file from the "Save Data List" and press "Confirm".

>> Work End.

3. PERFORM "AFTER REPLACE ECU" OR "MANUAL CONFIGURATION"

CONSULT

1. Select "After Replace ECU" or "Manual Configuration".
2. Identify the correct model and configuration list. Refer to [AV-252. "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).
3. Confirm and/or change setting value for each item.

CAUTION:

Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.

4. Select "Next".

CAUTION:

Make sure to select "Next", confirm each setting value and press "OK" even if the indicated configuration of brand new AV control unit is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model can not be memorized.

5. When "Completed", select "End".

>> GO TO 4.

4. OPERATION CHECK

Confirm that each function controlled by AV control unit operates normally.

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INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

>> Work End.

CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:000000009758948

CAUTION:

Thoroughly read and understand the vehicle specification. Incorrect settings may result in abnormal control of ECU.

MANUAL SETTING ITEM	
Items	Setting value
SOUND SYSTEM	BASE ⇔ BOSE
CAMERA SYSTEM	NONE/AVM ⇔ REAR CAMERA

⇔: Items which confirm vehicle specifications

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Logic

INFOID:000000009758949

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CAN COMM CIRCUIT [U1000]	AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

Diagnosis Procedure

INFOID:000000009758950

1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Perform Self Diagnostic Result for MULTI AV.

Is CAN COMM CIRCUIT displayed?

- YES >> Refer to [LAN-16, "Trouble Diagnosis Flow Chart"](#).
NO >> Refer to [GI-39, "Intermittent Incident"](#).

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U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:000000009758951

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	Error during CAN controller hardware initialization (VCAN).	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-298, "Removal and Installation" .

U1217 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1217 AV CONTROL UNIT

DTC Logic

INFOID:000000009758952

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
BLUETOOTH MODULE [U1217]	Connection failure to the internal Bluetooth® sub unit is detected.	Replace AV control unit if malfunction occurs constantly. Refer to AV-298, "Removal and Installation" .

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U1229 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1229 AV CONTROL UNIT

DTC Logic

INFOID:000000009758953

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
iPod CERTIFICATION [U1229]	iPod authentication chip error.	Replace AV control unit if malfunction occurs constantly. Refer to AV-298, "Removal and Installation" .

U122F AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U122F AV CONTROL UNIT

DTC Logic

INFOID:000000009758954

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Digital broadcasting connection error [U122F]	Communication error with digital audio broadcast module internal to AV control unit.	Replace AV control unit if malfunction occurs constantly. Refer to AV-298, "Removal and Installation" .

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U1244 GPS ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1244 GPS ANTENNA

DTC Logic

INFOID:000000009758955

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
GPS ANTENNA CONN [U1244]	Open or short to ground is detected in GPS antenna connection.	<ul style="list-style-type: none">GPS antenna disconnection.Open or short to ground in GPS antenna signal circuit.

Diagnosis Procedure

INFOID:000000009758956

Regarding Wiring Diagram information, refer to [AV-234, "Wiring Diagram"](#).

1. GPS ANTENNA INSPECTION

Visually inspect the GPS antenna and antenna feeder. Refer to [AV-310, "Removal and Installation"](#).

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning components.

2. CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect AV control unit connector M115.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal 50 and ground.

AV control unit terminal	Ground	Voltage
(+)	(-)	
50	—	5.0 V

Is inspection result normal?

YES >> Replace GPS antenna. Refer to [AV-310, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-298, "Removal and Installation"](#).

U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1258 SATELLITE RADIO ANTENNA

DTC Logic

INFOID:000000009758957

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
XM ANTENNA CONN [U1258]	Open or short to ground is detected in satellite antenna connection.	<ul style="list-style-type: none">Satellite antenna disconnection.Open or short to ground in satellite antenna signal circuit.

Diagnosis Procedure

INFOID:000000009758958

Regarding Wiring Diagram information, refer to [AV-234, "Wiring Diagram"](#).

1. SATELLITE ANTENNA INSPECTION

Visually inspect the satellite antenna and antenna feeder. Refer to [AV-303, "Location of Antenna"](#).

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning components.

2. CHECK AV CONTROL UNIT VOLTAGE

- Turn ignition switch ON.
- Check voltage between AV control unit connector M142 terminal 52 and ground.

AV control unit terminal	Ground	Voltage
(+)	(-)	
52	—	5.0 V

Is inspection result normal?

YES >> Replace satellite radio antenna [AV-309, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-298, "Removal and Installation"](#).

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AV

U1263 USB

DTC Logic

INFOID:000000009758959

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
USB OVERCURRENT [U1263]	Overcurrent in USB harness is detected.	<ul style="list-style-type: none"> • Device connected to USB interface. • Harness between the AV control unit and USB interface.

DTC CONFIRMATION PROCEDURE

1. PERFORM SELF DIAGNOSTIC RESULT

1. If there is a device connected to the USB interface, disconnect it.
2. Turn ignition switch ON and wait for 2 seconds or more.
3. Perform Self Diagnostic Result for MULTI AV.

Is DTC U1263 displayed?

- YES >> Refer to [AV-260, "Diagnosis Procedure"](#).
 NO >> Inspection End.

Diagnosis Procedure

INFOID:000000009758960

1. CHECK USB INTERFACE HARNESS

Visually inspect USB interface harness. Refer to [AV-307, "Removal and Installation"](#).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Replace USB interface harness. Refer to [AV-307, "Removal and Installation"](#).

2. CHECK USB INTERFACE HARNESS

Check USB interface harness. Refer to [AV-283, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-298, "Removal and Installation"](#).
 NO >> Replace USB interface harness. Refer to [AV-307, "Removal and Installation"](#).

U1264 ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1264 ANTENNA AMP.

DTC Logic

INFOID:000000009758961

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ANTENNA AMP TERMINAL [U1264]	Open or short to ground is detected in Antenna amp. connection.	<ul style="list-style-type: none"> Antenna amp. disconnection. Open or short to ground in antenna amp. ON signal circuit.

Diagnosis Procedure

INFOID:000000009758962

Regarding Wiring Diagram information, refer to [AV-234, "Wiring Diagram"](#).

1. ANTENNA AMP. INSPECTION

Visually inspect the antenna amp. and antenna feeder. Refer to [AV-303, "Location of Antenna"](#).

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning components.

2. CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND ANTENNA AMP.

- Turn ignition switch OFF.
- Disconnect AV control unit connector M144 and antenna amp. connector M502.
- Check continuity between AV control unit connector M144 and antenna amp. connector M502.

AV control unit		Antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	
M144	54	M502	1	Yes

- Check continuity between AV control unit connector M144 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M144	54	—	No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

3. CHECK AV CONTROL UNIT VOLTAGE

- Connect AV control unit connector M144.
- Turn ignition switch ON.
- Check voltage between AV control unit connector M144 and ground.

AV control unit		Ground	Voltage (Approx.)
(+)		(-)	
Connector	Terminal		
M144	54	—	Battery voltage

Is the inspection result normal?

YES >> Replace antenna amp. Refer to [AV-306, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-298, "Removal and Installation"](#).

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AV

U12AA CONFIGURATION ERROR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AA CONFIGURATION ERROR

DTC Logic

INFOID:000000009758963

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Configuration Error [U12AA]	AV control unit is not properly configured or configuration is corrupt.	Configuration data needs to be written. Refer to AV-251, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure" .

Diagnosis Procedure

INFOID:000000009758964

1.PERFORM CONFIGURATION

When U12AA is detected, configuration data must be written.

>> Write configuration data with CONSULT. Refer to [AV-251, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

U12AC AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AC AV CONTROL UNIT

DTC Logic

INFOID:000000009758965

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Display Temperature too High [U12AC]	Display temperature has exceeded maximum temperature. Display is switched OFF to avoid irreversible damage.	Replace AV control unit if malfunction occurs constantly. Refer to AV-298, "Removal and Installation" .

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U12AD AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AD AV CONTROL UNIT

DTC Logic

INFOID:000000009758966

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ECU Temperature too High [U12AD]	AV control unit temperature has exceeded maximum temperature.	Replace AV control unit if malfunction occurs constantly. Refer to AV-298, "Removal and Installation" .

U12AE AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AE AV CONTROL UNIT

DTC Logic

INFOID:000000009758967

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Internal Amplifier temperature Warning [U12AE]	Internal amplifier temperature has exceeded maximum temperature.	Replace AV control unit if malfunction occurs constantly. Refer to AV-298, "Removal and Installation" .

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U12AF AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AF AV CONTROL UNIT

DTC Logic

INFOID:000000009758968

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CD Mechanism Temperature Warning [U12AF]	CD drive temperature has exceeded maximum temperature. CD drive is switched OFF to avoid irreversible damage.	Replace AV control unit if malfunction occurs constantly. Refer to AV-298, "Removal and Installation" .

U12B0 POWER SUPPLY VOLTAGE

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12B0 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:000000009758969

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Supply Voltage Goes below 9V > 20s [U12B0]	AV control unit supply voltage exceeds lower limits.	<ul style="list-style-type: none">• Charging system malfunction.• AV control unit power supply or ground circuits.

Diagnosis Procedure

INFOID:000000009758970

1. CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to [STR-20, "Work Flow \(With GR8-1200 NI\)"](#) or [STR-24, "Work Flow \(Without GR8-1200 NI\)"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning components.

2. CHECK AV CONTROL UNIT POWER SUPPLY AND GROUND CIRCUITS

Perform the AV control unit power supply and ground circuit diagnosis procedure. Refer to [AV-270, "AV CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to [AV-298, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

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U12B1 POWER SUPPLY VOLTAGE

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12B1 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:000000009758971

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Supply Voltage Goes High > 16V for 20s [U12B1]	AV control unit supply voltage exceeds upper limits.	Charging system malfunction.

Diagnosis Procedure

INFOID:000000009758972

1. CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to [STR-20, "Work Flow \(With GR8-1200 NI\)"](#) or [STR-24, "Work Flow \(Without GR8-1200 NI\)"](#).

Is the inspection result normal?

- YES >> Replace the AV control unit. Refer to [AV-298, "Removal and Installation"](#).
- NO >> Repair or replace the malfunctioning components.

U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1310 AV CONTROL UNIT

DTC Logic

INFOID:000000009758973

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (AV) [U1310]	Error during CAN controller hardware initialization (MCAN).	Replace AV control unit if malfunction occurs constantly. Refer to AV-298, "Removal and Installation" .

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000009758974

Regarding Wiring Diagram information, refer to [AV-234. "Wiring Diagram"](#).

1. CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	18 (10A)
19	Battery power supply	26 (15A)
37	Ignition power supply	5 (10A)

Are the fuses blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connectors M103 and M104.
3. Check voltage between AV control unit connectors M103 and M104 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M103	19	—	Ignition switch: OFF	Battery voltage
	7		Ignition switch: ON	
M104	37			

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between AV control unit connector M103 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M103	20	—	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:000000009758975

Regarding Wiring Diagram information, refer to [AV-234. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M103 and suspect front door speaker connector.
2. Check continuity between AV control unit connector M103 and suspect front door speaker connector.

AV control unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M103	2	D10 (LH)	1	Yes
	3		2	
	11	D110 (RH)	1	
	12		2	

3. Check continuity between AV control unit connector M103 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M103	2	—	No
	3		
	11		
	12		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK FRONT DOOR SPEAKER SIGNAL

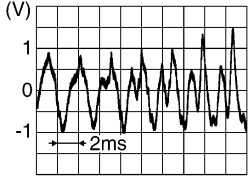
1. Connect AV control unit connector M103 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of AV control unit connector M103.

AV control unit connector M103		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

2	3		
11	12	Audio signal output	

Is the inspection result normal?

- YES >> Replace front door speaker. Refer to [AV-300. "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-298. "Removal and Installation"](#).

FRONT TWEETER

Diagnosis Procedure

INFOID:000000009758976

Regarding Wiring Diagram information, refer to [AV-234. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK FRONT TWEETER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M103 and suspect front tweeter connector.
2. Check continuity between AV control unit connector M103 and suspect front tweeter connector.

AV control unit		Front tweeter		Continuity
Connector	Terminal	Connector	Terminal	
M103	2	M46 (LH)	1	Yes
	3		2	
	11	M47 (RH)	1	
	12		2	

3. Check continuity between AV control unit connector M103 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M103	2	—	No
	3		
	11		
	12		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK FRONT TWEETER SIGNAL

1. Connect AV control unit connector M103 and suspect front tweeter connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of AV control unit connector M103.

AV control unit connector M103		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

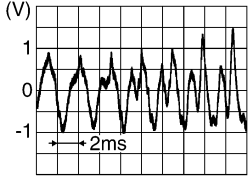
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FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

2	3		
11	12	Audio signal output	

Is the inspection result normal?

YES >> Replace front tweeter. Refer to [AV-299. "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-298. "Removal and Installation"](#).

REAR SPEAKER

Diagnosis Procedure

INFOID:000000009758977

Regarding Wiring Diagram information, refer to [AV-234. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK REAR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M103 and suspect rear speaker connector.
2. Check continuity between AV control unit connector M103 and suspect rear speaker connector.

AV control unit		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
M103	4	B40 (LH)	1	Yes
	5		2	
	13	B38 (RH)	1	
	14		2	

3. Check continuity between AV control unit connector M103 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M103	4	—	No
	5		
	13		
	14		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK REAR SPEAKER SIGNAL

1. Connect AV control unit connector M103 and suspect rear speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of AV control unit connector M103.

AV control unit connector M103		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

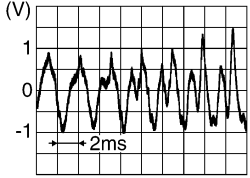
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REAR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

4	5		
13	14	Audio signal output	

Is the inspection result normal?

- YES >> Replace rear speaker. Refer to [AV-301. "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-298. "Removal and Installation"](#).

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:00000009758978

Regarding Wiring Diagram information, refer to [AV-234. "Wiring Diagram"](#).

1. CHECK REVERSE INPUT SIGNAL

1. Turn ignition switch ON.
2. Shift the selector lever to R (reverse).
3. Check voltage between AV control unit connector M104 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+)		(-)		
Connector	Terminal			
M104	28	—	Selector lever in R (reverse)	Battery Voltage

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK CAMERA POWER SUPPLY CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M104 and rear view camera connector.
3. Check continuity between AV control unit connector M104 and rear view camera connector B30.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M104	36	B30	4	Yes

4. Check continuity between AV control unit connector M104 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M104	36		No

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK CAMERA POWER SUPPLY VOLTAGE

1. Connect AV control unit connector M104 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check voltage between AV control unit connector M104 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+)		(-)		
Connector	Terminal			
M104	36	—	Selector lever is in "R".	6.0 V

Is inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-298. "Removal and Installation"](#).

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REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

[NAVIGATION WITHOUT BOSE]

< DTC/CIRCUIT DIAGNOSIS >

4. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M104 and rear view camera connector.
3. Check continuity between AV control unit connector M104 and rear view camera connector B30.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M104	34	B30	2	Yes

4. Check continuity between AV control unit connector M104 terminal 34 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M104	34		No

Is inspection result normal?

- YES >> GO TO 5.
 NO >> Repair or replace harness or connectors.

5. CHECK CAMERA GROUND CIRCUIT CONTINUITY

Check continuity between AV control unit connector M104 and rear view camera connector B30.

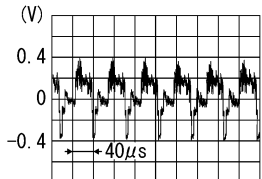
AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M104	33	B30	1	Yes

Is inspection result normal?

- YES >> GO TO 6.
 NO >> Repair or replace harness or connectors.

6. CHECK CAMERA IMAGE SIGNAL

1. Connect AV control unit connector M104 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check signal between AV control unit connector M104 and ground.

AV control unit		Ground	Condition	Reference value
(+)		(-)		
Connector	Terminal			
M104	34	—	Camera image displayed.	 <p style="text-align: right; font-size: small;">SKIB2251J</p>

Is inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-298, "Removal and Installation"](#).
 NO >> Replace rear view camera. Refer to [AV-312, "Removal and Installation"](#).

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009758979

Regarding Wiring Diagram information, refer to [AV-234. "Wiring Diagram"](#).

1. CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M104 and microphone connector R4.
3. Check continuity between AV control unit connector M104 and microphone connector R4.

AV control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M104	41	R4	2	Yes
	42		4	
	43		1	

4. Check continuity between AV control unit connector M104 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M97	41	—	No
	42		
	43		

Is inspection result normal?

- YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2. CHECK MICROPHONE VCC VOLTAGE

1. Connect AV control unit connector M104.
2. Turn ignition switch ON.
3. Check voltage between terminals of AV control unit connector M104.

AV control unit connector M104		Voltage (Approx.)
(+)	(-)	
Terminal	Terminal	
42	41	5.0 V

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace AV control unit. Refer to [AV-298. "Removal and Installation"](#).

3. CHECK MICROPHONE SIGNAL

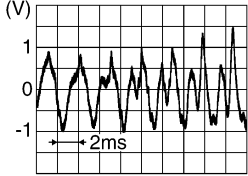
1. Connect microphone connector.
2. Check signal between terminals of AV control unit connector M104.

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MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

AV control unit connector M104		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
43	41	Speak into microphone.	 <p>SKIB3609E</p>

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-298, "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-311, "Removal and Installation"](#).

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

STEERING SWITCH





Diagnosis Procedure

INFOID:000000009758980

Regarding Wiring Diagram information, refer to [AV-234. "Wiring Diagram"](#).

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch (spiral cable) connector M79.
3. Check resistance between the terminals of combination switch (spiral cable) connector M79.

Combination switch (spiral cable) connector M79		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress Δ switch.	121
		Depress ∇ switch.	321
		Depress  switch.	723
15	17	Depress  switch.	1
		Depress  + switch.	121
		Depress  switch.	321

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering switches. Refer to [AV-302. "Removal and Installation"](#).

2. CHECK COMBINATION SWITCH (SPIRAL CABLE)

Check continuity between combination switch (spiral cable) connectors M79 and M80.

Combination switch (spiral cable)				Continuity
Connector	Terminal	Connector	Terminal	
M79	14	M80	24	Yes
	15		31	
	17		33	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace combination switch (spiral cable). Refer to [SR-16. "Removal and Installation"](#).

3. CHECK HARNESS BETWEEN COMBINATION SWITCH (SPIRAL CABLE) AND AV CONTROL UNIT

1. Disconnect AV control unit connector M80.
2. Check continuity between combination switch (spiral cable) connector M80 and AV control unit connector M103.

Combination switch (spiral cable)		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M80	24	M103	6	Yes
	31		16	
	33		15	

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STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

3. Check continuity between combination switch (spiral cable) connector M80 and ground.

Combination switch (spiral cable)		Ground	Continuity
Connector	Terminal		
M80	24	—	No
	31		
	33		

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-298. "Removal and Installation"](#).
- NO >> Repair or replace harness or connectors.

USB CONNECTOR

Diagnosis Procedure

INFOID:000000009758981

Regarding Wiring Diagram information, refer to [AV-234. "Wiring Diagram"](#).

1. CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M113 and USB interface connector M132.
3. Check continuity between AV control unit connector M113 and USB interface connector M132.

AV control unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M113	45	M132	2	Yes
	46		1	
	47		4	
	48		3	
	49		5	

4. Check continuity between AV control unit connector M113 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M113	45	Ground	No
	47		

Is the inspection result normal?

- YES >> Replace the USB interface. Refer to [AV-307. "Removal and Installation"](#).
 NO >> Repair or replace harness or connectors.

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AUXILIARY INPUT JACK

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

AUXILIARY INPUT JACK

Diagnosis Procedure

INFOID:000000009758982

Regarding Wiring Diagram information, refer to [AV-234. "Wiring Diagram"](#).

1. CHECK AUX JACK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M104 and AUX jack connector M133.
3. Check continuity between AV control unit connector M104 and AUX jack connector M133.

AV control unit		AUX jack		Continuity
Connector	Terminal	Connector	Terminal	
M104	30	M133	1	Yes
	32		4	
	31		3	

4. Check continuity between AV control unit connector M104 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M104	30	Ground	No
	32		

Is the inspection result normal?

- YES >> Replace the AUX jack. Refer to [AV-307. "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:000000009758983

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	AV control unit	Malfunction in AV control unit. Refer to AV-228. "On Board Diagnosis Function" .
No sound comes out or the level of the sound is low.	No sound from all speakers.	<ul style="list-style-type: none"> • Speaker circuit shorted to ground. Refer to AV-234. "Wiring Diagram". • AV control unit power supply and ground circuits malfunction. Refer to AV-270. "AV CONTROL UNIT : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, rear speaker LH, rear speaker RH) does not output sound.	<ul style="list-style-type: none"> • Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and speaker. Refer to: <ul style="list-style-type: none"> - AV-271. "Diagnosis Procedure" (front door speaker). - AV-273. "Diagnosis Procedure" (front tweeter). - AV-275. "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. Refer to: <ul style="list-style-type: none"> - AV-300. "Removal and Installation" (front door speaker). - AV-299. "Removal and Installation" (front tweeter). - AV-301. "Removal and Installation" (rear speaker). • Malfunction in AV control unit. Refer to AV-228. "On Board Diagnosis Function".

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AV

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in AV control unit. Refer to AV-228, "On Board Diagnosis Function" .
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, rear speaker LH, rear speaker RH).	<ul style="list-style-type: none"> Poor connector connection of speaker. Sound signal circuit malfunction between AV control unit and speaker. Refer to: <ul style="list-style-type: none"> AV-271, "Diagnosis Procedure" (front door speaker). AV-273, "Diagnosis Procedure" (front tweeter). AV-275, "Diagnosis Procedure" (rear speaker). Malfunction in speaker. Poor Installation of speaker (e.g. backlash and looseness). Refer to: <ul style="list-style-type: none"> AV-300, "Removal and Installation" (front door speaker). AV-299, "Removal and Installation" (front tweeter). AV-301, "Removal and Installation" (rear speaker). Malfunction in AV control unit. Refer to AV-228, "On Board Diagnosis Function".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna or antenna feeder. Refer to AV-303, "Location of Antenna" .
No radio reception or poor reception.	<ul style="list-style-type: none"> Other audio sounds are normal. Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises). 	<ul style="list-style-type: none"> Antenna amp. ON signal circuit malfunction. Refer to AV-230, "Reference Value". Poor connector connection of antenna or antenna feeder. Refer to AV-303, "Location of Antenna".
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result. Refer to AV-229, "CONSULT Function" .	<ul style="list-style-type: none"> Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis. Refer to AV-259, "Diagnosis Procedure". Poor continuity in antenna feeder. Poor connector connection of antenna or antenna feeder. Refer to AV-303, "Location of Antenna".
	There is no malfunction in the CONSULT self diagnosis result. Refer to AV-229, "CONSULT Function" .	<ul style="list-style-type: none"> Poor continuity in antenna feeder. Poor connector connection of antenna or antenna feeder. Loose satellite radio antenna mounting nut. Refer to AV-303, "Location of Antenna".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

- Before performing diagnosis, confirm that the cellular phone being used by the customer is compatible with the vehicle.
- It is possible that a malfunction is occurring due to a version change of the phone even though the phone is a compatible type. This can be confirmed by changing the cellular phone to another compatible type, and check that it operates normally. It is important to determine whether the cause of the malfunction is the vehicle or the cellular phone.







MULTI AV SYSTEM

[NAVIGATION WITHOUT BOSE]

< SYMPTOM DIAGNOSIS >

Check Compatibility

1. Make sure the customer's Bluetooth® related concern is understood.
2. Verify the customer's concern.
NOTE:
The customer's phone may be required, depending upon their concern.
3. Write down the customer's phone brand, model and service provider.
NOTE:
It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.
4. Go to "www.nissanusa.com/bluetooth/".
 - a. Using the website's search engine, find out if the customer's phone is on the approved list.
 - b. If the customer's phone is NOT on the approved list:
Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.
 - c. If the feature related to the customer's concern shows as "N" (not compatible):
Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".
 - d. If the feature related to the customer's concern shows as "Y" (compatible):
Perform diagnosis as per the following table.

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	
Hands-free phone cannot be established.	<ul style="list-style-type: none"> • Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation. 	Malfunction in AV control unit. Replace AV control unit. Refer to AV-298 , "Removal and Installation".
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-279 , "Diagnosis Procedure".
The system cannot be operated.	<ul style="list-style-type: none"> • The voice recognition can be controlled. • Steering switch's +, -, and  does not work. 	Steering switch malfunction. Replace steering switch. Refer to AV-302 , "Removal and Installation".
	Steering switch's  +,  -, and  switches do not work.	Steering switch signal circuit malfunction. Refer to AV-281 , "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-281 , "Diagnosis Procedure".

RELATED TO NAVIGATION

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Symptoms	Check items	Probable malfunction location
Navigation system is inoperative.	Navigation malfunction.	<ul style="list-style-type: none"> • Malfunction in SD card. • Malfunction in AV control unit. Refer to AV-228, "On Board Diagnosis Function".
	Steering switches malfunction.	Steering switch signal circuit malfunction. Refer to AV-281, "Diagnosis Procedure" .
	Voice activated control malfunction.	Microphone signal circuit malfunction. Refer to AV-279, "Diagnosis Procedure" . Steering switch signal circuit malfunction. Refer to AV-281, "Diagnosis Procedure" .

RELATED TO REAR VIEW CAMERA

Symptoms	Check items	Probable malfunction location
Rear view camera is inoperative.	Reverse signal circuit malfunction.	Reverse signal circuit malfunction between BCM and AV control unit. Refer to AV-277, "Diagnosis Procedure" .
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and AV control unit. Refer to AV-277, "Diagnosis Procedure" .
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-312, "Removal and Installation" .

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

NORMAL OPERATING CONDITION

Description

INFOID:000000009758984

RELATED TO NOISE

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

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

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

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

NOTE:

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

Type of Noise and Possible Cause

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	<p>Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module.</p> <p>Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in AV-285, "Symptom Table".</p>
Cannot use hands-free phone.	<p>Customer will not be able to use a hands-free phone under the following conditions:</p> <ul style="list-style-type: none"> • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. <p>NOTE:</p> <p>While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.</p>

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

RELATED TO NAVIGATION

Basic Operation

Symptom	Cause	Remedy
No image is shown.	Display brightness adjustment is set fully to DARK side.	Adjust the display brightness.
No guide sound is heard. Audio guide volume is too low or too high.	Volume control is set to OFF, MIN or MAX.	Adjust the audio guide volume.
	Audio guidance is not available while the vehicle is driving on a dark pink route.	System is not malfunctioning.
Screen is too dark. Motion of the image is too slow.	Temperature inside the vehicle is low.	Wait until the temperature inside the vehicle reaches the proper temperature.
Small black or bright spots appear on the screen.	Symptom peculiar to a liquid crystal display (display unit).	System is not malfunctioning.

