SECTION AV
AUDIO, VISUAL & NAVIGATION SYSTEM

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PRECAUTIONS

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

INFOID:0000000012591029

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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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 or batteries, and wait at least three minutes before performing any service.**

Precaution for Trouble Diagnosis

INFOID:0000000012591030

AV COMMUNICATION SYSTEM

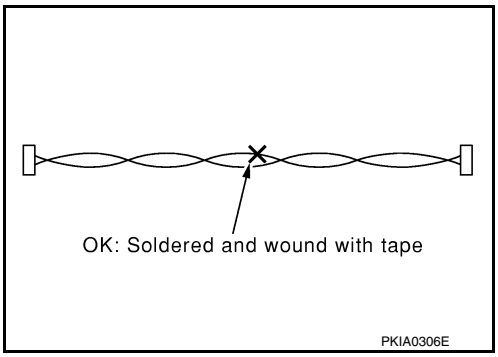
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

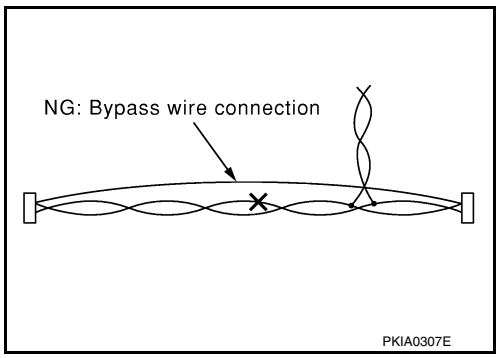
INFOID:0000000012591031

AV COMMUNICATION SYSTEM

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



- 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:0000000012591032

- 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.

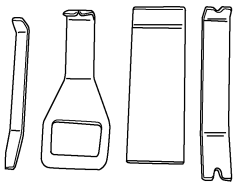
PREPARATION

PREPARATION

Special Service Tools

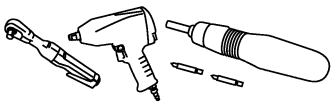
INFOID:0000000012591033

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:0000000012591034

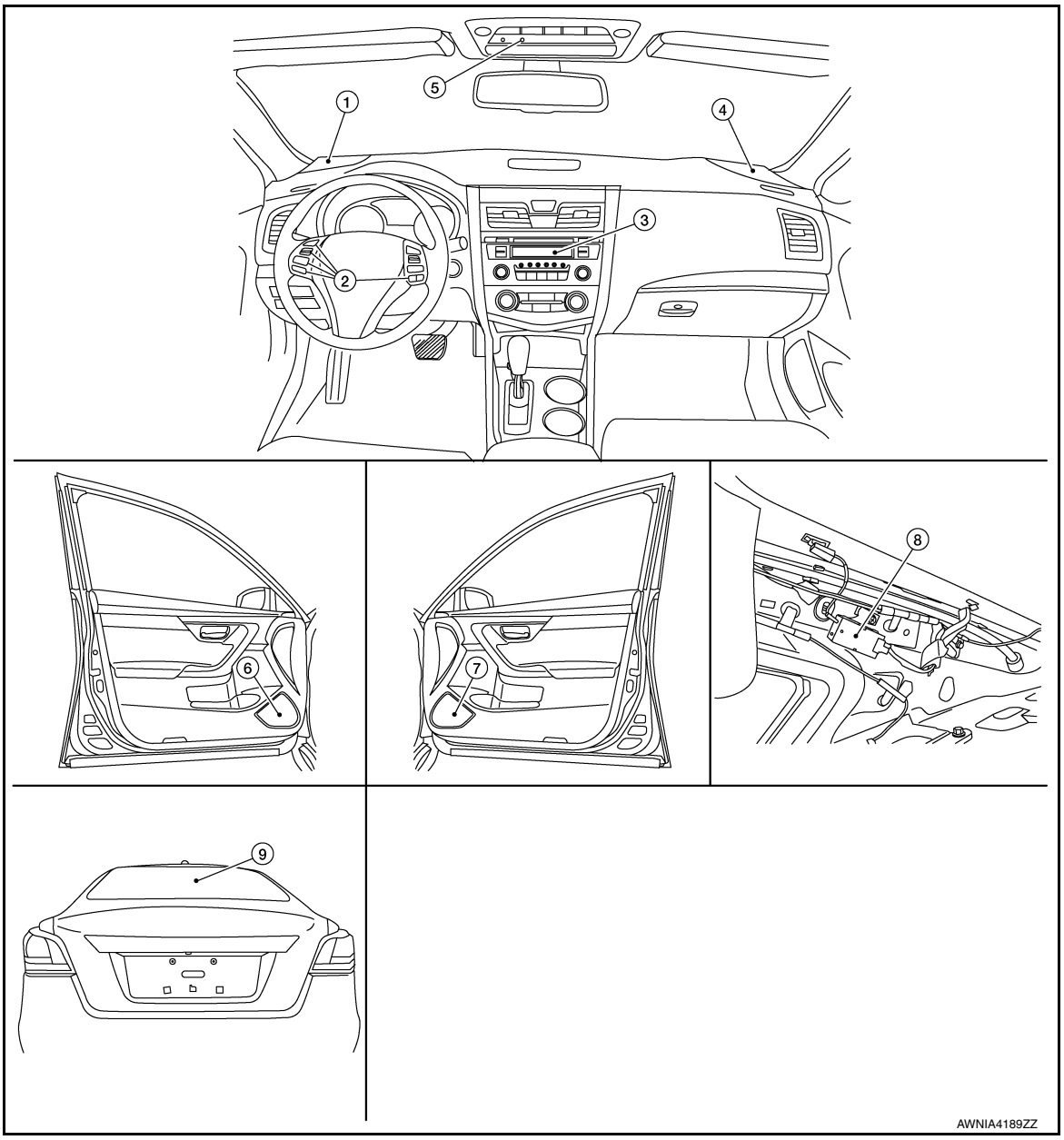
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012591035



1. Front speaker LH
2. Steering switches
3. Audio unit
4. Front speaker RH
5. Microphone
6. Front door speaker LH
7. Front door speaker RH
8. Antenna amp.
9. Window antenna

Component Description

INFOID:0000000012591036

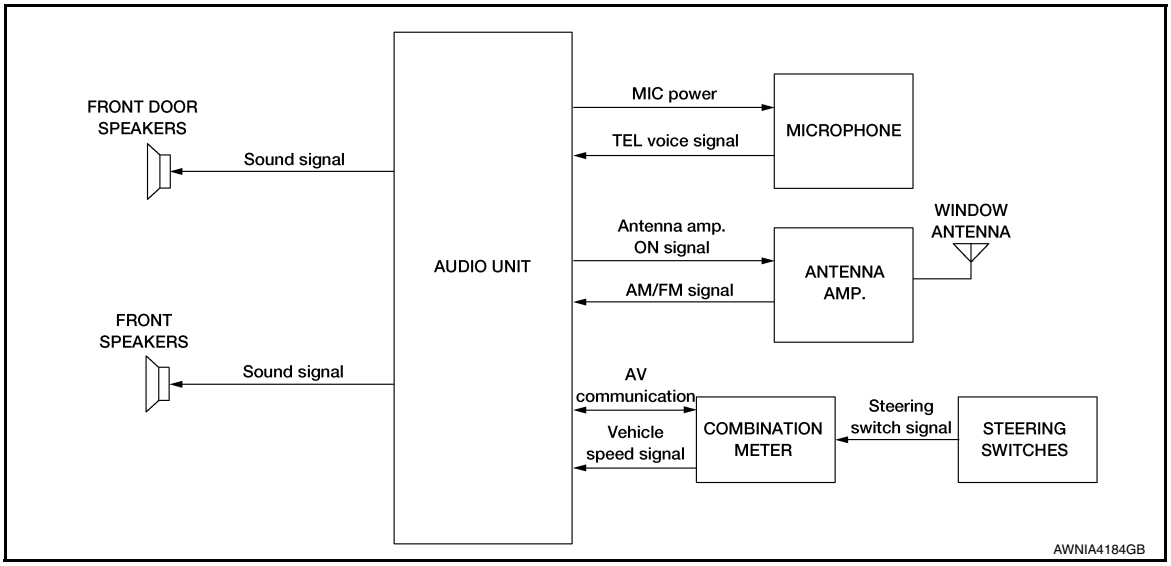
Part name	Description
Audio unit	• Controls audio, hands-free phone and AUX IN connection functions. • Display unit is built in to audio unit.

Part name	Description
Front door speakers	Outputs high, mid and low range audio signals from audio unit.
Front speakers	
Steering switches	• Operations for audio, hands-free phone and voice recognition are possible. • Steering switch signal is output to combination meter. • Combination meter outputs steering switch signal to audio unit.
Microphone	• Used for hands-free phone operations. • Microphone signal is transmitted to audio unit. • Power is supplied from audio unit.
Antenna amp.	• 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:0000000012591037



System Description

INFOID:0000000012591038

AUDIO SYSTEM

The audio system consists of the following components:

- Audio unit
- Front door speakers
- Front speakers
- Steering switches
- Microphone
- 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 and front 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 audio unit. Hands-free cellular telephone calls can be sent and received. Some Bluetooth® cellular telephones may not be recognized by the audio unit. When a cellular telephone or the audio unit is replaced, the telephone must be paired with the audio 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.

Audio Unit

When the ignition switch is turned to ACC or ON, the audio unit will power up. During power up, the audio unit is initialized and performs various self-checks. Initialization may take up to 20 seconds.

Steering Switches

When buttons on the steering switches are pushed, the resistance in steering switches circuits change, depending on which button is pushed.

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
- Record memos

Microphone

The microphone is located in the roof console assembly. The microphone sends a signal to the audio unit.

DIAGNOSIS SYSTEM (AUDIO UNIT)

Diagnosis Description

INFOID:0000000012591039

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

Mode	Description
Hardware/Software Versions	Hardware and software versions are available for: • audio unit. • combination meter EEPROM version and EQ pin info are also available for the audio unit.
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.

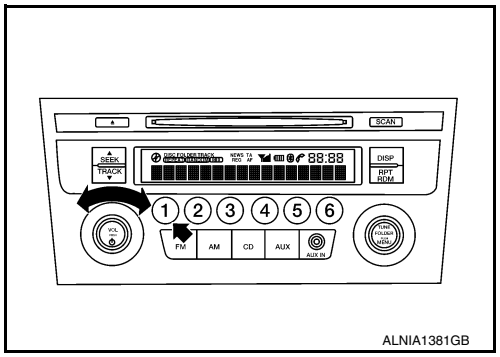
On Board Diagnosis Function

INFOID:0000000012591040

METHOD OF STARTING

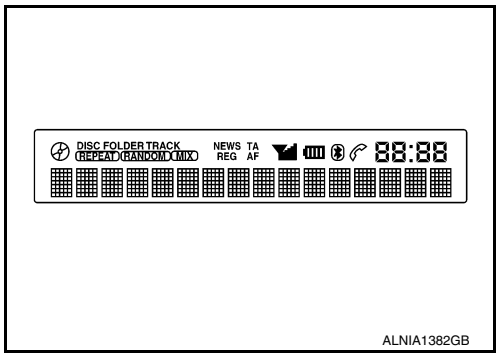
Hardware/Software Versions and Speaker Channel Check

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.



ALNIA1381GB

4. Initially, all display segments will be illuminated.



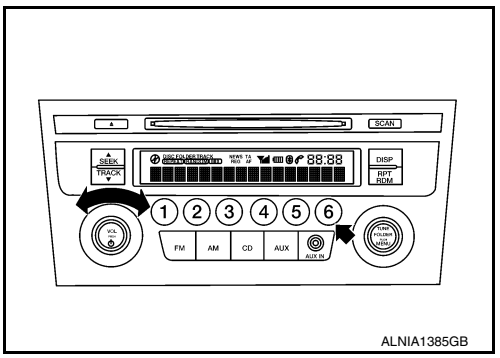
ALNIA1382GB

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

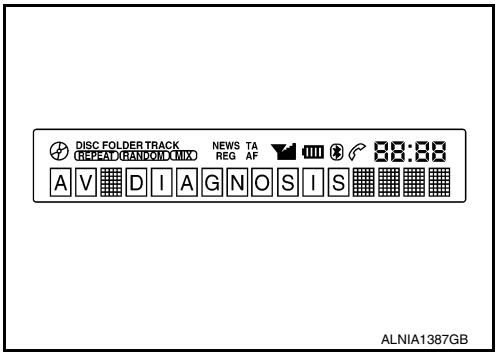
Communication Diagnosis

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

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



4. Initially, the communication diagnosis mode is displayed.

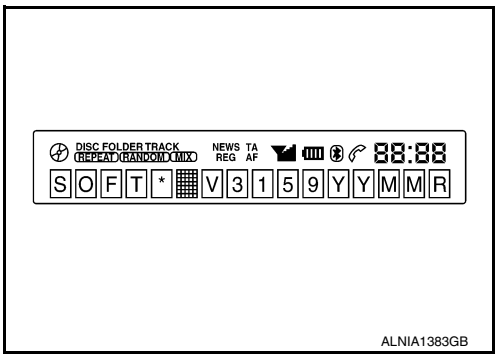


5. To exit communication diagnosis, turn the ignition OFF.

SELF DIAGNOSIS MODE

Hardware/Software Versions

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

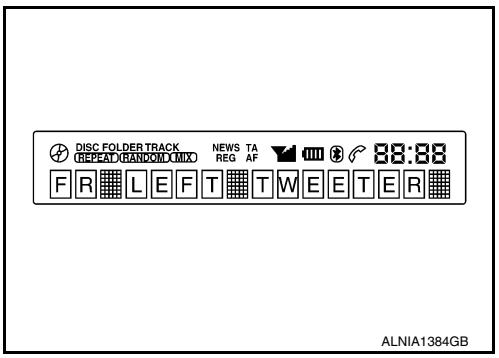


2. With each additional press of the DISP button, the following information is available:
- HARD V###### (hardware version)
- EEP V###### (EEPROM version)
- MeterS V###### (combination meter software version)
- MeterH V###### (combination meter hardware version)
- @@@@ EQ1-4 # (EQ pin info)
  If an EQ error is present, INVALID EQ is displayed
- BTSOFT ####### (internal Bluetooth® module software version)
- BTHARD ########## (internal Bluetooth® module hardware version)
- BTCONF #####00 (internal Bluetooth® module configuration)

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

Speaker Channel Check

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

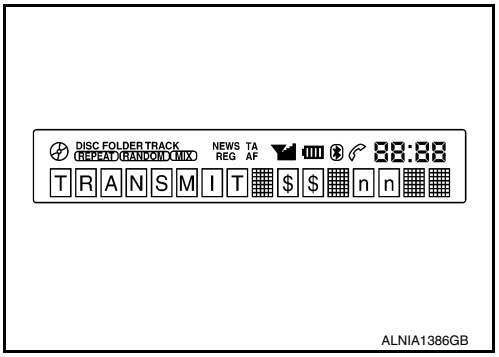


ALNIA1384GB

2. With each additional press of the RPT/DRM button, the following information is available:
- FR RIGHT TWEETER (front speaker RH)
- FR RIGHT (front door speaker RH)
- 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.



ALNIA1386GB

2. Press the DISP button again, and the METER $$ nn (CMF message reception error history from M-CAN METER) 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 △ 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 △ 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.

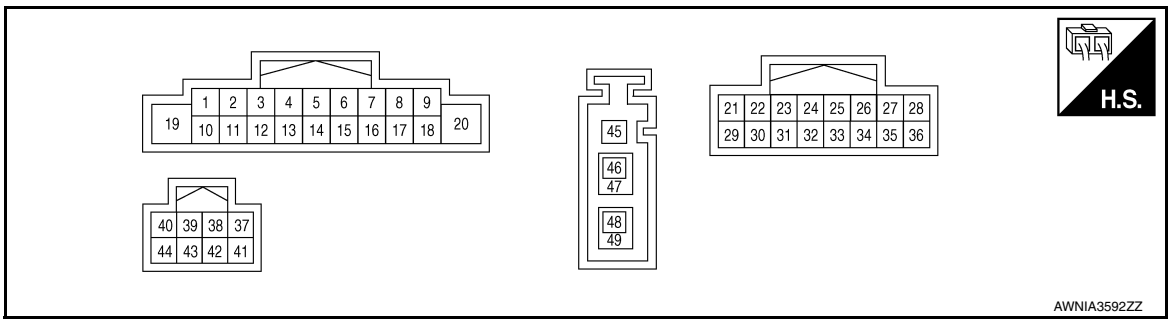
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

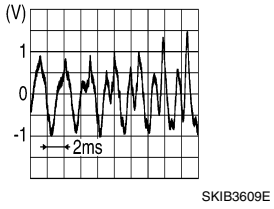
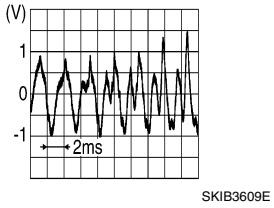
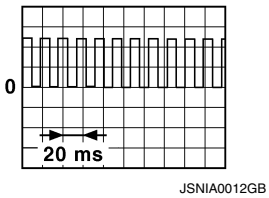
Reference Value

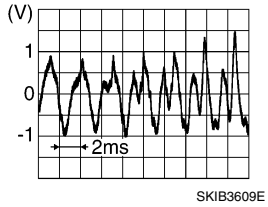
INFOID:0000000012591041

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
2 (V)	3 (SB)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
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
11 (Y)	12 (BR)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH).	 JSNIA0012GB
19 (G)	Ground	Battery power supply	Input	–	–	Battery voltage
27 (SB)	—	AV communication (H)	Input/ Output	—	—	—
28 (LG)	—	AV communication (L)	Input/ Output	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
35 (SB)	—	AV communication (H)	Input/ Output	—	—	—
36 (LG)	—	AV communication (L)	Input/ Output	—	—	—
38 (W)	Ground	Microphone power supply	Output	ON	—	5.0 V
40 (B)	39 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 SKIB3609E
45 (B)	Ground	Antenna amp. ON signal	Output	ON	—	Battery voltage
46 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V
47 (Shield)	—	AM/FM antenna signal shield	—	—	—	—

WIRING DIAGRAM

BASE AUDIO

Wiring Diagram

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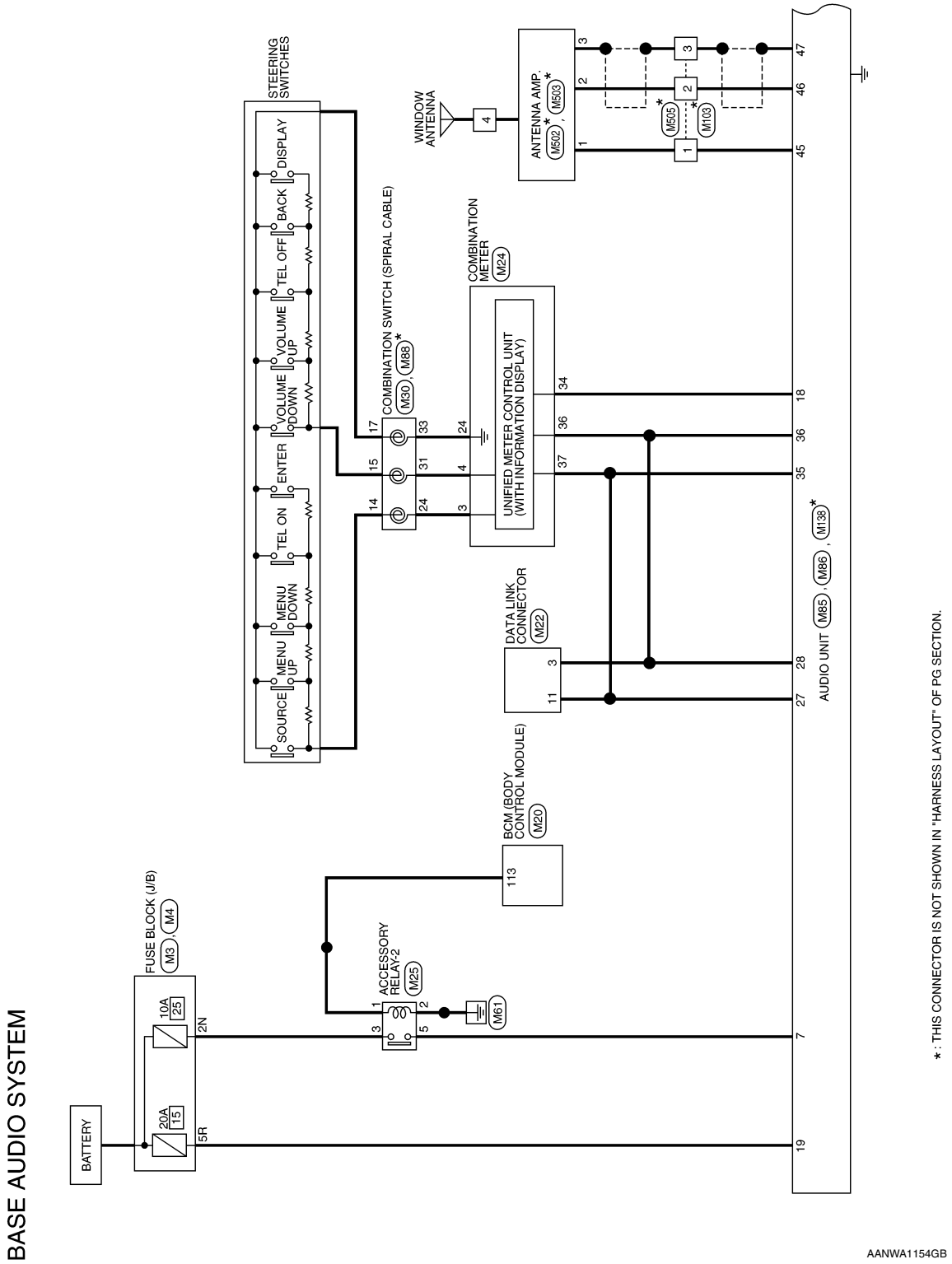

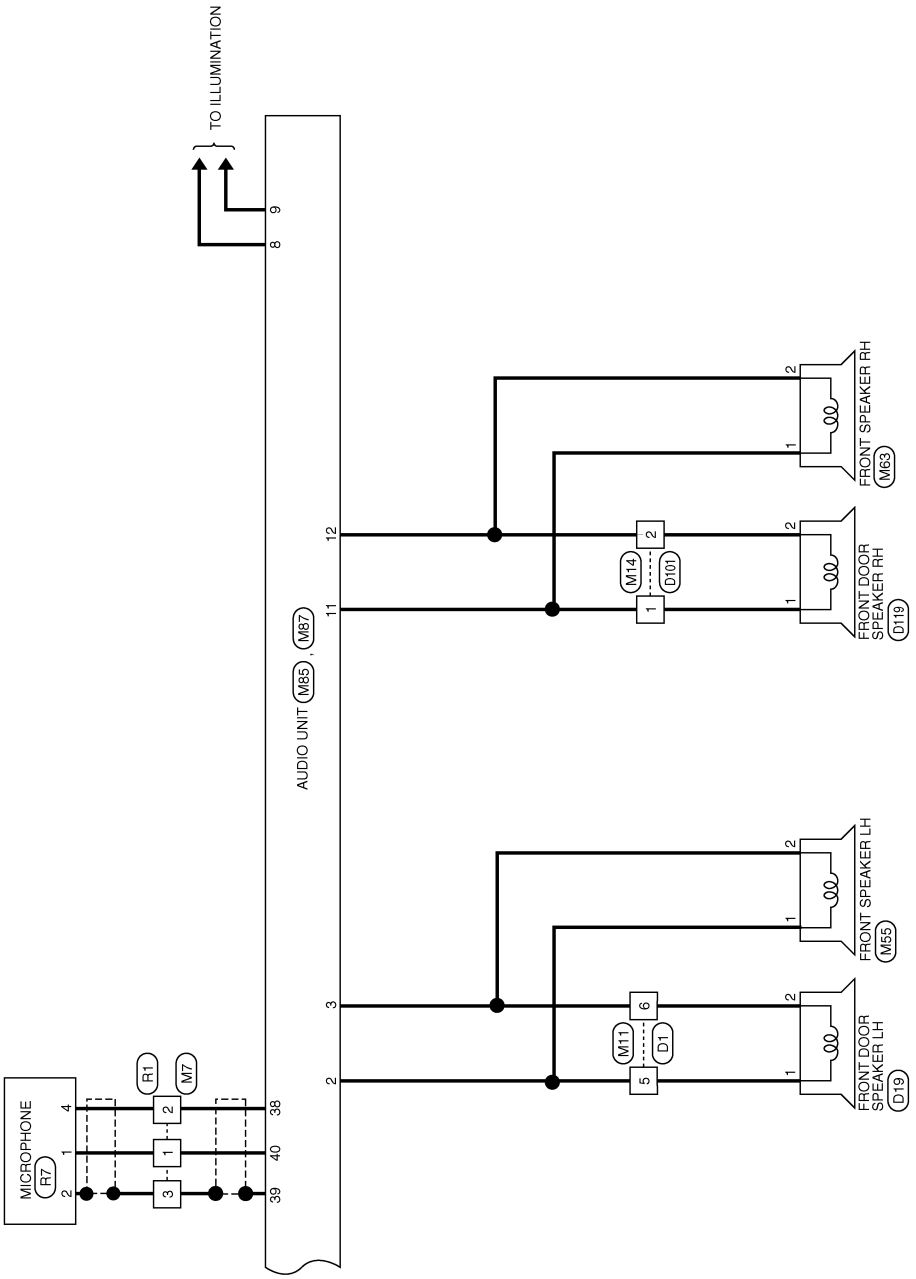

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BASE AUDIO SYSTEM CONNECTORS

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

3N		2N	1N
8N	7N	6N	5N	4N

Terminal No.	Color of Wire	Signal Name
2N	LG	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
5R	G	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	B	–
2	W	–
3	SHIELD	–

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	V	– (WITHOUT BOSE AUDIO SYSTEM)
6	SB	– (WITHOUT BOSE AUDIO SYSTEM)

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	Y	– (WITHOUT BOSE AUDIO SYSTEM)
2	BR	– (WITHOUT BOSE AUDIO SYSTEM)

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

H.S.

116	115	114	113	112	111	110	109	108	107	106	105
128	127	126	125	124	123	122	121	120	119	118	117

Terminal No.	Color of Wire	Signal Name
113	P	ACC RELAY OUT

ABNIA8201GB

Connector No.	M22
Connector Name	DATA LINK CONNECTOR
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	LG	–
11	SB	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	P	STRG SW INPUT1
4	R	STRG SW INPUT2
24	W	STRG SW GND
34	G	SPEED 8P/R
36	LG	M-CAN-L
37	SB	M-CAN-H

Connector No.	M25
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	LG	–
5	P	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
24	P	–
31	R	–
33	W	–

Connector No.	M55
Connector Name	FRONT SPEAKER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	V	– (WITHOUT BOSE AUDIO SYSTEM)
2	SB	– (WITHOUT BOSE AUDIO SYSTEM)

Connector No.	M63
Connector Name	FRONT SPEAKER RH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	– (WITHOUT BOSE AUDIO SYSTEM)
2	BR	– (WITHOUT BOSE AUDIO SYSTEM)

ABNIA8202GB

Connector No.	M85
Connector Name	AUDIO UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	–	–
2	V	FR SP LH (+)
3	SB	FR SP LH (-)
4	–	–
5	–	–
6	–	–
7	P	ACC
8	GR	ILL (-)
9	R	ILL (+) , LIGHT SW
10	–	–
11	Y	FR SP RH (+)
12	BR	FR SP RH (-)
13	–	–
14	–	–
15	–	–
16	–	–
17	–	–
18	G	SPEED SIGNAL
19	G	BAT
20	–	–

Connector No.	M86
Connector Name	AUDIO UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
21	–	–
22	–	–
23	–	–
24	–	–
25	–	–
26	–	–
27	SB	M-CAN-H
28	LG	M-CAN-L
29	–	–
30	–	–
31	–	–
32	–	–
33	–	–
34	–	–
35	SB	M-CAN-H
36	LG	M-CAN-L

Connector No.	M87
Connector Name	AUDIO UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
37	–	–
38	W	MIC VCC
39	SHIELD	MIC GND
40	B	MIC SIGNAL
41	–	–
42	–	–
43	–	–
44	–	–

ABNIA8203GB

Connector No.	M88
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

20 19 18 17 16 15 14 13

Terminal No.	Color of Wire	Signal Name
14	P	–
15	L	–
17	G	–

Connector No.	M103
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

1 2 3

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

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

H.S.

45 46 47 48 49

Terminal No.	Color of Wire	Signal Name
45	B	ANT +B
46	B	ANTENNA SIGNAL
47	SHIELD	SHIELD
48	–	–
49	–	–

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

H.S.

1 2 3

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

ABNIA8204GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–

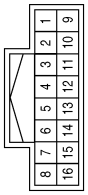
Connector No.	M505
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

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

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

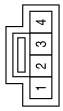
H.S.



Terminal No.	Color of Wire	Signal Name
1	L	–
2	Y	–
3	SHIELD	–

Connector No.	R7
Connector Name	MICROPHONE
Connector Color	WHITE

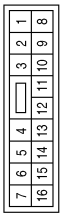
H.S.



Terminal No.	Color of Wire	Signal Name
1	L	–
2	SHIELD	–
4	Y	–

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
5	G	–
6	R	– (EXCEPT NAVI OR BOSE AUDIO SYSTEM)

Connector No.	D19
Connector Name	FRONT DOOR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

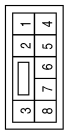
H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	– (WITHOUT NAVI)

ABNIA8205GB

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

H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	– (EXCEPT NAVI OR BOSE AUDIO SYSTEM)

Connector No.	D119
Connector Name	FRONT DOOR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	– (WITHOUT NAVI)

ABNIA8206GB

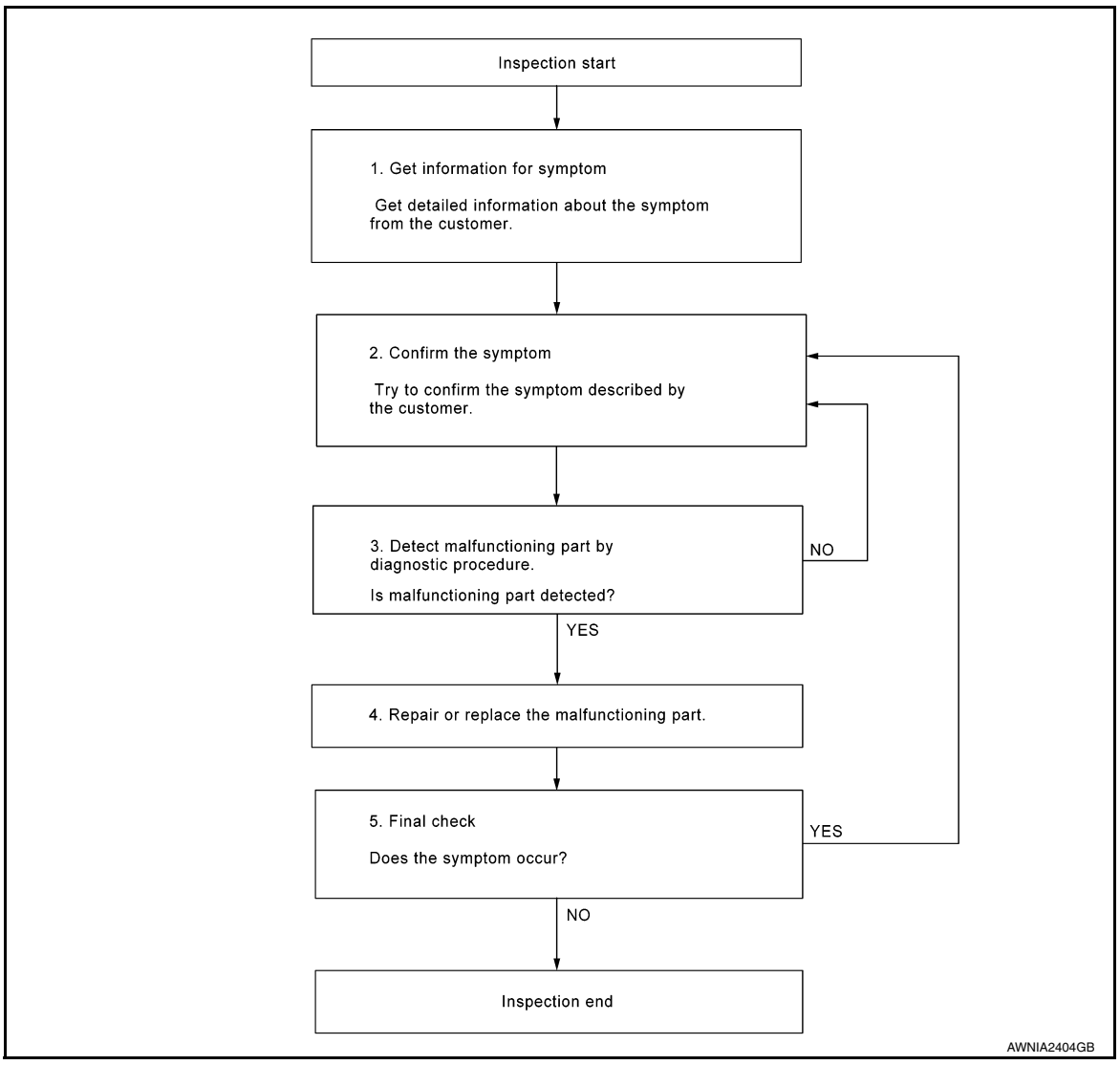
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000012591043

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5. FINAL CHECK

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

Has the symptom been repaired?

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

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT
AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000012591044

Regarding Wiring Diagram information, refer to AV-22, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	25 (10A)
19	Battery power supply	15 (20A)

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 M85.
3. Check voltage between audio unit connector M85 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M85	7	—	Ignition switch: ON	Battery voltage
	19		Ignition switch: OFF	

Is the inspection result normal?

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

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000012591045

Regarding Wiring Diagram information, refer to AV-22, "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 M85 and suspect front door speaker connector.
2. Check continuity between audio unit connector M85 and suspect front door speaker connector.

Audio unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M85	2	D19 (LH)	1	Yes
	3		2	
	11	D119 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M85 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M85	2	—	No
	3		
	11		
	12		

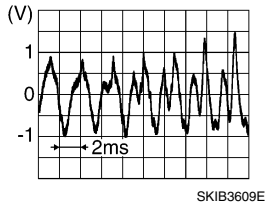
Is the inspection result normal?

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

3.CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect audio unit connector M85 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M85 and ground.

Audio unit connector M85		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

2	3	Audio signal output	 SKIB3609E
11	12		

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-48, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-46, "Removal and Installation".

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000012591046

Regarding Wiring Diagram information, refer to AV-22, "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 SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M85 and suspect front speaker connector.
2. Check continuity between audio unit connector M85 and suspect front speaker connector.

Audio unit		Front speaker		Continuity
Connector	Terminal	Connector	Terminal	
M85	2	M55 (LH)	1	Yes
	3		2	
	11	M63 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M85 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M85	2	—	No
	3		
	11		
	12		

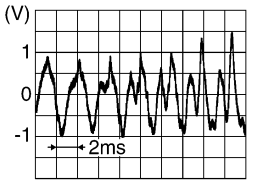
Is the inspection result normal?

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

3.CHECK FRONT SPEAKER SIGNAL

1. Connect audio unit connector M85 and suspect front speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M85 and ground.

Audio unit connector M85		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

2	3		
11	12	Audio signal output	 SKIB3609E

Is the inspection result normal?

YES >> Replace front speaker. Refer to AV-47, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-46, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591048

Regarding Wiring Diagram information, refer to AV-22, "Wiring Diagram".

1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M87 and microphone connector R7.
3. Check continuity between audio unit connector M87 and microphone connector R7.

Audio unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M87	39	R7	2	Yes
	38		4	
	40		1	

4. Check continuity between audio unit connector M87 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M87	39	—	No
	38		
	40		

Is inspection result normal?

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

2.CHECK MICROPHONE VCC VOLTAGE

1. Connect audio unit connector M87.
2. Turn ignition switch ON.
3. Check voltage between terminals of audio unit connector M87.

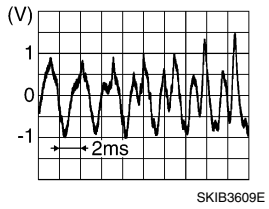
Audio unit connector M87		Voltage (Approx.)
(+)	(–)	
Terminal	Terminal	
38	39	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace audio unit. Refer to AV-46, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of audio unit connector M87.

Audio unit connector M87		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
40	39	Speak into microphone.	 SKIB3609E

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-46, "Removal and Installation".
NO >> Replace microphone. Refer to AV-54, "Removal and Installation".

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000012591049

Regarding Wiring Diagram information, refer to AV-22, "Wiring Diagram".

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M88.
3. Check resistance between combination switch connector terminals.

Combination switch connector M88		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress △ switch.	121
		Depress ▽ switch.	321
		Depress switch.	723
		Depress ENTER switch.	2023
15		Depress switch.	1
		Depress switch.	121
		Depress switch.	321
		Depress switch.	723
		Depress DISP switch.	2023

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace steering switches. Refer to AV-49, "Removal and Installation".

2.CHECK HARNESS BETWEEN COMBINATION SWITCH AND COMBINATION METER

1. Disconnect combination meter connector M24 and combination switch connector M30.
2. Check continuity between combination meter connector M24 and combination switch connector M30.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M24	3	M30	24	Yes
	24		33	
	4		31	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	3	—	No
	24		
	4		

Is the inspection result normal?

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

3.CHECK COMBINATION SWITCH

Check continuity between combination switch connectors M30 and M88.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M88	14	Yes
	31		15	
	33		17	

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

4.CHECK HARNESS BETWEEN COMBINATION METER AND AUDIO UNIT

1. Disconnect audio unit connector M86.
2. Check continuity between combination meter connector M24 and audio unit connector M86.

Combination meter		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
M24	37	M86	35	Yes
	36		36	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	37	—	No
	36		

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-46, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000012591050

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-17, "On Board Diagnosis Function".
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-22, "Wiring Diagram". • Audio unit power supply and ground circuits malfunction. Refer to AV-32, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-33, "Diagnosis Procedure" (front door speaker). - AV-35, "Diagnosis Procedure" (front speaker). • Malfunction in speaker. Refer to: - AV-48, "Removal and Installation" (front door speaker). - AV-47, "Removal and Installation" (front speaker). • Malfunction in audio unit. Refer to AV-17, "On Board Diagnosis Function".
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in audio unit. Refer to AV-17, "On Board Diagnosis Function".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-33, "Diagnosis Procedure" (front door speaker). - AV-35, "Diagnosis Procedure" (front speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-48, "Removal and Installation" (front door speaker). - AV-47, "Removal and Installation" (front speaker). • Malfunction in audio unit. Refer to AV-17, "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-51, "Location of Antenna".

Symptoms	Check items	Probable malfunction location
No radio reception or poor reception.	• 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).	• Antenna amp. ON signal circuit malfunction. Refer to AV-20, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-51, "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-46, "Removal and Installation".
Hands-free phone cannot be established.	• 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-37, "Diagnosis Procedure".

Symptoms	Check items	Probable malfunction location
The system cannot be operated.	• The voice recognition can be controlled. • Steering switch's VOL+ , VOL− , and BACK switch works, but TEL does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-49, "Removal and Installation".
	Steering switch's TEL, VOL+ , VOL− , and BACK switches do not work.	Steering switch signal circuit malfunction. Refer to AV-39, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-39, "Diagnosis Procedure".

NORMAL OPERATING CONDITION

Description

INFOID:0000000012591051

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

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).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” in AV-41, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • 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. **NOTE:** 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.

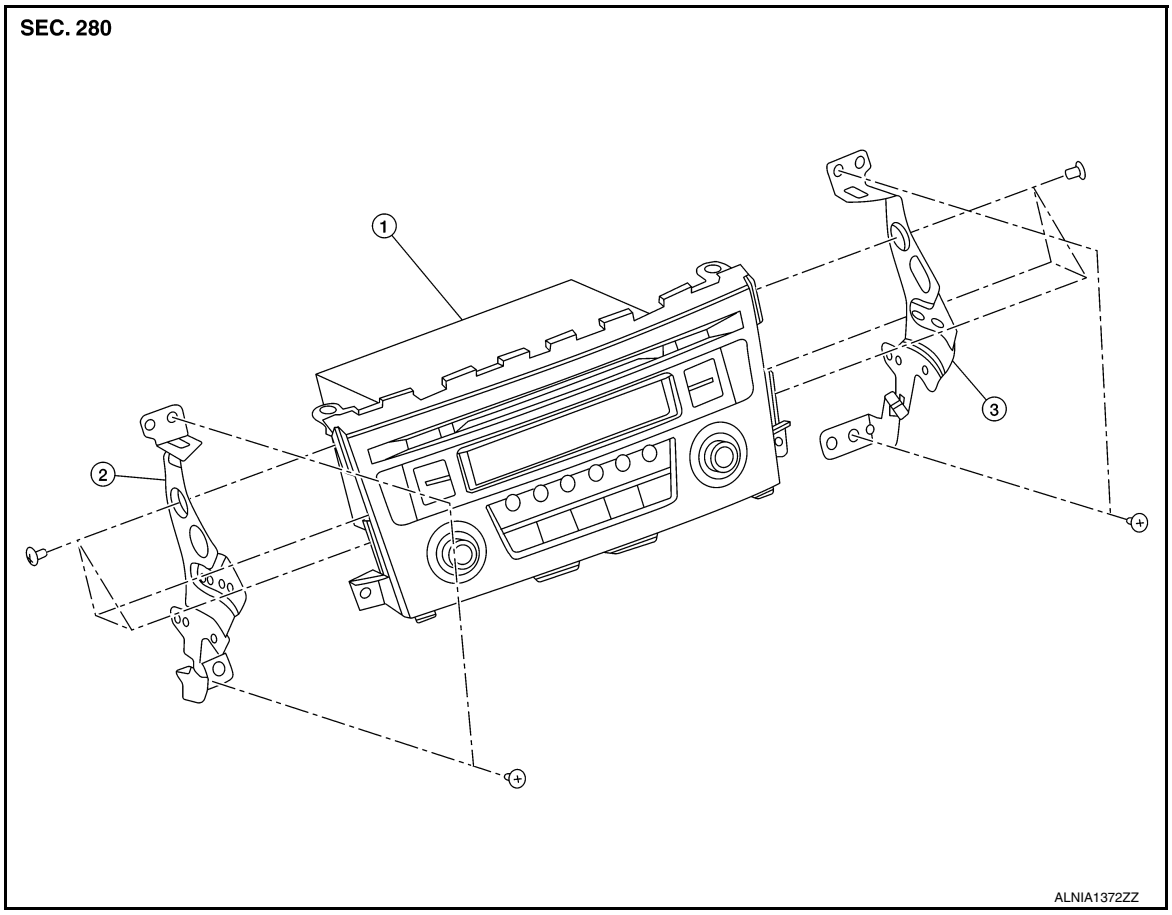
Symptom	Cause and Counter measure
The other party’s voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person’s voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded 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:0000000012591052