Vehicle Mark

Symptom	Cause	Remedy
Map screen and BIRDVIEW™ Name of the place vary with the screen.	Some thinning of the character data is done to prevent the display becoming to complex. In some cases and in some locations, the display contents may differ. The same place name, street name, etc. may not be displayed every time on account of the data processing.	System is not malfunctioning.
Vehicle mark is not positioned correctly.	Vehicle is transferred by ferry or by towing after its ignition switch is turned to OFF.	Drive the vehicle for a while in the GPS satellite signal receiving condition.
Screen will not switch to nighttime mode after the lighting switch is turned ON.	The daytime screen is selected by the "SWITCH SCREENS" when the last time the screen dimming setting is done. Switching between daytime/nighttime screen may be inhibited by the automatic illumination adjustment function.	Perform screen dimming and select the nighttime screen by "SWITCH SCREENS".
Map screen will not scroll in accordance with the vehicle travel.	Current location is not displayed.	Press "MAP" button to display the current location.
Vehicle mark will not be shown.	Current location is not displayed.	Press "MAP" button to display the current location.
Accuracy indicator (GPS satellite mark) on the map screen stays gray.	GPS satellite signal is intercepted because the vehicle is in or behind a building.	Move the vehicle out to an open space.
	GPS satellite signal cannot be received because an obstacle is placed on top of the instrument panel.	Do not place anything on top of the meter display (instrument panel).
	GPS satellites are not visible from current location.	Wait until GPS satellites are visible by moving the vehicle.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Symptom	Cause	Remedy
Vehicle location accuracy is low.	Accuracy indicator (GPS satellite mark) on the map screen stays gray.	Current location is not determined.
	Vehicle speed setting by the vehicle speed pulse has been deviated (advanced or retarded) from the actual vehicle speed because tire chain is fitted or the system has been used on another vehicle.	Drive the vehicle for a while [for approx. 30 minutes at approx. 30 km/h (19 MPH)] and the deviation will be automatically adjusted. If advancement or retard still occur, perform the distance adjustment by CONFIRMATION/ADJUSTMENT mode of diagnosis function.
	Map data has error or omission. (Vehicle mark is always deviated to the same position.)	As a rule, an updated map DVD-ROM will be released once a year.

Destination, Passing Points and Menu Items Cannot be Selected/Set

Symptom	Cause	Remedy
Destination cannot be set.	Destination to be set is on an expressway.	Set the destination on an ordinary road.
Passing point is not searched when re-searching the route.	The vehicle has already passed the passing point, or the system judged so.	To include the passing points that have been passed into the route again, set the route again.
Route information will not be displayed.	Route searching has not been done.	Set the destination and perform route searching.
	Vehicle mark is not on the recommended route.	Drive on the recommended route.
	Route guide is turned OFF.	Turn route guide ON.
	Route information is not available on the dark pink route.	System is not malfunctioning.
After the route searching, no guide sign will appear as the vehicle goes near the entrance/exit to the toll road.	Vehicle mark is not on the recommended route. (On the display, only guide signs related to the recommended route will be shown.)	Drive on the recommended route.
Automatic route searching is not possible.	Vehicle is driving on a highway (gray route), or no recommended route is available.	Drive on a road to be searched. Or re-search the route manually. In this case, however, the whole route will be searched.
Performed automatic detour search (or detour search). However, the result is the same as that of the previous search.	Performed search with every conditions considered. However, the result is the same as that of the previous search.	System is not malfunctioning.
Passing points cannot be set.	More than five passing points were set.	Passing points can be set up to five. To stop at more than five points, perform sharing in several steps.
When setting the route, the starting point cannot be selected.	The current vehicle location is always set as the starting point of a route.	System is not malfunctioning.
Some menu items cannot be selected.	The vehicle is being driven.	Stop the vehicle at a safe place and then operate the system.

Voice Guide

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Symptom	Cause	Remedy
Voice guide will not operate.	Note: Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction.	System is not malfunctioning.
	The vehicle is not on the recommended route.	Return to the recommended route or re-search the route.
	Voice guide is turned OFF.	Turn voice guide ON.
	Route guide is turned OFF.	Turn route guide ON.
Voice guide does not match the actual road pattern.	Voice guide may vary with the direction to which the vehicle is turn and the connection of the road to other roads.	Drive in conformity to the actual traffic rules.

Route Search

Symptom	Cause	Remedy
No route is shown.	No road to be searched is found around the destination.	Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads.
	Starting point and the destination are too close.	Set the destination at more distant point.
	Conditional traffic regulation (day of the week/ time of the day) is set at the area around the current location or the destination.	Turn the time-regulating search conditions OFF. Turn "Avoid regulation time" in the search conditions OFF.
Indicated route is intermittent.	In some areas, highways (gray routes) are not used for the search ^(Note) Therefore, the route to the current location or the passing points may be intermittent.	System is not malfunctioning.
When the vehicle has passed the recommended route, it is deleted from the screen.	A recommended route is controlled by each section. When the vehicle has passed the passing point 1, then the map data from the starting point up to the passing point 1 will be deleted. (The data may remain undeleted in some area.)	System is not malfunctioning.
Detouring route is recommended.	In some areas, highways (gray routes) are not used for the search. (Note). Therefore, detour route may be recommended.	Set the route closer to the basic route (gray route).
	A detour route may be shown when some traffic regulation (one-way traffic, etc.) is set at the area around the starting point or the destination.	Slightly move the starting point or the destination, or set the passing point on the route of your choice.
	In the area where highways (gray routes) are used for the search, left turn has priority around the current location and the destination (passing points). For this reason, the recommended route may be detouring.	System is not malfunctioning.
Landmarks on the map do not match the actual ones.	This can be happen due to omission or error in the map data.	As a rule, an updated map DVD-ROM will be released once a year. Wait until the latest map has become available.
Recommended route is far from the starting point, passing points, and destination.	Starting point, passing points, and destination of the route guide were set far from the desired points because route searching data around these area were not stored.	Reset the destination onto the road nearby. If this road is one of the highways (gray routes), an ordinary road nearby may be displayed as the recommended route.

NOTE:

Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

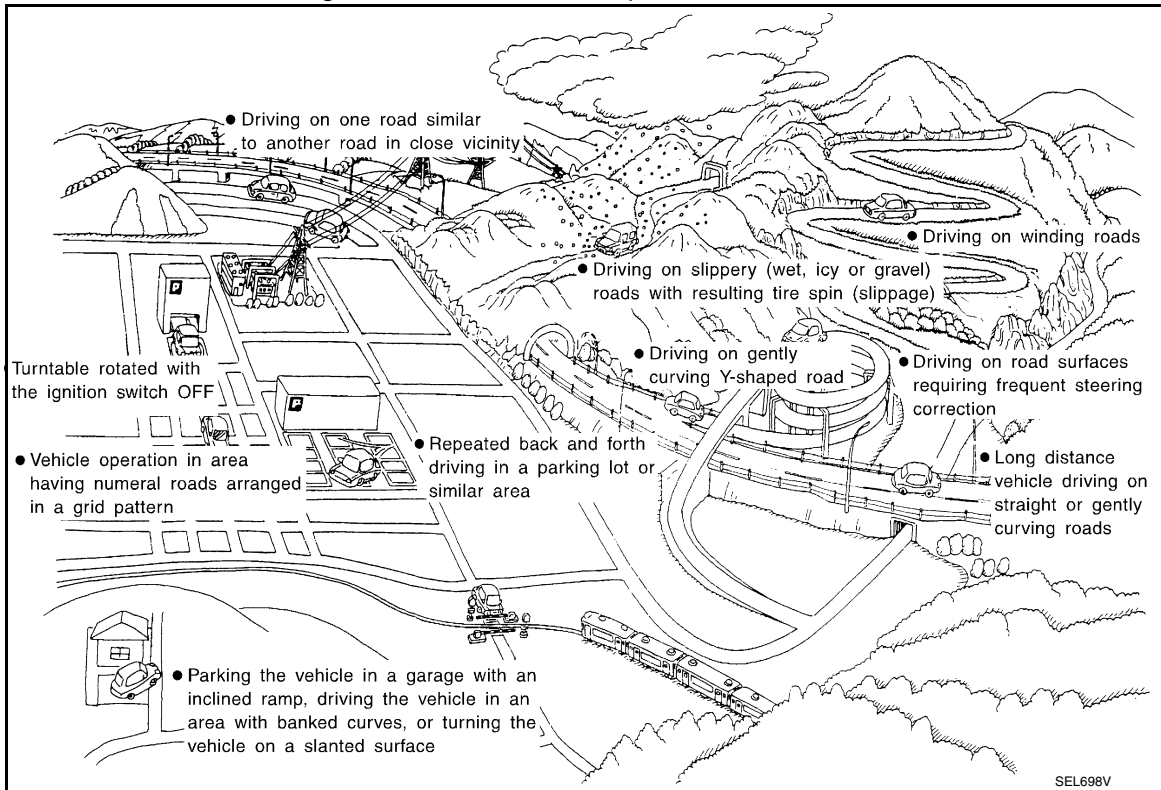
Examples of Current-Location Mark Displacement

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Vehicle's travel amount is calculated by reading its travel distance and turning angle. Therefore, if the vehicle is driven in the following manner, an error will occur in the vehicle's current location display. If correct location has not been restored after driving the vehicle for a while, perform location correction.

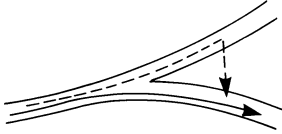
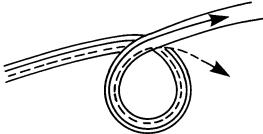
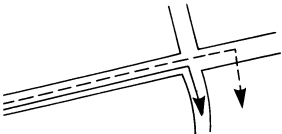
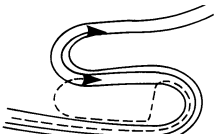
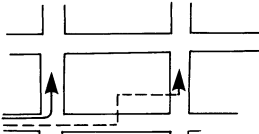
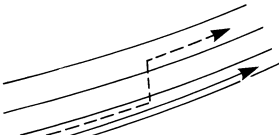


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NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

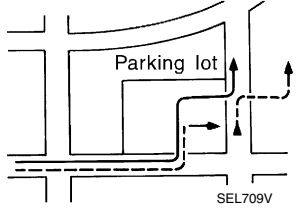
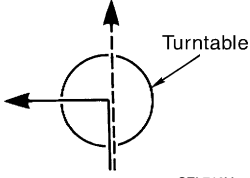
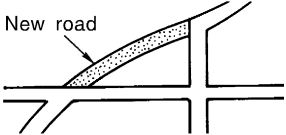
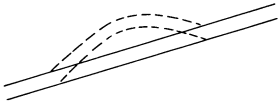
[NAVIGATION WITHOUT BOSE]

Cause (condition)	-: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
Road configuration	Y-intersections  ELK0192D	At a Y intersection or similar gradual division of roads, an error in the direction of travel deduced by the sensor may result in the current-location mark appearing on the wrong road.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Spiral roads  ELK0193D	When driving on a large, continuous spiral road (such as loop bridge), turning angle error is accumulated and the vehicle mark may deviate from the correct location.	
	Straight roads  ELK0194D	When driving on a long, straight road and slow curve without stopping, map-matching does not work effectively enough and distance errors may accumulate. As a result, the vehicle mark may deviate from the correct location when the vehicle is turned at a corner.	
	Zigzag roads  ELK0195D	When driving on a zigzag road, the map may be matched to other roads in the similar direction nearby at every turn, and the vehicle mark may deviate from the correct location.	
	Roads laid out in a grid pattern  ELK0196D	When driving where roads are laid out in a grid pattern, or where many roads are running in the similar direction nearby, the map may be matched to them by mistake and the vehicle mark may deviate from the correct location.	
	Parallel roads  ELK0197D	When two roads are running in parallel (such as highway and sideways), the map may be matched to the other road by mistake and the vehicle mark may deviate from the correct location.	

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

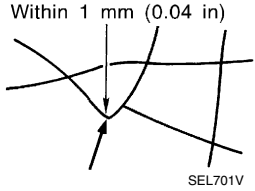
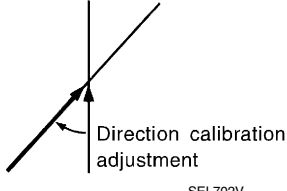
	Cause (condition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
Place	In a parking lot  SEL709V	When driving in a parking lot, or other location where there are no roads on the map, matching may place the vehicle mark on a nearby road. When the vehicle returns to the road, the vehicle mark may have deviated from the correct location. When driving in circle or turning the steering wheel repeatedly, direction errors accumulate, and the vehicle mark may deviate from the correct location.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Turntable  SEL710V	When the ignition switch is OFF, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a turntable with the ignition OFF.	
	Slippery roads	On snow, wet roads, gravel, or other roads where tires may slip easily, accumulated mileage errors may cause the vehicle mark to deviate from the correct road.	
	Slopes	When parking in sloped garages, when travelling on banked roads, or in other cases where the vehicle turns when tilted, an error in the turning angle will occur, and the vehicle mark may deviate from the road.	
Map data	Road not displayed on the map screen  SEL699V	When driving on new roads or other roads not displayed on the map screen, map matching does not function correctly and matches the location to a nearby road. When the vehicle returns to a road which is on the map, the vehicle mark may deviate from the correct road.	
	Different road pattern (Changed due to repair)  ELK0201D	If the road pattern stored in the map data and the actual road pattern are different, map matching does not function correctly and matches the location to a nearby road. The vehicle mark may deviate from the correct road.	
Vehicle	Use of tire chains	When tire chains are used, the mileage is not correctly detected, and the vehicle mark may deviate from the correct road.	Drive the vehicle for a while. If the distance still deviates, adjust it by using the distance adjustment function. (If the tire chain is removed, recover the original value.)

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NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Cause (condition)	-: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
Precautions for driving	Just after the engine is started	If the vehicle is driven just after the engine is started when the gyroscope (angular speed sensor) correction is not completed, the vehicle can lose its direction and may have deviated from the correct location.	Wait for a short while before driving after starting the engine.
	Continuous driving without stopping	When driving long distances without stopping, direction errors may accumulate, and the current-location mark may deviate from the correct road.	Stop and adjust the orientation.
	Abusive driving	Spinning the wheels or engaging in other kinds of abusive driving may result in the system being unable to perform correct detection, and may cause the vehicle mark to deviate from the correct road.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
How to correct location	Position correction accuracy 	If the accuracy of location settings is poor, accuracy may be reduced when the correct road cannot be found, particularly in places where there are many roads.	Enter in the road displayed on the screen with an accuracy of approx. 1mm. Caution: Whenever possible, use detailed map for the correction.
	Direction when location is corrected 	If the accuracy of location settings during correction is poor, accuracy may be reduced afterwards.	Perform direction correction.

Location Correction by Map-Matching is Slow

- The map-matching function needs to refer to the data of the surrounding area. It is necessary to drive some distance for the function to work.
- Because map-matching operates on this principle, when there are many roads running in similar directions in the surrounding area, no matching determination may be made. The location may not be corrected until some special feature is found.

Name of Road is Not Displayed

The current road name may not be displayed if there are no road names displayed on the map screen.

Contents of Display Differ for Birdview™ and the (Flat) Map Screen

Difference of the BIRDVUE™ screen from the flat map screen are as follows.

- The current place name displays names which are primarily in the direction of vehicle travel.
- The amount of time before the vehicle travel or turn angle is updated on the screen is longer than for the (flat) map display.
- The conditions for display of place names, roads, and other data are different for nearby areas and for more distant areas.
- Some thinning of the character data is done to prevent the display becoming too complex. In some cases and in some locations, the display contents may differ.
- The same place name, street name, etc. may be displayed multiple times.

Vehicle Mark Shows a Position Which is Completely Wrong

In the following cases, the vehicle mark may appear on completely different position in the map depending on the GPS satellite signal receiving conditions. In this case, perform location correction and direction correction.

- When location correction has not been done
- If the receiving conditions of the GPS satellite signal is poor, if the vehicle mark becomes out of place, it may move to a completely different location and not come back if location correction is not done. The position will be corrected if the GPS signal can be received.
- When the vehicle has traveled by ferry, or when the vehicle has been being towed

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

- Because calculation of the current location cannot be done when traveling with the ignition off, for example when traveling by ferry or when being towed, the location before travel is displayed. If the precise location can be detected with GPS, the location will be corrected.

A

Vehicle Mark Jumps

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location.

B

- When map matching has been done
- If the current location and the vehicle mark are different when map matching is done, the vehicle mark may seem to jump. At this time, the location may be “corrected” to the wrong road or to a location which is not on a road.
- When GPS location correction has been done
- If the current location and the vehicle mark are different when the location is corrected using GPS measurements, the vehicle mark may seem to jump. At this time, the location may be “corrected” to a location which is not on a road.

C

D

Vehicle Mark is in a River or Sea

The navigation system moves the vehicle mark with no distinction between land and rivers or sea. If the vehicle mark is somehow out of place, it may appear that the vehicle is driving in a river or the sea.

E

Vehicle Mark Automatically Rotates

The system wrongly memorizes the rotating status as stopping when the ignition switch is turned ON with the turntable rotating. That causes the vehicle mark to rotate when the vehicle is stopped.

F

When Driving on Same Road, Sometimes Vehicle Mark is in Right Place and Sometimes it is in Wrong Place

The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

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AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

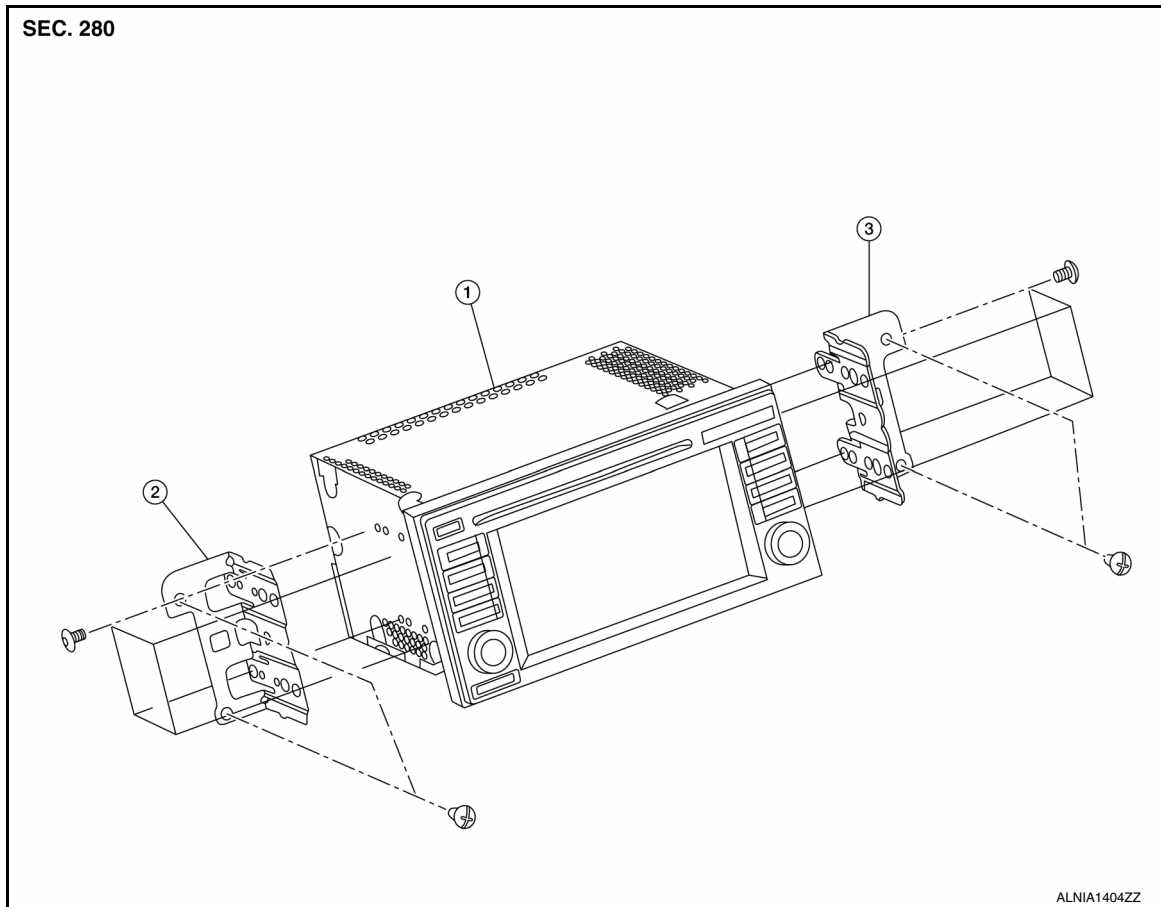
[NAVIGATION WITHOUT BOSE]

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:000000009758985



1. AV control unit

2. AV control unit bracket (LH)

3. AV control unit bracket (RH)

Removal and Installation

INFOID:000000009758986

REMOVAL

CAUTION:

- Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF.
 - Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to [AV-252, "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).
1. Disconnect the negative battery terminal. Refer to [PG-50, "Removal and Installation \(Battery\)"](#).
 2. Remove cluster lid C lower. Refer to [JP-20, "Removal and Installation - Cluster Lid C Lower"](#).
 3. Remove the AV control unit screws, then pull out the AV control unit.
 4. Disconnect the harness connectors from the AV control unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to [AV-252, "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

FRONT TWEETER

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

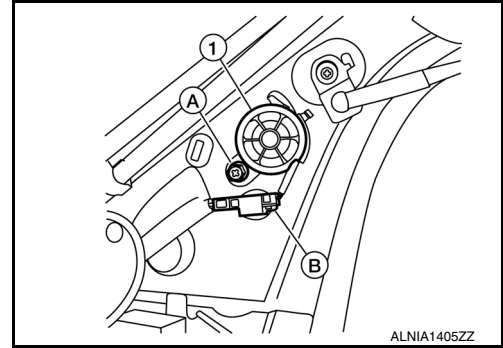
FRONT TWEETER

Removal and Installation

INFOID:000000009758987

REMOVAL

1. Remove the front pillar finisher. Refer to [INT-24. "FRONT PILLAR FINISHER : Removal and Installation"](#).
2. Disconnect the harness connector (B) from the front tweeter speaker.
3. Remove the front tweeter speaker screw (A) from the front tweeter speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

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AV

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

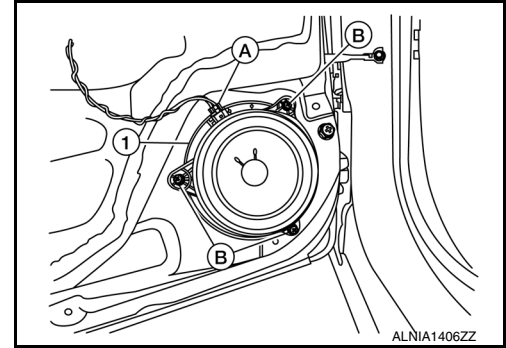
FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000009758988

REMOVAL

1. Remove the front door finisher. Refer to [INT-15, "Removal and Installation"](#).
2. Remove the front door speaker screws (B).
3. Disconnect the harness connector (A) from the front door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

REAR SPEAKER

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

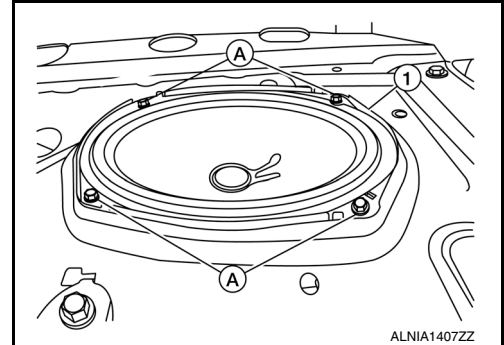
REAR SPEAKER

Removal and Installation

INFOID:000000009758989

REMOVAL

1. Remove the rear parcel shelf finisher. Refer to [INT-33. "Removal and Installation"](#).
2. Remove the rear speaker screws (A).
3. Disconnect the harness connector from the rear speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

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AV

STEERING SWITCH

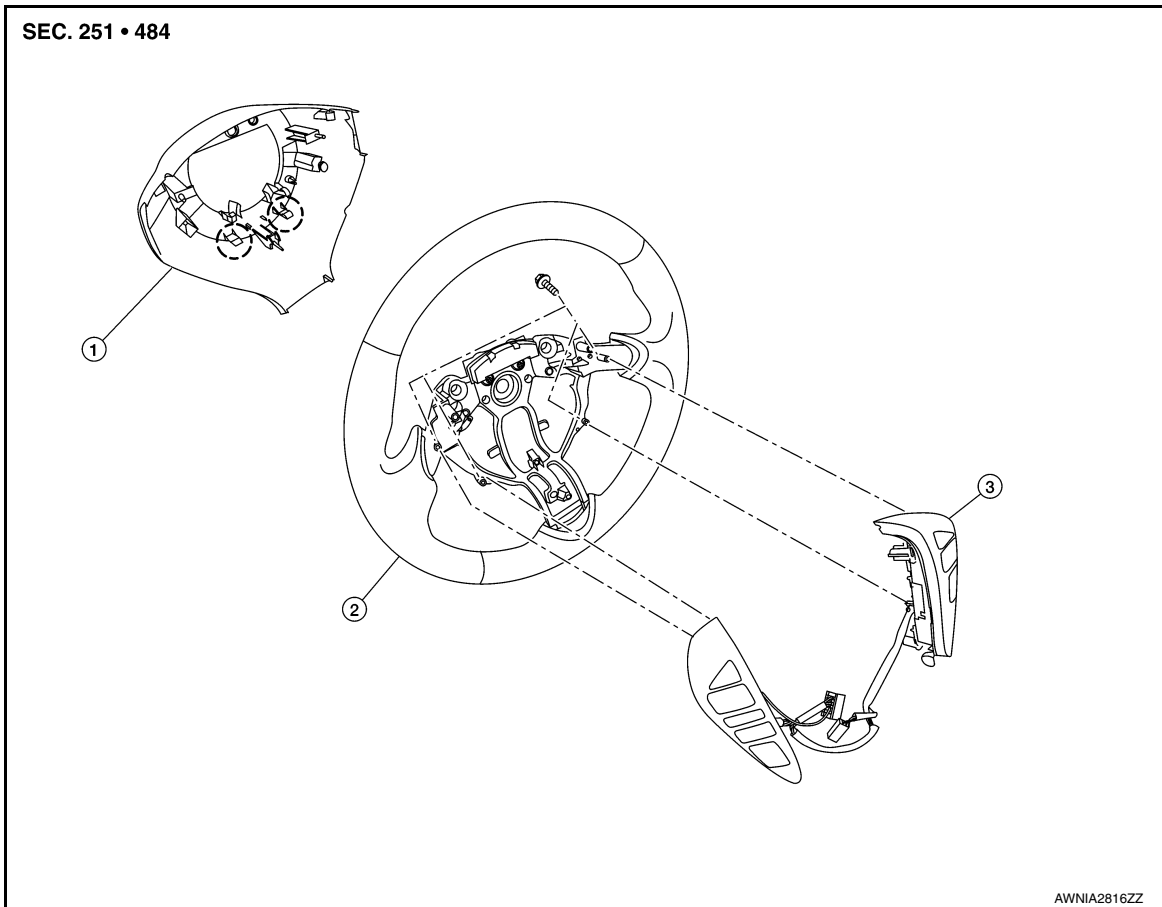
< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

STEERING SWITCH

Exploded View


INFOID:000000009758990



1. Steering wheel rear finisher

2. Steering wheel

3. Steering switches

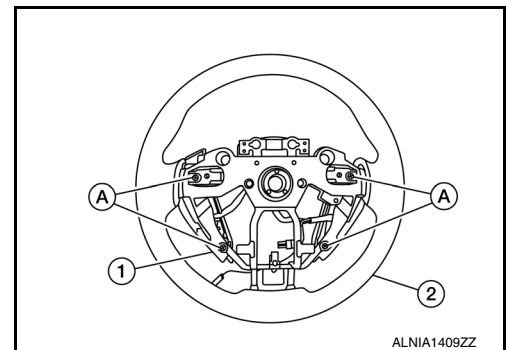
 Pawl

Removal and Installation

INFOID:000000009758991

REMOVAL

1. Remove the steering wheel. Refer to [ST-10. "Removal and Installation"](#).
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (A).
4. Remove the steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