1. Audio unit
2. Audio unit bracket (LH)
3. Audio unit bracket (RH)

Removal and Installation

INFOID:0000000012591053

REMOVAL

1. Disconnect the negative battery terminal. Refer to PG-78, "Removal and Installation".
2. Remove cluster lid C. Refer to IP-20, "Cluster Lid C".
3. Remove the front air control. Refer to HAC-160, "Removal and Installation".
4. Remove the audio unit bracket screws, then pull out the audio unit.
5. Disconnect the harness connectors from the audio unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

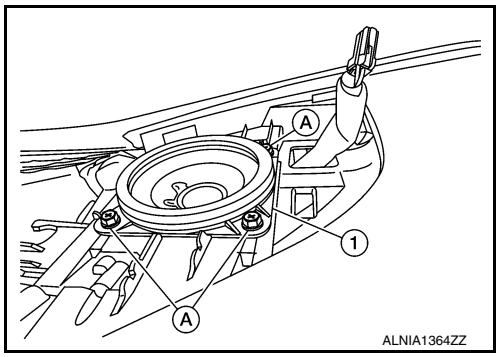
FRONT SPEAKER

Removal and Installation

INFOID:0000000012591054

REMOVAL

1. Remove the front pillar finisher. Refer to INT-21, "FRONT PILLAR FINISHER : Removal and Installation".
2. Remove the front speaker grille using a suitable tool.
3. Remove the front speaker screws (A).
4. Pull out the front speaker (1), disconnect the harness connector from front speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

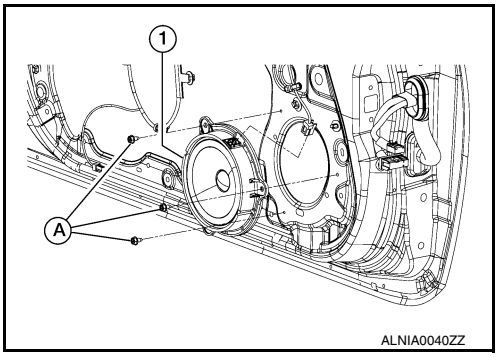
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000012591055

REMOVAL

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



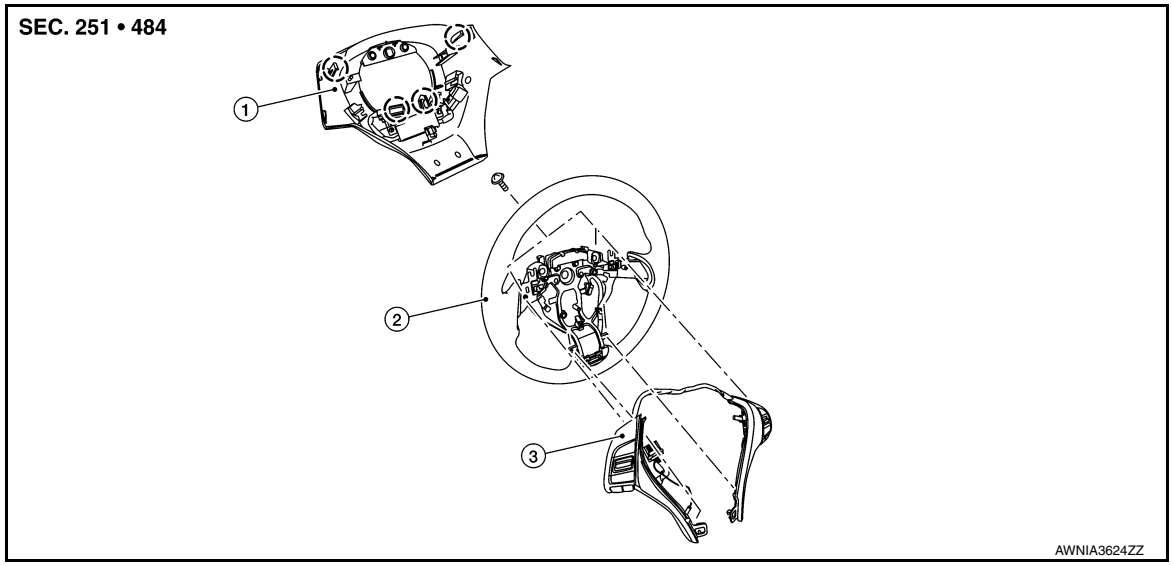
INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

Exploded View

INFOID:0000000012591057



1. Steering wheel rear finisher
2. Steering wheel
3. Steering switches

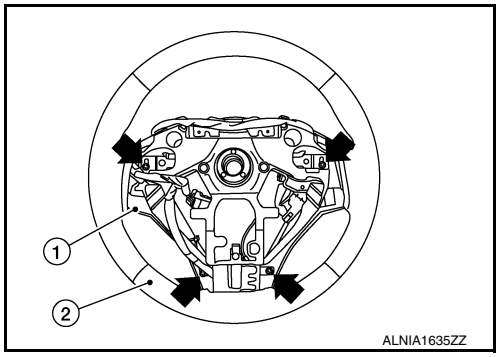
Pawl

Removal and Installation

INFOID:0000000012591058

REMOVAL

1. Remove the steering wheel. Refer to ST-32, "Removal and Installation".
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (⬅).
4. Remove the steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

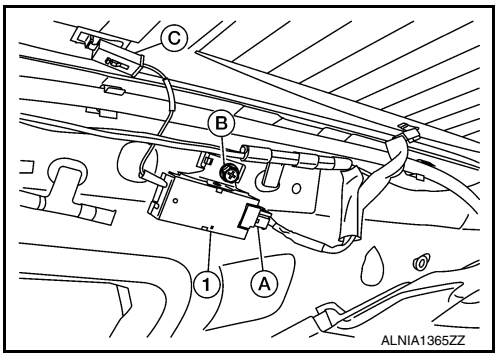
ANTENNA AMP.

Removal and Installation

INFOID:0000000012591059

REMOVAL

1. Remove the rear pillar finisher (RH). Refer to INT-25, "REAR PILLAR FINISHER : Removal and Installation".
2. Disconnect the harness connector (A) from the antenna amp. (1).
3. Disconnect the antenna amp. harness connector (C) from the rear window glass.
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



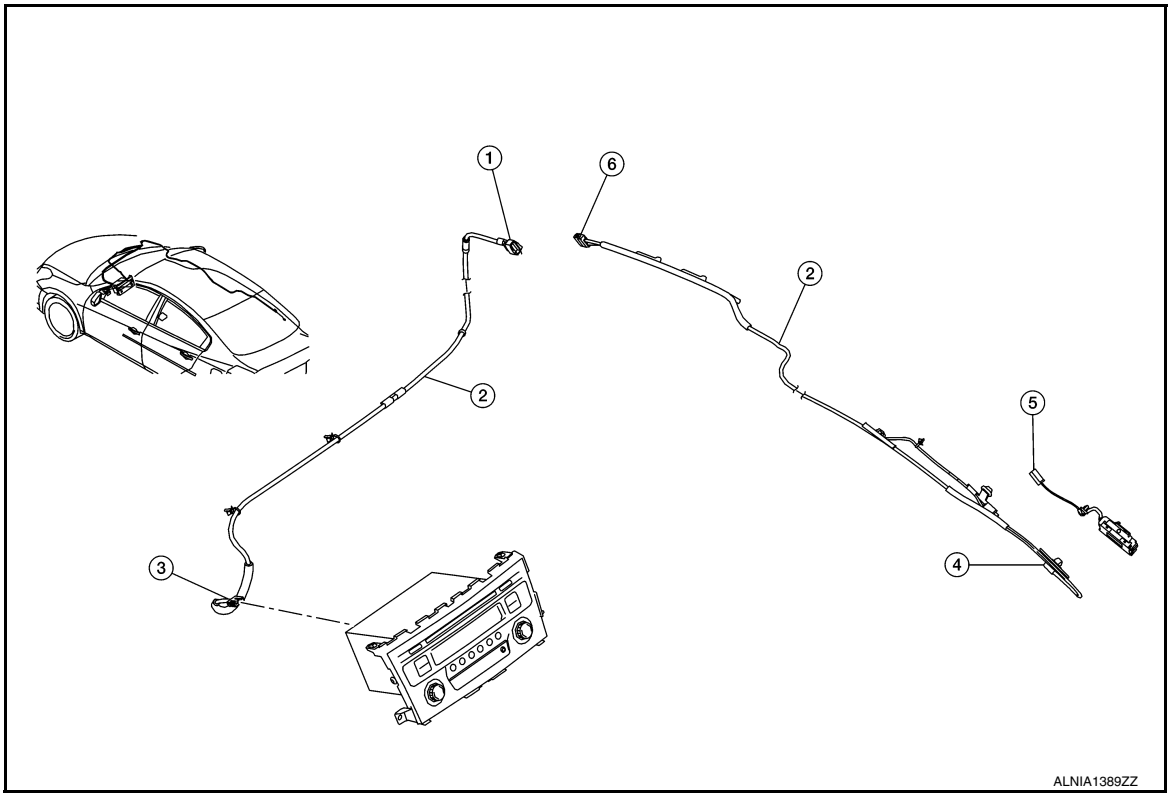
INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

Location of Antenna

INFOID:0000000012591060



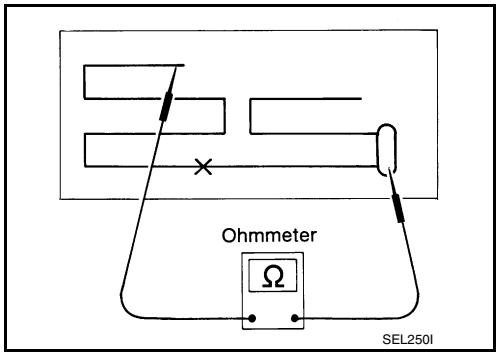
1. M101
2. Antenna feeder
3. M138
4. M502
5. M503
6. M501

Window Antenna Repair

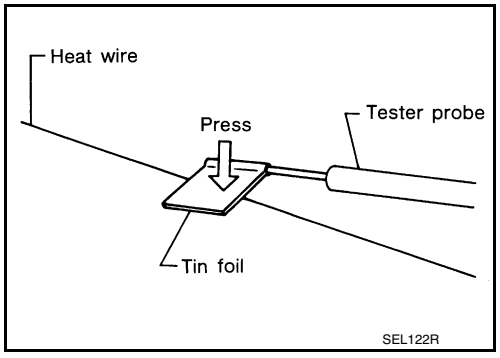
INFOID:0000000012591061

ELEMENT CHECK

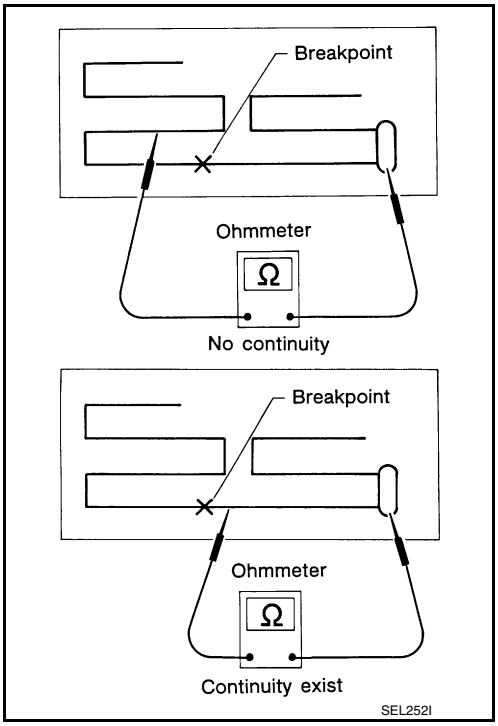
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



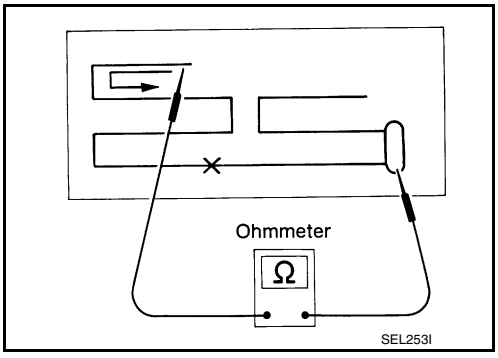
- **When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.**



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.

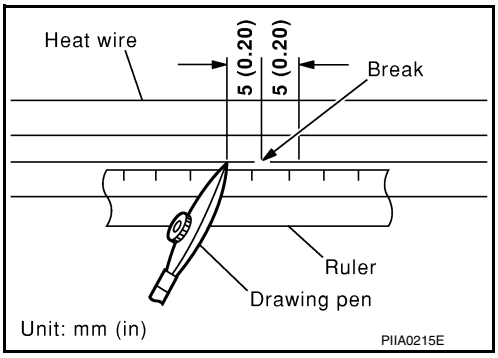


REPAIR EQUIPMENT

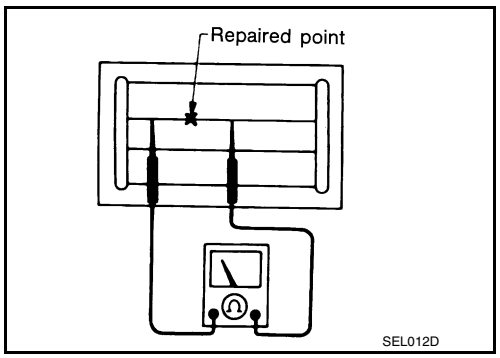
- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

REPAIRING PROCEDURE

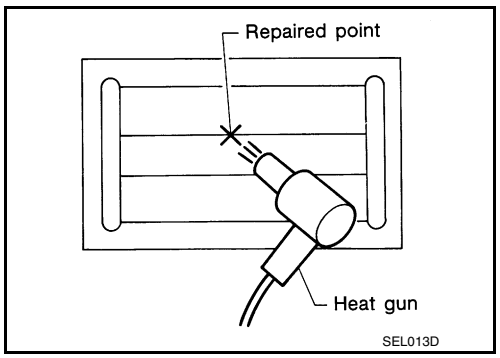
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.
   Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition 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.



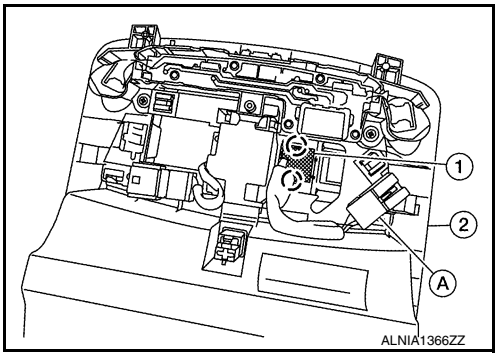
MICROPHONE

Removal and Installation

INFOID:0000000012591062

REMOVAL

1. Remove the front room/map lamp assembly. Refer to INL-60, "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:0000000012591063

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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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 or batteries, and wait at least three minutes before performing any service.**

Precaution for Trouble Diagnosis

INFOID:0000000012591064

AV COMMUNICATION SYSTEM

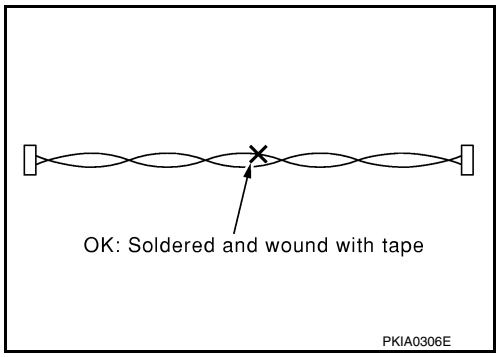
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

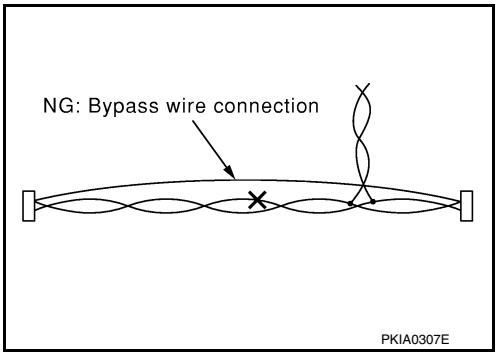
INFOID:0000000012591065

AV COMMUNICATION SYSTEM

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



- 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:0000000012591066

- 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.

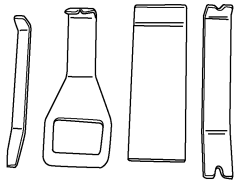
PREPARATION

PREPARATION

Special Service Tools

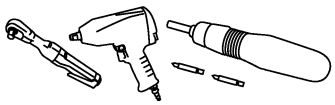
INFOID:0000000012591067

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:0000000012591068

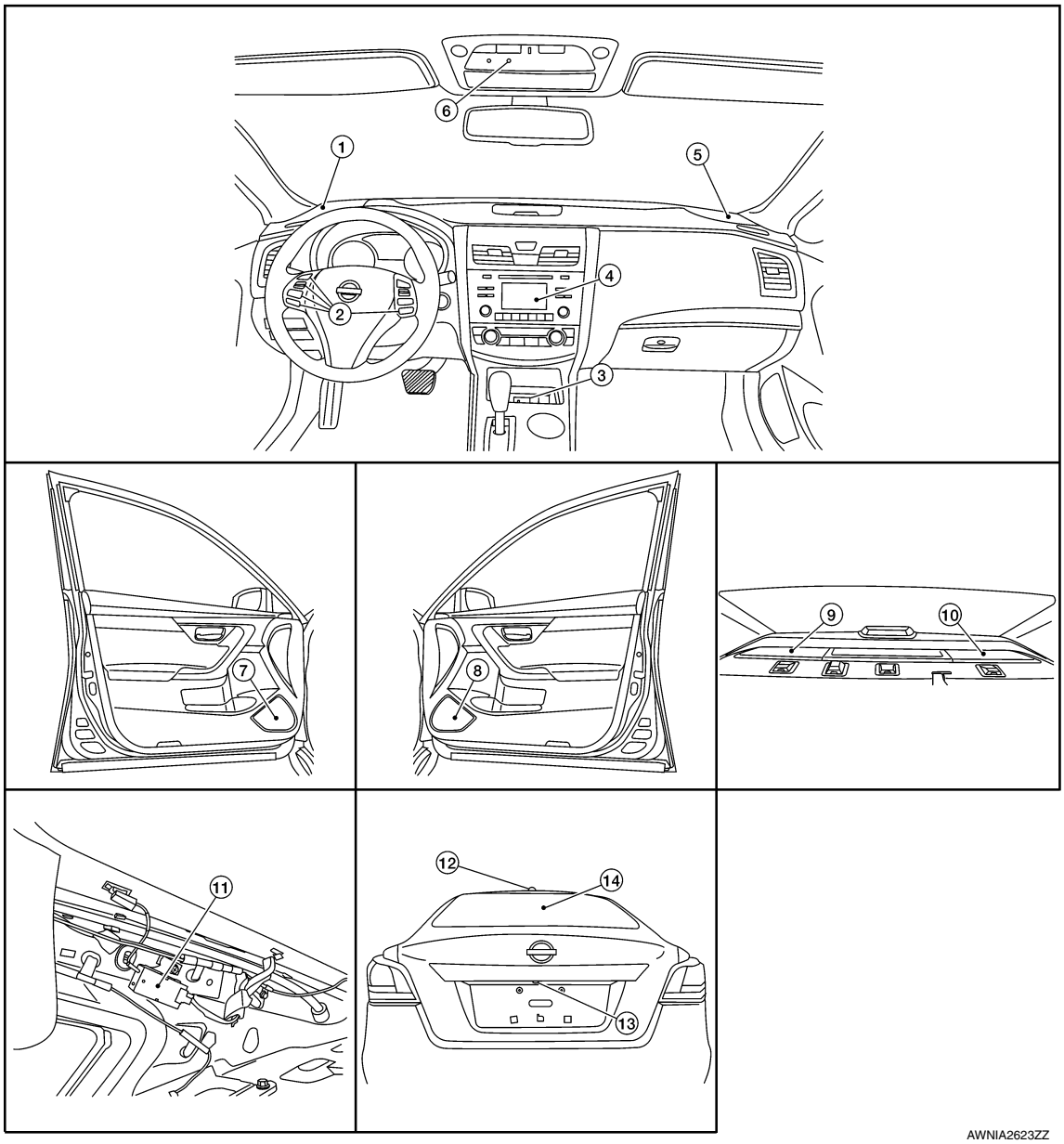
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012591069



AWNIA2623ZZ

1. Front speaker LH
2. Steering switches
3. USB interface and AUX in jack
4. Audio unit
5. Front speaker 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 (if equipped)
13. Rear view camera
14. Window antenna