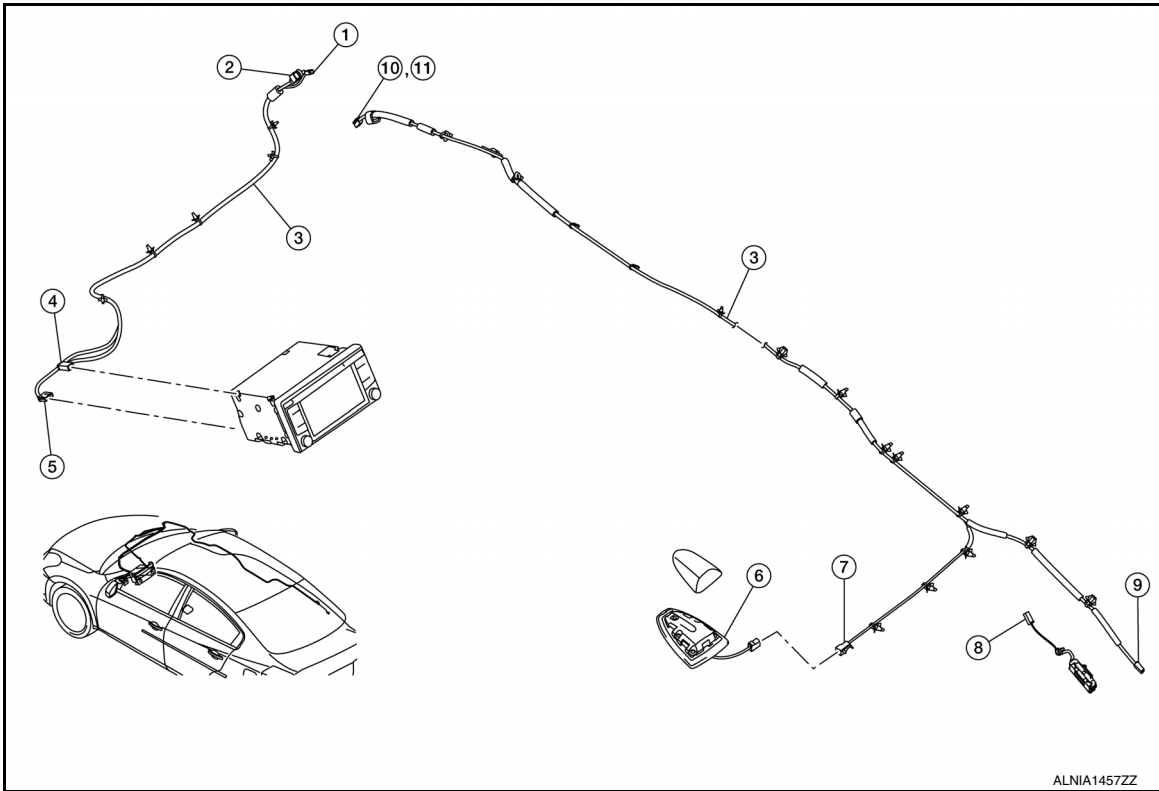
< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

ANTENNA FEEDER

Location of Antenna

INFOID:000000009758992



ALNIA1457ZZ

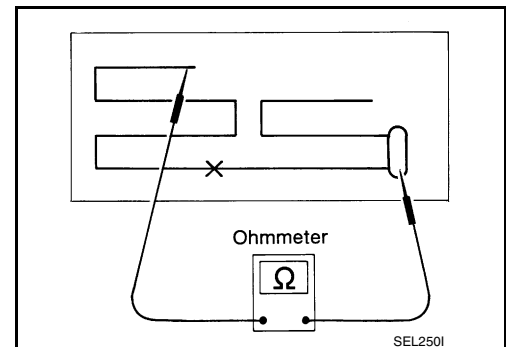
- | | | |
|----------|----------|----------------------|
| 1. M112 | 2. M107 | 3. Antenna feeder |
| 4. M142 | 5. M144 | 6. Satellite antenna |
| 7. M504 | 8. M503 | 9. M502 |
| 10. M500 | 11. M501 | |

Window Antenna Repair

INFOID:000000009758993

ELEMENT CHECK

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



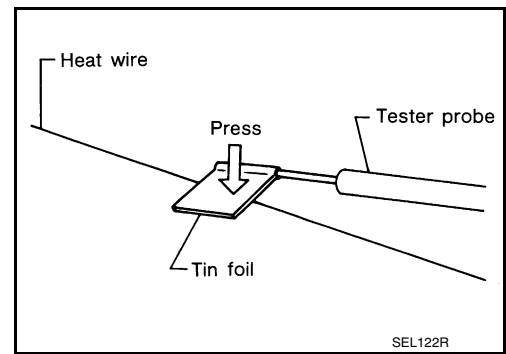
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ANTENNA FEEDER

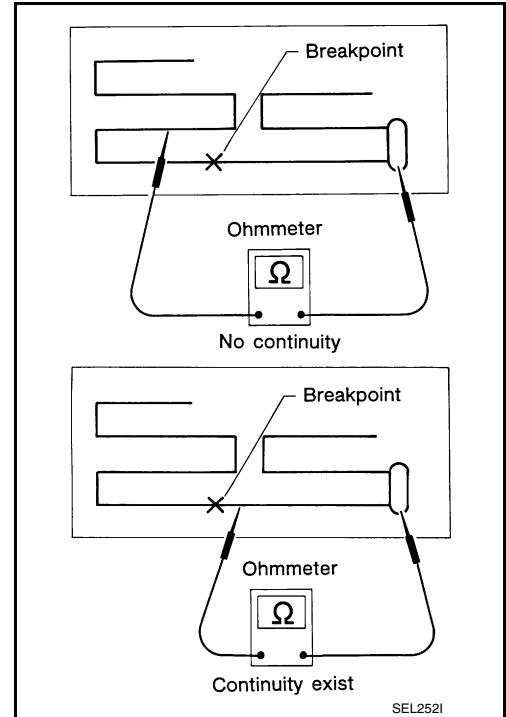
< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

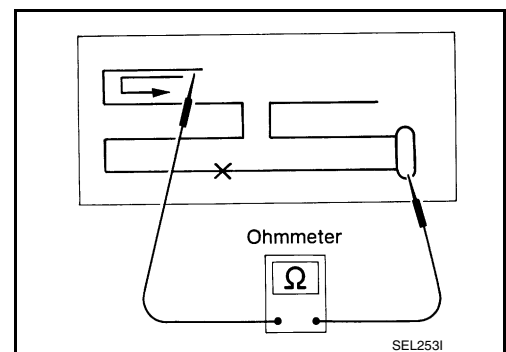
- When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



2. If an element is broken, no continuity will exist.



3. To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.



REPAIR EQUIPMENT

- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

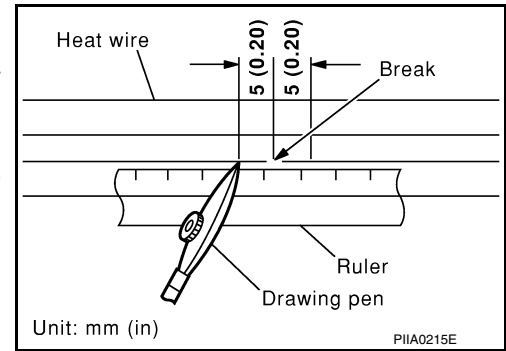
REPAIRING PROCEDURE

ANTENNA FEEDER

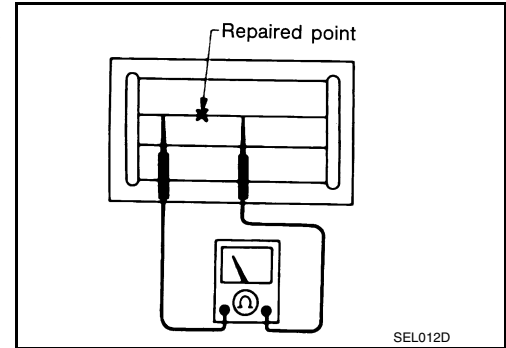
< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

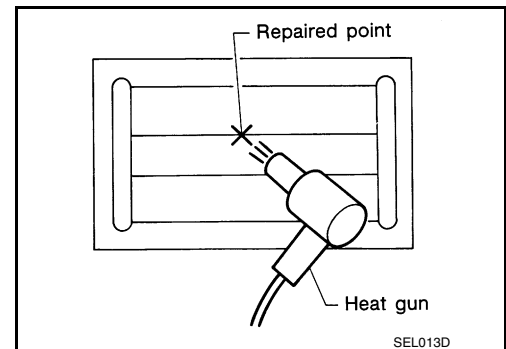
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen. Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.



4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited. Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.



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AV

ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

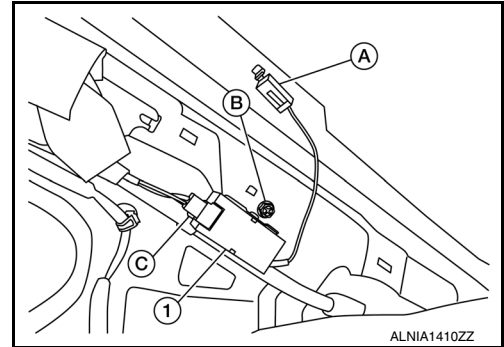
ANTENNA AMP.

Removal and Installation

INFOID:000000009758994

REMOVAL

1. Remove the rear pillar finisher (RH). Refer to [INT-29. "REAR PILLAR FINISHER : Removal and Installation"](#).
2. Disconnect the antenna amp. harness connector (A) from the rear window glass.
3. Disconnect the harness connector (C) from the antenna amp. (1).
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

USB CONNECTOR AND AUX JACK

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

USB CONNECTOR AND AUX JACK

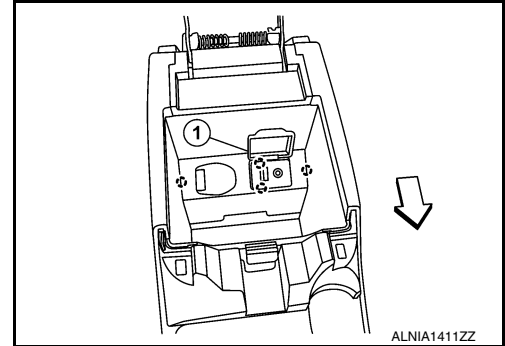
Removal and Installation

INFOID:000000009758995

Removal

1. Remove the center console rear finisher cover. Refer to [TM-253, "Exploded View"](#).
2. Release the pawls and remove the USB connector and aux jack (1) from the center console rear finisher cover.

- : Pawl
- ⇐: Front



Installation

Installation is in the reverse order of removal.

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AV

WINDOW ANTENNA

Removal and Installation

INFOID:000000010304574

The window antenna is serviced as an assembly with the filament. Refer to [DEF-47. "Inspection and Repair"](#).

SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

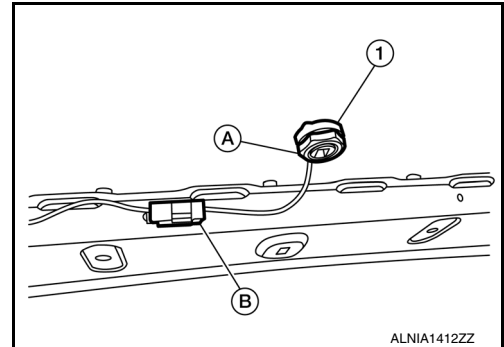
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:000000009758996

REMOVAL

1. Lower the headlining at the rear. Refer to [INT-38, "Exploded View"](#).
2. Remove the satellite radio antenna nut (A).
3. Disconnect the harness connector (B) from the satellite radio antenna (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

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GPS ANTENNA

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

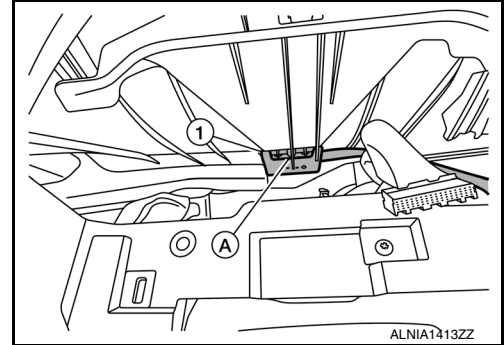
GPS ANTENNA

Removal and Installation

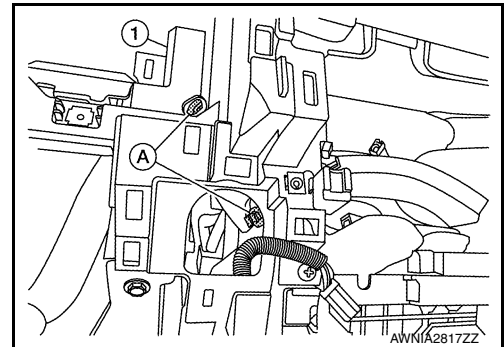
INFOID:000000009758997

REMOVAL

1. Remove the combination meter. Refer to [MWI-77, "Removal and Installation"](#).
2. Remove the AV control unit. Refer to [AV-298, "Removal and Installation"](#).
3. Remove the screw (A) from the GPS antenna (1).



4. Release the harness clips (A) from the instrument panel (1) and remove the GPS antenna.



INSTALLATION

Installation is in the reverse order of removal.

MICROPHONE

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

MICROPHONE

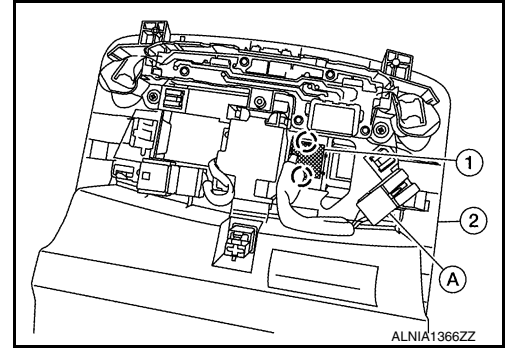
Removal and Installation

INFOID:000000009758998

REMOVAL

1. Remove the front room/map lamp assembly. Refer to [INL-52. "Removal and Installation"](#).
2. Disconnect the microphone connector (A) from the front room/map lamp assembly (2).
3. Release the microphone pawls, then remove the microphone (1).

○: Pawl



INSTALLATION

Installation is in the reverse order of removal.

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REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

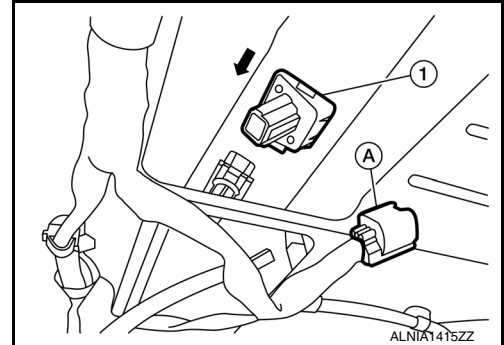
REAR VIEW CAMERA

Removal and Installation

INFOID:000000009758999

REMOVAL

1. Remove trunk lid finisher. Refer to [INT-45. "Removal and Installation"](#).
2. Disconnect the harness connector (A) from rear view camera (1).
3. Remove the license lamp finisher. Refer to [EXT-44. "Removal and Installation"](#).
4. Push the rear view camera (1) in direction shown (←) and pull out to remove.



INSTALLATION

Installation is in the reverse order of removal.

PRECAUTION

PRECAUTIONS

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

INFOID:000000010304578

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. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Precaution for Trouble Diagnosis

INFOID:000000009759001

AV COMMUNICATION SYSTEM

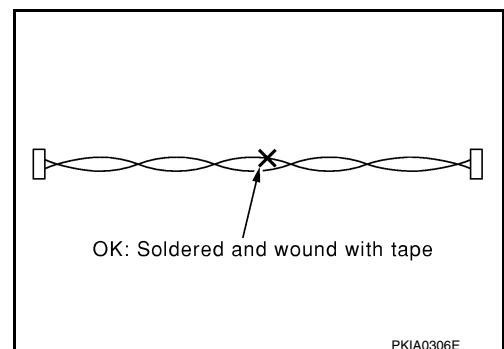
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

INFOID:000000009759002

AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



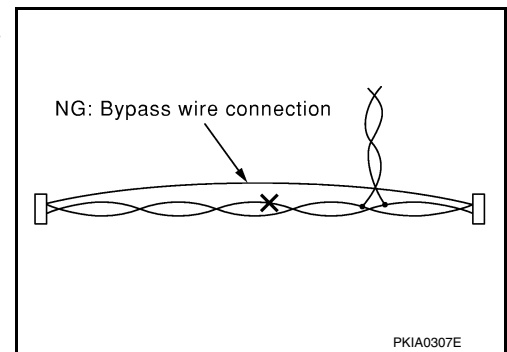
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PRECAUTIONS

[NAVIGATION WITH BOSE]

< PRECAUTION >

- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)



Precaution for Work

INFOID:000000009759003

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
 - Water soluble dirt:
 - Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
 - Then rub with a soft, dry cloth.
 - Oily dirt:
 - Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
 - Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
 - Then rub with a soft, dry cloth.
 - Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
 - For genuine leather seats, use a genuine leather seat cleaner.

PREPARATION

< PREPARATION >

[NAVIGATION WITH BOSE]

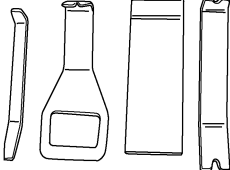
PREPARATION

PREPARATION

Special Service Tools


INFOID:000000009759004

The actual shape of the tools may differ from those illustrated here.

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

Commercial Service Tools

INFOID:000000009759005

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

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COMPONENT PARTS

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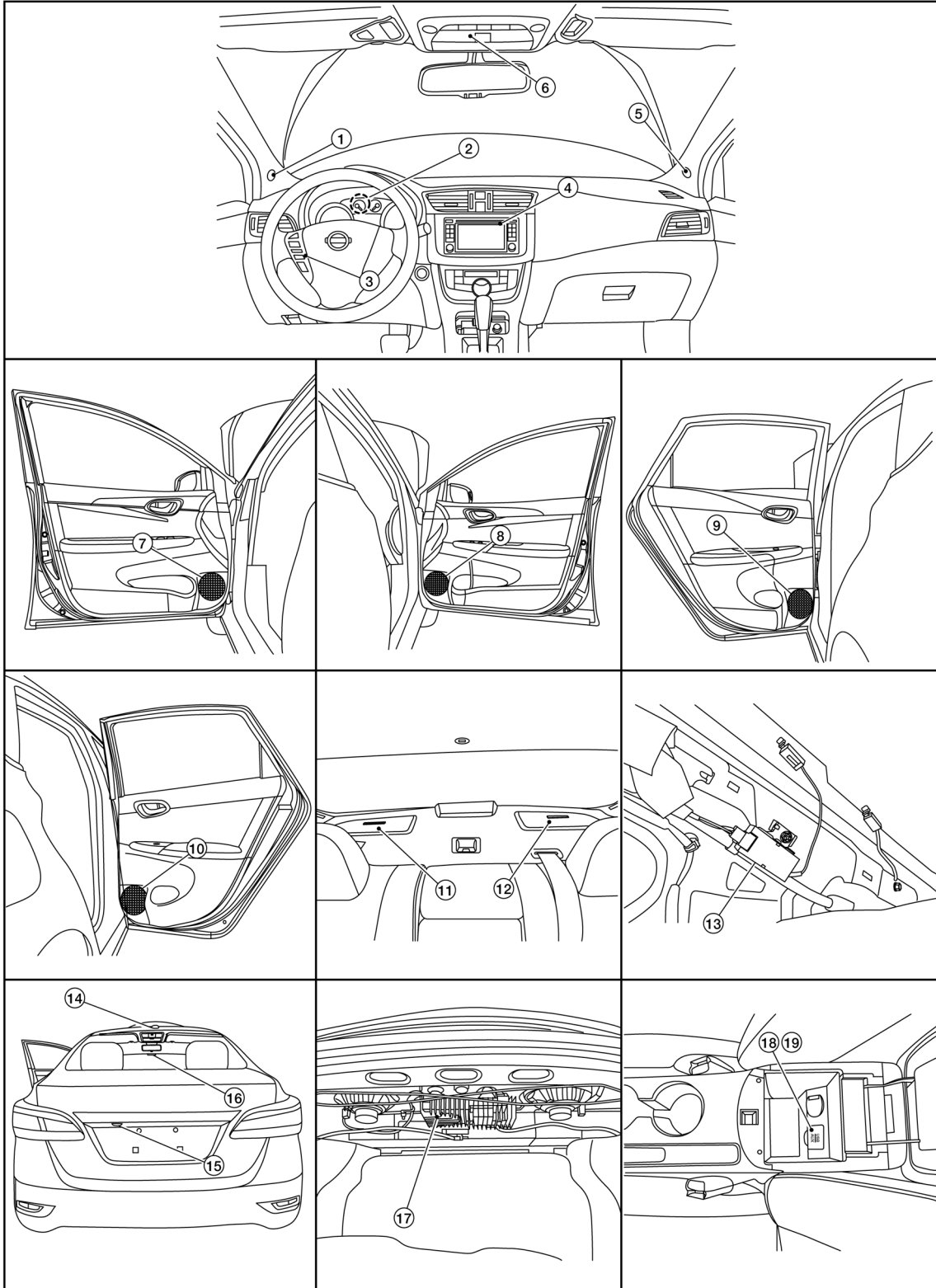
[NAVIGATION WITH BOSE]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000009759006



ALNIA139ZZ

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

- | | | |
|--------------------------|--------------------------|-------------------------|
| 1. Front tweeter LH | 2. GPS antenna | 3. Steering switches |
| 4. AV control unit | 5. Front tweeter RH | 6. Microphone |
| 7. Front door speaker LH | 8. Front door speaker RH | 9. Rear door speaker LH |
| 10. Rear door speaker RH | 11. Rear woofer RH | 12. Rear woofer LH |
| 13. Antenna amp. | 14. Satellite antenna | 15. Rear view camera |
| 16. Window antenna | 17. Bose speaker amp. | 18. USB interface |
| 19. AUX jack | | |

A
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Component Description

INFOID:000000009759007

D

Part name	Description
AV control unit	<ul style="list-style-type: none"> • Operation of navigation and audio systems are integrated. • Includes the audio, hands-free phone, navigation, satellite radio, rear view monitor, USB connection and AUX IN connection functions. • Map data can be loaded from SD-card inserted in SD-card slot. • Audio signals are output to Bose speaker amp. • Inputs illumination signals required for display dimming control. • Inputs signals for driving status recognition (vehicle speed and reverse). • Touch panel functions can be operated by touching display directly.
Map SD-card	A collection of Map data.
Bose speaker amp.	Receives audio signals from AV control unit and outputs audio signals to each speaker.
Front tweeters	Outputs high, mid and low range audio signals from Bose speaker amp.
Front door speakers	
Rear door speakers	
Rear woofers	
Steering switches	<ul style="list-style-type: none"> • Operations for audio, hands-free phone and voice recognition are possible. • Steering switch signal is output to AV control unit.
Microphone	<ul style="list-style-type: none"> • Used for hands-free phone operations. • Microphone signal is transmitted to AV control unit. • Power is supplied from AV control unit.
AUX jack	Sound signal of auxiliary input is transmitted to AV control unit.
USB interface	USB sound and data input signals are transmitted to AV control unit.
Rear view camera	<ul style="list-style-type: none"> • Outputs image of vehicle rear to AV control unit. • Power is supplied from AV control unit.
Satellite antenna	Satellite radio signal is received and transmitted to AV control unit.
GPS antenna	GPS signal is received and transmitted to AV control unit.
Antenna amp.	<ul style="list-style-type: none"> • AM/FM signal received by window antenna is amplified and transmitted to AV control unit. • Power is supplied from AV control unit.
Window antenna	AM/FM signal is received and transmitted to antenna amp.

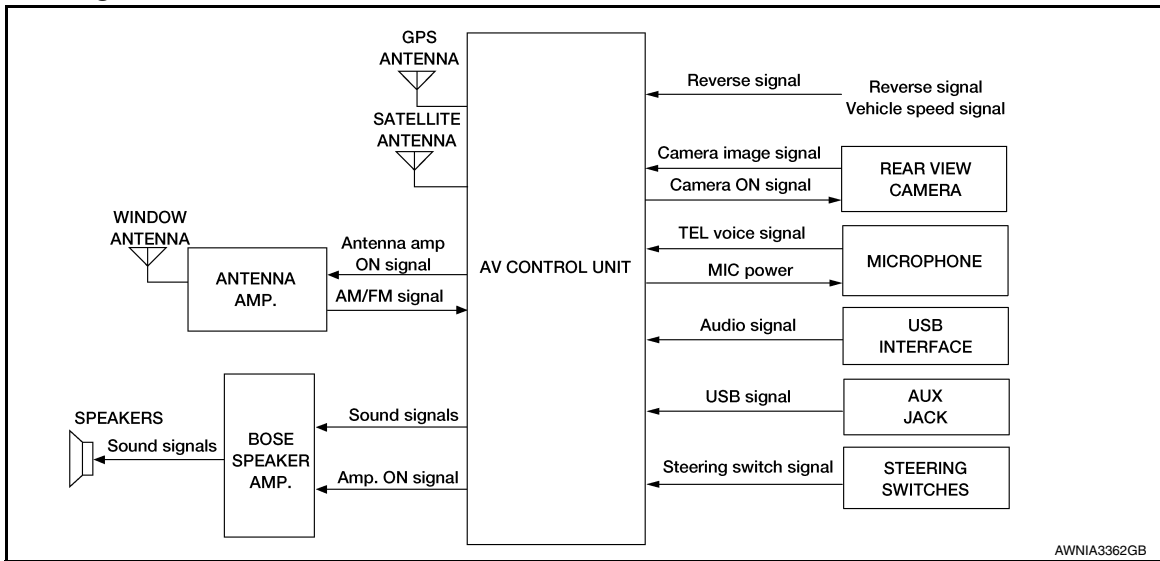
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SYSTEM

System Diagram

INFOID:000000009759008



AWNIA3362GB

System Description

INFOID:000000009759009

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

Audio function and display are built into AV control unit.

This navigation has the following functions.

- Map data on SD-card
- Full support for playback of music from iPod® and USB device
- High resolution color 5.8 inch display with touch panel function
- FM/AM twin digital tuner
- USB mass storage connection
- Satellite radio
- Hands-free phone system

iPod® is a trademark of Apple inc., registered in the U.S. and other countries.

NAVIGATION SYSTEM FUNCTION

Description

- The navigation system can be operated by control panel of the AV control unit and display (touch panel) of the AV control unit.
- Guide sound during the operation of the navigation system is output from AV control unit to front tweeters.
- AV control unit calculates the vehicle location based on the signals from GYRO (angle speed sensor), vehicle sensor, and GPS satellite, as well as the map data from map SD-card. The vehicle location is displayed on the AV control unit.

POSITION DETECTION PRINCIPLE

The navigation system periodically calculates the vehicle's current position according to the following three signals:

- Travel distance of the vehicle as determined by the vehicle speed sensor
- Turning angle of the vehicle as determined by the gyroscope (angular velocity sensor)
- Direction of vehicle travel as determined by the GPS antenna (GPS information)

The current position of the vehicle is then identified by comparing the calculated vehicle position with map data read from the map SD-card (map-matching), and indicated on the screen as a vehicle mark. More accurate data is judged and used by comparing vehicle position detection results found by the GPS with the result by map-matching.

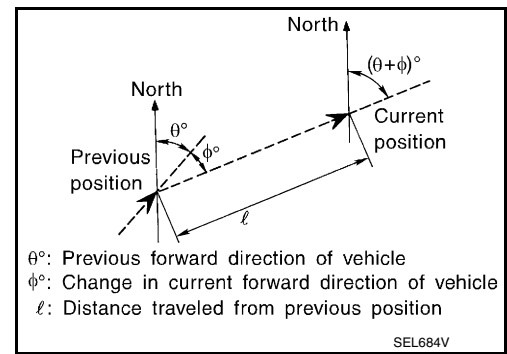
SYSTEM

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

The current vehicle position will be calculated by detecting the distance the vehicle moved from the previous calculation point and its direction.

- Travel distance
Travel distance calculations are based on the vehicle speed sensor input signal. Therefore, the calculation may become incorrect as the tires wear down. To prevent this, an automatic distance correction function has been adopted.
- Travel direction
Change in the travel direction of the vehicle is calculated by a gyroscope (angular velocity sensor) and a GPS antenna (GPS information). They have both advantages and disadvantages.



Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	Can detect the vehicle's turning angle quite accurately.	Direction errors may accumulate when vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	Can detect the vehicle's travel direction (North/South/East/West).	Correct direction cannot be detected when vehicle speed is low.

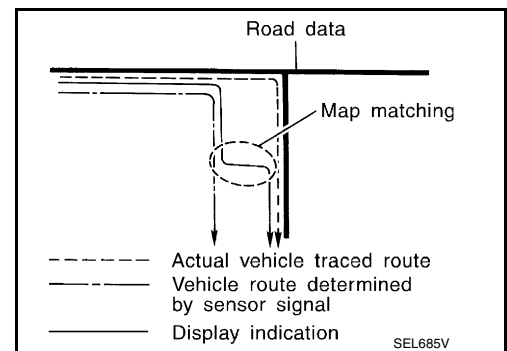
More accurate traveling direction is detected because priorities are set for the signals from these two devices according to the situation.

MAP-MATCHING

Map-matching compares a current location detected by the method in the "Location Detection Principle" with a road map data from map SD-card.

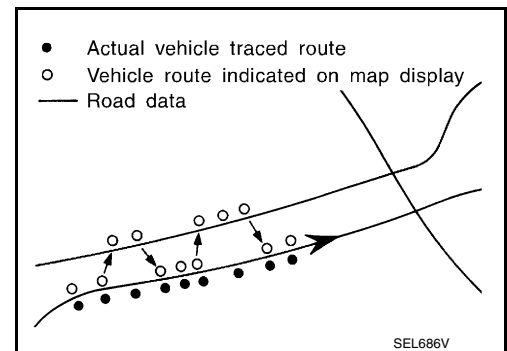
NOTE:

The road map data is based on data stored in the map SD-card.



The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

- In map-matching, alternative routes to reach the destination will be shown and prioritized, after the road on which the vehicle is currently driven has been judged and the vehicle mark has been repositioned. Alternative routes will be shown in different order of priority, and the incorrect road can be avoided if there is an error in distance and/or direction. Routes are of the same priority if two roads are running in parallel. Therefore, the vehicle mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.

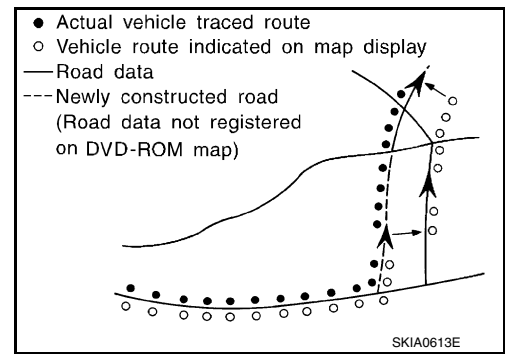


SYSTEM

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

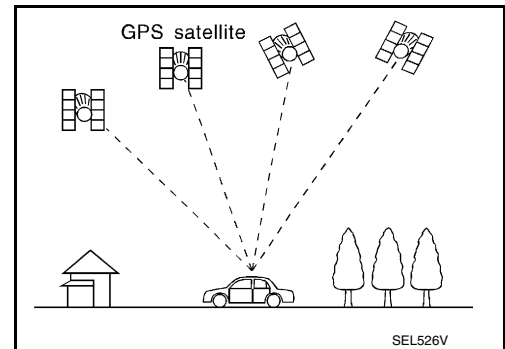
- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair. The map-matching function may find another road and position the vehicle mark on it when driving on a road not present in the map. Then, the vehicle mark may change to it when the correct road is detected.
- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data read from the map SD-card is limited. Therefore, correction by map-matching is not possible when there is an excessive gap between current vehicle position and the position on the map.



GPS (Global Positioning System)

GPS (Global Positioning System) is developed for and is controlled by the US Department of Defense. The system utilizes GPS satellites (NAVSTAR), transmitting out radio waves while flying on an orbit around the earth at an altitude of approximately 21,000 km (13,049 mile).

The receiver calculates the travel position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves that four or more GPS satellites transmit (three-dimensional positioning). The GPS receiver calculates the travel position in two dimensions (latitude/longitude) with the previous altitude data if the GPS receiver receives only three radio waves (two-dimensional positioning). GPS position correction is not performed while stopping the vehicle.



Accuracy of the GPS will deteriorate under the following conditions:

- In two-dimensional positioning, GPS accuracy will deteriorate when altitude of the vehicle position changes.
- The position of GPS satellite affects GPS detection precision. The position detection may not be precisely performed.
- The position detection is not performed if GPS receiver does not receive radio waves from GPS satellites. (Inside a tunnel, parking in a building, under an elevated highway etc.) GPS receiver may not receive radio waves from GPS satellites if any object is placed on the GPS antenna.

NOTE:

- The detection result has an error of approximately 10 m (32.81 ft) even with a high-precision three dimensional positioning.
- There may be cases when the accuracy is lowered and radio waves are stopped intentionally because the GPS satellite signal is controlled by the US trace control center.

SATELLITE RADIO FUNCTION

- Satellite radio function is built into AV control unit.
- Sound signal (satellite radio) is received by satellite antenna and transmitted to AV control unit. AV control unit outputs sound signal to each speaker.

AUXILIARY INPUT FUNCTION

- Sound can be output from an external device by connecting a device with USB connector and AUX jack.
- AUX sound signals are transmitted to each speaker via AV control unit.

REAR VIEW MONITOR FUNCTION

Camera Image Operation Principle

- The AV control unit supplies power to the rear view camera when receiving a reverse signal.
- The rear view camera transmits camera images to the AV control unit when power is supplied from the AV control unit.
- The AV control unit combines a warning message and fixed guide lines with an image received from the rear view camera to display a rear view camera image on the screen.

USB CONNECTION FUNCTION

- iPod® or music files in USB memory can be played.

SYSTEM

[NAVIGATION WITH BOSE]

< SYSTEM DESCRIPTION >

- Sound signals are transmitted from USB connector and AUX jack to the AV control unit and output to each speaker and tweeter. A
- iPod® is recharged when connected to USB connector and AUX jack.

NOTE:

Use the enclosed USB harness when connecting iPod® to USB connector and AUX jack. B

iPod® is a trademark of Apple inc., registered in the U.S. and other countries.

SPEED SENSITIVE VOLUME SYSTEM

- Volume level of this system goes up and down automatically in proportion to the vehicle speed. C
- The control level can be selected by the customer.

HANDS-FREE PHONE SYSTEM

- Bluetooth® control is built into AV control unit. D
- The connection between cellular phone and AV control unit is performed with Bluetooth® communication. E
- The voice guidance signal is input from the AV control unit and output to the front tweeters when operating the cellular phone.

When A Call Is Originated

- Spoken voice sound output from the microphone (microphone signal) is input to AV control unit. F
- AV control unit outputs to cellular phone with Bluetooth® communication as a TEL voice signal.
- Voice sound is then heard at the other party.

When Receiving A Call

- Voice sound is input to own cellular phone from the other party. G
- TEL voice signal is input to AV control unit by establishing Bluetooth® communication from cellular phone, and the signal is output to front tweeters. H

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DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:000000009759010

The AV control unit on board diagnosis performs the functions listed in the table below:

Mode		Item	Content
Version		—	Version data of the AV control unit is displayed.
User Configuration	Touch Display Calibration	—	Allows correction of the position detection accuracy of the touch panel.
Radio	FM monitor	—	Monitors the dynamic values of the current tuner
	AM monitor	—	
	XM monitor	—	Version data is displayed.
	XM functions	<ul style="list-style-type: none"> • Clear XM Chipset NVM • Reset All XM Settings • Clear IGS • XM CBM Debug Mode • External Diag Mode 	Current status is displayed.
System State	Running System Status	<ul style="list-style-type: none"> • SD card slot Access • Power Supply • Speed Signal • Direction Signal • Illumination Signal • GPS Antenna • GPS Tracking • Satellites Visible • Satellites Tracked • Microphone Current • Steering wheel key • Radio Antenna • USB Device • iPod® firmware version 	The current system status is displayed.
	Speaker Test 4kHz	—	This activates a sequence of test tone outputs to the audio circuits one after the other for 1 second.
	Speaker Test 100Hz		
		Display-Test	—
Self Test		<ul style="list-style-type: none"> • SD Card Access • BT Module Access • Radio Antenna • GPS Antenna • XM Antenna 	A system self test is executed and the results are stored into the error memory.

Perform CONSULT diagnosis if the AV control unit on board diagnosis does not start or the screen does not display anything.

On Board Diagnosis Function

INFOID:000000009759011

METHOD OF STARTING

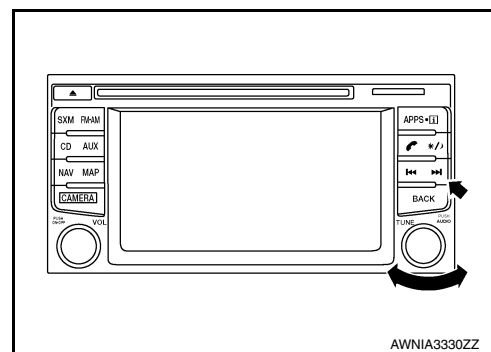
1. Turn the ignition ON.
2. Turn the audio system OFF.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

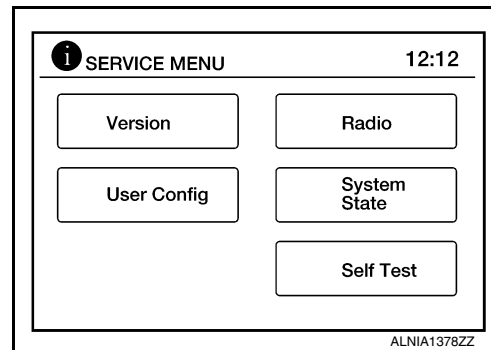
[NAVIGATION WITH BOSE]

< SYSTEM DESCRIPTION >

- While pressing the FORWARD SEEK button, turn the TUNE-dial counterclockwise 3 or more clicks, then clockwise 3 or more clicks, then counterclockwise 3 or more clicks. Shifting from current screen to previous screen is performed by pressing BACK button.



- The trouble diagnosis initial screen is displayed, and Version, User Config, Radio, System State or Self Test can be selected.



CONSULT Function

INFOID:000000009759012

CONSULT FUNCTIONS

CONSULT performs the following functions via communication with the AV control unit.

Direct Diagnostic Mode	Description
Ecu Identification	The AV control unit part number is displayed.
Self Diagnostic Result	The AV control unit self diagnostic results are displayed.
Data Monitor	The AV control unit input/output data is displayed in real time.
Configuration	<ul style="list-style-type: none"> The vehicle specification can be read and saved. The vehicle specification can be written when replacing AV control unit.
CAN Diag Support Mntr	<ul style="list-style-type: none"> The result of transmit/receive diagnosis of AV communication is displayed. The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

The part number of AV control unit is displayed.

SELF DIAGNOSTIC RESULT

Refer to [AV-233, "DTC Index"](#).

DATA MONITOR

Monitor Item [Unit]	Description
VHCL SPD SIG [On/Off]	Indicates vehicle speed signal received from combination meter on CAN communication line.
ILLUM SIG [On/Off]	Indicates condition of illumination signal for the AV control unit.
IGN SIG [On/Off]	Indicates condition of ignition signal.
REV SIG [On/Off]	Indicates condition of reverse signal received from BCM.

CONFIGURATION

Refer to [AV-251, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

CAN DIAG SUPPORT MNTR

Refer to [LAN-13, "CAN Diagnostic Support Monitor"](#).

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AV

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

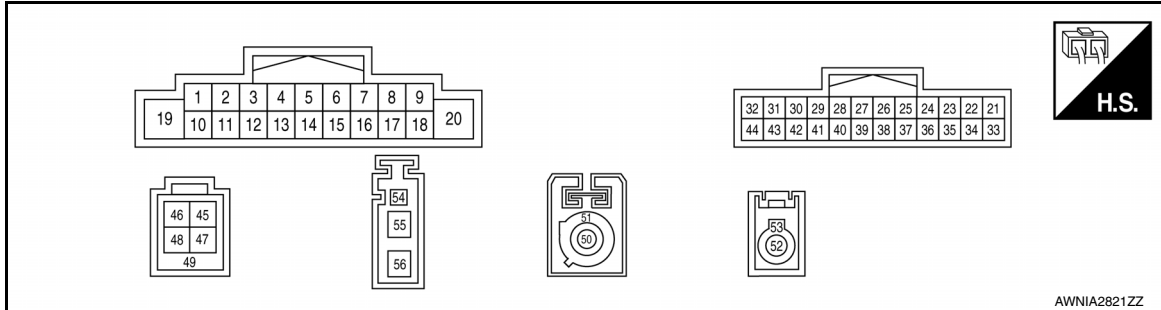
ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

INFOID:000000009759013

TERMINAL LAYOUT



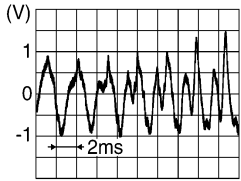
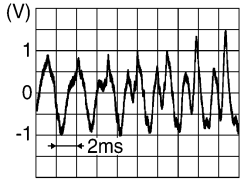



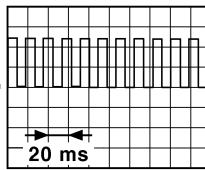
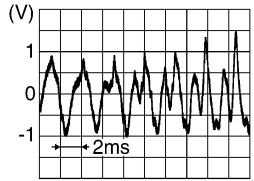
PHYSICAL VALUES

Terminal (Wire color)		Description	Input/ Output	Condition		Reference value (Approx.)
+	-			Ignition switch	Operation	
1 (GR)	Ground	BOSE amp. ON signal	Output	ACC	—	Battery voltage
2 (L)	3 (P)	Sound signal front speaker LH	Output	ON	Sound output	
4 (LG)	5 (V)	Sound signal rear speaker LH	Output	ON	Sound output	
6 (G)	15 (V)	Steering switch signal A	Input	Ignition switch ON	Press SOURCE switch	0V
					Press Δ switch	1.0V
					Press ∇ switch	2.0V
					Press \swarrow \searrow switch	3.0V
					Except above	5.0V
7 (P)	Ground	ACC power supply	Input	ACC	—	Battery voltage
8 (L)	—	CAN (H)	Input/ Output	—	—	—
9 (R)	44 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
10 (B)	—	Shield	—	—	—	—

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

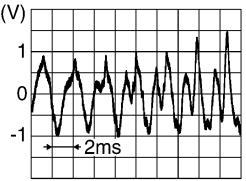
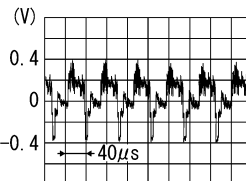
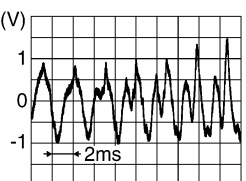
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
11 (G)	12 (R)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E
13 (BR)	14 (Y)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
16 (R)	15 (V)	Steering switch signal B	Input	Ignition switch ON	Press -  switch	0V
					Press  + switch	1.0V
					Press  switch	2.0V
					Except above	5.0V
17 (P)	—	CAN (L)	Input/ Output	—	—	—
18 (Y)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is ap- prox. 40 km/h (25 MPH)	 JSNIA0012GB
19 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (B)	Ground	Ground	—	ON	—	0 V
23 (O)	—	MR output	Output	—	—	—
28 (G)	Ground	Reverse signal	Input	ON	Selector lever in R (re- verse)	Battery voltage
					Selector lever in any posi- tion other than R (reverse)	0 V
30 (R)	31 (B)	AUX sound signal LH	Input	Ignition switch ON	AUX mode selected.	 SKIB3609E

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AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
32 (W)	31 (B)	AUX sound signal RH	Input	Ignition switch ON	AUX mode selected.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
33 (L)	Ground	Camera ground	—	Ignition switch ON		0 V
34 (LG)	Ground	Camera image signal	Input	Ignition switch ON	Camera image displayed	 <p style="text-align: right; font-size: small;">SKIB2251J</p>
35	—	Shield	—	—	—	—
36 (V)	Ground	Camera power supply	Output	Ignition switch ON	Selector lever in "R" position	6.0 V
37 (BR)	Ground	Ignition power supply	Input	ON or START	—	Battery voltage
42 (R)	Ground	Microphone power supply	Output	ON	—	5.0 V
43 (G)	41 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
45 (W)	—	V BUS signal	—	—	—	—
46 (G)	—	USB ground	—	—	—	—
47 (L)	—	USB D+ signal	—	—	—	—
48 (R)	—	USB D- signal	—	—	—	—
49	—	Shield	—	—	—	—
50 (B)	Ground	GPS antenna signal	Input	ON	—	5.0 V
51	—	Shield	—	—	—	—
52 (B)	Ground	Satellite antenna signal	Input	ON	—	5.0 V
53	—	Shield	—	—	—	—

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
54 (B)	Ground	Antenna amp. ON signal	Output	ON	—	Battery voltage
55 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V

DTC Index

INFOID:000000009759014

CONSULT Display	Reference Page
U1000: CAN COMM CIRCUIT	AV-352, "DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-353, "DTC Logic"
U1217: BLUETOOTH MODULE	AV-354, "DTC Logic"
U1229: iPod CERTIFICATION	AV-355, "DTC Logic"
U122F: Digital broadcasting connection error	AV-356, "DTC Logic"
U1244: GPS ANTENNA CONN	AV-357, "DTC Logic"
U1258: XM ANTENNA CONN	AV-358, "DTC Logic"
U1263: USB OVERCURRENT	AV-359, "DTC Logic"
U1264: ANTENNA AMP TERMINAL	AV-360, "DTC Logic"
U1265: AMP ON TERMINAL	AV-361, "DTC Logic"
U12AA: Configuration Error	AV-362, "DTC Logic"
U12AC: Display Temperature too High	AV-363, "DTC Logic"
U12AD: ECU Temperature too High	AV-364, "DTC Logic"
U12AE: Internal Amplifier temperature Warning	AV-365, "DTC Logic"
U12AF: CD Mechanism Temperature Warning	AV-366, "DTC Logic"
U12B0: Supply Voltage Goes below 9V > 20s	AV-367, "DTC Logic"
U12B1: Supply Voltage Goes High > 16V for 20s	AV-368, "DTC Logic"
U1310: CONTROL UNIT (AV)	AV-369, "DTC Logic"

AV

BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

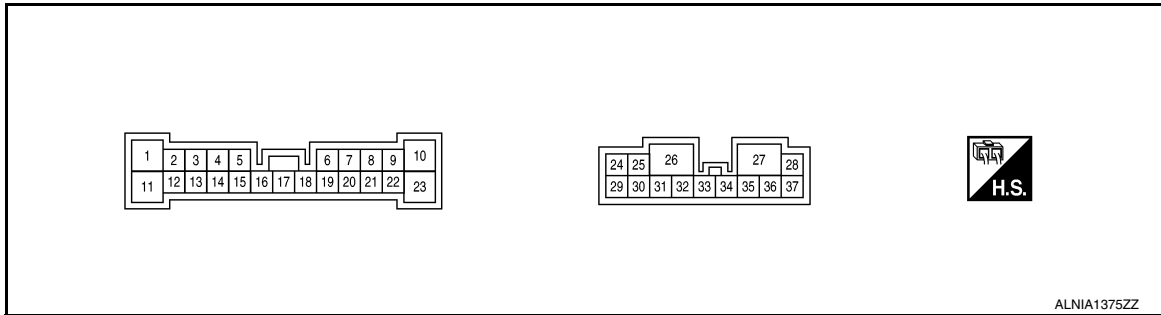
[NAVIGATION WITH BOSE]

BOSE SPEAKER AMP

Reference Value

INFOID:000000009759015

TERMINAL LAYOUT



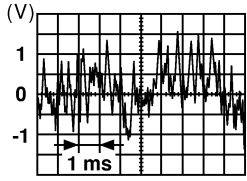
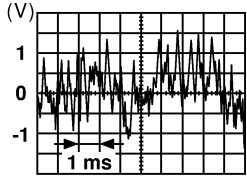
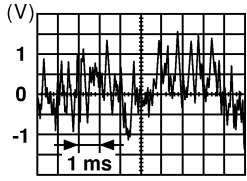
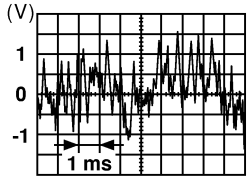
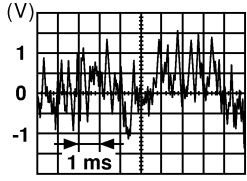
PHYSICAL VALUES

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output	Ignition switch	Operation	
3 (W)	2 (B)	Sound signal front speaker LH	Input	ON	Sound output	<p>SKIA0177E</p>
5 (G)	4 (R)	Sound signal front speaker RH	Input	ON	Sound output	<p>SKIA0177E</p>
7 (SB)	6 (V)	Front door speaker signal RH	Output	ON	Sound output	<p>SKIA0177E</p>
10 (G)	23 (GR)	Rear door speaker signal LH	Output	ON	Sound output	<p>SKIA0177E</p>

BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
12 (BR)	13 (Y)	Sound signal rear speaker RH	Input	ON	Sound output	 SKIA0177E
14 (LG)	15 (V)	Sound signal rear speaker LH	Input	ON	Sound output	 SKIA0177E
18 (L)	Ground	Amp. ON signal	Input	ON	-	Greater than 6.5V
20 (W)	19 (Y)	Front door speaker signal LH	Output	ON	Sound output	 SKIA0177E
24 (W)	29 (O)	Rear door speaker signal RH	Output	ON	Sound output	 SKIA0177E
25 (Y)	30 (L)	Rear speaker signal LH	Output	ON	Sound output	 SKIA0177E
26 (B)	Ground	Ground	-	ON	-	0V
27 (G)	Ground	Battery power supply	Input	-	-	Battery voltage
28 (LG)						
31 (B)	Ground	Ground	-	ON	-	0V

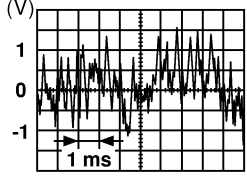
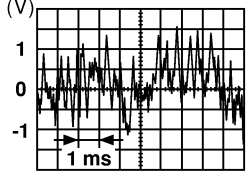
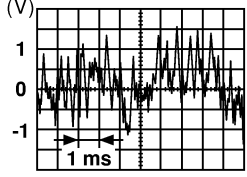
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BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
33 (R)	32 (W)	Rear speaker signal RH	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
34 (P)	35 (V)	Front speaker signal RH	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
37 (GR)	36 (SB)	Front speaker signal LH	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>

< WIRING DIAGRAM >

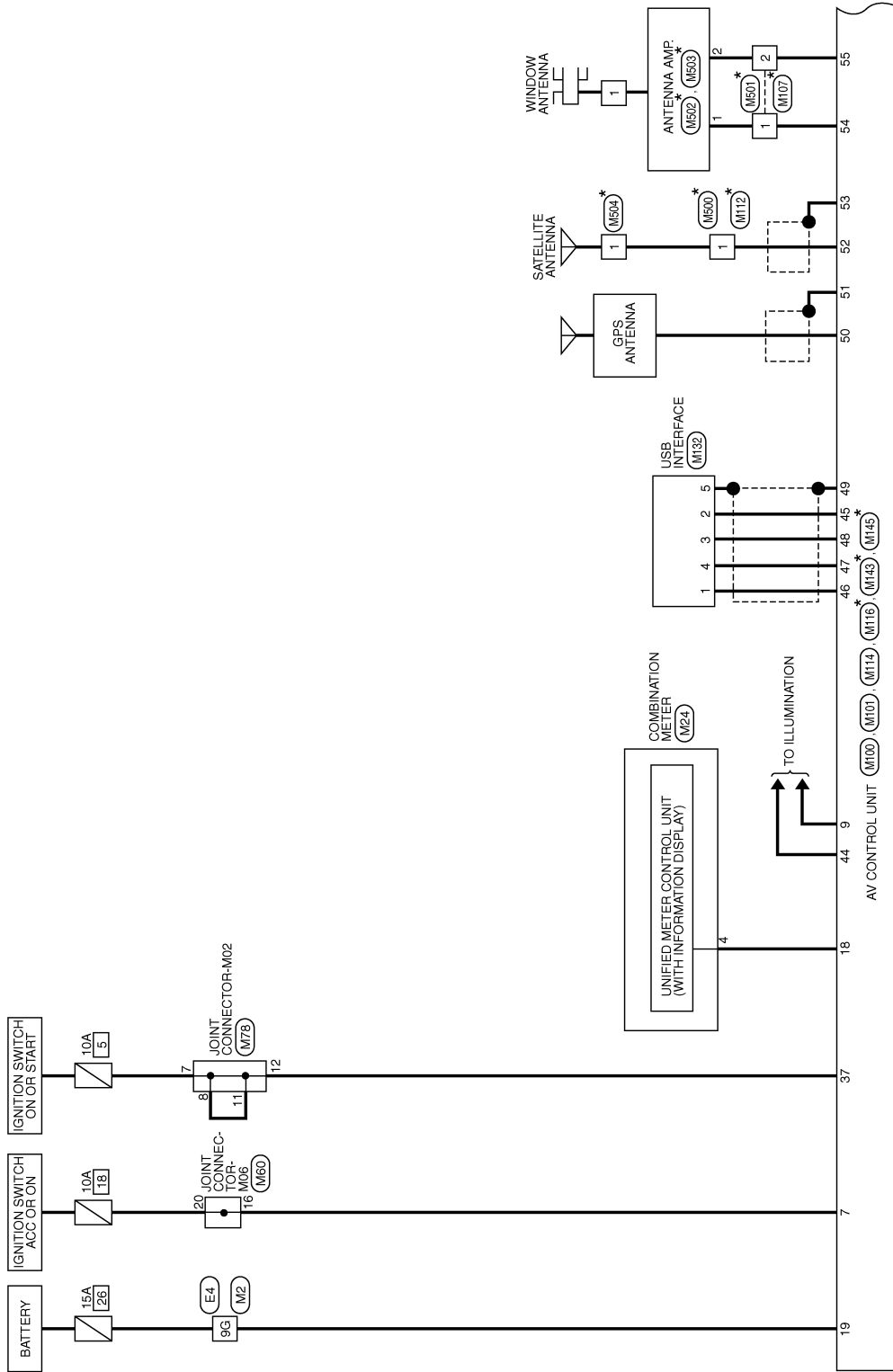
WIRING DIAGRAM

NAVIGATION WITH BOSE

Wiring Diagram

INFOID:000000009759016

NAVIGATION SYSTEM - WITH BOSE AUDIO SYSTEM



ABNWA2125GB

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

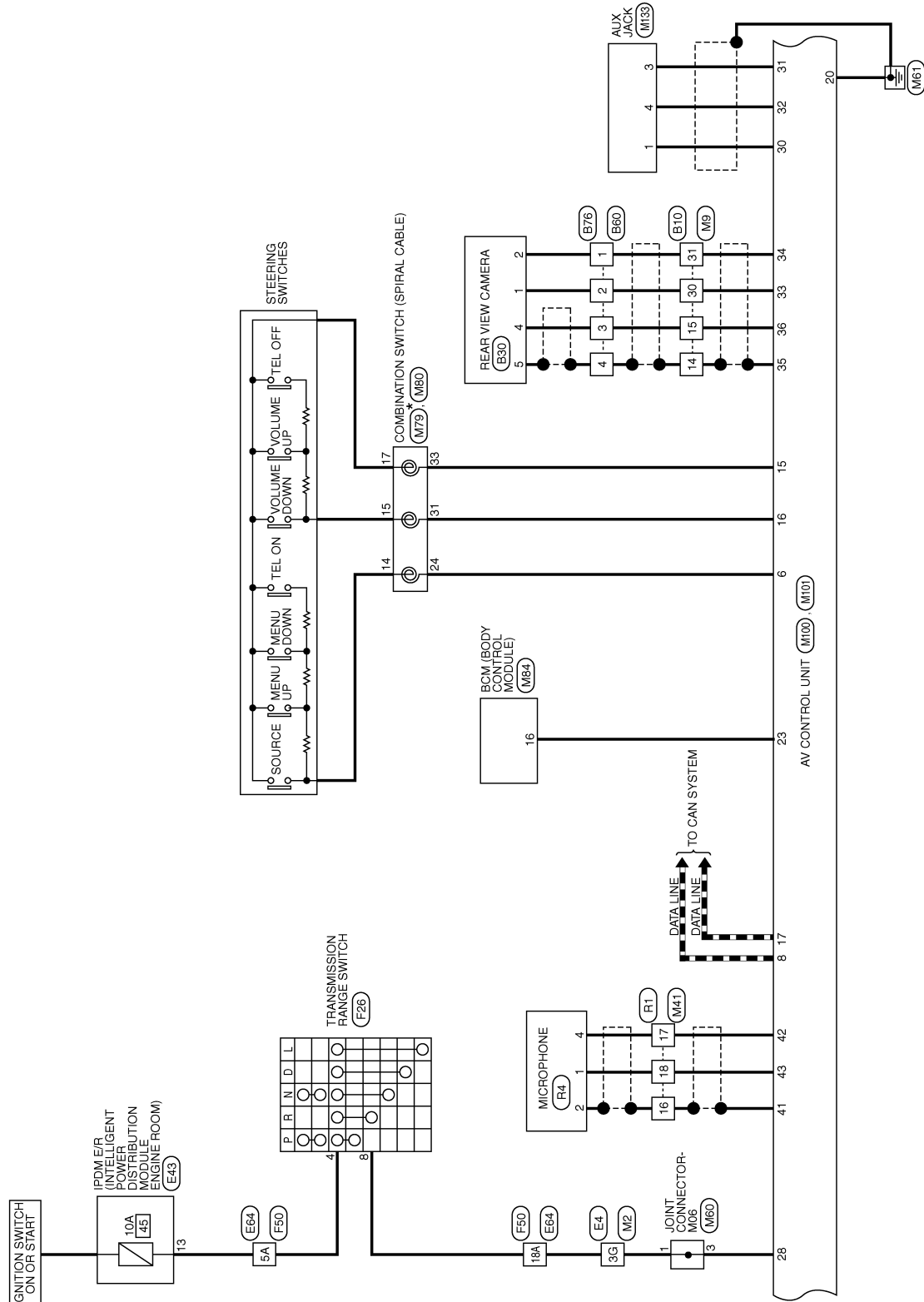
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NAVIGATION WITH BOSE