Component Description

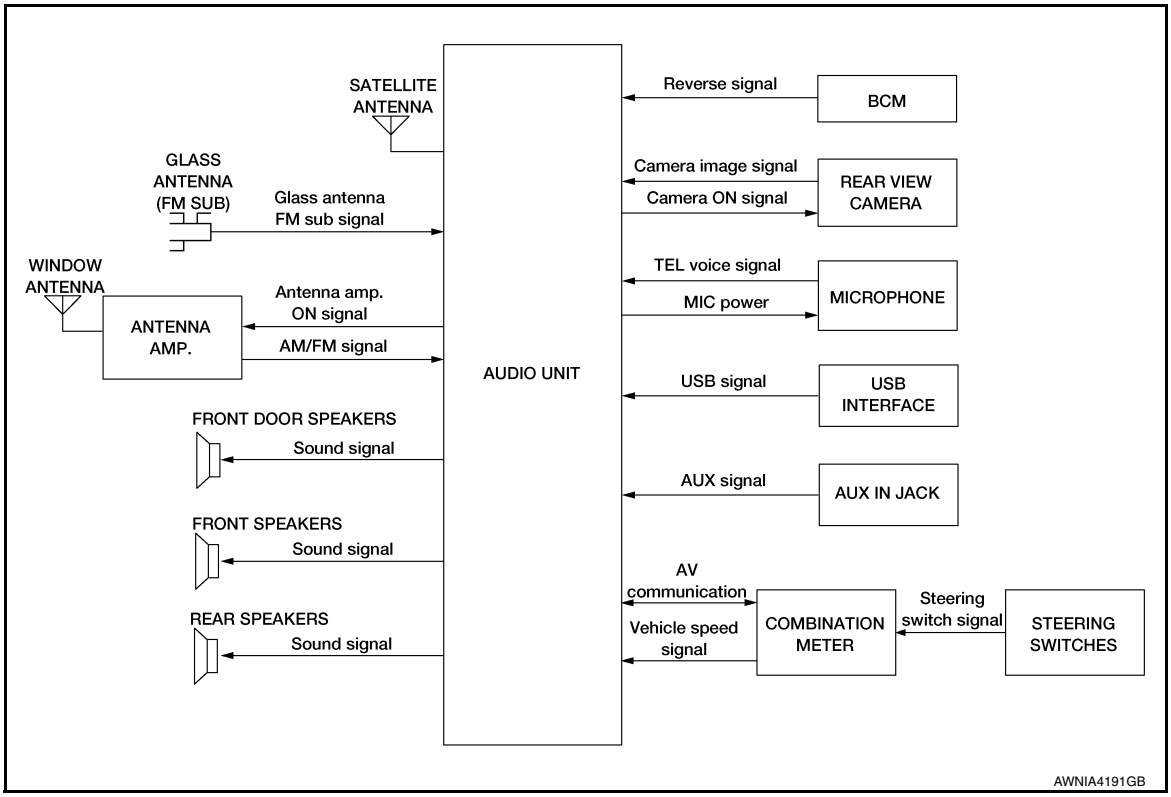
INFOID:0000000012591070

Part name	Description
Audio unit	• Controls audio, hands-free phone, USB interface and AUX in jack connection, satellite radio and rear view camera functions. • Display unit is built in to audio unit.
Front door speakers	Outputs high, mid and low range audio signals from audio unit.
Front speakers	
Rear speakers	
Steering switches	• Operations for audio, hands-free phone and voice recognition are possible. • Steering switch signal is output to combination meter. • Combination meter outputs steering switch signal to audio unit.
Microphone	• Used for hands-free phone operations. • Microphone signal is transmitted to audio unit. • Power is supplied from audio unit.
USB interface and AUX in jack	• USB sound and data input signals are transmitted to audio unit. • AUX sound input signals are transmitted to audio unit.
Rear view camera	• Outputs image of vehicle rear to audio unit. • Power is supplied from audio unit.
Satellite antenna	Satellite radio signal is received and transmitted to audio unit.
Antenna amp.	• 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:0000000012591071



System Description

INFOID:0000000012591072

AUDIO SYSTEM

The audio system consists of the following components:

- Audio unit
- Front door speakers
- Front speakers
- Rear speakers
- Steering switches
- Microphone
- USB interface and AUX in jack
- Rear view camera
- 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 speakers 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 audio unit. Hands-free cellular telephone calls can be sent and received. Some Bluetooth® cellular telephones may not be recognized by the audio unit. When a cel-

lular telephone or the audio unit is replaced, the telephone must be paired with the audio 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.

Audio Unit

When the ignition switch is turned to ACC or ON, the audio unit will power up. During power up, the audio unit is initialized and performs various self-checks. Initialization may take up to 20 seconds.

Steering Switches

When buttons on the steering switches are pushed, the resistance in steering switches circuits change, depending on which button is pushed.

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
- Record memos

Microphone

The microphone is located in the roof console assembly. The microphone sends a signal to the audio unit.

REAR VIEW CAMERA SYSTEM

- The audio unit supplies power to the rear view camera when the reverse signal is received from the BCM.
- The rear view camera transmits rear view camera images to the audio unit when power is supplied from the audio unit.
- The audio 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.

SATELLITE RADIO FUNCTION

- Satellite radio function is built into audio unit.
- Sound signal (satellite radio) is received by satellite antenna and transmitted to audio unit. Audio unit outputs sound signal to each speaker.

USB INTERFACE AND AUX IN JACK FUNCTION

- Sound and data signals are transmitted from USB interface to the audio unit and output to each speaker and tweeter.
- Sound signals are transmitted from AUX in jack to the audio unit and output to each speaker and tweeter.

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.

DIAGNOSIS SYSTEM (AUDIO UNIT)

Description

INFOID:0000000012591073

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

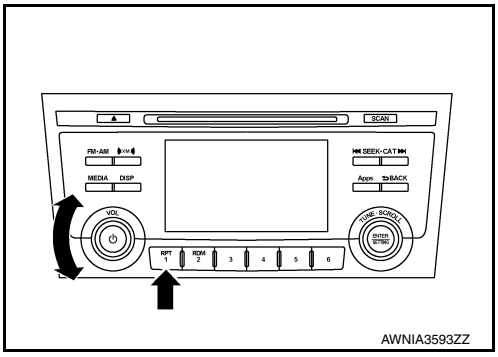
Mode		Description
Self Diagnosis		• Audio unit diagnosis. • Diagnoses the connections across system components.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	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	Guiding line position that overlaps rear view camera image can be adjusted.
	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

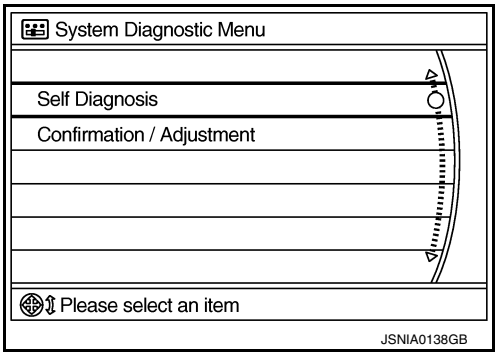
INFOID:0000000012591074

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 and counterclockwise quickly approximately 15 times 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.

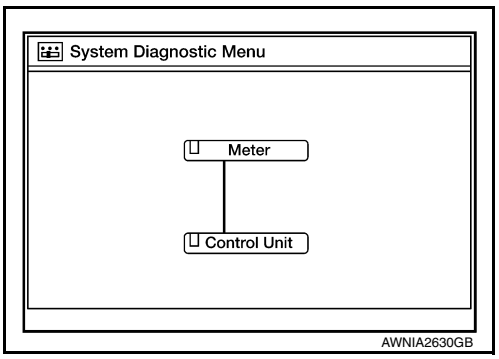


SELF DIAGNOSIS MODE

Audio Unit Self Diagnosis

1. Select Self Diagnosis.

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.

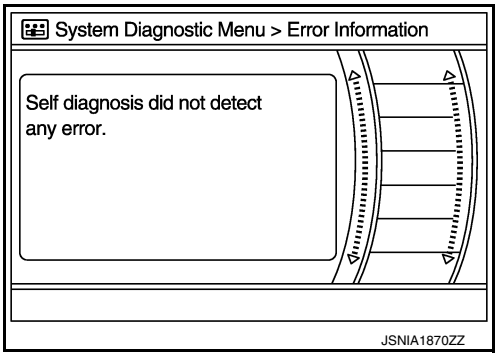


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction [1]	Red	Green

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-106, "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.



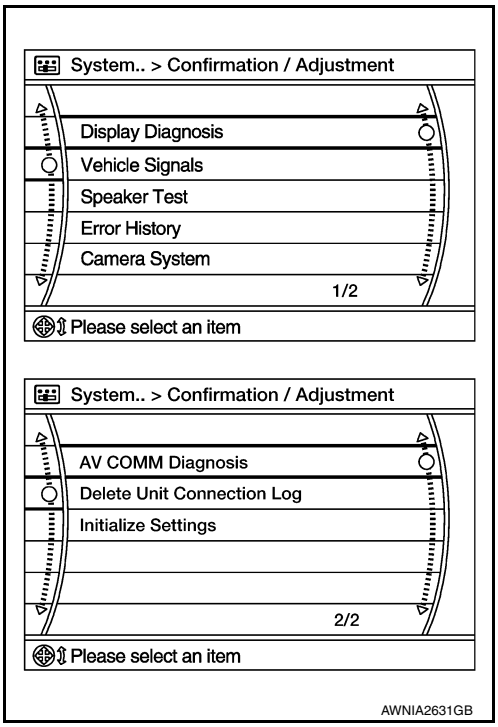
Audio Unit Self Diagnosis Results

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.	• Audio unit power supply or ground circuits. Refer to AV-86, "AUDIO UNIT : Diagnosis Procedure". • If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to AV-106, "Removal and Installation".

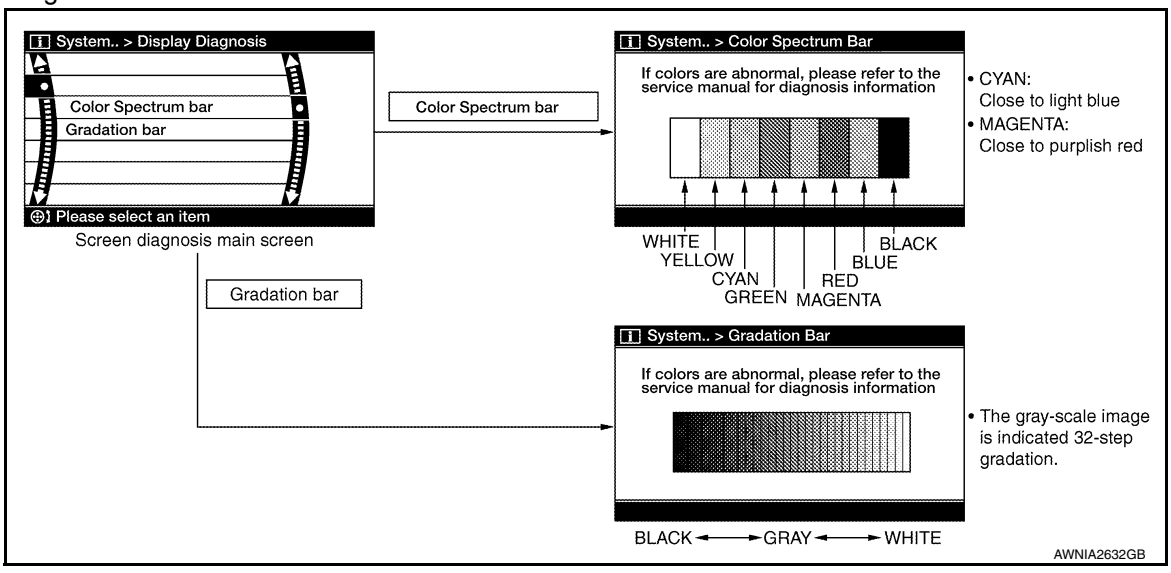
A Connecting Cable Between Units Is Displayed In Yellow		
Area with yellow connection lines	Description	Possible cause
Control unit ⇔ Meter	When one of the following is detected: • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and combination meter.	• Combination meter power supply or ground circuits. Refer to MWI-59, "COMBINATION METER : Diagnosis Procedure". • AV communication circuits between audio unit and combination meter.

Audio Unit Confirmation/Adjustment

1. Select Confirmation/Adjustment.
2. 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.

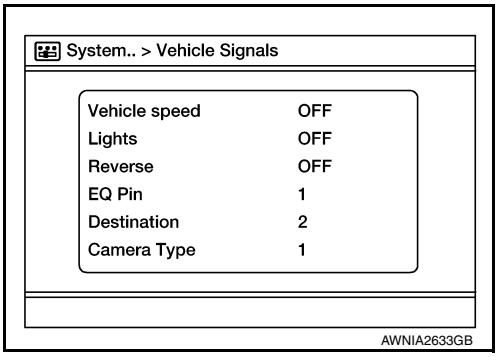


Display Diagnosis



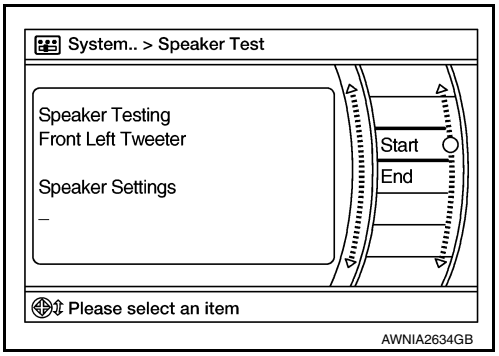
Vehicle Signals

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.

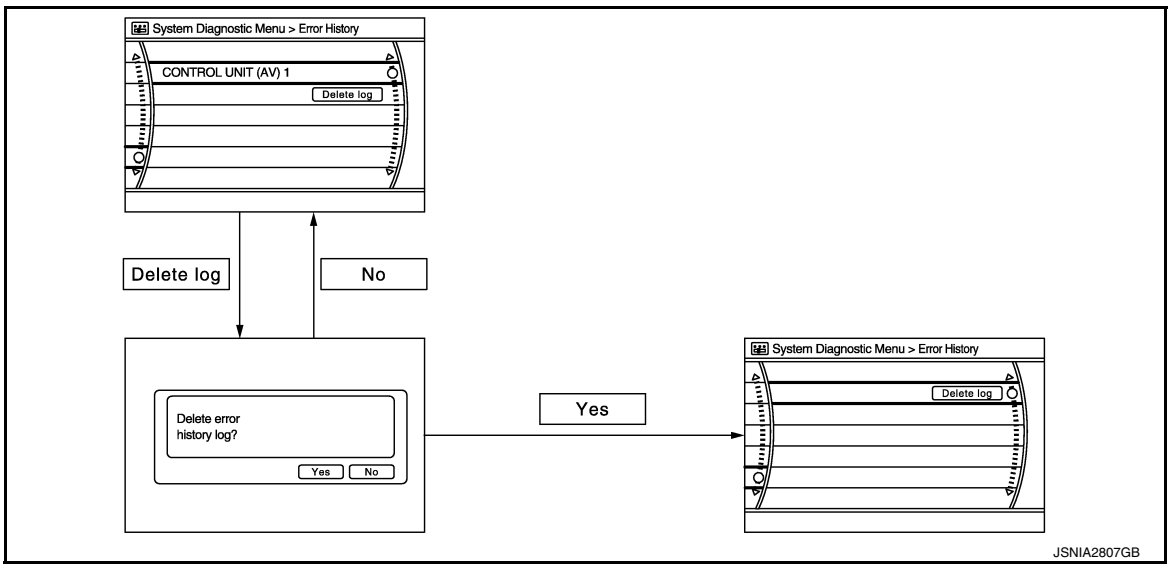
Count up method A

- 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



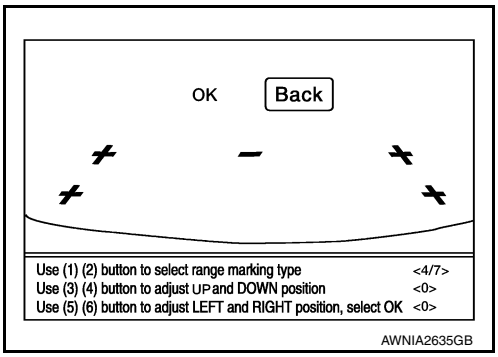
Error item

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

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-106, "Removal and Installation"
AV COMM CIRCUIT	When one of the following is detected: • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and combination meter.	• Combination meter power supply or ground circuits. Refer to MWI-59, "COMBINATION METER : Diagnosis Procedure". • AV communication circuits between audio unit and combination meter.

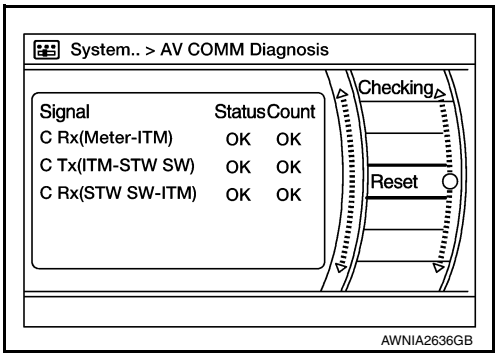
Camera System

This mode is used to adjust the guide line display position of the rear view camera.



AV COMM Diagnosis

- Displays the communication status between audio unit (master unit) and each 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.

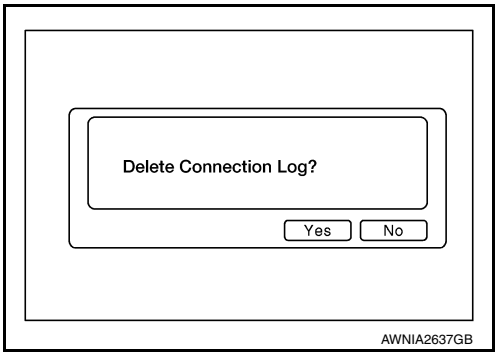


Items	Status (Current)	Counter (Past)
C Rx(Meter-ITM)	OK / ???	OK / 0 – 39
C Tx(ITM-TW SW)	OK / ???	OK / 0 – 39
C Rx(STW SW-ITM)	OK / ???	OK / 0 – 39

NOTE:
"???" indicates UNKWN.

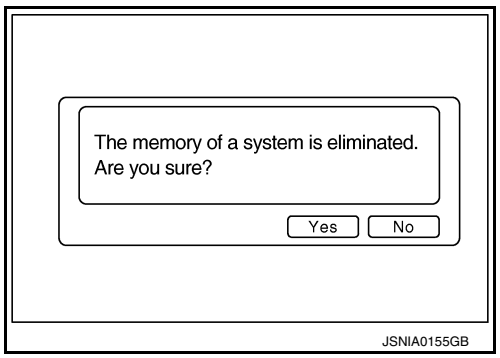
Delete Unit Connection Log

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.



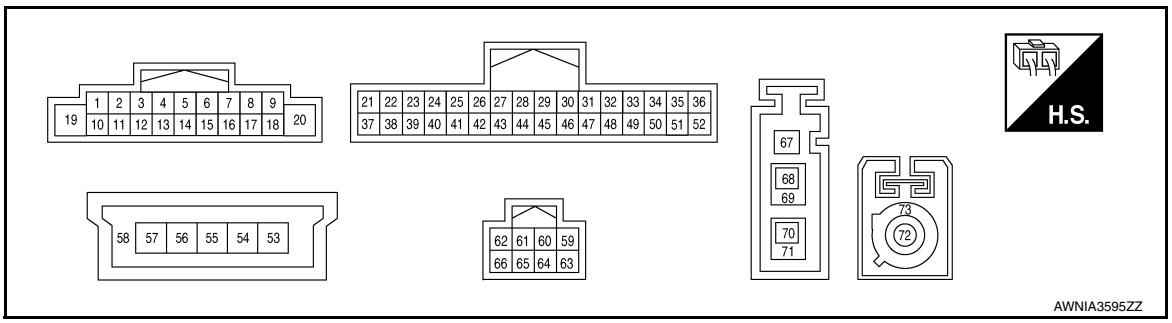
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

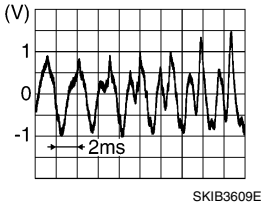
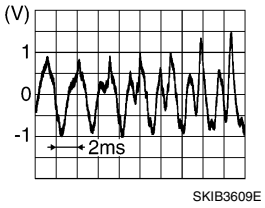
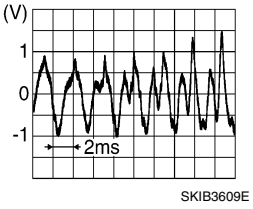
Reference Value

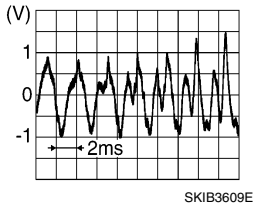
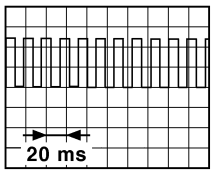
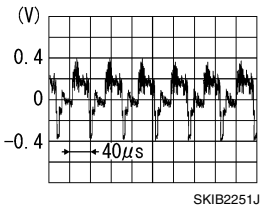
INFOID:0000000012591075

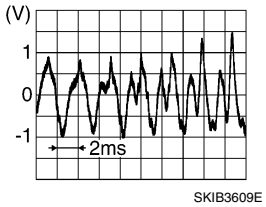
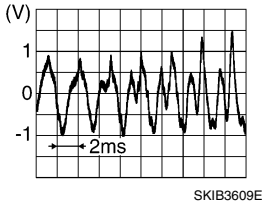
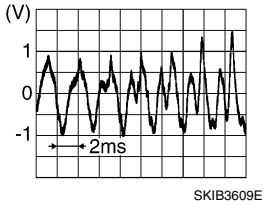
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
2 (V)	3 (SB)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
4 (BR)	5 (Y)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIB3609E
7 (P)	Ground	ACC power supply	Input	ACC	—	Battery voltage
9 (R)	8 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
11 (Y)	12 (BR)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
13 (LG)	14 (V)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (G)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (GR)	Ground	Ground	—	ON	—	0 V
21 (Shield)	—	Camera shield	—	—	—	—
22 (B)	Ground	Camera image signal	Input	ON	When camera image is displayed	 SKIB2251J
23 (W)	Ground	Camera power supply	Output	ON	When camera image is displayed	6.0 V
					Except for above	0 V
24 (R)	Ground	Camera ground	—	ON	—	0 V
25 (LG)	—	AV communication (L)	Input/ Output	—	—	—
26 (SB)	—	AV communication (H)	Input/ Output	—	—	—
28 (LG)	—	AV communication (L)	Input/ Output	—	—	—
29 (SB)	—	AV communication (H)	Input/ Output	—	—	—
39 (G)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
					Selector lever in any position other than R (reverse)	0 V
45 (B)	Ground	Camera ground	—	ON	—	0 V
51 (W)	Ground	Microphone power supply	Output	ON	—	5.0 V

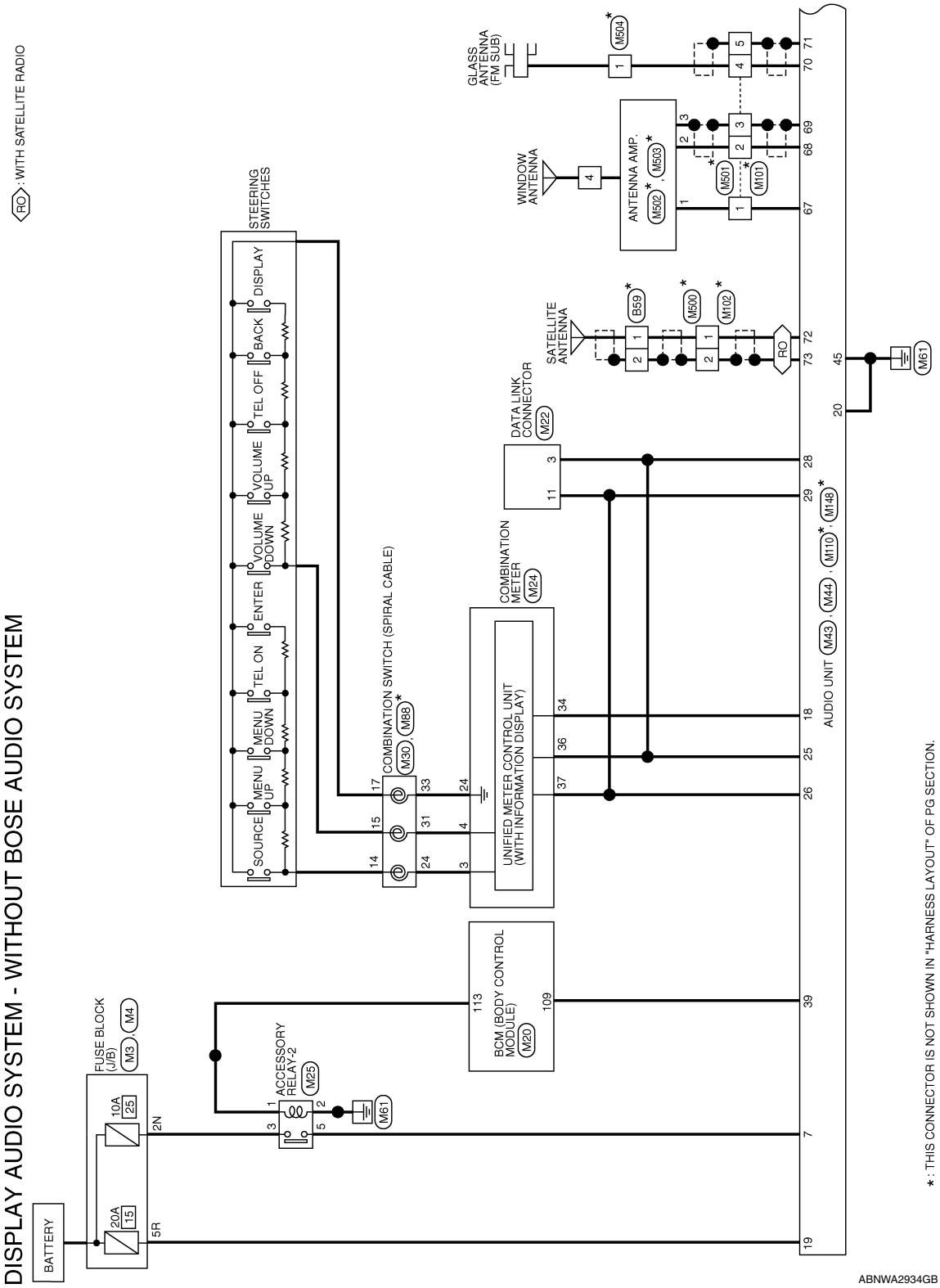
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
52 (B)	50 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 SKIB3609E
53 (B)	—	USB ground	—	—	—	—
55 (G)	—	USB D+ signal	—	—	—	—
56 (W)	—	USB D– signal	—	—	—	—
57 (R)	—	V BUS signal	—	—	—	—
58 (Shield)	—	USB Shield	—	—	—	—
59 (Shield)	—	AUX Shield	—	—	—	—
60 (B)	—	AUX ground	—	ON	—	0V
61 (W)	Ground	AUX audio signal RH	Input	ON	AUX audio signal received	 SKIB3609E
62 (R)	Ground	AUX audio signal LH	Input	ON	AUX audio signal received	 SKIB3609E
67 (B)	Ground	Antenna amp. ON signal	Output	ON	—	Battery voltage
68 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V
69 (Shield)	—	AM/FM antenna signal Shield	—	—	—	—
70 (B)	Ground	Glass antenna (FM sub) signal	Input	ON	—	5.0 V
71 (Shield)	—	Glass antenna (FM sub) signal Shield	—	—	—	—
72 (B)	Ground	Satellite antenna signal	Input	ON	—	5.0 V
73 (Shield)	—	Satellite antenna signal shield	—	—	—	—

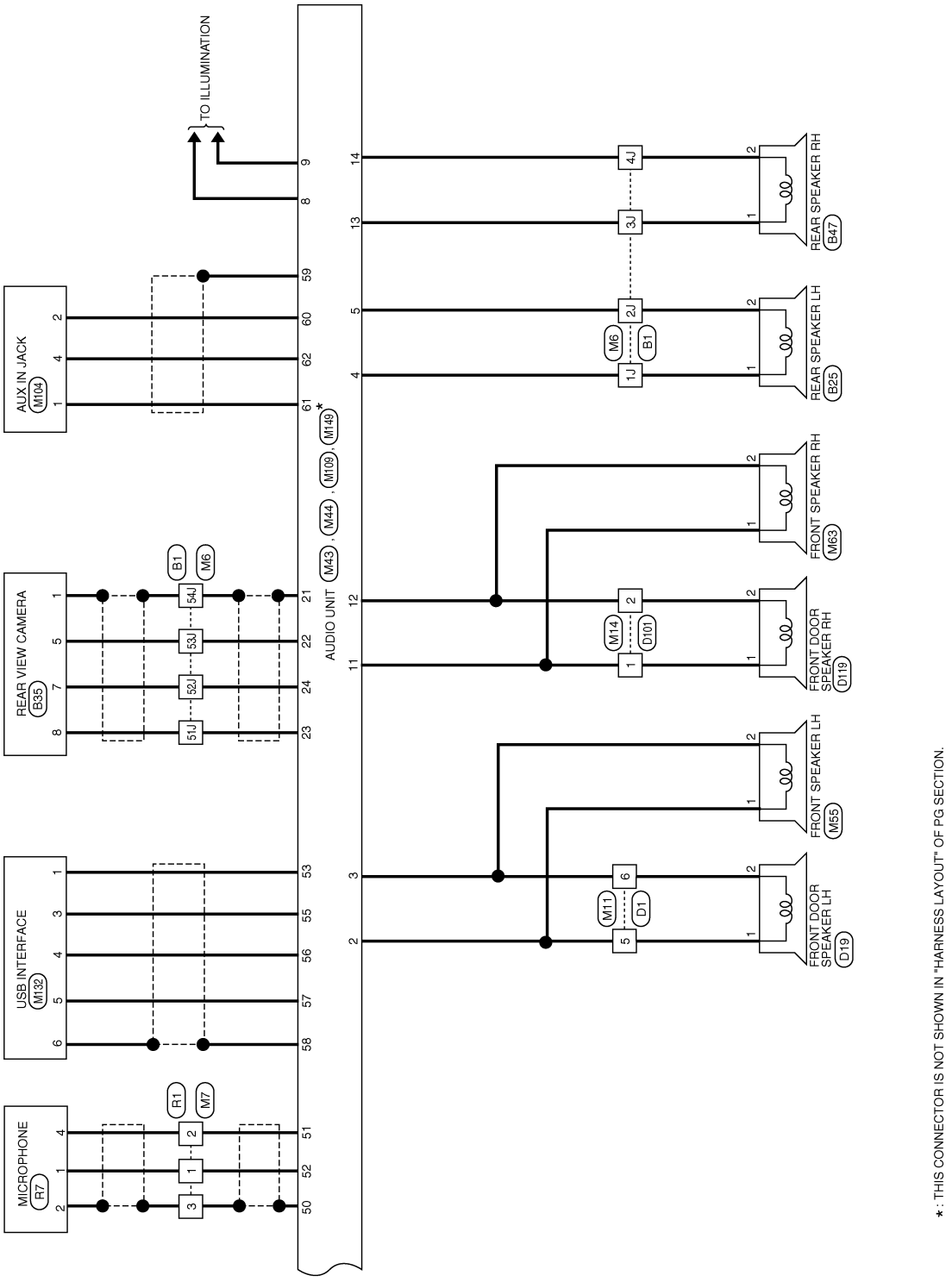
WIRING DIAGRAM

DISPLAY AUDIO WITHOUT BOSE

Wiring Diagram

INFOID:0000000012591076



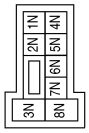


ABNWA2930GB

DISPLAY AUDIO SYSTEM CONNECTORS - WITHOUT BOSE AUDIO SYSTEM

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2N	LG	–

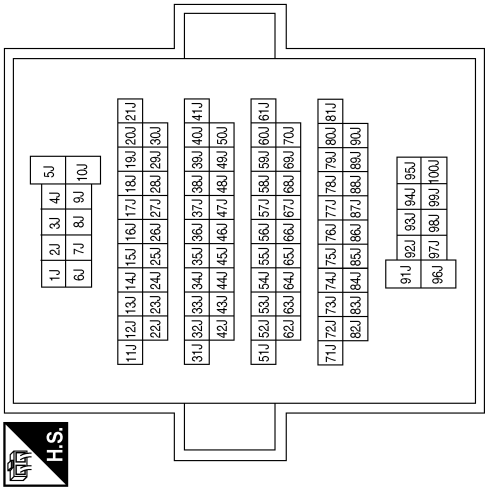
Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
5R	G	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	GRAY

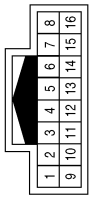
H.S.



Terminal No.	Color of Wire	Signal Name
1J	BR	–
2J	Y	–
3J	LG	–
4J	V	–
51J	W	–
52J	R	–
53J	B	–
54J	SHIELD	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	W	–
3	SHIELD	–

ABNIA8207GB

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	V	– (WITHOUT BOSE AUDIO SYSTEM)
6	SB	– (WITHOUT BOSE AUDIO SYSTEM)

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2		3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	Y	– (WITHOUT BOSE AUDIO SYSTEM)
2	BR	– (WITHOUT BOSE AUDIO SYSTEM)

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

H.S.

116	115	114	113	112	111	110	109	108	107	106	105
128	127	126	125	124	123	122	121	120	119	118	117

Terminal No.	Color of Wire	Signal Name
109	G	REVERSE SIGNAL
113	P	ACC RELAY OUT

Connector No.	M22
Connector Name	DATA LINK CONNECTOR
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	LG	–
11	SB	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	P	STRG SW INPUT1
4	R	STRG SW INPUT2
24	W	STRG SW GND
34	G	SPEED 8P/R
36	LG	M-CAN-L
37	SB	M-CAN-H

Connector No.	M25
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

H.S.

3		
	5	
2		1

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	LG	–
5	P	–

AANIA3062GB

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

Terminal No.	Color of Wire	Signal Name
39	G	REV
40	–	–
41	–	–
42	–	–
43	–	–
44	–	–
45	B	CAM DET
46	–	–
47	–	–
48	–	–
49	–	–
50	SHIELD	MIC GND
51	W	MIC V+
52	B	MIC +

Connector No.	M43
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	–	–
2	V	FR SP LH (+)
3	SB	FR SP LH (-)
4	BR	RR SP LH (+)
5	Y	RR SP LH (-)
6	–	–

Terminal No.	Color of Wire	Signal Name
24	R	CAMERA GND
25	LG	M-CAN1-L
26	SB	M-CAN1-H
27	–	–
28	LG	M-CAN2-L
29	SB	M-CAN2-H
30	–	–
31	–	–
32	–	–
33	–	–
34	–	–
35	–	–
36	–	–
37	–	–
38	–	–

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

H.S.

25	24	31	32
27	21	22	33

Terminal No.	Color of Wire	Signal Name
24	P	–
31	R	–
33	W	–

Connector No.	M44
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52

Terminal No.	Color of Wire	Signal Name
21	SHIELD	COMPOSITE -
22	B	COMPOSITE +
23	W	CAMERA 6.2V

AANIA3063GB

Connector No.	M88
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

Terminal No.	Color of Wire	Signal Name
14	P	–
15	L	–
17	G	–

Connector No.	M63
Connector Name	FRONT SPEAKER RH
Connector Color	BROWN

Terminal No.	Color of Wire	Signal Name
1	Y	– (WITHOUT BOSE AUDIO SYSTEM)
2	BR	– (WITHOUT BOSE AUDIO SYSTEM)

Connector No.	M55
Connector Name	FRONT SPEAKER LH
Connector Color	BROWN

Terminal No.	Color of Wire	Signal Name
1	V	– (WITHOUT BOSE AUDIO SYSTEM)
2	SB	– (WITHOUT BOSE AUDIO SYSTEM)

Connector No.	M104
Connector Name	AUX IN JACK
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
4	R	–

Connector No.	M102
Connector Name	WIRE TO WIRE
Connector Color	BROWN

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

Connector No.	M101
Connector Name	WIRE TO WIRE
Connector Color	GRAY

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	SHIELD	–
4	B	–
5	SHIELD	–

AANIA3064GB

Connector No.	M109
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

62 61 60 59
66 65 64 63

Terminal No.	Color of Wire	Signal Name
59	SHIELD	AUX SHIELD
60	B	AUX GND
61	W	AUX R
62	R	AUX L
63	–	–
64	–	–
65	–	–
66	–	–

Connector No.	M110
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM)
Connector Color	PINK

H.S.

73 72

Terminal No.	Color of Wire	Signal Name
72	B	SAT ANT
73	SHIELD	SAT SHIELD

Connector No.	M132
Connector Name	USB INTERFACE
Connector Color	BLACK

H.S.

6 5 4 3 2 1

Terminal No.	Color of Wire	Signal Name
1	B	–
2	–	–
3	G	–
4	W	–
5	R	–
6	SHIELD	–

Connector No.	M148
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM)
Connector Color	GRAY

H.S.

67
68 69
70 71

Terminal No.	Color of Wire	Signal Name
67	B	ANT +B
68	B	MAIN ANT
69	SHIELD	MAIN GND
70	B	ANT SUB
71	SHIELD	SUB GND

Connector No.	M149
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM)
Connector Color	BLACK

H.S.

58 57 56 55 54 53

Terminal No.	Color of Wire	Signal Name
53	B	USB GND
54	–	–
55	G	USB D+
56	W	USB D-
57	R	VBUS
58	SHIELD	SHIELD

AANIA3065GB

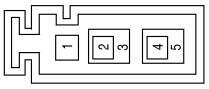
Connector No.	M500
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

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

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	SHIELD	–
4	B	–
5	SHIELD	–

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

H.S.

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

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

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–

Connector No.	M504
Connector Name	GLASS ANTENNA
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

AANIA3066GB

Connector No.	B25
Connector Name	REAR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

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

Connector No.	B47
Connector Name	REAR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

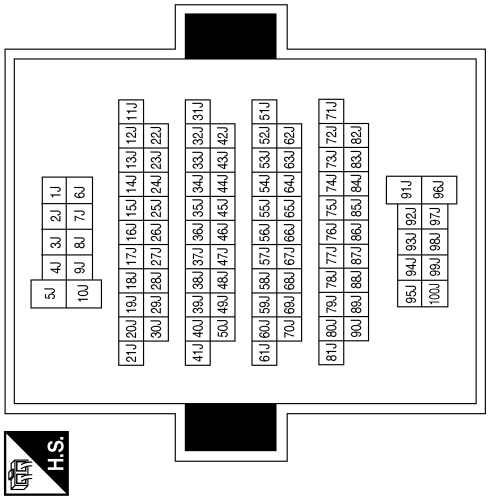
Terminal No.	Color of Wire	Signal Name
1	LG	–
2	L	–

Terminal No.	Color of Wire	Signal Name
1J	Y	–
2J	LG	–
3J	LG	–
4J	L	–
51J	W	–
52J	B	–
53J	R	–
54J	SHIELD	–

Terminal No.	Color of Wire	Signal Name
5	R	–
7	B	–
8	W	–

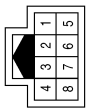
Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.



Connector No.	B35
Connector Name	REAR VIEW CAMERA
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	SHIELD	–

ABNIA8208GB

Connector No.	B59
Connector Name	SATELLITE RADIO ANTENNA
Connector Color	BROWN

H.S.

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

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
5	G	–
6	R	– (EXCEPT NAVI OR BOSE AUDIO SYSTEM)

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	Y	–
3	SHIELD	–

Connector No.	D19
Connector Name	FRONT DOOR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	– (WITHOUT NAVI)

Connector No.	R7
Connector Name	MICROPHONE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	SHIELD	–
4	Y	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	– (EXCEPT NAVI OR BOSE AUDIO SYSTEM)

ABNIA8209GB

Connector No.	D119
Connector Name	FRONT DOOR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	– (WITHOUT NAVI)

AANIA3069GB

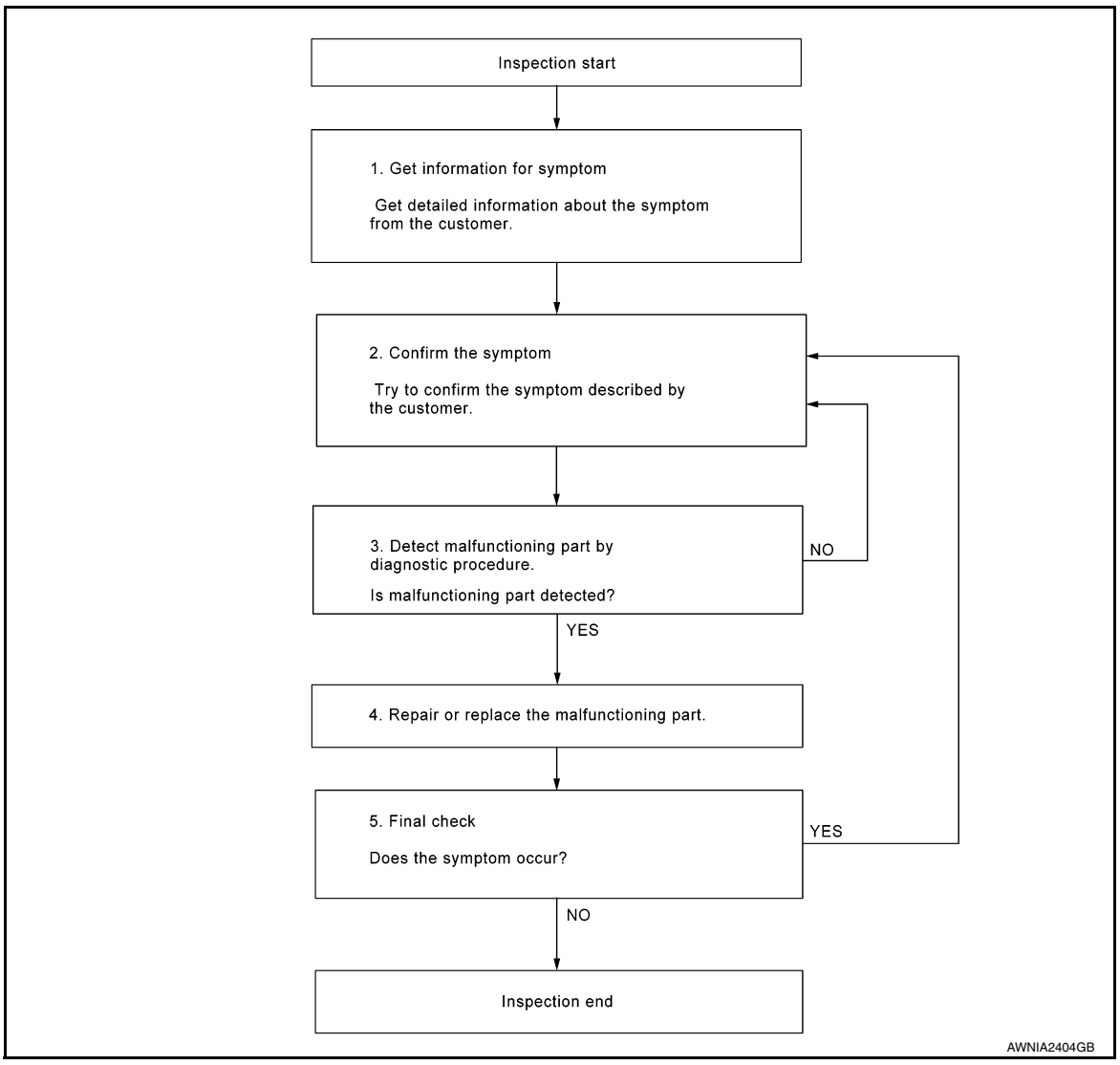
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000012591077

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5. FINAL CHECK

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

Was the repair confirmed?

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

INSPECTION AND ADJUSTMENT
REGISTRATION (AUDIO UNIT)

REGISTRATION (AUDIO UNIT) : Description

INFOID:0000000012591078

AFTER REPLACEMENT

If the audio unit is replaced with a new audio unit, the new audio unit must be registered using the Bluetooth D/C(serial #).