< WIRING DIAGRAM >

[NAVIGATION WITH BOSE]



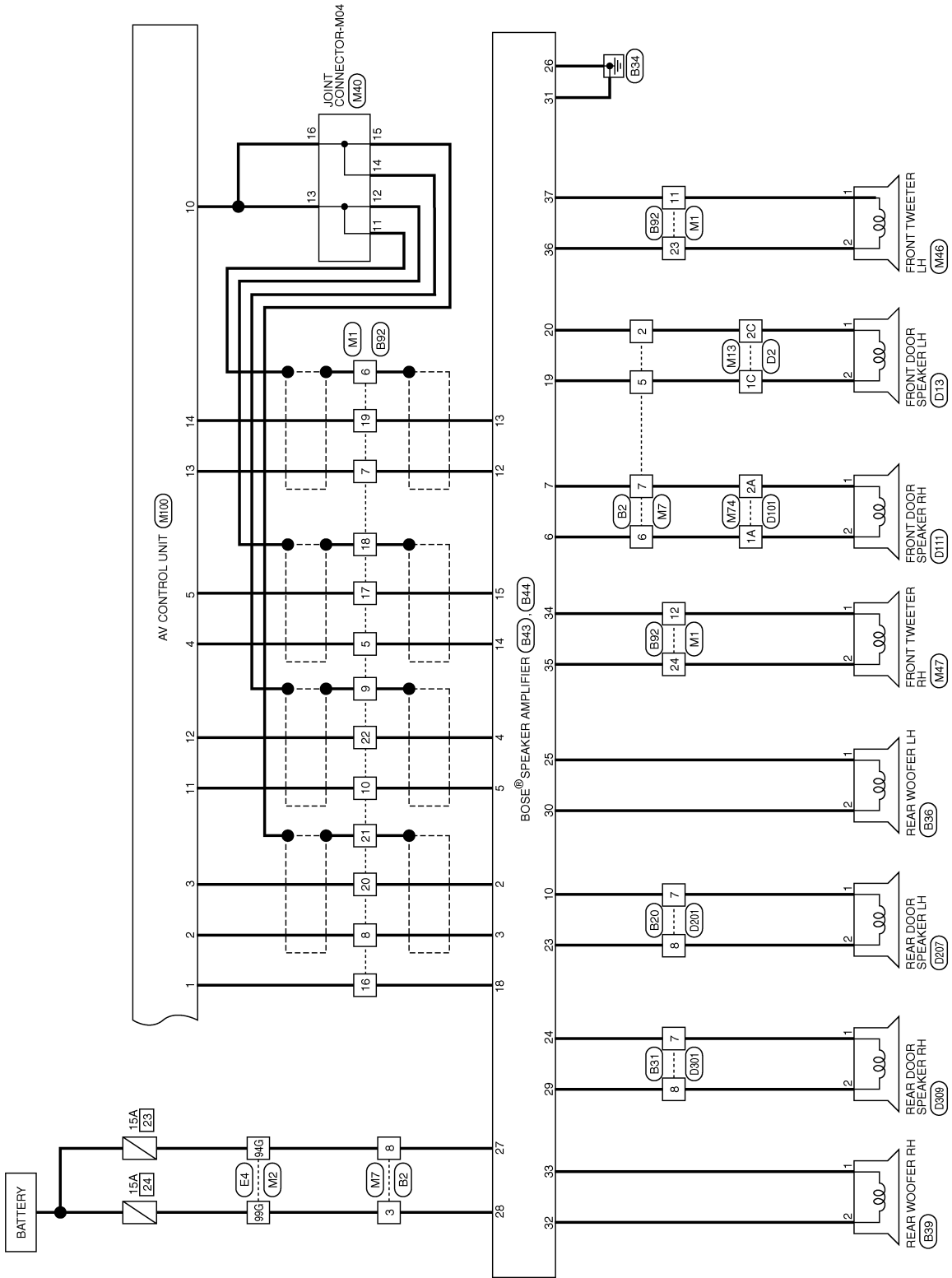
*: THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

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NAVIGATION WITH BOSE

< WIRING DIAGRAM >

[NAVIGATION WITH BOSE]

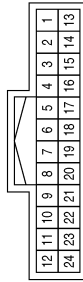


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NAVIGATION SYSTEM CONNECTORS - WITH BOSE AUDIO SYSTEM

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

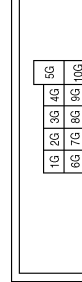


Terminal No.	Color of Wire	Signal Name
5	LG	-
6	SHIELD	-
7	BR	-

Terminal No.	Color of Wire	Signal Name
8	L	-
9	SHIELD	-
10	G	-
11	W	-
12	BR	-
16	GR	-
17	V	-
18	SHIELD	-

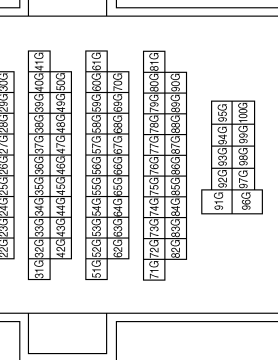
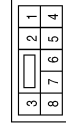
Terminal No.	Color of Wire	Signal Name
19	Y	-
20	P	-
21	SHIELD	-
22	R	-
23	Y	-
24	LG	-

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3G	SB	-
9G	Y	-
94G	LG	-
99G	W	-

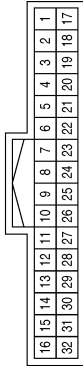
Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Color	WHITE



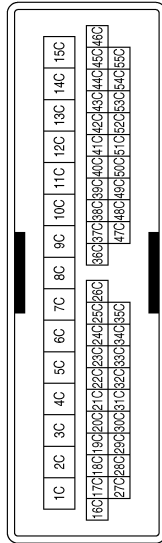
Terminal No.	Color of Wire	Signal Name
2	R	-
3	W	-
5	GR	-
6	P	-
7	G	-
8	LG	-

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

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	M9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

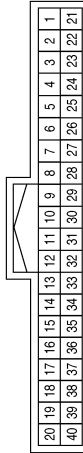


Connector No.	M40
Connector Name	JOINT CONNECTOR-M04
Connector Color	ORANGE



Terminal No.	Color of Wire	Signal Name
14	SHIELD	-
15	V	-
30	L	-
31	LG	-

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
4	Y	8 P/R OUTPUT

Terminal No.	Color of Wire	Signal Name
11	B	-(WITH BOSE AUDIO SYSTEM)
12	B	-(WITH BOSE AUDIO SYSTEM)
13	B	-(WITH BOSE AUDIO SYSTEM)
14	B	-(WITH BOSE AUDIO SYSTEM)
15	B	-(WITH BOSE AUDIO SYSTEM)
16	B	-(WITH BOSE AUDIO SYSTEM)

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Connector No.	M47
Connector Name	FRONT TWEETER RH
Connector Color	BROWN



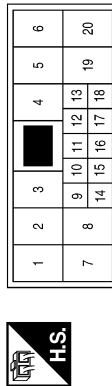
Terminal No.	Color of Wire	Signal Name
1	BR	-
2	LG	-

Connector No.	M46
Connector Name	FRONT TWEETER LH
Connector Color	BROWN



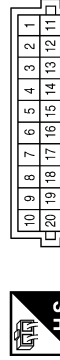
Terminal No.	Color of Wire	Signal Name
1	W	-
2	Y	-

Connector No.	M41
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
16	SHIELD	-
17	R	-
18	G	-

Connector No.	M78
Connector Name	JOINT CONNECTOR-M02
Connector Color	PINK



Terminal No.	Color of Wire	Signal Name
7	G	-
8	LG	-
11	LG	-
12	BR	-

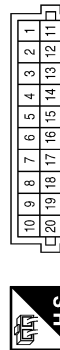
Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

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

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	SB	-
3	G	-
16	P	-
20	L	-

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Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK



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

Terminal No.	Color of Wire	Signal Name
16	O	MR OUTPUT

Connector No.	M80
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



25	24	31	32
27	21	22	33

Terminal No.	Color of Wire	Signal Name
24	G	-
31	R	-
33	V	-

Connector No.	M79
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



20	19	18	17	16	15	14	13
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Terminal No.	Color of Wire	Signal Name
14	B	-
15	GR	-
17	BR	-

Connector No.	M100
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
1	GR	AMP ON
2	L	FR LH SP (+)
3	P	FR LH SP (-)
4	LG	RR LH SP (+)
5	V	RR LH SP (-)
6	G	STRG SW A

Terminal No.	Color of Wire	Signal Name
7	P	ACC
8	L	CAN-H
9	R	ILL (+)
10	B	PREAMP SHIELD
11	G	FR RH SP (+)
12	R	FR RH SP (-)
13	BR	RR RH SP (+)
14	Y	RR RH SP (-)
15	V	STRG SW GND
16	R	STRG SW B
17	P	CAN-L
18	Y	SPEED 8P/R
19	Y	+B
20	B	GND

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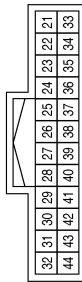
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Terminal No.	Color of Wire	Signal Name
36	V	CAMERA +
37	BR	IGNITION
38	-	-
39	-	-
40	-	-
41	SHIELD	MIC GND
42	R	MIC VCC
43	G	MIC SIGNAL
44	GR	ILL (-)

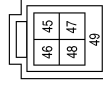
Terminal No.	Color of Wire	Signal Name
26	-	-
27	-	-
28	G	REVERSE
29	-	-
30	R	AUX L
31	B	AUX GND
32	W	AUX R
33	L	CAMERA GND
34	LG	CAMERA ON
35	SHIELD	CAMERA SHIELD

Connector No.	M101
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	-	-
22	-	-
23	O	MR OUTPUT
24	-	-
25	-	-

Connector No.	M114
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITH BOSE AUDIO SYSTEM)
Connector Color	BLUE



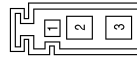
Terminal No.	Color of Wire	Signal Name
45	W	V BUS
46	G	USB GND
47	L	USB D (+)
48	R	USB D (-)
49	SHIELD	USB SHIELD

Connector No.	M112
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M107
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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

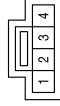
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NAVIGATION WITH BOSE

< WIRING DIAGRAM >

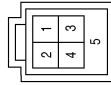
[NAVIGATION WITH BOSE]

Connector No.	M133
Connector Name	AUX JACK
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R	-
3	B	-
4	W	-

Connector No.	M132
Connector Name	USB INTERFACE
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	G	-
2	W	-
3	R	-
4	L	-
5	SHIELD	-

Connector No.	M116
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITH BOSE AUDIO SYSTEM)
Connector Color	BLUE



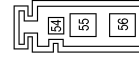
Terminal No.	Color of Wire	Signal Name
50	B	GPS ANT
51	SHIELD	GPS SHIELD

Connector No.	M500
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M145
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITH BOSE AUDIO SYSTEM)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
54	B	ANT ON
55	B	MAIN ANT
56	-	-

Connector No.	M143
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM WITH BOSE AUDIO SYSTEM)
Connector Color	PINK



Terminal No.	Color of Wire	Signal Name
52	B	SAT ANT
53	SHIELD	SAT SHIELD

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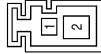
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Connector No.	M503
Connector Name	ANTENNA AMP.
Connector Color	BLACK



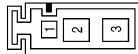
Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M502
Connector Name	ANTENNA AMP.
Connector Color	GRAY



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

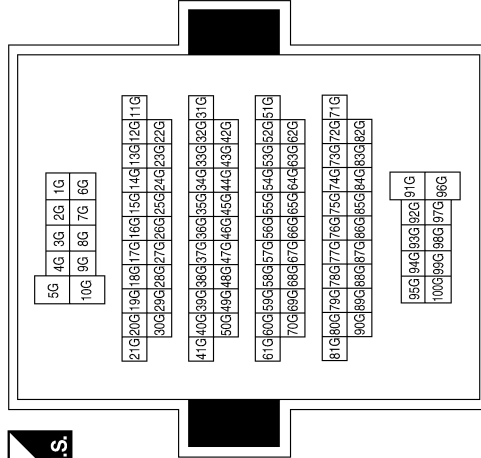
Connector No.	M501
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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

Terminal No.	Color of Wire	Signal Name
3G	W	-
9G	R	-
94G	R	-
99G	R	-

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	M504
Connector Name	SATELLITE ANTENNA
Connector Color	GREEN

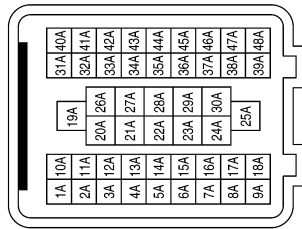


Terminal No.	Color of Wire	Signal Name
1	B	-

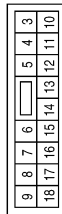
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Terminal No.	Color of Wire	Signal Name
5A	O	-
18A	W	-

Connector No.	E64
Connector Name	WIRE TO WIRE
Connector Color	BLACK



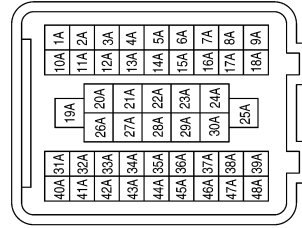
Connector No.	E43
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



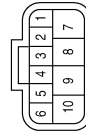
Terminal No.	Color of Wire	Signal Name
13	O	AVT ECU IGN

Terminal No.	Color of Wire	Signal Name
5A	LG	-
18A	G	-

Connector No.	F50
Connector Name	WIRE TO WIRE
Connector Color	BLACK



Connector No.	F26
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



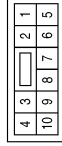
Terminal No.	Color of Wire	Signal Name
4	LG	-
8	G	-

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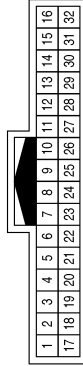
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Connector No.	B20
Connector Name	WIRE TO WIRE
Connector Color	WHITE



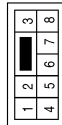
Terminal No.	Color of Wire	Signal Name
7	G	-
8	GR	-

Connector No.	B10
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
14	SHIELD	-
15	W	-
30	R	-
31	B	-

Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



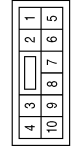
Terminal No.	Color of Wire	Signal Name
2	W	-
3	LG	-
5	Y	-
6	V	-
7	SB	-
8	G	-

Connector No.	B36
Connector Name	REAR WOOFER LH
Connector Color	WHITE



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

Connector No.	B31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	W	-
8	O	-

Connector No.	B30
Connector Name	REAR VIEW CAMERA
Connector Color	BLACK

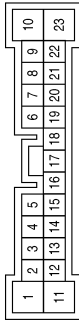


Terminal No.	Color of Wire	Signal Name
1	R	-
2	B	-
4	W	-
5	B	-

ABNIA5804GB

Terminal No.	Color of Wire	Signal Name
9	-	-
10	G	RR DOOR LH+ OUT
11	-	-
12	BR	RR RH+ IN
13	Y	RR RH- IN
14	LG	RR LH+ IN
15	V	RR LH- IN
16	-	-
17	-	-
18	L	AMP ON
19	Y	FR DOOR LH- OUT
20	W	FR DOOR LH+ OUT
21	-	-
22	-	-
23	GR	RR DOOR LH- OUT

Connector No.	B43
Connector Name	BOSE® SPEAKER AMPLIFIER
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	-	-
2	B	FR LH- IN
3	W	FR LH+ IN
4	R	FR RH- IN
5	G	FR RH+ IN
6	V	FR DOOR RH- OUT
7	SB	FR DOOR RH+ OUT
8	-	-

Connector No.	B39
Connector Name	REAR WOOFER RH
Connector Color	WHITE



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

Connector No.	B60
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	-
2	R	-
3	W	-
4	SHIELD	-

Terminal No.	Color of Wire	Signal Name
29	O	RR DOOR RH- OUT
30	L	LH WOOFER- OUT
31	B	GND
32	W	RH WOOFER- OUT
33	R	RH WOOFER+ OUT
34	P	FR TW RH+ OUT
35	V	FR TW RH- OUT
36	SB	FR TW LH- OUT
37	GR	FR TW LH+ OUT

Connector No.	B44
Connector Name	BOSE® SPEAKER AMPLIFIER
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
24	W	RR DOOR RH+ OUT
25	Y	LH WOOFER+ OUT
26	B	GND
27	G	BAT
28	LG	BAT

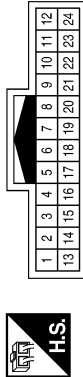
ABNIA5805GB

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Terminal No.	Color of Wire	Signal Name
11	GR	-
12	P	-
16	L	-
17	V	-
18	SHIELD	-
19	Y	-
20	B	-
21	SHIELD	-
22	R	-
23	SB	-
24	V	-

Connector No.	B92
Connector Name	WIRE TO WIRE
Connector Color	WHITE



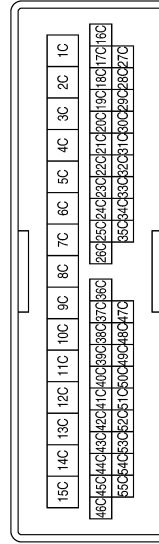
Terminal No.	Color of Wire	Signal Name
5	LG	-
6	SHIELD	-
7	BR	-
8	W	-
9	SHIELD	-
10	G	-

Connector No.	B76
Connector Name	WIRE TO WIRE
Connector Color	WHITE



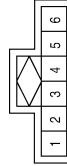
Terminal No.	Color of Wire	Signal Name
1	B	-
2	R	-
3	W	-
4	B	-

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



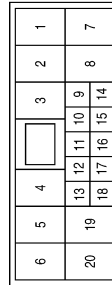
Terminal No.	Color of Wire	Signal Name
1C	P	-
2C	W	-

Connector No.	R4
Connector Name	MICROPHONE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G	-
2	SHIELD	-
4	R	-

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



Terminal No.	Color of Wire	Signal Name
16	SHIELD	-
17	R	-
18	G	-

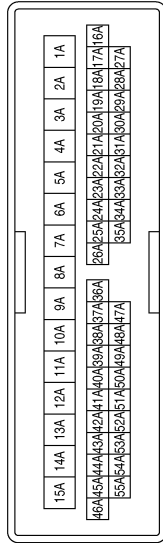
AANIA1380GB

Connector No.	D111
Connector Name	FRONT DOOR SPEAKER RH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN



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

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



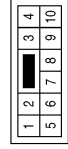
Terminal No.	Color of Wire	Signal Name
1A	P	-
2A	W	-

Connector No.	D13
Connector Name	FRONT DOOR SPEAKER LH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN



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

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



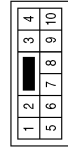
Terminal No.	Color of Wire	Signal Name
7	LG	-
8	GR	-

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



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

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



Terminal No.	Color of Wire	Signal Name
7	LG	-
8	GR	-

ABNIA5806GB



Connector No.	D309
Connector Name	REAR DOOR SPEAKER RH
Connector Color	BROWN



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

ABNIA5807GB

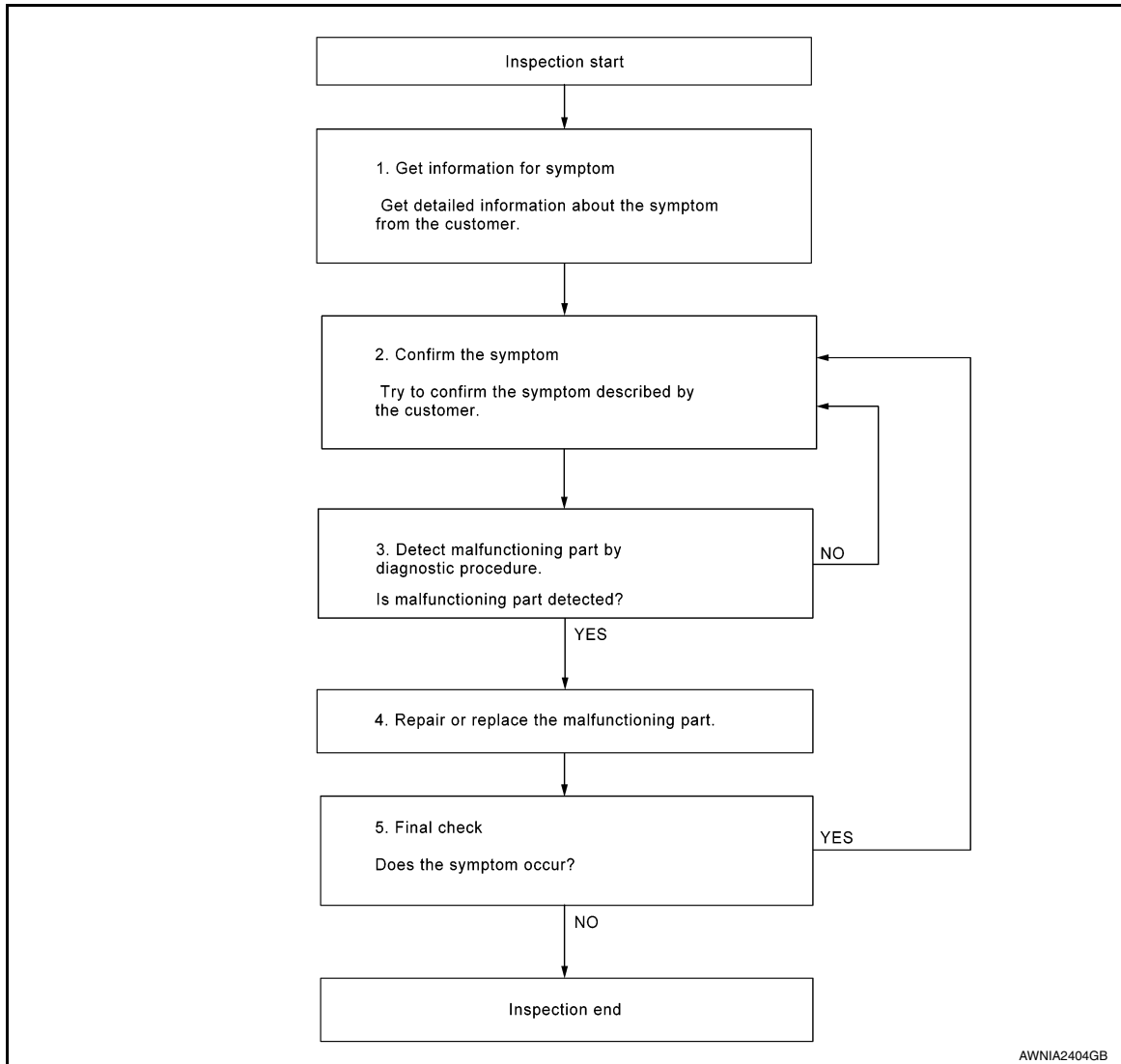
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000009759017

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. Refer to [AV-393, "Symptom Table"](#).

>> GO TO 3

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[NAVIGATION WITH BOSE]

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

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:000000009759018

BEFORE REPLACEMENT

When replacing AV control unit, save or print current vehicle specification with CONSULT configuration before replacement.

NOTE:

If "Before Replace ECU" cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing AV control unit.

AFTER REPLACEMENT

CAUTION:

When replacing AV control unit, you must perform "After Replace ECU" with CONSULT.

- Complete the procedure of "After Replace ECU" in order.
- If you set incorrect "After Replace ECU", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure

INFOID:000000009759018

1. SAVING VEHICLE SPECIFICATION

④-CONSULT

Enter "Re/Programming, Configuration" and perform "Before Replace ECU" to save or print current vehicle specification.

NOTE:

If "Before Replace ECU" cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing AV control unit.

>> GO TO 2.

2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to [AV-406, "Removal and Installation"](#).

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

④CONSULT

1. Enter "Re/Programming, Configuration".
2. If "Before Replace ECU" operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press "Confirm" to write vehicle specification. Refer to [AV-350, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).
3. If "Before Replace ECU" operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to [AV-350, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

>> GO TO 4.

4. OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines) are normal.

>> Work End.

CONFIGURATION (AV CONTROL UNIT)

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITH BOSE]

CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:000000009759020

Vehicle specification needs to be written with CONSULT because it is not written after replacing AV control unit.

Configuration has three functions as follows:

Function	Description
"Before Replace ECU"	<ul style="list-style-type: none">• Reads the vehicle configuration of current AV control unit.• Saves the read vehicle configuration.
"After Replace ECU"	Writes the vehicle configuration with manual selection.
"Select Saved Data List"	Writes the vehicle configuration with saved data.

CAUTION:

- **When replacing AV control unit, you must perform "Select Saved Data List" or "After Replace ECU" with CONSULT.**
- **Complete the procedure of "Select Saved Data List" or "After Replace ECU" in order.**
- **If you set incorrect "Select Saved Data List" or "After Replace ECU", incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **Never perform "Select Saved Data List" or "After Replace ECU" except for new AV control unit.**

CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:000000009759021

1. WRITING MODE SELECTION

CONSULT

Select "Reprogramming, Configuration" of AV control unit.