CAUTION:

If the new audio unit Bluetooth D/C(serial #) is not registered, the “APPS” mode will not function.

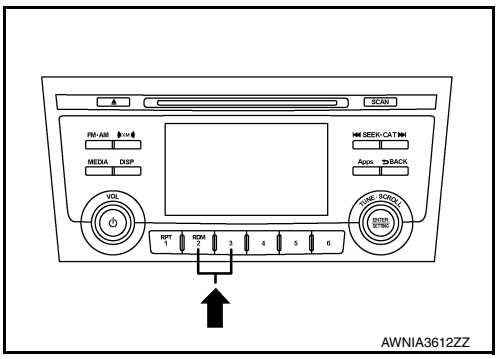
REGISTRATION (AUDIO UNIT) : Work Procedure

INFOID:0000000012591079

1.RECORD BLUETOOTH D/C(SERIAL #) FOR REPLACEMENT AUDIO UNIT

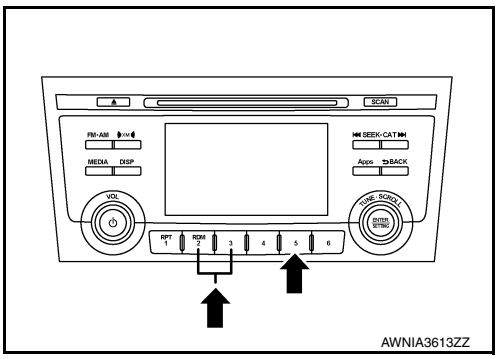
1. Turn ignition switch ON.
2. Turn audio unit OFF.
3. Access the diagnostic menu as follows:

- Press and hold preset buttons 2 and 3.



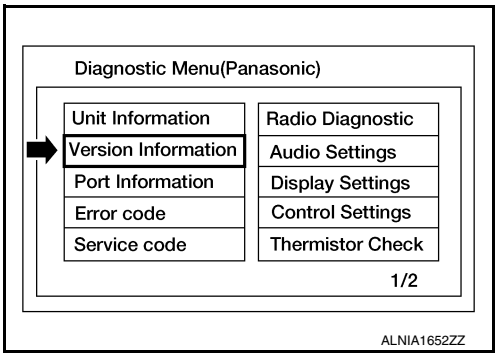
AWNIA3612ZZ

- While holding preset buttons 2 and 3, press preset button 5 three times.



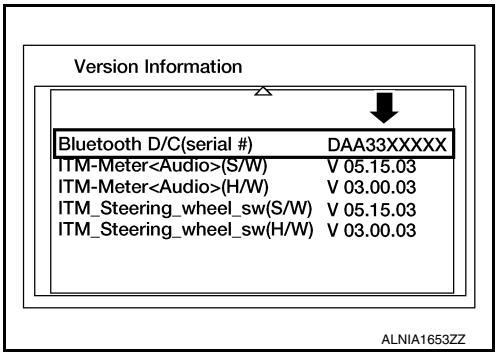
AWNIA3613ZZ

4. Select Version Information from the Diagnostic Menu.



ALNIA1652ZZ

5. Scroll through the menu pages to Bluetooth D/C(serial #) and record the number displayed.



>> GO TO 2.

2. REGISTER REPLACEMENT AUDIO UNIT

Register the replacement audio unit by contacting NISSAN Owner Services. Refer to TSB.

>> GO TO 3.

3. OPERATION CHECK

Verify that the audio unit “APPS” function operates normally.

>> Work End.

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000012591080

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	25 (10A)
19	Battery power supply	15 (20A)

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 connectors and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M43	20	—	Yes
M44	45		

Is the inspection result normal?

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

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000012591081

Regarding Wiring Diagram information, refer to AV-71, "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	D19 (LH)	1	Yes
	3		2	
	11	D119 (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		

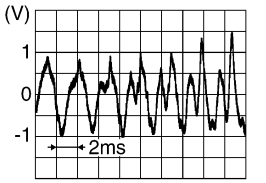
Is the inspection result normal?

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 audio unit connector M43 and ground.

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

2	3		
11	12	Audio signal output	 SKIB3609E

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-110, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-106, "Removal and Installation".

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000012591082

Regarding Wiring Diagram information, refer to AV-71, "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 SPEAKER SIGNAL CIRCUIT CONTINUITY

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

Audio unit		Front speaker		Continuity
Connector	Terminal	Connector	Terminal	
M43	2	M55 (LH)	1	Yes
	3		2	
	11	M63 (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		

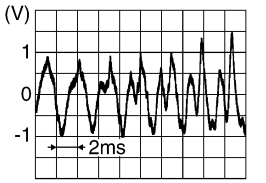
Is the inspection result normal?

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

3.CHECK FRONT SPEAKER SIGNAL

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

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

2	3		
11	12	Audio signal output	 SKIB3609E

Is the inspection result normal?

YES >> Replace front speaker. Refer to AV-109, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-106, "Removal and Installation".

REAR SPEAKER

Diagnosis Procedure

INFOID:0000000012591083

Regarding Wiring Diagram information, refer to AV-71, "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	B25 (LH)	1	Yes
	5		2	
	13	B47 (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		

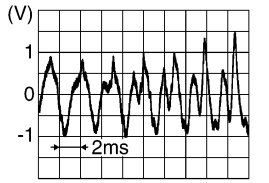
Is the inspection result normal?

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 audio unit connector M43 and ground.

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

4	5		
13	14	Audio signal output	 SKIB3609E

Is the inspection result normal?

YES >> Replace rear speaker. Refer to AV-111, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-106, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591084

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

1.CHECK REVERSE INPUT SIGNAL

1. Turn ignition switch ON.
2. Shift the selector lever to R (reverse).
3. Check voltage between audio unit connector M44 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M44	39	—	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 audio unit connector M44 and rear view camera connector.
3. Check continuity between audio unit connector M44 and rear view camera connector B35.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M44	23	B35	8	Yes

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

Audio unit		Ground	Continuity
Connector	Terminal		
M44	23		No

Is inspection result normal?

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

3.CHECK CAMERA POWER SUPPLY VOLTAGE

1. Connect audio unit connector M44 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check voltage between audio unit connector M44 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M44	23	—	Selector lever is in “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 4.
NO >> Replace audio unit. Refer to AV-106, "Removal and Installation".

4.CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M44 and rear view camera connector.
3. Check continuity between audio unit connector M44 and rear view camera connector B35.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M44	22	B35	5	Yes

4. Check continuity between audio unit connector M44 terminal 22 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M44	22		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 audio unit connector M44 and rear view camera connector B35.

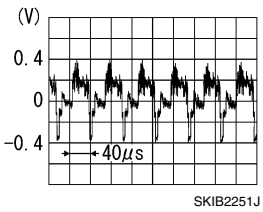
Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M44	24	B35	7	Yes

Is inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness or connectors.

6.CHECK CAMERA IMAGE SIGNAL

1. Connect audio unit connector M44 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check signal between audio unit connector M44 and ground.

Audio unit (+)		Ground (−)	Condition	Reference value
Connector	Terminal			
M44	22	—	Camera image displayed.	

SKIB2251J

Is inspection result normal?

YES >> Replace audio unit. Refer to AV-106, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-119, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591085

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M44 and microphone connector R7.
3. Check continuity between audio unit connector M44 and microphone connector R7.

Audio unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M44	50	R7	2	Yes
	51		4	
	52		1	

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

Audio unit		Ground	Continuity
Connector	Terminal		
M44	50	—	No
	51		
	52		

Is inspection result normal?

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

2.CHECK MICROPHONE VCC VOLTAGE

1. Connect audio unit connector M44.
2. Turn ignition switch ON.
3. Check voltage between terminals of audio unit connector M44.

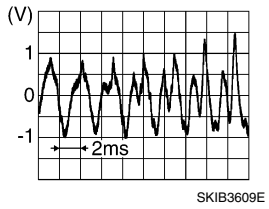
Audio unit connector M44		Voltage (Approx.)
(+)	(–)	
Terminal	Terminal	
51	50	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace audio unit. Refer to AV-106, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of audio unit connector M44.

Audio unit connector M44		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
52	50	Speak into microphone.	 SKIB3609E

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-106, "Removal and Installation".
NO >> Replace microphone. Refer to AV-118, "Removal and Installation".

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000012591086

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M88.
3. Check resistance between combination switch connector terminals.

Combination switch connector M88		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress △ switch.	121
		Depress ▽ switch.	321
		Depress switch.	723
		Depress ENTER switch.	2023
15		Depress switch.	1
		Depress switch.	121
		Depress switch.	321
		Depress switch.	723
		Depress DISP switch.	2023

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace steering switches. Refer to AV-113, "Removal and Installation".

2.CHECK HARNESS BETWEEN COMBINATION SWITCH AND COMBINATION METER

1. Disconnect combination meter connector M24 and combination switch connector M30.
2. Check continuity between combination meter connector M24 and combination switch connector M30.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M24	3	M30	24	Yes
	24		33	
	4		31	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	3	—	No
	24		
	4		

Is the inspection result normal?

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

3. CHECK COMBINATION SWITCH

Check continuity between combination switch connectors M30 and M88.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M88	14	Yes
	31		15	
	33		17	

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

4. CHECK HARNESS BETWEEN COMBINATION METER AND AUDIO UNIT

1. Disconnect audio unit connector M44.
2. Check continuity between combination meter connector M24 and audio unit connector M44.

Combination meter		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
M24	37	M44	26	Yes
	36		25	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	37	—	No
	36		

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-106, "Removal and Installation".
NO >> Repair or replace harness or connectors.

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000012591087

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M149 and USB interface connector M132.
3. Check continuity between audio unit connector M149 and USB interface connector M132.

Audio unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M149	53	M132	1	Yes
	55		3	
	56		4	
	57		5	
	58		6	

4. Check continuity between audio unit connector M149 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M149	55	Ground	No
	57		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-107, "Removal and Installation".
NO >> Repair or replace harness or connectors.

AUXILIARY INPUT JACK

Diagnosis Procedure

INFOID:0000000012591088

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

1.CHECK AUX IN JACK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M109 and AUX in jack connector M104.
3. Check continuity between audio unit connector M109 and AUX in jack connector M104.

Audio unit		AUX in jack		Continuity
Connector	Terminal	Connector	Terminal	
M109	60	M104	2	Yes
	61		1	
	62		4	

4. Check continuity between audio unit connector M109 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M109	61	Ground	No
	62		

Is the inspection result normal?

YES >> Replace the AUX in jack. Refer to AV-108, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000012591089

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-62, "On Board Diagnosis Function".
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-71, "Wiring Diagram". • Audio unit power supply and ground circuits malfunction. Refer to AV-86, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-87, "Diagnosis Procedure" (front door speaker). - AV-89, "Diagnosis Procedure" (front speaker). - AV-91, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. Refer to: - AV-110, "Removal and Installation" (front door speaker). - AV-109, "Removal and Installation" (front speaker). - AV-111, "Removal and Installation" (rear speaker). • Malfunction in audio unit. Refer to AV-62, "On Board Diagnosis Function".

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in audio unit. Refer to AV-62, "On Board Diagnosis Function".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-87, "Diagnosis Procedure" (front door speaker). - AV-89, "Diagnosis Procedure" (front speaker). - AV-91, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-110, "Removal and Installation" (front door speaker). - AV-109, "Removal and Installation" (front speaker). - AV-111, "Removal and Installation" (rear speaker). • Malfunction in audio unit. Refer to AV-62, "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-114, "Location of Antenna".
No radio reception or poor reception.	• 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).	• Antenna amp. ON signal circuit malfunction. Refer to AV-68, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-114, "Location of Antenna".
No satellite radio reception.	Satellite radio antenna malfunction.	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-114, "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-106, "Removal and Installation".
Hands-free phone cannot be established.	• 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-95, "Diagnosis Procedure".
The system cannot be operated.	• 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-113, "Removal and Installation".
	Steering switch’s , , , and switches do not work.	Steering switch signal circuit malfunction. Refer to AV-97, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-97, "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 audio unit. Refer to AV-93, "Diagnosis Procedure".
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and audio unit. Refer to AV-93, "Diagnosis Procedure".
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-119, "Removal and Installation".

NORMAL OPERATING CONDITION

Description

INFOID:0000000012591090

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

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).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” in AV-101, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • 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. **NOTE:** 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.

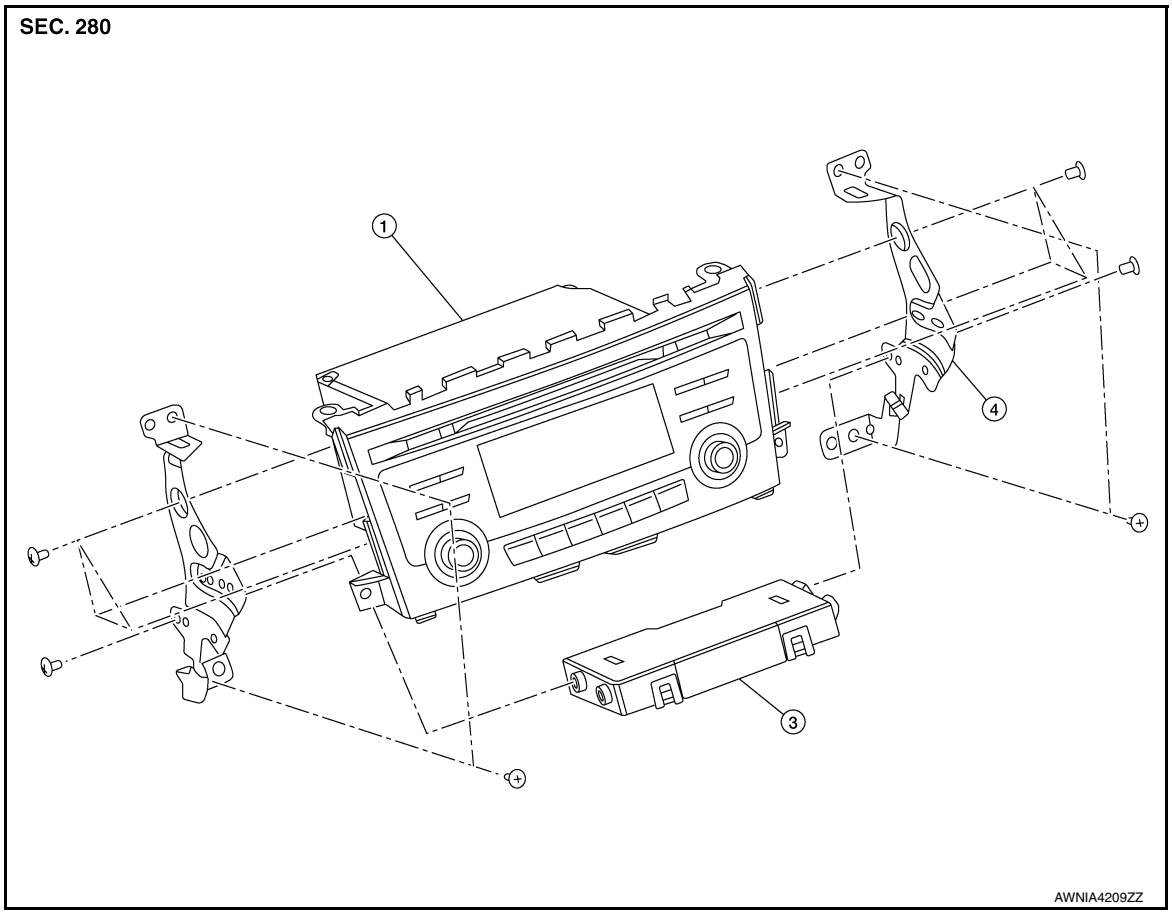
Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded 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:0000000012591091



1. Audio unit
2. Audio unit bracket (LH)
3. A/C auto amp. (if equipped)
4. Audio unit bracket (RH)

Removal and Installation

INFOID:0000000012591092

REMOVAL

1. Disconnect the negative battery terminal. Refer to PG-78, "Removal and Installation".
2. Remove cluster lid C. Refer to IP-20, "Cluster Lid C".
3. Remove the A/C switch assembly (if equipped). Refer to HAC-100, "Removal and Installation".
4. Remove the front air control (if equipped). Refer to HAC-160, "Removal and Installation".
5. Remove the audio unit bracket screws, then pull out the audio unit.
6. Disconnect the harness connectors from the audio unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

When replacing audio unit, the audio unit must be registered. Refer to AV-158, "REGISTRATION (AUDIO UNIT) : Description".

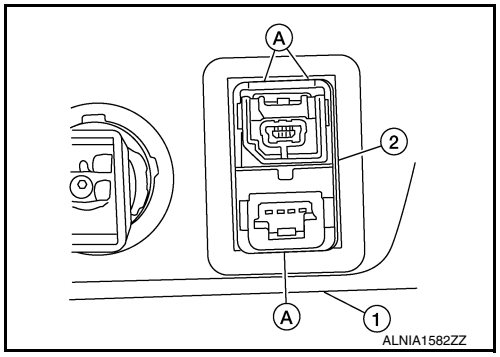
USB INTERFACE

Removal and Installation

INFOID:0000000012591093

REMOVAL

1. Remove the shift selector finisher. Refer to IP-18, "Removal and Installation".
2. Release the pawls (A) and remove the USB interface (2) from the back of the shift selector finisher (1).



INSTALLATION

Installation is in the reverse order of removal.

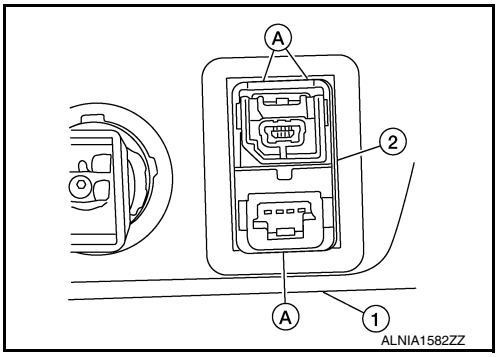
AUX IN JACK

Removal and Installation

INFOID:0000000012591094

REMOVAL

1. Remove the shift selector finisher. Refer to IP-18, "Removal and Installation".
2. Release the pawls (A) and remove the AUX in jack (2) from the back of the shift selector finisher (1).



INSTALLATION

Installation is in the reverse order of removal.

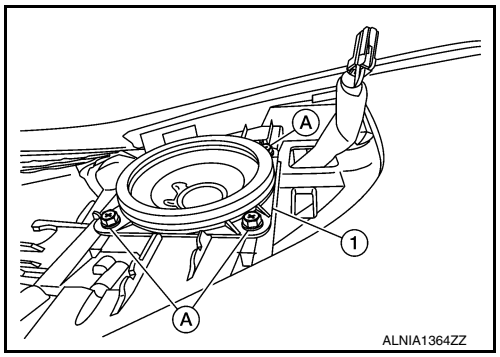
FRONT SPEAKER

Removal and Installation

INFOID:0000000012591095

REMOVAL

1. Remove the front pillar finisher. Refer to INT-21, "FRONT PILLAR FINISHER : Removal and Installation".
2. Remove the front speaker grille using a suitable tool.
3. Remove the front speaker screws (A).
4. Pull out the front speaker (1), disconnect the harness connector from front speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

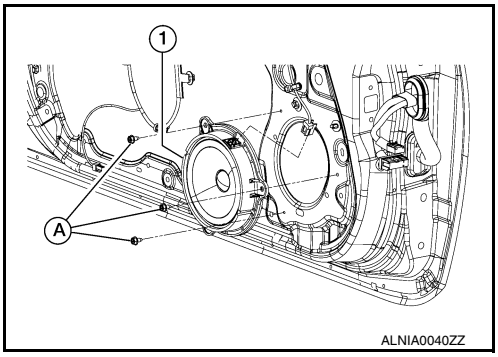
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000012591096

REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

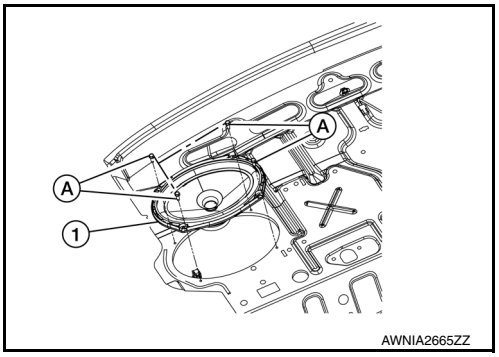
REAR SPEAKER

Removal and Installation

INFOID:0000000012591097

REMOVAL

1. Remove the rear parcel shelf finisher. Refer to INT-26, "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.

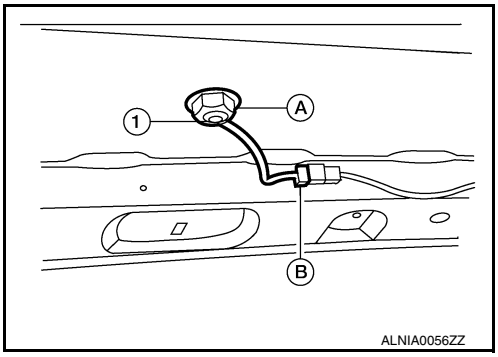
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:0000000012591098

REMOVAL

1. Lower the headlining at the rear. Refer to INT-30, "Removal and Installation".
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.