When writing saved data >> GO TO 2.

When writing manually >> GO TO 3.

2. PERFORM "SAVED DATA LIST"

CONSULT

Automatically "Operation Log Selection" window will display if "Before Replace ECU" was performed. Select applicable file from the "Save Data List" and press "Confirm".

>> Work End.

3. PERFORM "AFTER REPLACE ECU" OR "MANUAL CONFIGURATION"

CONSULT

1. Select "After Replace ECU" or "Manual Configuration".
2. Identify the correct model and configuration list. Refer to [AV-351. "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).
3. Confirm and/or change setting value for each item.

CAUTION:

Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.

4. Select "Next".

CAUTION:

Make sure to select "Next", confirm each setting value and press "OK" even if the indicated configuration of brand new AV control unit is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model can not be memorized.

5. When "Completed", select "End".

>> GO TO 4.

4. OPERATION CHECK

Confirm that each function controlled by AV control unit operates normally.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITH BOSE]

>> Work End.

CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:000000009759022

CAUTION:

Thoroughly read and understand the vehicle specification. Incorrect settings may result in abnormal control of ECU.

MANUAL SETTING ITEM	
Items	Setting value
SOUND SYSTEM	BASE ⇔ BOSE
CAMERA SYSTEM	NONE/AVM ⇔ REAR CAMERA

⇔: Items which confirm vehicle specifications

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U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Logic

INFOID:000000009759023

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CAN COMM CIRCUIT [U1000]	AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

Diagnosis Procedure

INFOID:000000009759024

1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Perform Self Diagnostic Result for MULTI AV.

Is CAN COMM CIRCUIT displayed?

- YES >> Refer to [LAN-16, "Trouble Diagnosis Flow Chart"](#).
NO >> Refer to [GI-39, "Intermittent Incident"](#).

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:000000009759025

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	Error during CAN controller hardware initialization (VCAN).	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-406, "Removal and Installation" .

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U1217 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1217 AV CONTROL UNIT

DTC Logic

INFOID:000000009759026

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
BLUETOOTH MODULE [U1217]	Connection failure to the internal Bluetooth [®] sub unit is detected.	Replace AV control unit if malfunction occurs constantly. Refer to AV-406, "Removal and Installation" .

U1229 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1229 AV CONTROL UNIT

DTC Logic

INFOID:000000009759027

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
iPod CERTIFICATION [U1229]	iPod authentication chip error.	Replace AV control unit if malfunction occurs constantly. Refer to AV-406, "Removal and Installation" .

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U122F AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U122F AV CONTROL UNIT

DTC Logic

INFOID:000000009759028

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Digital broadcasting connection error [U122F]	Communication error with digital audio broadcast module internal to AV control unit.	Replace AV control unit if malfunction occurs constantly. Refer to AV-406, "Removal and Installation" .

U1244 GPS ANTENNA

[NAVIGATION WITH BOSE]

< DTC/CIRCUIT DIAGNOSIS >

U1244 GPS ANTENNA

DTC Logic

INFOID:000000009759029

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
GPS ANTENNA CONN [U1244]	Open or short to ground is detected in GPS antenna connection.	<ul style="list-style-type: none">GPS antenna disconnection.Open or short to ground in GPS antenna signal circuit.

Diagnosis Procedure

INFOID:000000009759030

Regarding Wiring Diagram information, refer to [AV-331, "Wiring Diagram"](#).

1. GPS ANTENNA INSPECTION

Visually inspect the GPS antenna and antenna feeder. Refer to [AV-412, "Location of Antenna"](#).

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning components.

2. CHECK AV CONTROL UNIT VOLTAGE

- Turn ignition switch ON.
- Check voltage between AV control unit connector M116 terminal 50 and ground.

AV control unit terminal	Ground	Voltage
(+)	(-)	
50	—	5.0 V

Is inspection result normal?

YES >> Replace GPS antenna. Refer to [AV-420, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-406, "Removal and Installation"](#).

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U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1258 SATELLITE RADIO ANTENNA

DTC Logic

INFOID:000000009759031

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
XM ANTENNA CONN [U1258]	Open or short to ground is detected in satellite antenna connection.	<ul style="list-style-type: none">Satellite antenna disconnection.Open or short to ground in satellite antenna signal circuit.

Diagnosis Procedure

INFOID:000000009759032

Regarding Wiring Diagram information, refer to [AV-331, "Wiring Diagram"](#).

1. SATELLITE ANTENNA INSPECTION

Visually inspect the satellite antenna and antenna feeder. Refer to [AV-412, "Location of Antenna"](#).

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning components.

2. CHECK SATELLITE ANTENNA FEEDER CONTINUITY

- Disconnect AV control unit connector M143 and satellite radio antenna connector M504.
- Check continuity between AV control unit connector M143 and satellite radio antenna connector M504.

AV control unit		Satellite radio antenna		Continuity
Connector	Terminal	Connector	Terminal	
M143	52	M504	1	Yes

- Check continuity between AV control unit connector M143 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M143	52	—	No

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK AV CONTROL UNIT VOLTAGE

- Connect AV control unit connector M143.
- Turn ignition switch ON.
- Check voltage between AV control unit connector M143 terminal 52 and ground.

AV control unit terminal	Ground	Voltage
(+)	(-)	
52	—	5.0 V

Is inspection result normal?

YES >> Replace satellite radio antenna. Refer to [AV-419, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-406, "Removal and Installation"](#).

U1263 USB

DTC Logic

INFOID:000000009759033

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
USB OVERCURRENT [U1263]	Overcurrent in USB harness is detected.	<ul style="list-style-type: none"> • Device connected to USB interface. • Harness between the AV control unit and USB interface.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. If there is a device connected to the USB interface, disconnect it.
2. Turn ignition switch ON and wait for 2 seconds or more.
3. Perform Self Diagnostic Result for MULTI AV.

Is DTC U1263 displayed?

- YES >> Refer to [AV-359, "Diagnosis Procedure"](#).
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000009759034

1.CHECK USB INTERFACE HARNESS

Visually inspect USB interface harness. Refer to [AV-416, "Removal and Installation"](#).

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Replace USB interface harness. Refer to [AV-416, "Removal and Installation"](#).

2.CHECK USB INTERFACE HARNESS

Check USB interface harness. Refer to [AV-391, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-406, "Removal and Installation"](#).
- NO >> Replace USB interface harness. Refer to [AV-416, "Removal and Installation"](#).

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U1264 ANTENNA AMP.

[NAVIGATION WITH BOSE]

< DTC/CIRCUIT DIAGNOSIS >

U1264 ANTENNA AMP.

DTC Logic

INFOID:000000009759035

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ANTENNA AMP TERMINAL [U1264]	Open or short to ground is detected in Antenna amp. connection.	<ul style="list-style-type: none">• Antenna amp. disconnection.• Open or short to ground in antenna amp. ON signal circuit.

Diagnosis Procedure

INFOID:000000009759036

Regarding Wiring Diagram information, refer to [AV-331, "Wiring Diagram"](#).

1. ANTENNA AMP. INSPECTION

Visually inspect the antenna amp. and antenna feeder. Refer to [AV-412, "Location of Antenna"](#).

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning components.

2. CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND ANTENNA AMP.

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M145 and antenna amp. connector M502.
3. Check continuity between AV control unit connector M145 and antenna amp. connector M502.

AV control unit		Antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	
M145	54	M502	1	Yes

4. Check continuity between AV control unit connector M145 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M145	54	—	No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

3. CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector M145.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M145 and ground.

AV control unit		Ground	Voltage (Approx.)
(+)		(-)	
Connector	Terminal		
M145	54	—	Battery voltage

Is the inspection result normal?

YES >> Replace antenna amp. Refer to [AV-419, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-406, "Removal and Installation"](#).

U1265 BOSE AMP.

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1265 BOSE AMP.

DTC Logic

INFOID:000000009759037

CONSULT Display	DTC Detection Condition	Possible Cause
AMP ON TERMINAL [U1265]	Open or short to ground is detected in BOSE amp. ON signal circuit.	Open or short to ground in BOSE amp. ON signal circuit.

Diagnosis Procedure

INFOID:000000009759038

Regarding Wiring Diagram information, refer to [AV-331, "Wiring Diagram"](#).

1. CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND BOSE SPEAKER AMP.

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M100 and Bose speaker amp. connector B43.
3. Check continuity between AV control unit connector M100 and Bose speaker amp. connector B43.

AV control unit		Bose speaker amp.		Continuity
Connector	Terminal	Connector	Terminal	
M100	1	B43	18	Yes

4. Check continuity between AV control unit connector M100 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M100	1	—	No

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2. CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector M100.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M100 and ground.

AV control unit		Ground	Voltage (Approx.)
(+)			
Connector	Terminal	(-)	
M100	1	—	Battery voltage

Is the inspection result normal?

- YES >> Replace Bose speaker amp. Refer to [AV-417, "Removal and Installation"](#).
NO >> Replace AV control unit. Refer to [AV-406, "Removal and Installation"](#).

U12AA CONFIGURATION ERROR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AA CONFIGURATION ERROR

DTC Logic

INFOID:000000009759039

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Configuration Error [U12AA]	AV control unit is not properly configured or configuration is corrupt.	Configuration data needs to be written. Refer to AV-350, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure" .

Diagnosis Procedure

INFOID:000000009759040

1. PERFORM CONFIGURATION

When U12AA is detected, configuration data must be written.

>> Write configuration data with CONSULT. Refer to [AV-350, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

U12AC AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AC AV CONTROL UNIT

DTC Logic

INFOID:000000009759041

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Display Temperature too High [U12AC]	Display temperature has exceeded maximum temperature. Display is switched OFF to avoid irreversible damage.	Replace AV control unit if malfunction occurs constantly. Refer to AV-406, "Removal and Installation" .

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U12AD AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AD AV CONTROL UNIT

DTC Logic

INFOID:000000009759042

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ECU Temperature too High [U12AD]	AV control unit temperature has exceeded maximum temperature.	Replace AV control unit if malfunction occurs constantly. Refer to AV-406, "Removal and Installation" .

U12AE AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AE AV CONTROL UNIT

DTC Logic

INFOID:000000009759043

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Internal Amplifier temperature Warning [U12AE]	Internal amplifier temperature has exceeded maximum temperature.	Replace AV control unit if malfunction occurs constantly. Refer to AV-406, "Removal and Installation" .

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U12AF AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AF AV CONTROL UNIT

DTC Logic

INFOID:000000009759044

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CD Mechanism Temperature Warning [U12AF]	CD drive temperature has exceeded maximum temperature. CD drive is switched OFF to avoid irreversible damage.	Replace AV control unit if malfunction occurs constantly. Refer to AV-406, "Removal and Installation" .

U12B0 POWER SUPPLY VOLTAGE

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12B0 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:000000009759045

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Supply Voltage Goes below 9V > 20s [U12B0]	AV control unit supply voltage exceeds lower limits.	<ul style="list-style-type: none">• Charging system malfunction.• AV control unit power supply or ground circuits.

Diagnosis Procedure

INFOID:000000009759046

1. CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to [CHG-14, "Work Flow \(With EXP-800 NI or GR8-1200 NI\)"](#) or [CHG-17, "Work Flow \(Without EXP-800 NI or GR8-1200 NI\)"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning components.

2. CHECK AV CONTROL UNIT POWER SUPPLY AND GROUND CIRCUITS

Perform the AV control unit power supply and ground circuit diagnosis procedure. Refer to [AV-370, "AV CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to [AV-406, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

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U12B1 POWER SUPPLY VOLTAGE

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12B1 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:000000009759047

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Supply Voltage Goes High > 16V for 20s [U12B1]	AV control unit supply voltage exceeds upper limits.	Charging system malfunction.

Diagnosis Procedure

INFOID:000000009759048

1. CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to [CHG-14, "Work Flow \(With EXP-800 NI or GR8-1200 NI\)"](#) or [CHG-17, "Work Flow \(Without EXP-800 NI or GR8-1200 NI\)"](#).

Is the inspection result normal?

- YES >> Replace the AV control unit. Refer to [AV-406, "Removal and Installation"](#).
- NO >> Repair or replace the malfunctioning components.

U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1310 AV CONTROL UNIT

DTC Logic

INFOID:000000009759049

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (AV) [U1310]	Error during CAN controller hardware initialization (MCAN).	Replace AV control unit if malfunction occurs constantly. Refer to AV-406, "Removal and Installation" .

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000009759050

Regarding Wiring Diagram information, refer to [AV-331. "Wiring Diagram"](#).

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	18 (10A)
19	Battery power supply	26 (15A)
37	Ignition power supply	5 (10A)

Are the fuses blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connectors M100 and M101.
3. Check voltage between AV control unit connectors M100 and M101 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M100	19	—	Ignition switch: OFF	Battery voltage
	7		Ignition switch: ON	
M101	37			

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between AV control unit connector M100 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M100	20	—	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

BOSE SPEAKER AMP

BOSE SPEAKER AMP : Diagnosis Procedure

INFOID:000000009759051

Regarding Wiring Diagram information, refer to [AV-331. "Wiring Diagram"](#).

1.CHECK FUSE

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
27	Battery power supply	23 (15A)
28		24 (15A)

Are the fuses blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bose speaker amp. connector B44.
3. Check voltage between Bose speaker amp. connector B44 and ground.

Bose speaker amp.		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
B44	27	—	Ignition switch: OFF	Battery voltage
	28			

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bose speaker amp. connector B44.
3. Check continuity between Bose speaker amp. connector B44 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B44	26	—	Yes
	31		

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:000000009759052

Regarding Wiring Diagram information, refer to [AV-331. "Wiring Diagram"](#).

1. CONNECTOR CHECK

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

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B43 and suspect front door speaker connector.
2. Check continuity between Bose speaker amp. connector B43 and suspect front door speaker connector.

Bose speaker amp.		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
B43	20	D13 (LH)	1	Yes
	19		2	
	7	D111 (RH)	1	
	6		2	

3. Check continuity between Bose speaker amp. connector B43 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B43	20	—	No
	19		
	7		
	6		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK FRONT DOOR SPEAKER SIGNAL (BOSE SPEAKER AMP.)

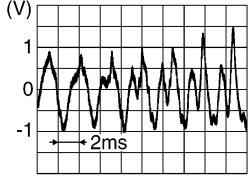
1. Connect Bose speaker amp. connector B43 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of Bose speaker amp. connector B43.

Bose speaker amp. connector B43		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

20	19	Audio signal output	
7	6		

Is the inspection result normal?

- YES >> Replace front door speaker. Refer to [AV-408. "Removal and Installation"](#).
- NO >> GO TO 4

4. CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY (AV CONTROL UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B43 and AV control unit connector M100.
3. Check continuity between Bose speaker amp. connector B43 and AV control unit connector M100.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B43	2	M100	3	Yes
	3		2	
	4		12	
	5		11	

4. Check continuity between Bose speaker amp. connector B43 and ground.

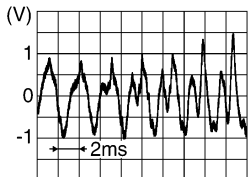
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B43	2	—	No
	3		
	4		
	5		

Is the inspection result normal?

- YES >> GO TO 5
- NO >> Repair or replace harness or connectors.

5. CHECK FRONT DOOR SPEAKER SIGNAL (AV CONTROL UNIT)

1. Connect Bose speaker amp. connector B43 and AV control unit connector M100.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M100 and ground.

AV control unit connector M100		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
2	3	Audio signal output	
11	12		

Is the inspection result normal?

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

- YES >> Replace Bose speaker amp. Refer to [AV-417, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-406, "Removal and Installation"](#).

FRONT TWEETER

Diagnosis Procedure

INFOID:000000009759053

Regarding Wiring Diagram information, refer to [AV-331. "Wiring Diagram"](#).

1. CONNECTOR CHECK

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

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK FRONT SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B44 and suspect front speaker connector.
2. Check continuity between Bose speaker amp. connector B44 and suspect front speaker connector.

Bose speaker amp.		Front speaker		Continuity
Connector	Terminal	Connector	Terminal	
B44	37	M46 (LH)	1	Yes
	36		2	
	34	M47 (RH)	1	
	35		2	

3. Check continuity between Bose speaker amp. connector B44 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B44	36	—	No
	37		
	34		
	35		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK FRONT SPEAKER SIGNAL (BOSE SPEAKER AMP.)

1. Connect Bose speaker amp. connector B44 and suspect front speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of Bose speaker amp. connector B44.

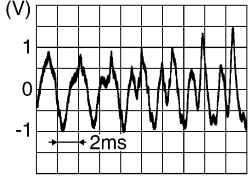
Bose speaker amp. connector B44		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

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FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

37	36	Audio signal output	
34	35		

Is the inspection result normal?

- YES >> Replace front tweeter. Refer to [AV-407. "Removal and Installation"](#).
 NO >> GO TO 4

4. CHECK FRONT SPEAKER SIGNAL CIRCUIT CONTINUITY (AV CONTROL UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B43 and AV control unit connector M100.
3. Check continuity between Bose speaker amp. connector B43 and AV control unit connector M100.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B43	2	M100	3	Yes
	3		2	
	4		12	
	5		11	

4. Check continuity between Bose speaker amp. connector B43 and ground.

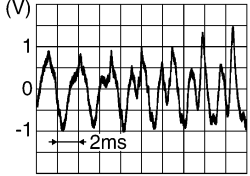
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B43	2	—	No
	3		
	4		
	5		

Is the inspection result normal?

- YES >> GO TO 5
 NO >> Repair or replace harness or connectors.

5. CHECK FRONT SPEAKER SIGNAL (AV CONTROL UNIT)

1. Connect Bose speaker amp. connector B43 and AV control unit connector M100.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M100 and ground.

AV control unit connector M100		Condition	Reference value
(+)	(-)		
Terminal	Terminal	Audio signal output	
2	3		
11	12		

Is the inspection result normal?

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

- YES >> Replace Bose speaker amp. Refer to [AV-417, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-406, "Removal and Installation"](#).

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REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:000000009759054

Regarding Wiring Diagram information, refer to [AV-331. "Wiring Diagram"](#).

1. CONNECTOR CHECK

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

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connectors and suspect rear door speaker connector.
2. Check continuity between Bose speaker amp. connectors and suspect rear door speaker connector.

Bose speaker amp.		Rear door speaker		Continuity
Connector	Terminal	Connector	Terminal	
B43	10	D207 (LH)	1	Yes
	23		2	
B44	24	D309 (RH)	1	
	29		2	

3. Check continuity between Bose speaker amp. connectors and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B43	10	—	No
	23		
B44	24		
	29		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK REAR DOOR SPEAKER SIGNAL (BOSE SPEAKER AMP.)

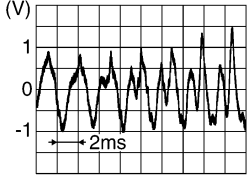
1. Connect Bose speaker amp. connectors and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between terminals of Bose speaker amp. connectors.

Bose speaker amp.			Condition	Reference value
Connector	(+)	(-)		
	Terminal	Terminal		

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

B43	10	23	Audio signal output	
B44	24	29		

Is the inspection result normal?

- YES >> Replace rear door speaker. Refer to [AV-409. "Removal and Installation"](#).
- NO >> GO TO 4

4. CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY (AV CONTROL UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B43 and AV control unit connector M100.
3. Check continuity between Bose speaker amp. connector B43 and AV control unit connector M100.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B43	14	M100	4	Yes
	15		5	
	12		13	
	13		14	

4. Check continuity between Bose speaker amp. connector B43 and ground.

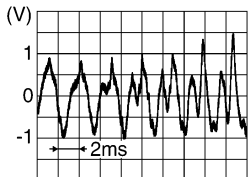
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B43	14	—	No
	15		
	12		
	13		

Is the inspection result normal?

- YES >> GO TO 5
- NO >> Repair or replace harness or connectors.

5. CHECK REAR DOOR SPEAKER SIGNAL (AV CONTROL UNIT)

1. Connect Bose speaker amp. connector B43 and AV control unit connector M100.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M100 and ground.

AV control unit connector M100		Condition	Reference value
(+)	(-)		
Terminal	Terminal	Audio signal output	
4	5		
13	14		

Is the inspection result normal?

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

-
- YES >> Replace Bose speaker amp. Refer to [AV-417, "Removal and Installation"](#).
NO >> Replace AV control unit. Refer to [AV-406, "Removal and Installation"](#).

REAR WOOFER

Diagnosis Procedure

INFOID:000000009759055

Regarding Wiring Diagram information, refer to [AV-331. "Wiring Diagram"](#).

1. CONNECTOR CHECK

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

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2. CHECK REAR WOOFER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B44 and suspect rear woofer connector.
2. Check continuity between Bose speaker amp. connector B44 and suspect rear woofer connector.

Bose speaker amp.		Rear woofer		Continuity
Connector	Terminal	Connector	Terminal	
B44	25	B36 (LH)	1	Yes
	30		2	
	33	B39 (RH)	1	
	32		2	

3. Check continuity between Bose speaker amp. connector B44 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B44	30	—	No
	25		
	33		
	32		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

3. CHECK REAR WOOFER SIGNAL (BOSE SPEAKER AMP.)

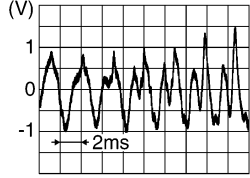
1. Connect Bose speaker amp. connector B44 and suspect rear woofer connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between terminals of Bose speaker amp. connector B44.

Bose speaker amp. connector B44		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

REAR WOOFER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

25	30	Audio signal output	
33	32		

Is the inspection result normal?

- YES >> Replace rear woofer. Refer to [AV-410. "Removal and Installation"](#).
 NO >> GO TO 4

4. CHECK REAR WOOFER SIGNAL CIRCUIT CONTINUITY (AV CONTROL UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B43 and AV control unit connector M100.
3. Check continuity between Bose speaker amp. connector B43 and AV control unit connector M100.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B43	14	M100	4	Yes
	15		5	
	12		13	
	13		14	

4. Check continuity between Bose speaker amp. connector B43 and ground.

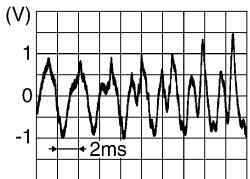
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B43	14	—	No
	15		
	12		
	13		

Is the inspection result normal?

- YES >> GO TO 5
 NO >> Repair or replace harness or connectors.

5. CHECK REAR WOOFER SIGNAL (AV CONTROL UNIT)

1. Connect Bose speaker amp. connector B43 and AV control unit connector M100.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M100 and ground.

AV control unit connector M100		Condition	Reference value
(+)	(-)		
Terminal	Terminal	Audio signal output	
4	5		
13	14		

Is the inspection result normal?

REAR WOOFER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

YES >> Replace Bose speaker amp. Refer to [AV-417, "Removal and Installation"](#).
NO >> Replace AV control unit. Refer to [AV-406, "Removal and Installation"](#).

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AMP ON SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

AMP ON SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009759056

Regarding Wiring Diagram information, refer to [AV-331, "Wiring Diagram"](#).

1. CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND BOSE SPEAKER AMP.

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M100 and Bose speaker amp. connector B43.
3. Check continuity between AV control unit connector M100 and Bose speaker amp. connector B43.

AV control unit		Bose speaker amp.		Continuity
Connector	Terminal	Connector	Terminal	
M100	1	B43	18	Yes

4. Check continuity between AV control unit connector M100 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M100	1	—	No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector M100.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M100 and ground.

AV control unit (+)		Ground (-)	Voltage (Approx.)
Connector	Terminal		
M100	1	—	Battery voltage

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to [AV-417, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-406, "Removal and Installation"](#).

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009759057

Regarding Wiring Diagram information, refer to [AV-331. "Wiring Diagram"](#).

1. CHECK REVERSE INPUT SIGNAL

1. Turn ignition switch ON.
2. Shift the selector lever to R (reverse).
3. Check voltage between AV control unit connector M101 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+)		(-)		
Connector	Terminal			
M101	28	—	Selector lever in R (reverse)	Battery Voltage

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK CAMERA POWER SUPPLY CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M101 and rear view camera connector.
3. Check continuity between AV control unit connector M101 and rear view camera connector B30.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M101	36	B30	4	Yes

4. Check continuity between AV control unit connector M101 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M101	36		No

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK CAMERA POWER SUPPLY VOLTAGE

1. Connect AV control unit connector M101 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check voltage between AV control unit connector M101 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+)		(-)		
Connector	Terminal			
M101	36	—	Selector lever is in "R".	6.0 V

Is inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-406. "Removal and Installation"](#).

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REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

4. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M101 and rear view camera connector.
3. Check continuity between AV control unit connector M101 and rear view camera connector B30.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M101	34	B30	2	Yes

4. Check continuity between AV control unit connector M101 terminal 34 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M101	34		No

Is inspection result normal?

- YES >> GO TO 5.
 NO >> Repair or replace harness or connectors.

5. CHECK CAMERA GROUND CIRCUIT CONTINUITY

Check continuity between AV control unit connector M101 and rear view camera connector B30.

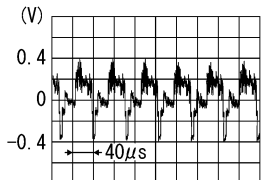
AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M101	33	B30	1	Yes

Is inspection result normal?

- YES >> GO TO 6.
 NO >> Repair or replace harness or connectors.

6. CHECK CAMERA IMAGE SIGNAL

1. Connect AV control unit connector M101 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check signal between AV control unit connector M101 and ground.

AV control unit		Ground	Condition	Reference value
(+)		(-)		
Connector	Terminal			
M101	34	—	Camera image displayed.	 <p>(V)</p> <p>0.4</p> <p>0</p> <p>-0.4</p> <p>40µs</p> <p>SKIB2251J</p>

Is inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-406, "Removal and Installation"](#).
 NO >> Replace rear view camera. Refer to [AV-422, "Removal and Installation"](#).

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000009759058

Regarding Wiring Diagram information, refer to [AV-331. "Wiring Diagram"](#).

1. CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M101 and microphone connector R4.
3. Check continuity between AV control unit connector M101 and microphone connector R4.

AV control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M101	41	R4	2	Yes
	42		4	
	43		1	

4. Check continuity between AV control unit connector M101 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M101	41	—	No
	42		
	43		

Is inspection result normal?

- YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2. CHECK MICROPHONE VCC VOLTAGE

1. Connect AV control unit connector M101.
2. Turn ignition switch ON.
3. Check voltage between terminals of AV control unit connector M101.

AV control unit connector M101		Voltage (Approx.)
(+)	(-)	
Terminal	Terminal	
42	41	5.0 V

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace AV control unit. Refer to [AV-406. "Removal and Installation"](#).

3. CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of AV control unit connector M101.

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MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

AV control unit connector M101		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
43	41	Speak into microphone.	<p>SKIB3609E</p>

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-406. "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-421. "Removal and Installation"](#).

STEERING SWITCH

[NAVIGATION WITH BOSE]

< DTC/CIRCUIT DIAGNOSIS >

STEERING SWITCH





Diagnosis Procedure

INFOID:000000009759059

Regarding Wiring Diagram information, refer to [AV-331. "Wiring Diagram"](#).

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch (spiral cable) connector M79.
3. Check resistance between the terminals of combination switch (spiral cable) connector M79.

Combination switch (spiral cable) connector M79		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress Δ switch.	121
		Depress ∇ switch.	321
		Depress  switch.	723
15	17	Depress $-$  switch.	1
		Depress  + switch.	121
		Depress  switch.	321

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering switches. Refer to [AV-411. "Removal and Installation"](#).

2. CHECK COMBINATION SWITCH (SPIRAL CABLE)

Check continuity between combination switch (spiral cable) connectors M79 and M80.