Satellite radio antenna nut : 6.5 N·m (0.66 kg-m, 58 in-lb)

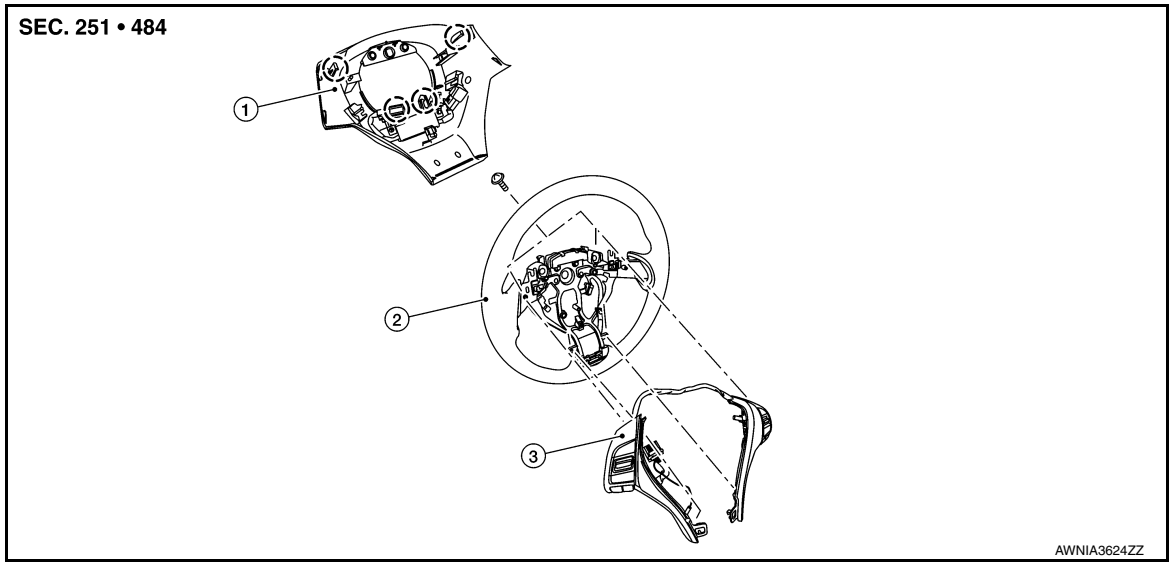
CAUTION:

If the satellite radio antenna nut is not tightened to the specified torque, lower sensitivity of the antenna may be experienced. If the nut is tightened tighter than the specified torque, this will deform the roof panel.

STEERING SWITCH

Exploded View

INFOID:0000000012591099



1. Steering wheel rear finisher
2. Steering wheel
3. Steering switches

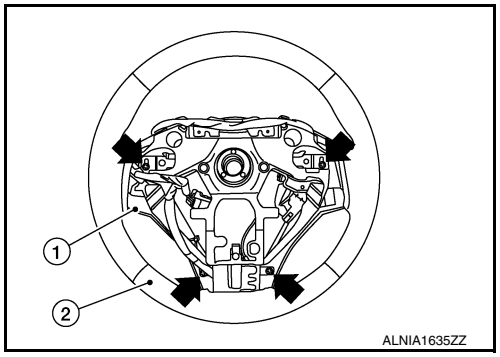
Pawl

Removal and Installation

INFOID:0000000012591100

REMOVAL

1. Remove the steering wheel. Refer to ST-32, "Removal and Installation".
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (⬅).
4. Remove the steering switches (1) from steering wheel (2).



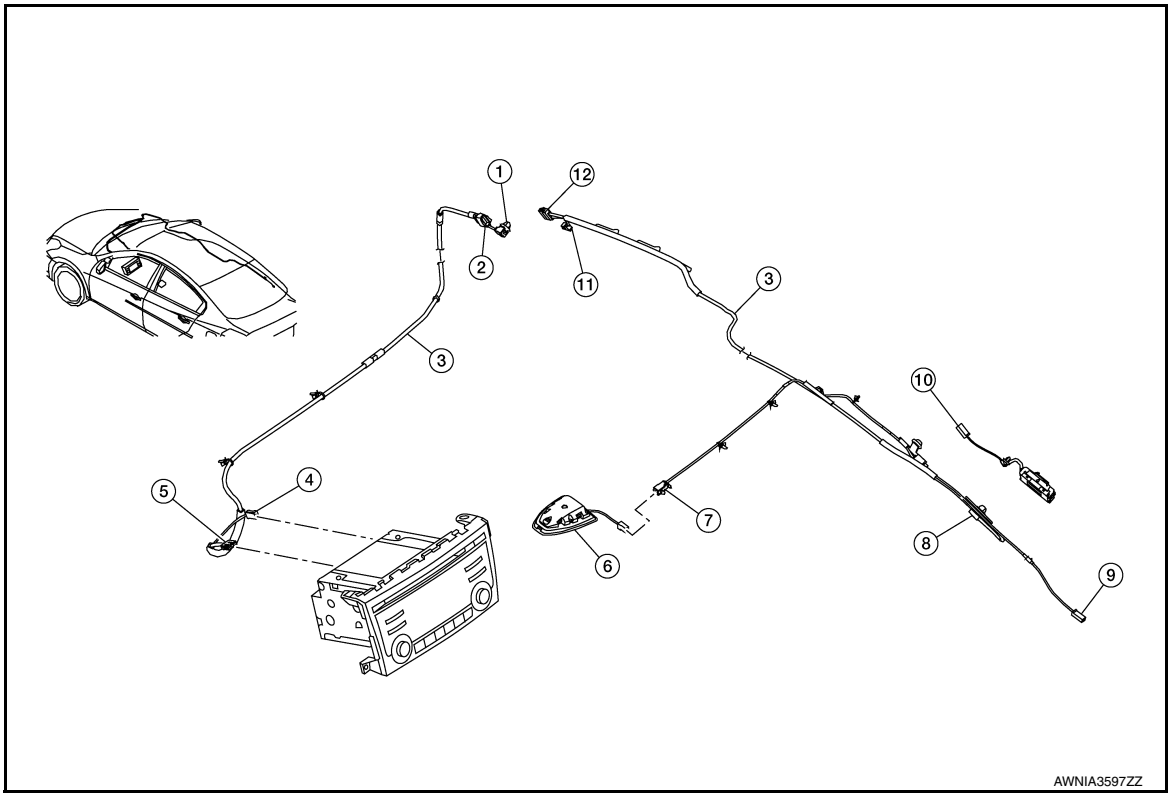
INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

Location of Antenna

INFOID:0000000012591101



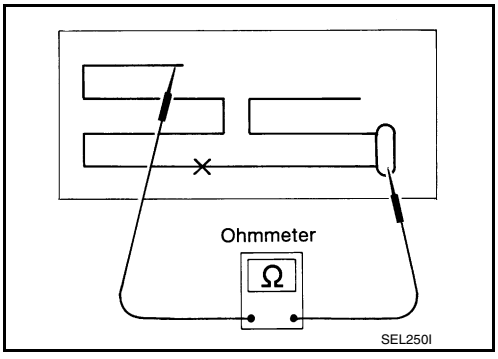
1. M102
2. M101
3. Antenna feeder
4. M110
5. M148
6. Satellite antenna
7. B59
8. M502
9. M504
10. M503
11. M500
12. M501

Window Antenna Repair

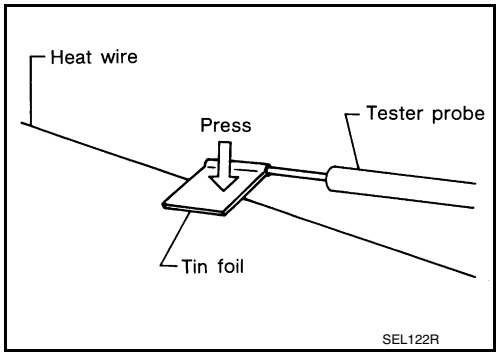
INFOID:0000000012591102

ELEMENT CHECK

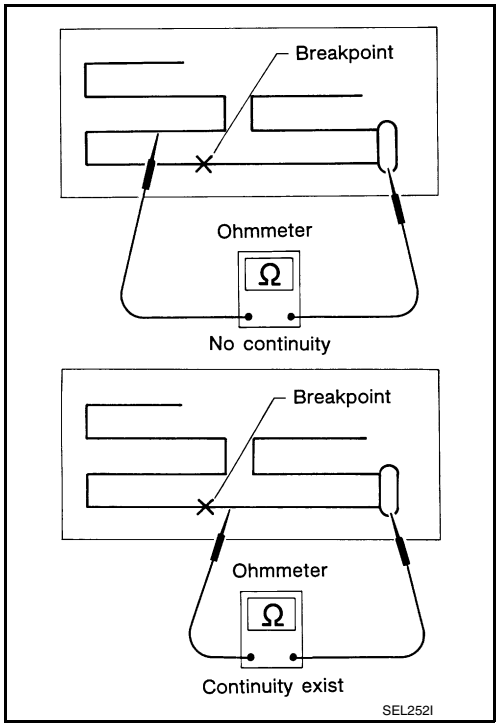
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



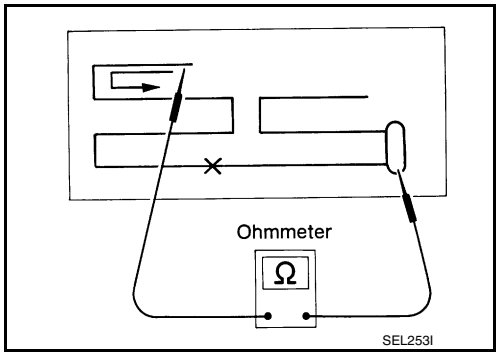
- **When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.**



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.

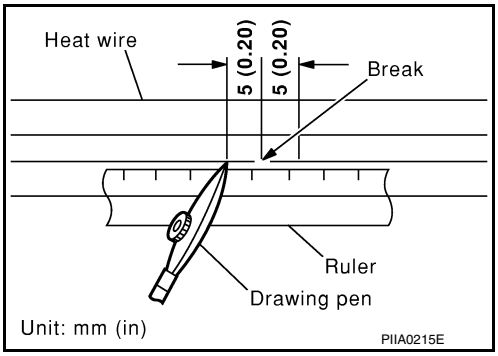


REPAIR EQUIPMENT

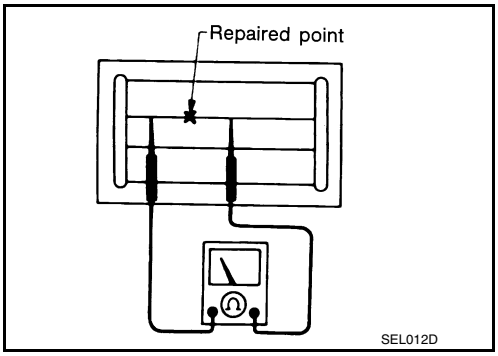
- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

REPAIRING PROCEDURE

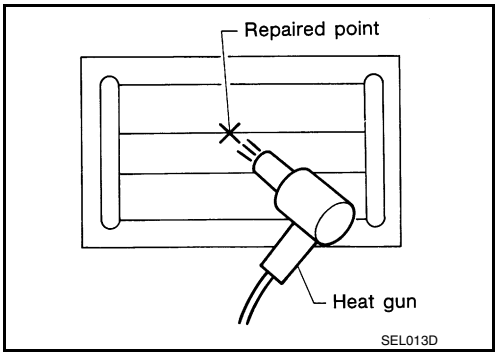
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.
   Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition 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.



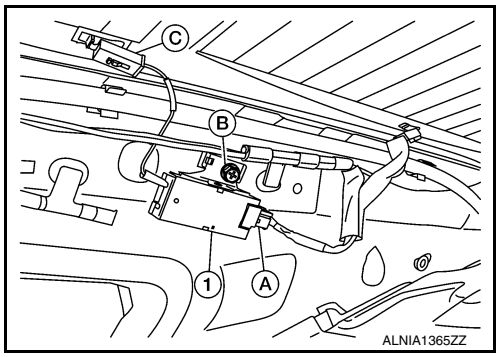
ANTENNA AMP.

Removal and Installation

INFOID:0000000012591103

REMOVAL

1. Remove the rear pillar finisher (RH). Refer to INT-25, "REAR PILLAR FINISHER : Removal and Installation".
2. Disconnect the harness connector (A) from the antenna amp. (1).
3. Disconnect the antenna amp. harness connector (C) from the rear window glass.
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

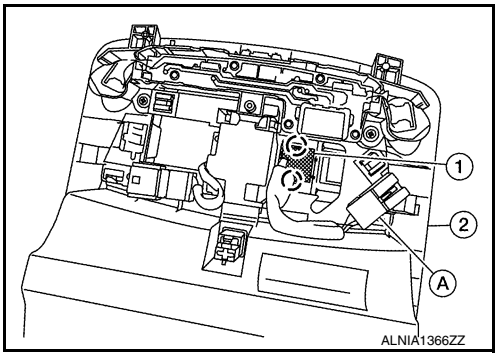
MICROPHONE

Removal and Installation

INFOID:0000000012591104

REMOVAL

1. Remove the front room/map lamp assembly. Refer to INL-60, "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.

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000012591105

REMOVAL

1. Remove license lamp finisher. Refer to EXT-46, "Removal and Installation".
2. Disconnect the harness connector from rear view camera.
3. Remove rear view camera.

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:0000000012591106

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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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 or batteries, and wait at least three minutes before performing any service.**

Precaution for Trouble Diagnosis

INFOID:0000000012591107

AV COMMUNICATION SYSTEM

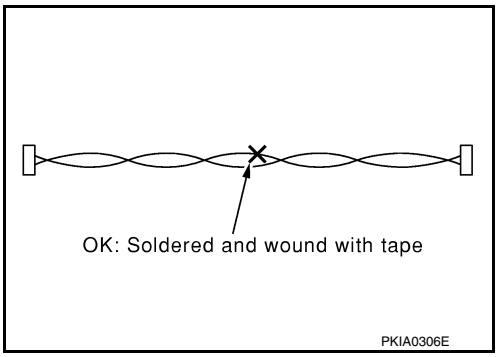
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

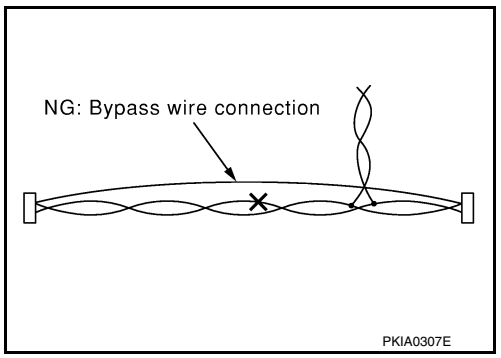
INFOID:0000000012591108

AV COMMUNICATION SYSTEM

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



- 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:0000000012591109

- 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.

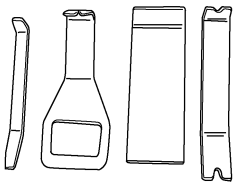
PREPARATION

PREPARATION

Special Service Tools

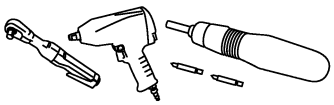
INFOID:0000000012591110

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:0000000012591111

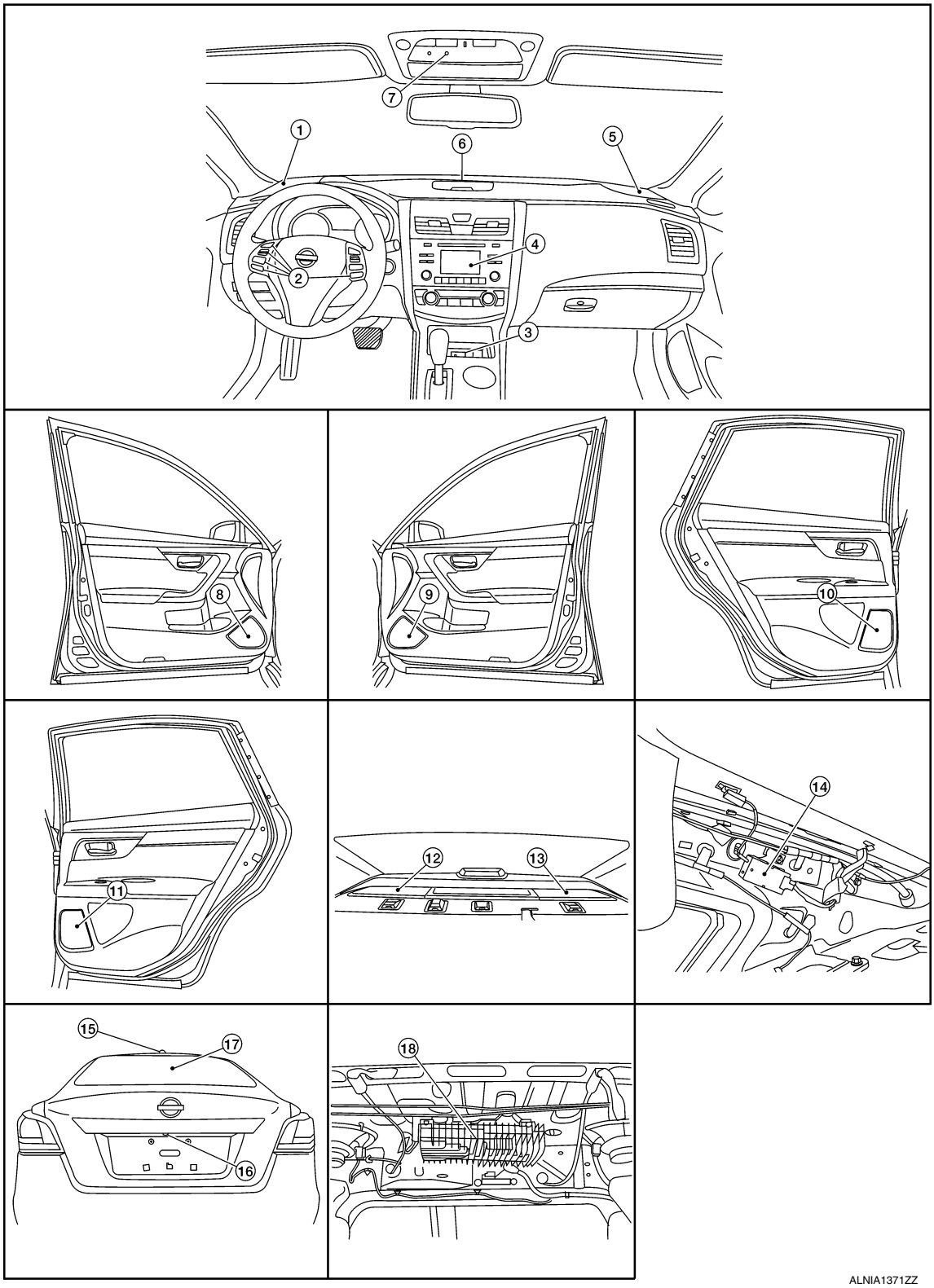
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012591112



ALNIA1371ZZ

1. Front speaker LH
2. Steering switches
3. USB interface and AUX in jack
4. Audio unit
5. Front speaker RH
6. Center speaker
7. Microphone
8. Front door speaker LH
9. Front door speaker RH
10. Rear door speaker LH
11. Rear door speaker RH
12. Rear speaker RH
13. Rear speaker LH
14. Antenna amp.
15. Satellite antenna
16. Rear view camera
17. Window antenna
18. Bose speaker amp.

Component Description

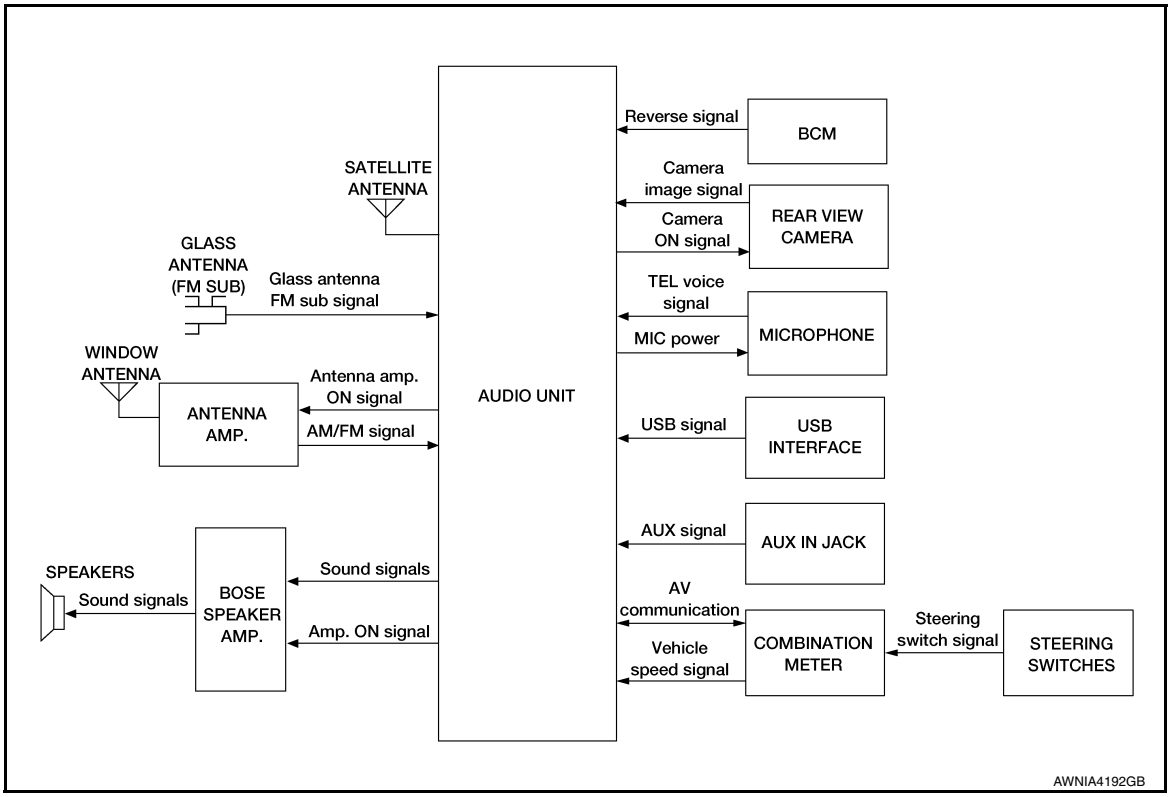
INFOID:0000000012591113

Part name	Description
Audio unit	• Controls audio, hands-free phone, USB interface and AUX in jack connection, satellite radio and rear view camera 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 speakers	Outputs high, mid and low range audio signals from Bose speaker amp.
Center speaker	
Front door speakers	
Rear door speakers	
Rear speakers	
Steering switches	• Operations for audio, hands-free phone and voice recognition are possible. • Steering switch signal is output to combination meter. • Combination meter outputs steering switch signal to audio unit.
Microphone	• Used for hands-free phone operations. • Microphone signal is transmitted to audio unit. • Power is supplied from audio unit.
USB interface and AUX in jack	• USB sound and data input signals are transmitted to audio unit. • AUX sound and data input signals are transmitted to audio unit.
Rear view camera	• Outputs image of vehicle rear to audio unit. • Power is supplied from audio unit.
Satellite antenna	Satellite radio signal is received and transmitted to audio unit.
Antenna amp.	• 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:0000000012591114



System Description

INFOID:0000000012591115

AUDIO SYSTEM

The audio system consists of the following components:

- Audio unit
- Bose speaker amp.
- Front speakers
- Center speaker
- Front door speakers
- Rear door speakers
- Rear speakers
- Steering switches
- Microphone
- USB interface and AUX in jack
- Rear view camera
- 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 speakers, center speaker, front door speakers, rear door speakers 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 audio unit. Hands-free cellular telephone calls can be sent and received. Some Bluetooth® cellular telephones may not be recognized by the audio unit. When a cellular telephone or the audio unit is replaced, the telephone must be paired with the audio 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.