Combination switch (spiral cable)				Continuity
Connector	Terminal	Connector	Terminal	
M79	14	M80	24	Yes
	15		31	
	17		33	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace combination switch (spiral cable). Refer to [SR-16. "Removal and Installation"](#).

3. CHECK HARNESS BETWEEN COMBINATION SWITCH (SPIRAL CABLE) AND AV CONTROL UNIT

1. Disconnect AV control unit connector M100.
2. Check continuity between combination switch (spiral cable) connector M80 and AV control unit connector M100.

Combination switch (spiral cable)		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M80	24	M100	6	Yes
	31		16	
	33		15	

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STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

3. Check continuity between combination switch (spiral cable) connector M80 and ground.

Combination switch (spiral cable)		Ground	Continuity
Connector	Terminal		
M80	24	—	No
	31		
	33		

Is the inspection result normal?

YES >> Replace AV control unit. Refer to [AV-406. "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

USB CONNECTOR

Diagnosis Procedure

INFOID:000000009759060

Regarding Wiring Diagram information, refer to [AV-331. "Wiring Diagram"](#).

1. CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M114 and USB interface connector M132.
3. Check continuity between AV control unit connector M114 and USB interface connector M132.

AV control unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M114	45	M132	2	Yes
	46		1	
	47		4	
	48		3	
	49		5	

4. Check continuity between AV control unit connector M131 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M114	45	Ground	No
	47		

Is the inspection result normal?

- YES >> Replace the USB interface. Refer to [AV-416. "Removal and Installation"](#).
 NO >> Repair or replace harness or connectors.

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AUXILIARY INPUT JACK

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

AUXILIARY INPUT JACK

Diagnosis Procedure

INFOID:000000009759061

Regarding Wiring Diagram information, refer to [AV-331. "Wiring Diagram"](#).

1. CHECK AUX JACK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M101 and AUX jack connector M133.
3. Check continuity between AV control unit connector M101 and AUX jack connector M133.

AV control unit		AUX jack		Continuity
Connector	Terminal	Connector	Terminal	
M101	30	M133	1	Yes
	32		4	
	31		3	

4. Check continuity between AV control unit connector M101 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M101	30	Ground	No
	32		

Is the inspection result normal?

- YES >> Replace the AUX jack. Refer to [AV-416. "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:000000009759062

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	AV control unit	Malfunction in AV control unit. Refer to AV-322. "On Board Diagnosis Function" .
No sound comes out or the level of the sound is low.	No sound from all speakers.	<ul style="list-style-type: none"> • Speaker circuit shorted to ground. Refer to AV-331. "Wiring Diagram". • Bose amp. ON signal circuit malfunction. Refer to AV-384. "Diagnosis Procedure". • Bose speaker amp. power supply and ground circuits malfunction. Refer to AV-370. "BOSE SPEAKER AMP : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, rear door speaker LH, rear door speaker RH, rear woofer LH, rear woofer RH) does not output sound.	<ul style="list-style-type: none"> • Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and Bose speaker amp. Refer to: <ul style="list-style-type: none"> - AV-372. "Diagnosis Procedure" (front door speaker). - AV-375. "Diagnosis Procedure" (front tweeter). - AV-378. "Diagnosis Procedure" (rear door speaker). - AV-381. "Diagnosis Procedure" (rear woofer). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: <ul style="list-style-type: none"> - AV-372. "Diagnosis Procedure" (front door speaker). - AV-375. "Diagnosis Procedure" (front tweeter). - AV-378. "Diagnosis Procedure" (rear door speaker). - AV-381. "Diagnosis Procedure" (rear woofer). • Malfunction in speaker. Refer to: <ul style="list-style-type: none"> - AV-408. "Removal and Installation" (front door speaker). - AV-407. "Removal and Installation" (front tweeter). - AV-409. "Removal and Installation" (rear door speaker). - AV-410. "Removal and Installation" (rear woofer). • Malfunction in AV control unit. Refer to AV-322. "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-417. "Removal and Installation".

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MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Symptoms	Check items	Probable malfunction location
	Noise comes out from all speakers.	<ul style="list-style-type: none"> • Malfunction in AV control unit. Refer to AV-322, "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-417, "Removal and Installation".
Noise is mixed with audio.	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, rear door speaker LH, rear door speaker RH, rear woofer LH, rear woofer RH).	<ul style="list-style-type: none"> • Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and Bose speaker amp. Refer to: <ul style="list-style-type: none"> - AV-372, "Diagnosis Procedure" (front door speaker). - AV-375, "Diagnosis Procedure" (front tweeter). - AV-378, "Diagnosis Procedure" (rear door speaker). - AV-381, "Diagnosis Procedure" (rear woofer). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: <ul style="list-style-type: none"> - AV-372, "Diagnosis Procedure" (front door speaker). - AV-375, "Diagnosis Procedure" (front tweeter). - AV-378, "Diagnosis Procedure" (rear door speaker). - AV-381, "Diagnosis Procedure" (rear woofer). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: <ul style="list-style-type: none"> - AV-408, "Removal and Installation" (front door speaker). - AV-407, "Removal and Installation" (front tweeter). - AV-409, "Removal and Installation" (rear door speaker). - AV-410, "Removal and Installation" (rear woofer). • Malfunction in AV control unit. Refer to AV-322, "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-417, "Removal and Installation".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna or antenna feeder. Refer to AV-412, "Location of Antenna" .
No radio reception or poor reception.	<ul style="list-style-type: none"> • Other audio sounds are normal. • Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises). 	<ul style="list-style-type: none"> • Antenna amp. ON signal circuit malfunction. Refer to AV-324, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-412, "Location of Antenna".

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Symptoms	Check items	Probable malfunction location
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result. Refer to AV-323. "CONSULT Function" .	<ul style="list-style-type: none"> Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis. Refer to AV-358. "Diagnosis Procedure". Poor continuity in antenna feeder. Poor connector connection of antenna or antenna feeder. Refer to AV-412. "Location of Antenna".
	There is no malfunction in the CONSULT self diagnosis result. Refer to AV-323. "CONSULT Function" .	<ul style="list-style-type: none"> Poor continuity in antenna feeder. Poor connector connection of antenna or antenna feeder. Loose satellite radio antenna mounting nut. Refer to AV-412. "Location of Antenna".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

- Before performing diagnosis, confirm that the cellular phone being used by the customer is compatible with the vehicle.
- It is possible that a malfunction is occurring due to a version change of the phone even though the phone is a compatible type. This can be confirmed by changing the cellular phone to another compatible type, and check that it operates normally. It is important to determine whether the cause of the malfunction is the vehicle or the cellular phone.

Check Compatibility

- Make sure the customer's Bluetooth® related concern is understood.
- Verify the customer's concern.

NOTE:
The customer's phone may be required, depending upon their concern.
- Write down the customer's phone brand, model and service provider.

NOTE:
It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.
- Go to "www.nissanusa.com/bluetooth/".
 - Using the website's search engine, find out if the customer's phone is on the approved list.
 - If the customer's phone is NOT on the approved list:

Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.
 - If the feature related to the customer's concern shows as "N" (not compatible):








Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".
 - If the feature related to the customer's concern shows as "Y" (compatible):

Perform diagnosis as per the following table.

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	
Hands-free phone cannot be established.	<ul style="list-style-type: none"> Hands-free phone operation can be made, but the communication cannot be established. Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation. 	Malfunction in AV control unit. Replace AV control unit. Refer to AV-406, "Removal and Installation" .
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-387, "Diagnosis Procedure" .
The system cannot be operated.	<ul style="list-style-type: none"> The voice recognition can be controlled. Steering switch's +, -, and  switch works, but  does not work. 	Steering switch malfunction. Replace steering switch. Refer to AV-411, "Removal and Installation" .
	Steering switch's  +,  -, and  switches do not work.	Steering switch signal circuit malfunction. Refer to AV-389, "Diagnosis Procedure" .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-389, "Diagnosis Procedure" .

RELATED TO NAVIGATION

Symptoms	Check items	Probable malfunction location
Navigation system is inoperative.	Navigation malfunction.	<ul style="list-style-type: none"> Malfunction in SD card. Malfunction in AV control unit. Refer to AV-322, "On Board Diagnosis Function".
	Steering switches malfunction.	Steering switch signal circuit malfunction. Refer to AV-389, "Diagnosis Procedure" .
	Voice activated control malfunction.	Microphone signal circuit malfunction. Refer to AV-387, "Diagnosis Procedure" . Steering switch signal circuit malfunction. Refer to AV-389, "Diagnosis Procedure" .

RELATED TO REAR VIEW CAMERA

Symptoms	Check items	Probable malfunction location
Rear view camera is inoperative.	Reverse signal circuit malfunction.	Reverse signal circuit malfunction between BCM and AV control unit. Refer to AV-385, "Diagnosis Procedure" .
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and AV control unit. Refer to AV-385, "Diagnosis Procedure" .
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-422, "Removal and Installation" .

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

NORMAL OPERATING CONDITION

Description

INFOID:000000009759063

RELATED TO NOISE

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

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

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

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

NOTE:

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

Type of Noise and Possible Cause

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	<p>Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module.</p> <p>Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in AV-393, "Symptom Table".</p>
Cannot use hands-free phone.	<p>Customer will not be able to use a hands-free phone under the following conditions:</p> <ul style="list-style-type: none"> • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. <p>NOTE:</p> <p>While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.</p>

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

RELATED TO NAVIGATION

Basic Operation

Symptom	Cause	Remedy
No image is shown.	Display brightness adjustment is set fully to DARK side.	Adjust the display brightness.
No guide sound is heard. Audio guide volume is too low or too high.	Volume control is set to OFF, MIN or MAX.	Adjust the audio guide volume.
	Audio guidance is not available while the vehicle is driving on a dark pink route.	System is not malfunctioning.
Screen is too dark. Motion of the image is too slow.	Temperature inside the vehicle is low.	Wait until the temperature inside the vehicle reaches the proper temperature.
Small black or bright spots appear on the screen.	Symptom peculiar to a liquid crystal display (display unit).	System is not malfunctioning.

Vehicle Mark

Symptom	Cause	Remedy
Map screen and BIRDVIEW™ Name of the place vary with the screen.	Some thinning of the character data is done to prevent the display becoming to complex. In some cases and in some locations, the display contents may differ. The same place name, street name, etc. may not be displayed every time on account of the data processing.	System is not malfunctioning.
Vehicle mark is not positioned correctly.	Vehicle is transferred by ferry or by towing after its ignition switch is turned to OFF.	Drive the vehicle for a while in the GPS satellite signal receiving condition.
Screen will not switch to nighttime mode after the lighting switch is turned ON.	The daytime screen is selected by the "SWITCH SCREENS" when the last time the screen dimming setting is done. Switching between daytime/nighttime screen may be inhibited by the automatic illumination adjustment function.	Perform screen dimming and select the nighttime screen by "SWITCH SCREENS".
Map screen will not scroll in accordance with the vehicle travel.	Current location is not displayed.	Press "MAP" button to display the current location.
Vehicle mark will not be shown.	Current location is not displayed.	Press "MAP" button to display the current location.
Accuracy indicator (GPS satellite mark) on the map screen stays gray.	GPS satellite signal is intercepted because the vehicle is in or behind a building.	Move the vehicle out to an open space.
	GPS satellite signal cannot be received because an obstacle is placed on top of the instrument panel.	Do not place anything on top of the meter display (instrument panel).
	GPS satellites are not visible from current location.	Wait until GPS satellites are visible by moving the vehicle.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Symptom	Cause	Remedy
Vehicle location accuracy is low.	Accuracy indicator (GPS satellite mark) on the map screen stays gray.	Current location is not determined.
	Vehicle speed setting by the vehicle speed pulse has been deviated (advanced or retarded) from the actual vehicle speed because tire chain is fitted or the system has been used on another vehicle.	Drive the vehicle for a while [for approx. 30 minutes at approx. 30 km/h (19 MPH)] and the deviation will be automatically adjusted. If advancement or retard still occur, perform the distance adjustment by CONFIRMATION/ADJUSTMENT mode of diagnosis function.
	Map data has error or omission. (Vehicle mark is always deviated to the same position.)	As a rule, an updated map DVD-ROM will be released once a year.

Destination, Passing Points and Menu Items Cannot be Selected/Set

Symptom	Cause	Remedy
Destination cannot be set.	Destination to be set is on an expressway.	Set the destination on an ordinary road.
Passing point is not searched when re-searching the route.	The vehicle has already passed the passing point, or the system judged so.	To include the passing points that have been passed into the route again, set the route again.
Route information will not be displayed.	Route searching has not been done.	Set the destination and perform route searching.
	Vehicle mark is not on the recommended route.	Drive on the recommended route.
	Route guide is turned OFF.	Turn route guide ON.
	Route information is not available on the dark pink route.	System is not malfunctioning.
After the route searching, no guide sign will appear as the vehicle goes near the entrance/exit to the toll road.	Vehicle mark is not on the recommended route. (On the display, only guide signs related to the recommended route will be shown.)	Drive on the recommended route.
Automatic route searching is not possible.	Vehicle is driving on a highway (gray route), or no recommended route is available.	Drive on a road to be searched. Or re-search the route manually. In this case, however, the whole route will be searched.
Performed automatic detour search (or detour search). However, the result is the same as that of the previous search.	Performed search with every conditions considered. However, the result is the same as that of the previous search.	System is not malfunctioning.
Passing points cannot be set.	More than five passing points were set.	Passing points can be set up to five. To stop at more than five points, perform sharing in several steps.
When setting the route, the starting point cannot be selected.	The current vehicle location is always set as the starting point of a route.	System is not malfunctioning.
Some menu items cannot be selected.	The vehicle is being driven.	Stop the vehicle at a safe place and then operate the system.

Voice Guide

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Symptom	Cause	Remedy
Voice guide will not operate.	Note: Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction.	System is not malfunctioning.
	The vehicle is not on the recommended route.	Return to the recommended route or re-search the route.
	Voice guide is turned OFF.	Turn voice guide ON.
	Route guide is turned OFF.	Turn route guide ON.
Voice guide does not match the actual road pattern.	Voice guide may vary with the direction to which the vehicle is turn and the connection of the road to other roads.	Drive in conformity to the actual traffic rules.

Route Search

Symptom	Cause	Remedy
No route is shown.	No road to be searched is found around the destination.	Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads.
	Starting point and the destination are too close.	Set the destination at more distant point.
	Conditional traffic regulation (day of the week/ time of the day) is set at the area around the current location or the destination.	Turn the time-regulating search conditions OFF. Turn "Avoid regulation time" in the search conditions OFF.
Indicated route is intermittent.	In some areas, highways (gray routes) are not used for the search ^(Note) Therefore, the route to the current location or the passing points may be intermittent.	System is not malfunctioning.
When the vehicle has passed the recommended route, it is deleted from the screen.	A recommended route is controlled by each section. When the vehicle has passed the passing point 1, then the map data from the starting point up to the passing point 1 will be deleted. (The data may remain undeleted in some area.)	System is not malfunctioning.
Detouring route is recommended.	In some areas, highways (gray routes) are not used for the search. (Note). Therefore, detour route may be recommended.	Set the route closer to the basic route (gray route).
	A detour route may be shown when some traffic regulation (one-way traffic, etc.) is set at the area around the starting point or the destination.	Slightly move the starting point or the destination, or set the passing point on the route of your choice.
	In the area where highways (gray routes) are used for the search, left turn has priority around the current location and the destination (passing points). For this reason, the recommended route may be detouring.	System is not malfunctioning.
Landmarks on the map do not match the actual ones.	This can be happen due to omission or error in the map data.	As a rule, an updated map DVD-ROM will be released once a year. Wait until the latest map has become available.
Recommended route is far from the starting point, passing points, and destination.	Starting point, passing points, and destination of the route guide were set far from the desired points because route searching data around these area were not stored.	Reset the destination onto the road nearby. If this road is one of the highways (gray routes), an ordinary road nearby may be displayed as the recommended route.

NOTE:

Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

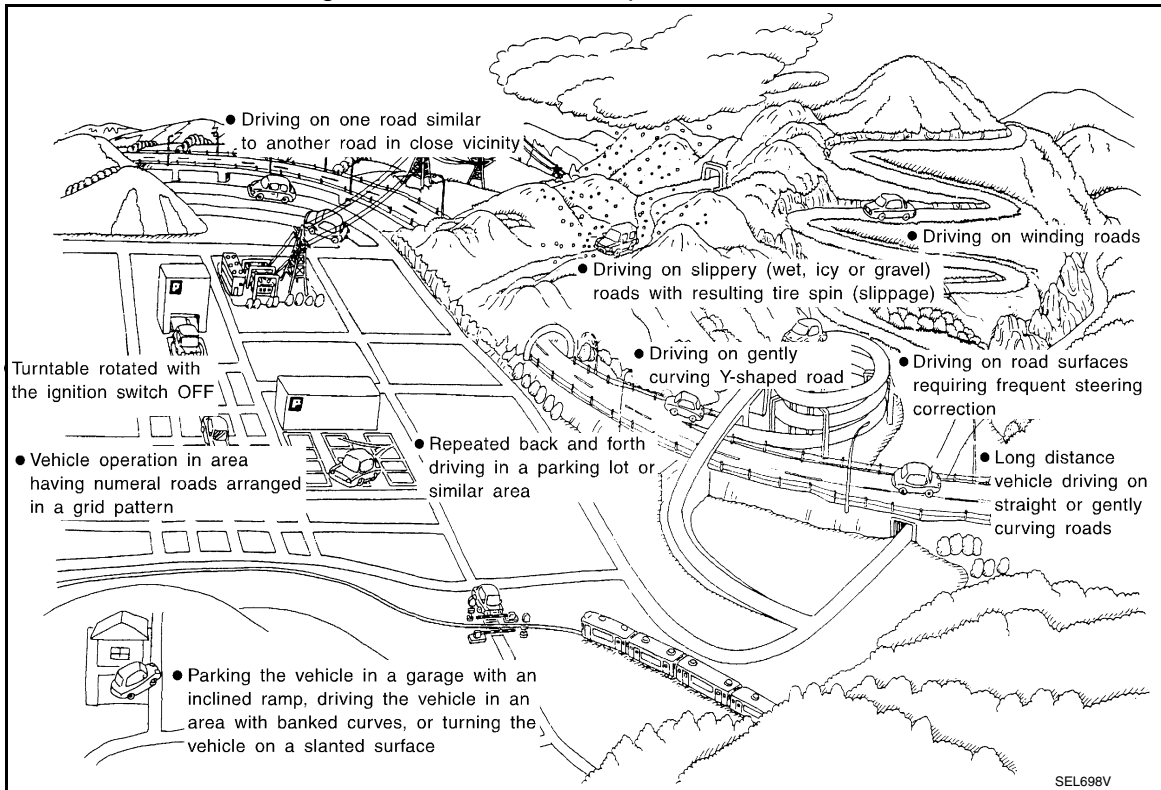
Examples of Current-Location Mark Displacement

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Vehicle's travel amount is calculated by reading its travel distance and turning angle. Therefore, if the vehicle is driven in the following manner, an error will occur in the vehicle's current location display. If correct location has not been restored after driving the vehicle for a while, perform location correction.

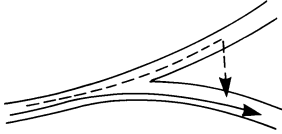
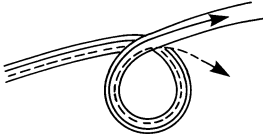
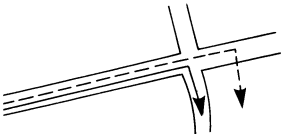
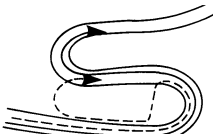
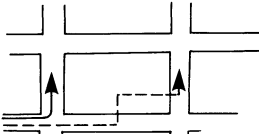
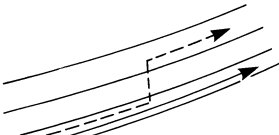


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NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

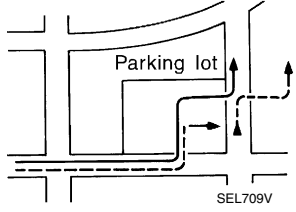
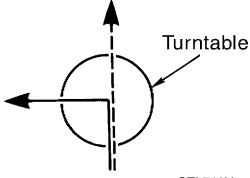
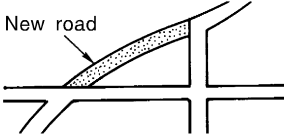
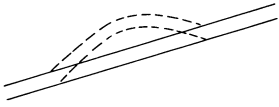
	Cause (condition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
Road configuration	<p>Y-intersections</p>  <p style="text-align: center;">ELK0192D</p>	<p>At a Y intersection or similar gradual division of roads, an error in the direction of travel deduced by the sensor may result in the current-location mark appearing on the wrong road.</p>	
	<p>Spiral roads</p>  <p style="text-align: center;">ELK0193D</p>	<p>When driving on a large, continuous spiral road (such as loop bridge), turning angle error is accumulated and the vehicle mark may deviate from the correct location.</p>	
	<p>Straight roads</p>  <p style="text-align: center;">ELK0194D</p>	<p>When driving on a long, straight road and slow curve without stopping, map-matching does not work effectively enough and distance errors may accumulate. As a result, the vehicle mark may deviate from the correct location when the vehicle is turned at a corner.</p>	
	<p>Zigzag roads</p>  <p style="text-align: center;">ELK0195D</p>	<p>When driving on a zigzag road, the map may be matched to other roads in the similar direction nearby at every turn, and the vehicle mark may deviate from the correct location.</p>	
	<p>Roads laid out in a grid pattern</p>  <p style="text-align: center;">ELK0196D</p>	<p>When driving where roads are laid out in a grid pattern, or where many roads are running in the similar direction nearby, the map may be matched to them by mistake and the vehicle mark may deviate from the correct location.</p>	
	<p>Parallel roads</p>  <p style="text-align: center;">ELK0197D</p>	<p>When two roads are running in parallel (such as highway and sideway), the map may be matched to the other road by mistake and the vehicle mark may deviate from the correct location.</p>	

If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

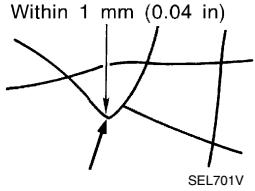
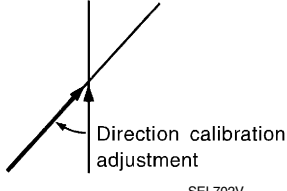
	Cause (condition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
Place	In a parking lot  SEL709V	When driving in a parking lot, or other location where there are no roads on the map, matching may place the vehicle mark on a nearby road. When the vehicle returns to the road, the vehicle mark may have deviated from the correct location. When driving in circle or turning the steering wheel repeatedly, direction errors accumulate, and the vehicle mark may deviate from the correct location.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Turntable  SEL710V	When the ignition switch is OFF, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a turntable with the ignition OFF.	
	Slippery roads	On snow, wet roads, gravel, or other roads where tires may slip easily, accumulated mileage errors may cause the vehicle mark to deviate from the correct road.	
	Slopes	When parking in sloped garages, when travelling on banked roads, or in other cases where the vehicle turns when tilted, an error in the turning angle will occur, and the vehicle mark may deviate from the road.	
Map data	Road not displayed on the map screen  SEL699V	When driving on new roads or other roads not displayed on the map screen, map matching does not function correctly and matches the location to a nearby road. When the vehicle returns to a road which is on the map, the vehicle mark may deviate from the correct road.	
	Different road pattern (Changed due to repair)  ELK0201D	If the road pattern stored in the map data and the actual road pattern are different, map matching does not function correctly and matches the location to a nearby road. The vehicle mark may deviate from the correct road.	
Vehicle	Use of tire chains	When tire chains are used, the mileage is not correctly detected, and the vehicle mark may deviate from the correct road.	Drive the vehicle for a while. If the distance still deviates, adjust it by using the distance adjustment function. (If the tire chain is removed, recover the original value.)

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NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Cause (condition)	-: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
Precautions for driving	Just after the engine is started	If the vehicle is driven just after the engine is started when the gyroscope (angular speed sensor) correction is not completed, the vehicle can lose its direction and may have deviated from the correct location.	Wait for a short while before driving after starting the engine.
	Continuous driving without stopping	When driving long distances without stopping, direction errors may accumulate, and the current-location mark may deviate from the correct road.	Stop and adjust the orientation.
	Abusive driving	Spinning the wheels or engaging in other kinds of abusive driving may result in the system being unable to perform correct detection, and may cause the vehicle mark to deviate from the correct road.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
How to correct location	Position correction accuracy 	If the accuracy of location settings is poor, accuracy may be reduced when the correct road cannot be found, particularly in places where there are many roads.	Enter in the road displayed on the screen with an accuracy of approx. 1mm. Caution: Whenever possible, use detailed map for the correction.
	Direction when location is corrected 	If the accuracy of location settings during correction is poor, accuracy may be reduced afterwards.	Perform direction correction.

Location Correction by Map-Matching is Slow

- The map-matching function needs to refer to the data of the surrounding area. It is necessary to drive some distance for the function to work.
- Because map-matching operates on this principle, when there are many roads running in similar directions in the surrounding area, no matching determination may be made. The location may not be corrected until some special feature is found.

Name of Road is Not Displayed

The current road name may not be displayed if there are no road names displayed on the map screen.

Contents of Display Differ for Birdview™ and the (Flat) Map Screen

Difference of the BIRDVIEW™ screen from the flat map screen are as follows.

- The current place name displays names which are primarily in the direction of vehicle travel.
- The amount of time before the vehicle travel or turn angle is updated on the screen is longer than for the (flat) map display.
- The conditions for display of place names, roads, and other data are different for nearby areas and for more distant areas.
- Some thinning of the character data is done to prevent the display becoming too complex. In some cases and in some locations, the display contents may differ.
- The same place name, street name, etc. may be displayed multiple times.

Vehicle Mark Shows a Position Which is Completely Wrong

In the following cases, the vehicle mark may appear on completely different position in the map depending on the GPS satellite signal receiving conditions. In this case, perform location correction and direction correction.

- When location correction has not been done
- If the receiving conditions of the GPS satellite signal is poor, if the vehicle mark becomes out of place, it may move to a completely different location and not come back if location correction is not done. The position will be corrected if the GPS signal can be received.
- When the vehicle has traveled by ferry, or when the vehicle has been being towed

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

- Because calculation of the current location cannot be done when traveling with the ignition off, for example when traveling by ferry or when being towed, the location before travel is displayed. If the precise location can be detected with GPS, the location will be corrected.

A

Vehicle Mark Jumps

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location.

B

- When map matching has been done
- If the current location and the vehicle mark are different when map matching is done, the vehicle mark may seem to jump. At this time, the location may be “corrected” to the wrong road or to a location which is not on a road.
- When GPS location correction has been done
- If the current location and the vehicle mark are different when the location is corrected using GPS measurements, the vehicle mark may seem to jump. At this time, the location may be “corrected” to a location which is not on a road.

C

D

Vehicle Mark is in a River or Sea

The navigation system moves the vehicle mark with no distinction between land and rivers or sea. If the vehicle mark is somehow out of place, it may appear that the vehicle is driving in a river or the sea.

E

Vehicle Mark Automatically Rotates

The system wrongly memorizes the rotating status as stopping when the ignition switch is turned ON with the turntable rotating. That causes the vehicle mark to rotate when the vehicle is stopped.

F

When Driving on Same Road, Sometimes Vehicle Mark is in Right Place and Sometimes it is in Wrong Place

The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

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AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

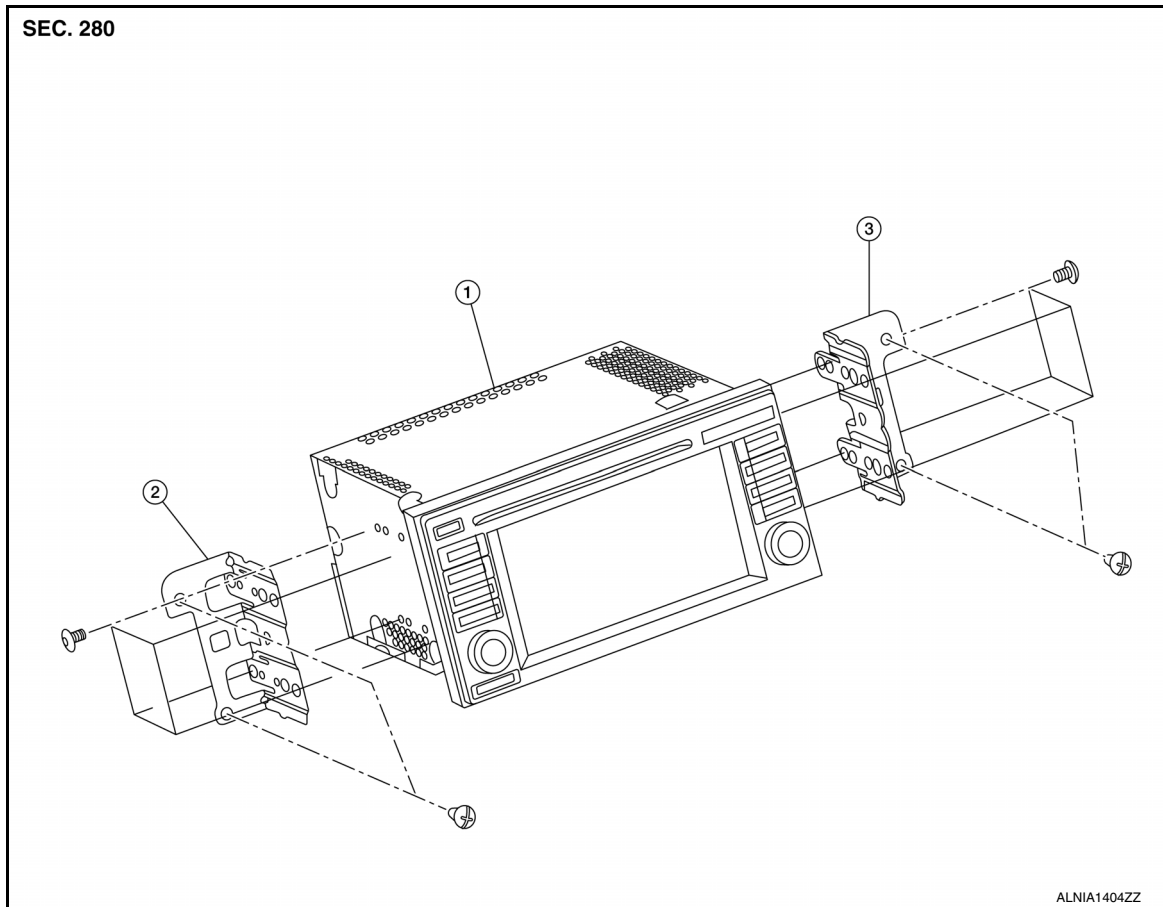
[NAVIGATION WITH BOSE]

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:000000009759064



1. AV control unit

2. AV control unit bracket (LH)

3. AV control unit bracket (RH)

Removal and Installation

INFOID:000000009759065

REMOVAL

CAUTION:

- Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF.
 - Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to [AV-351, "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).
1. Disconnect the negative battery terminal. Refer to [PG-50, "Removal and Installation \(Battery\)"](#).
 2. Remove cluster lid C lower. Refer to [JP-20, "Removal and Installation - Cluster Lid C Lower"](#).
 3. Remove the AV control unit screws, then pull out the AV control unit.
 4. Disconnect the harness connectors from the AV control unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to [AV-351, "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

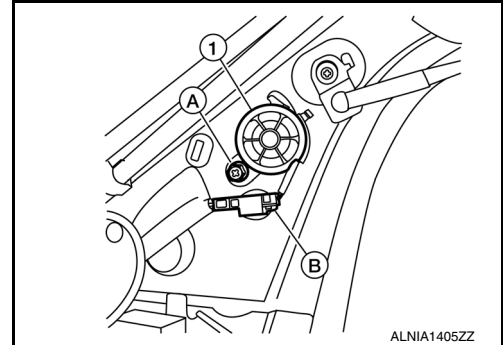
FRONT TWEETER

Removal and Installation

INFOID:000000009759066

REMOVAL

1. Remove the front pillar finisher. Refer to [INT-24. "FRONT PILLAR FINISHER : Removal and Installation"](#).
2. Disconnect the harness connector (B) from the front tweeter speaker.
3. Remove the front tweeter speaker screw (A) from the front tweeter speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

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AV

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

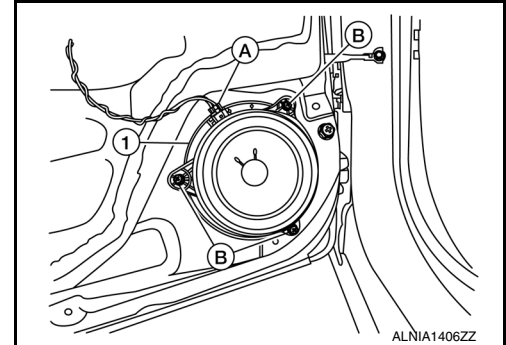
FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000009759067

REMOVAL

1. Remove the front door finisher. Refer to [INT-15, "Removal and Installation"](#).
2. Remove the front door speaker screws (B).
3. Disconnect the harness connector (A) from the front door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

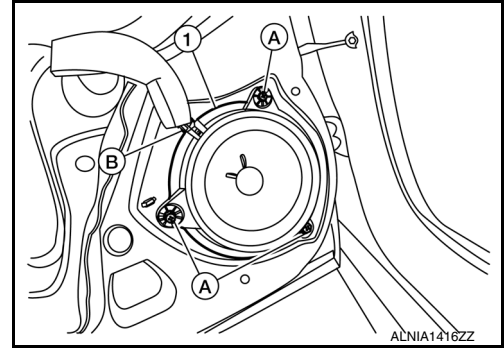
REAR DOOR SPEAKER

Removal and Installation

INFOID:000000009759068

REMOVAL

1. Remove the rear door finisher. Refer to [INT-19. "Removal and Installation"](#).
2. Remove the rear door speaker screws (A).
3. Disconnect the harness connector (B) from the rear door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

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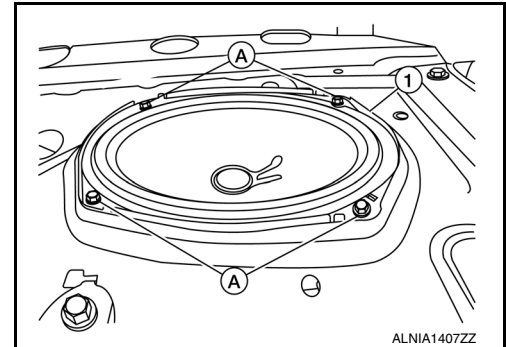
REAR WOOFER

Removal and Installation

INFOID:000000009759069

REMOVAL

1. Remove the rear parcel shelf finisher. Refer to [INT-33, "Removal and Installation"](#).
2. Remove the rear woofer screws (A).
3. Disconnect the harness connector from the rear woofer (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

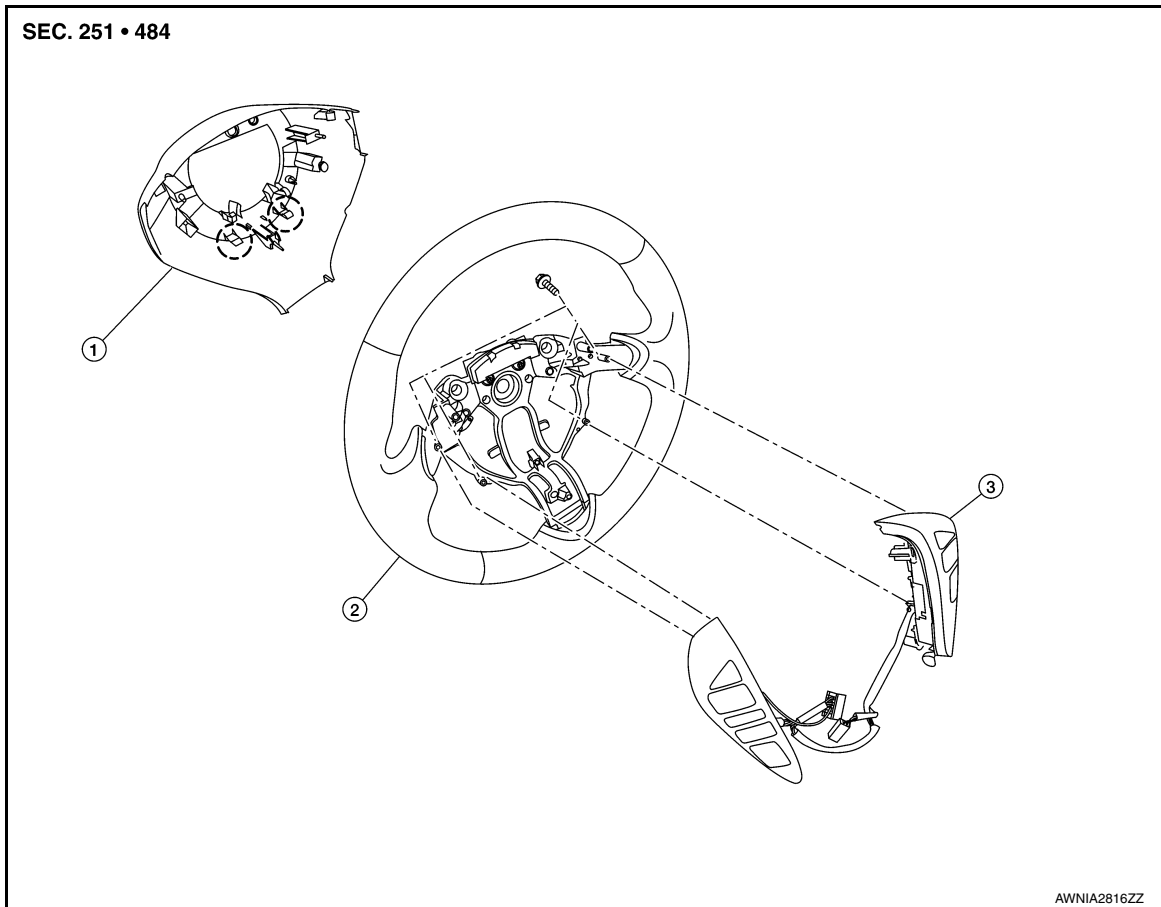
< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

STEERING SWITCH

Exploded View

INFOID:000000009759070



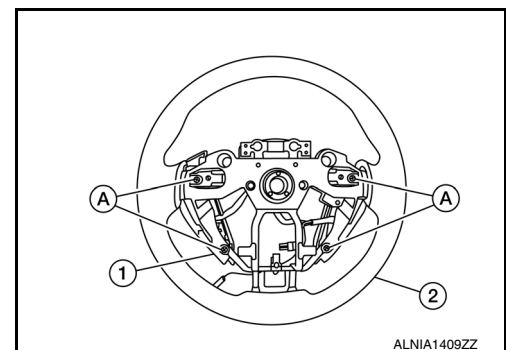
1. Steering wheel rear finisher 2. Steering wheel 3. Steering switches
○ Pawl

Removal and Installation

INFOID:000000009759071

REMOVAL

1. Remove the steering wheel. Refer to [ST-10. "Removal and Installation"](#).
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (A).
4. Remove the steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

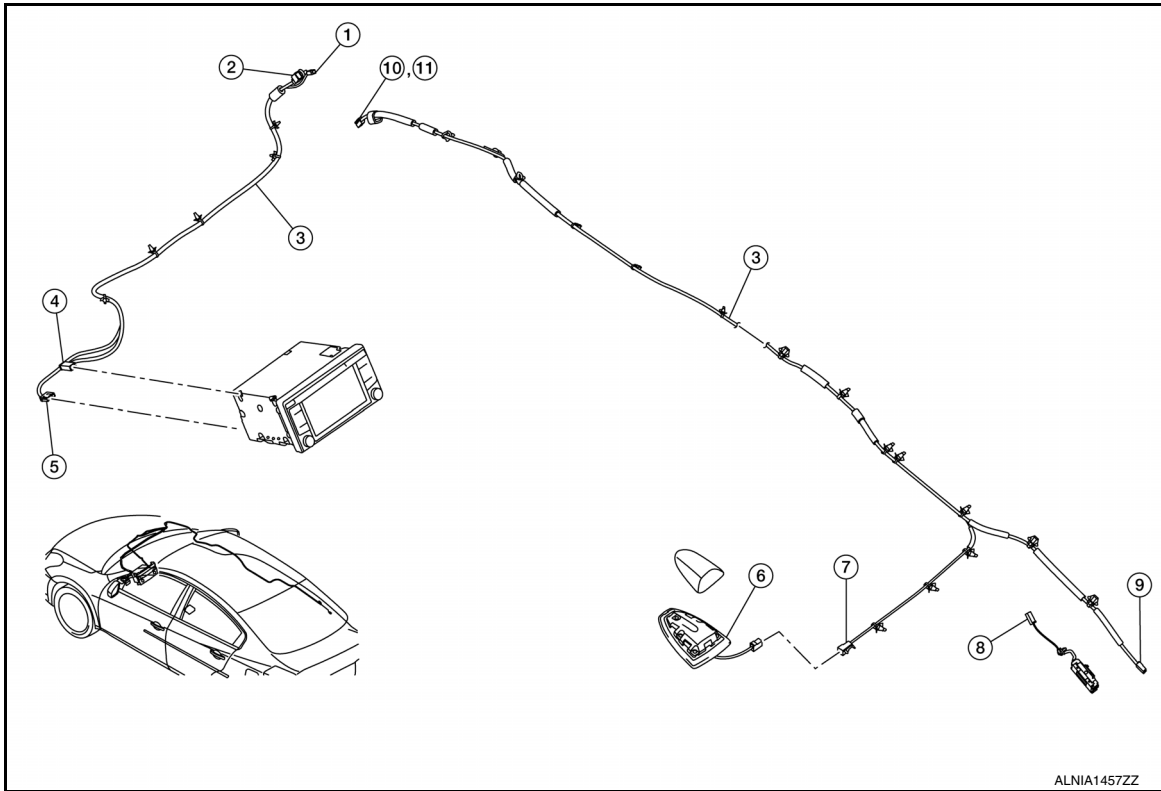
< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

ANTENNA FEEDER

Location of Antenna

INFOID:000000009759072



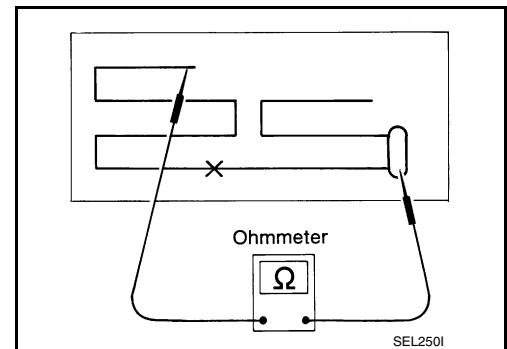
- | | | |
|----------|----------|----------------------|
| 1. M112 | 2. M107 | 3. Antenna feeder |
| 4. M143 | 5. M145 | 6. Satellite antenna |
| 7. M504 | 8. M503 | 9. M502 |
| 10. M500 | 11. M501 | |

Window Antenna Repair

INFOID:000000009759073

ELEMENT CHECK

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

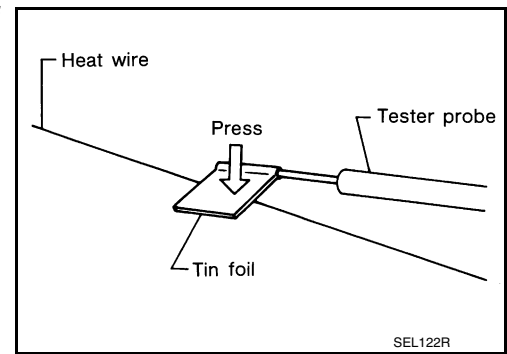


ANTENNA FEEDER

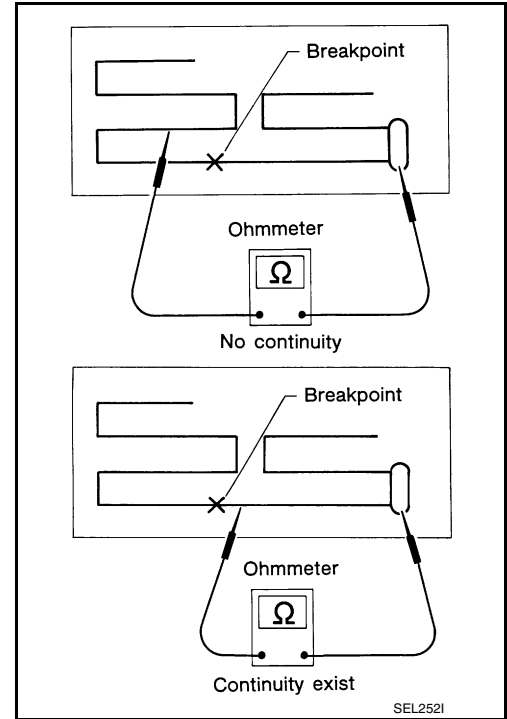
< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

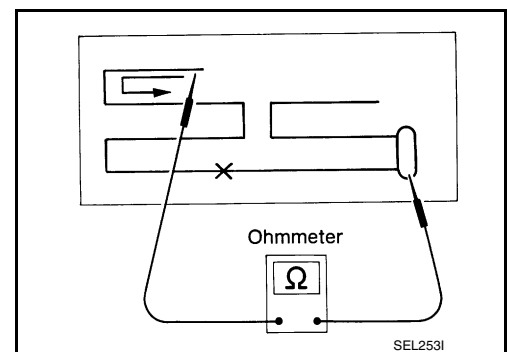
- When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



2. If an element is broken, no continuity will exist.



3. To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.



REPAIR EQUIPMENT

- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

REPAIRING PROCEDURE

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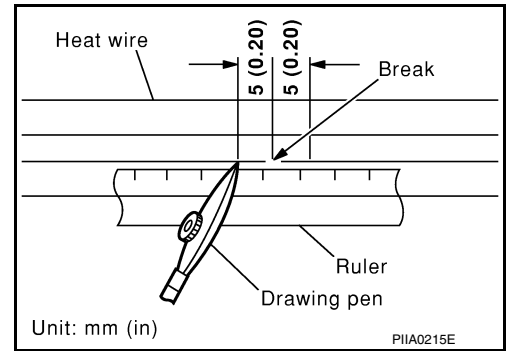
AV

ANTENNA FEEDER

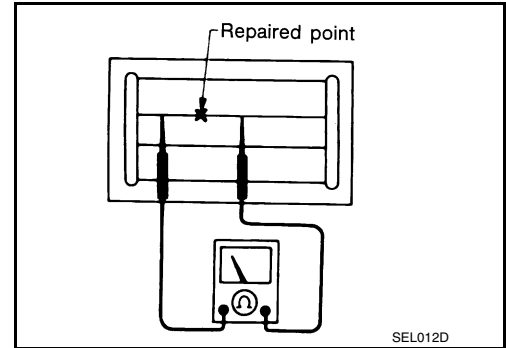
< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

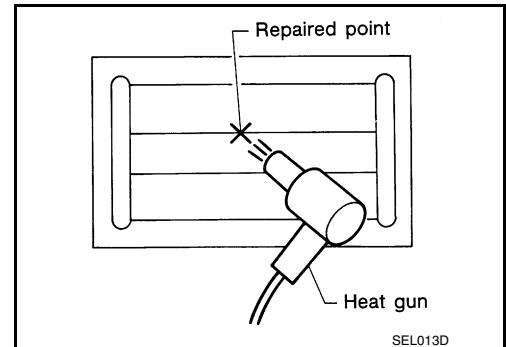
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen. Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.



4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited. Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.



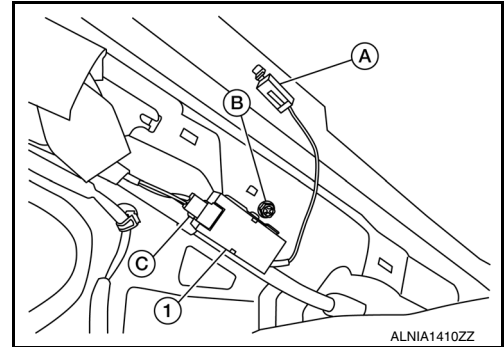
ANTENNA AMP.

Removal and Installation

INFOID:000000009759074

REMOVAL

1. Remove the rear pillar finisher (RH). Refer to [INT-29. "REAR PILLAR FINISHER : Removal and Installation"](#).
2. Disconnect the antenna amp. harness connector (A) from the rear window glass.
3. Disconnect the harness connector (C) from the antenna amp. (1).
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

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USB CONNECTOR AND AUX JACK

< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

USB CONNECTOR AND AUX JACK

Removal and Installation

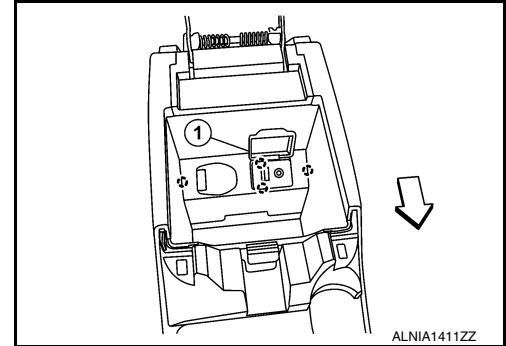
INFOID:000000009759075

Removal

1. Remove the center console rear finisher cover. Refer to [TM-253, "Exploded View"](#).
2. Release the pawls and remove the USB connector and aux jack (1) from the center console rear finisher cover.

○: Pawl

◀: Front



Installation

Installation is in the reverse order of removal.

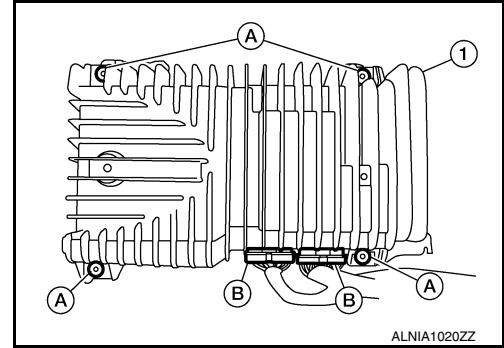
BOSE SPEAKER AMP

Removal and Installation

INFOID:000000009759076

REMOVAL

1. Open the trunk lid.
2. Remove the Bose speaker amp. screws (A).
3. Disconnect the harness connectors (B) from the Bose speaker amp. (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

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WINDOW ANTENNA

Removal and Installation

INFOID:000000010304579

The window antenna is serviced as an assembly with the filament. Refer to [DEF-47. "Inspection and Repair"](#).

SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

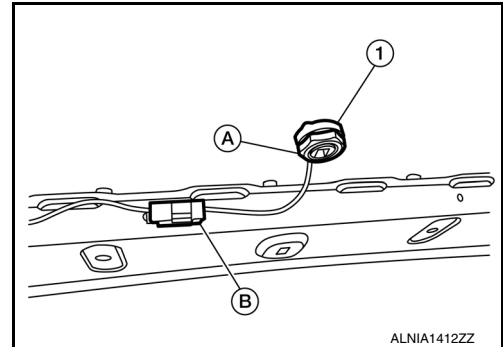
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:000000009759077

REMOVAL

1. Lower the headlining at the rear. Refer to [INT-38, "Exploded View"](#).
2. Remove the satellite radio antenna nut (A).
3. Disconnect the harness connector (B) from the satellite radio antenna (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

A
B
C
D
E
F
G
H
I
J
K
L
M

AV

O
P

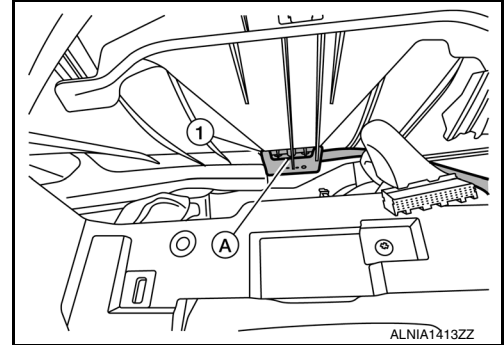
GPS ANTENNA

Removal and Installation

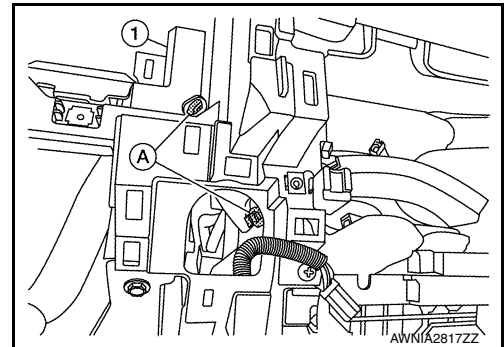
INFOID:000000009759078

REMOVAL

1. Remove the combination meter. Refer to [MWI-77, "Removal and Installation"](#).
2. Remove the AV control unit. Refer to [AV-406, "Removal and Installation"](#).
3. Remove the screw (A) from the GPS antenna (1).



4. Release the harness clips (A) from the instrument panel (1) and remove the GPS antenna.



INSTALLATION

Installation is in the reverse order of removal.

MICROPHONE

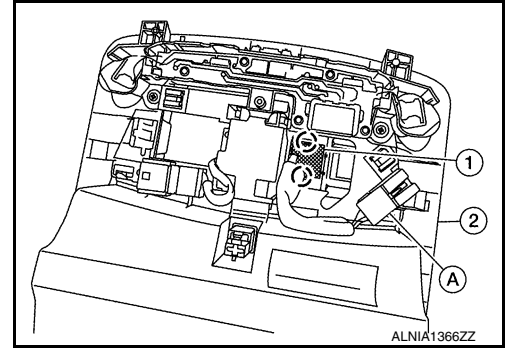
Removal and Installation

INFOID:000000009759079

REMOVAL

1. Remove the front room/map lamp assembly. Refer to [INL-52. "Removal and Installation"](#).
2. Disconnect the microphone connector (A) from the front room/map lamp assembly (2).
3. Release the microphone pawls, then remove the microphone (1).

○: Pawl



INSTALLATION

Installation is in the reverse order of removal.

A
B
C
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M
O
P

AV

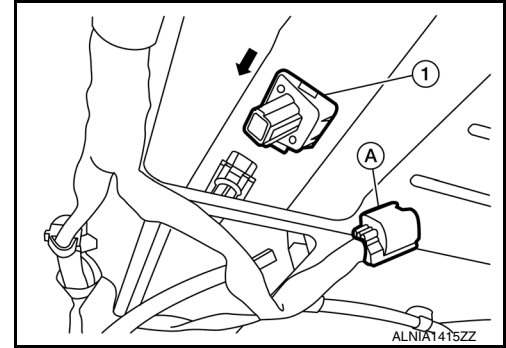
REAR VIEW CAMERA

Removal and Installation

INFOID:000000009759080

REMOVAL

1. Remove trunk lid finisher. Refer to [INT-45. "Removal and Installation"](#).
2. Disconnect the harness connector (A) from rear view camera (1).
3. Remove the license lamp finisher. Refer to [EXT-44. "Removal and Installation"](#).
4. Push the rear view camera (1) in direction shown (←) and pull out to remove.



INSTALLATION

Installation is in the reverse order of removal.