Audio Unit

When the ignition switch is turned to ACC or ON, the audio unit will power up. During power up, the audio unit is initialized and performs various self-checks. Initialization may take up to 20 seconds.

Steering Switches

When buttons on the steering switches are pushed, the resistance in steering switches circuits change, depending on which button is pushed.

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
- Record memos

Microphone

The microphone is located in the roof console assembly. The microphone sends a signal to the audio unit.

REAR VIEW CAMERA SYSTEM

- The audio unit supplies power to the rear view camera when the reverse signal is received from the BCM.
- The rear view camera transmits rear view camera images to the audio unit when power is supplied from the audio unit.
- The audio 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.

SATELLITE RADIO FUNCTION

- Satellite radio function is built into audio unit.
- Sound signal (satellite radio) is received by satellite antenna and transmitted to audio unit. Audio unit outputs sound signal to each speaker.

USB INTERFACE AND AUX IN JACK FUNCTION

- Sound and data signals are transmitted from USB interface to the audio unit and output to each speaker and tweeter.
- Sound signals are transmitted from AUX in jack to the audio unit and output to each speaker and tweeter.

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.

DIAGNOSIS SYSTEM (AUDIO UNIT)

Description

INFOID:0000000012591116

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

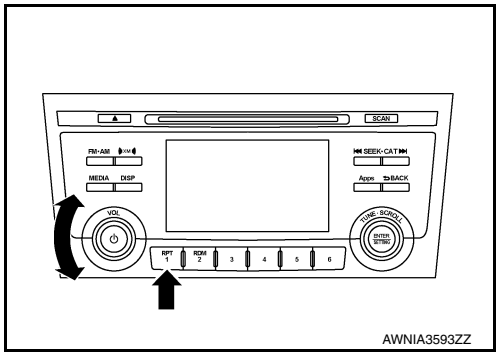
Mode		Description
Self Diagnosis		• Audio unit diagnosis. • Diagnoses the connections across system components.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	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	Guiding line position that overlaps rear view camera image can be adjusted.
	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:0000000012591117

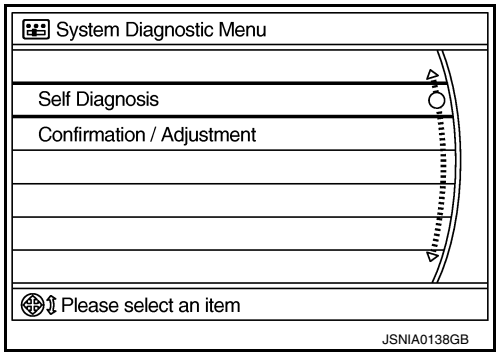
METHOD OF STARTING

1. Turn the ignition ON.
2. Turn the audio system OFF.
3. While pressing the preset 1 button, turn the volume control dial clockwise and counterclockwise quickly approximately 15 times or more. Shifting from current screen to previous screen is performed by pressing BACK button.



AWNIA3593ZZ

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



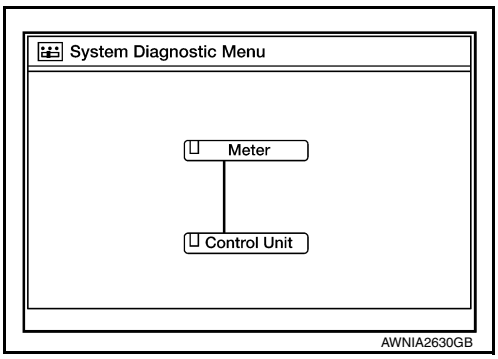
JSNIA0138GB

SELF DIAGNOSIS MODE

Audio Unit Self Diagnosis

1. Select Self Diagnosis.

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.

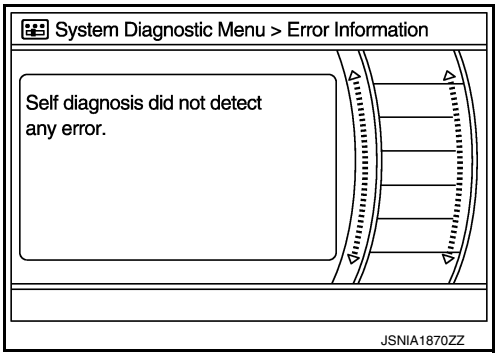


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction [1]	Red	Green

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-192, "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.



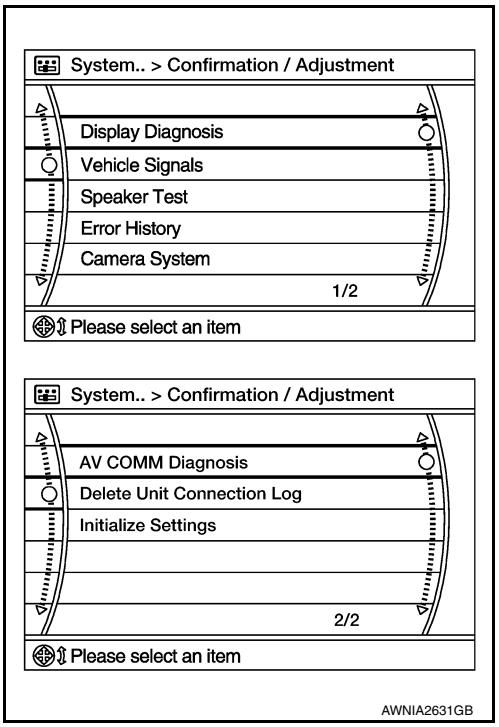
Audio Unit Self Diagnosis Results

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.	• Audio unit power supply or ground circuits. Refer to AV-160, "AUDIO UNIT : Diagnosis Procedure". • If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to AV-192, "Removal and Installation".

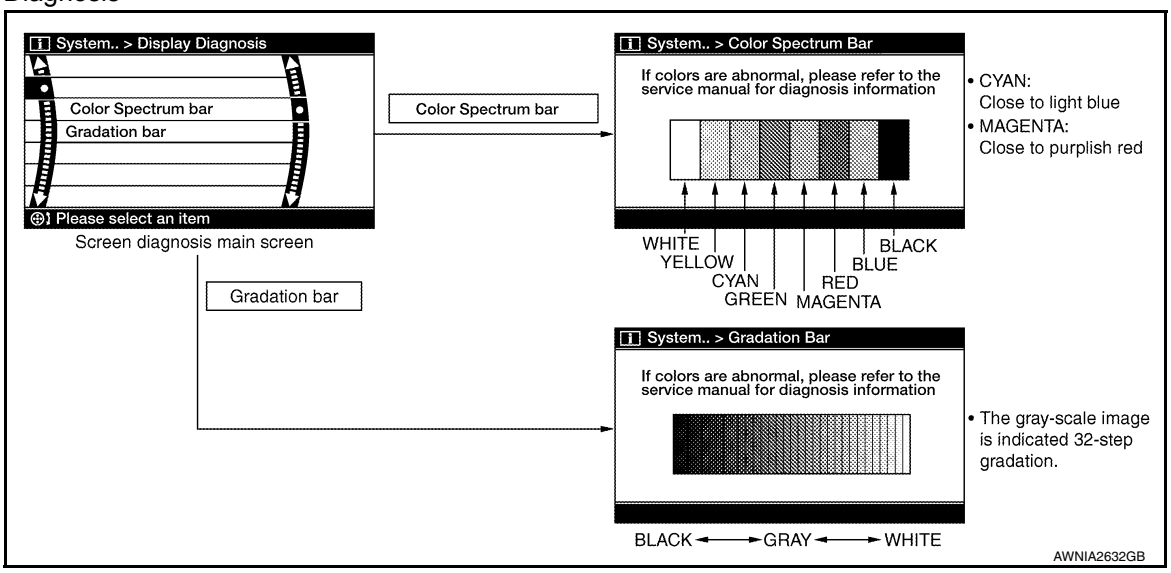
A Connecting Cable Between Units Is Displayed In Yellow		
Area with yellow connection lines	Description	Possible cause
Control unit ⇔ Meter	When one of the following is detected: • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and combination meter.	• Combination meter power supply or ground circuits. Refer to MWI-59, "COMBINATION METER : Diagnosis Procedure". • AV communication circuits between audio unit and combination meter.

Audio Unit Confirmation/Adjustment

1. Select Confirmation/Adjustment.
2. 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.

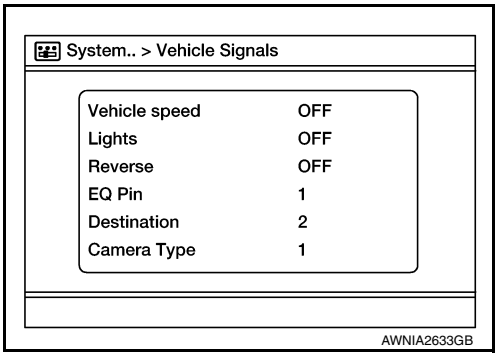


Display Diagnosis



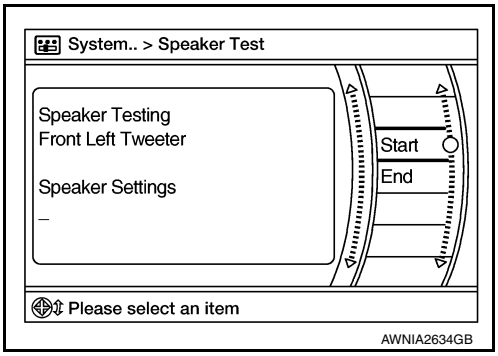
Vehicle Signals

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.

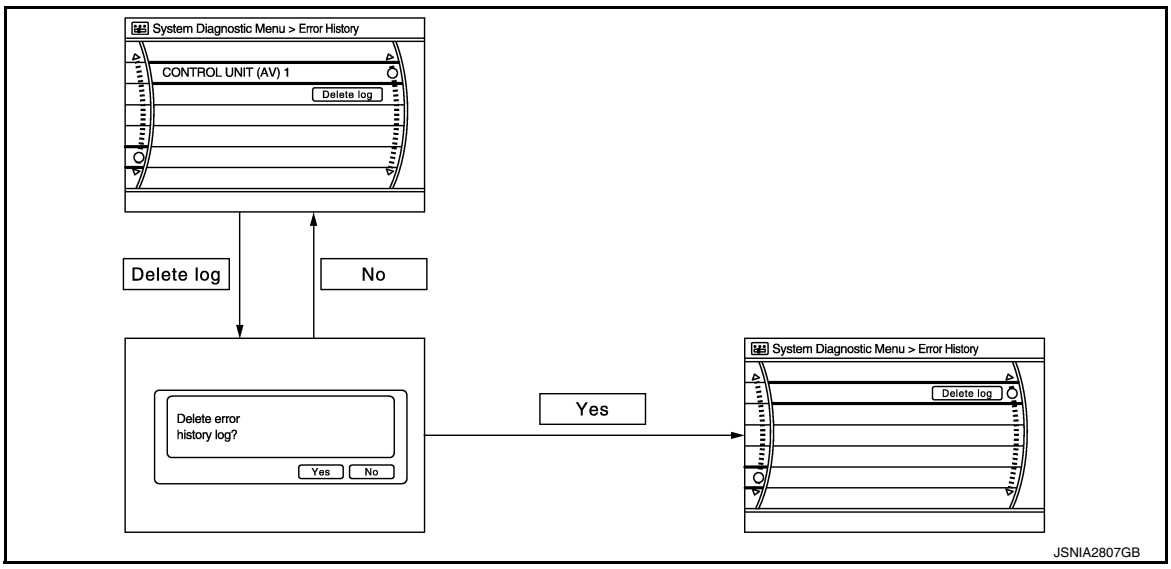
Count up method A

- 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



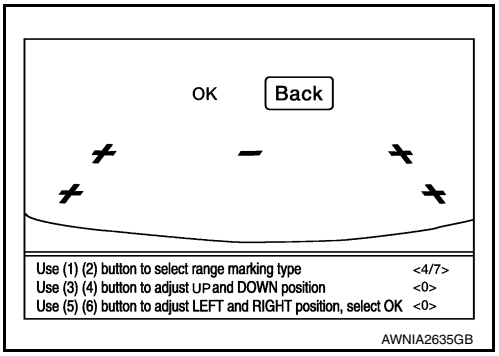
Error item

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

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-192, "Removal and Installation".
AV COMM CIRCUIT	When one of the following is detected: • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and combination meter.	• Combination meter power supply or ground circuits. Refer to MWI-59, "COMBINATION METER : Diagnosis Procedure". • AV communication circuits between audio unit and combination meter.

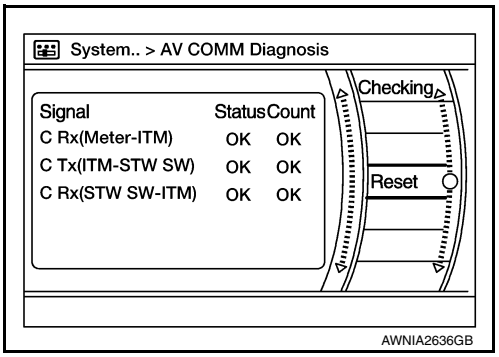
Camera System

This mode is used to adjust the guide line display position of the rear view camera.



AV COMM Diagnosis

- Displays the communication status between audio unit (master unit) and each 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.

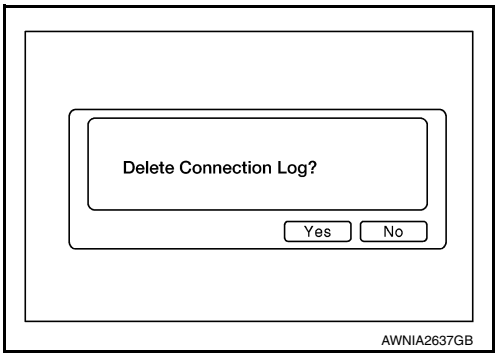


Items	Status (Current)	Counter (Past)
C Rx(Meter-ITM)	OK / ???	OK / 0 – 39
C Tx(ITM-TW SW)	OK / ???	OK / 0 – 39
C Rx(STW SW-ITM)	OK / ???	OK / 0 – 39

NOTE:
"???" indicates UNKWN.

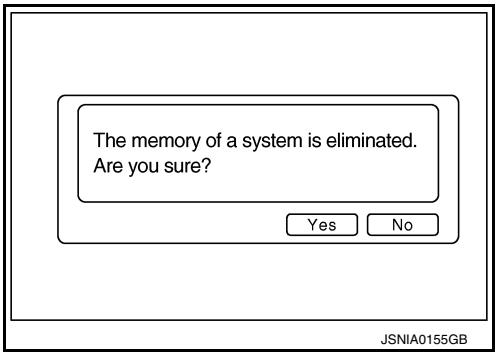
Delete Unit Connection Log

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.



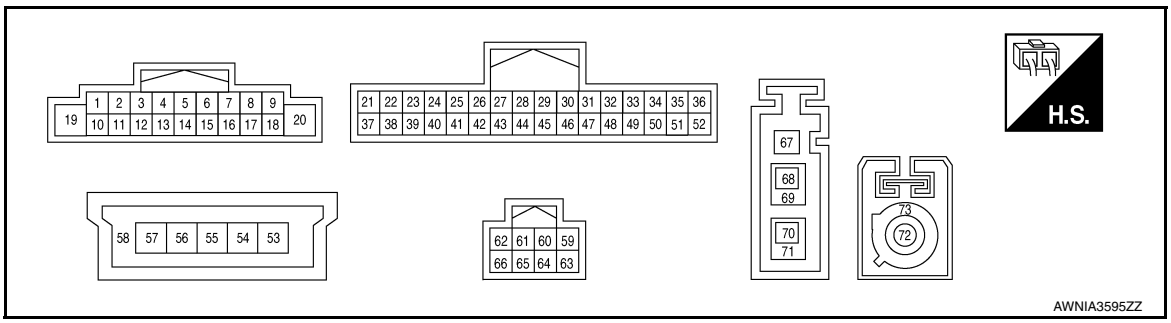
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

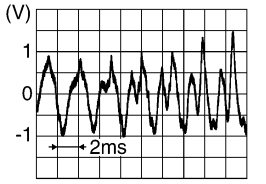
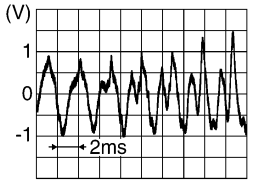
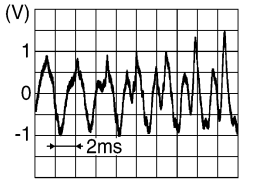
Reference Value

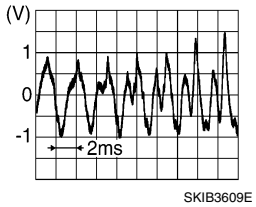
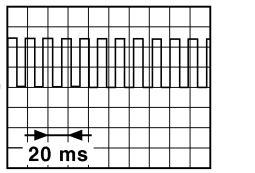
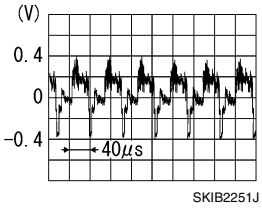
INFOID:0000000012591118

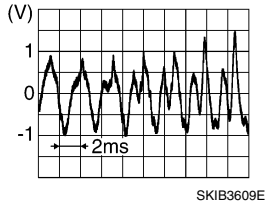
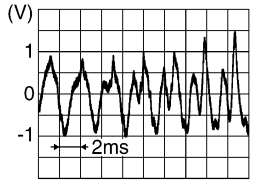
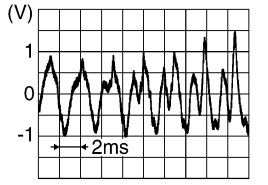
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
1 (W)	Ground	BOSE amp. ON signal	Output	ACC	—	Battery voltage
2 (B)	3 (W)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
4 (G)	5 (R)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIB3609E
7 (P)	Ground	ACC power supply	Input	ACC	—	Battery voltage
9 (R)	8 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
10 (B)	—	Shield	—	—	—	—
11 (B)	12 (W)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
13 (G)	14 (R)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (G)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (GR)	Ground	Ground	—	ON	—	0 V
21 (Shield)	—	Camera image signal shield	—	—	—	—
22 (B)	Ground	Camera image signal	Input	ON	When camera image is displayed	 SKIB2251J
23 (W)	Ground	Camera power supply	Output	ON	When camera image is displayed	6.0 V
					Except for above	0 V
24 (R)	Ground	Camera ground	—	ON	—	0 V
25 (LG)	—	AV communication (L)	Input/ Output	—	—	—
26 (SB)	—	AV communication (H)	Input/ Output	—	—	—
28 (LG)	—	AV communication (L)	Input/ Output	—	—	—
29 (SB)	—	AV communication (H)	Input/ Output	—	—	—
39 (G)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
					Selector lever in any position other than R (reverse)	0 V
44 (B)	Ground	Ground	—	ON	—	0 V
45 (B)	Ground	Camera ground	—	ON	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
51 (W)	Ground	Microphone power supply	Output	ON	—	5.0 V
52 (B)	50 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 SKIB3609E
53 (B)	—	USB ground	—	—	—	—
55 (G)	—	USB D+ signal	—	—	—	—
56 (W)	—	USB D− signal	—	—	—	—
57 (R)	—	V BUS signal	—	—	—	—
58 (Shield)	—	USB shield	—	—	—	—
59 (Shield)	—	AUX shield	—	—	—	—
60 (B)	—	AUX ground	—	ON	—	0V
61 (W)	Ground	AUX audio signal RH	Input	ON	AUX audio signal received	 SKIB3609E
62 (R)	Ground	AUX audio signal LH	Input	ON	AUX audio signal received	 SKIB3609E
67 (B)	Ground	Antenna amp. ON signal	Output	ON	—	Battery voltage
68 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V
69 (Shield)	—	AM/FM antenna signal shield	—	—	—	—
70 (B)	Ground	Glass antenna (FM sub) signal	Input	ON	—	5.0 V
71 (Shield)	—	Glass antenna (FM sub) signal shield	—	—	—	—

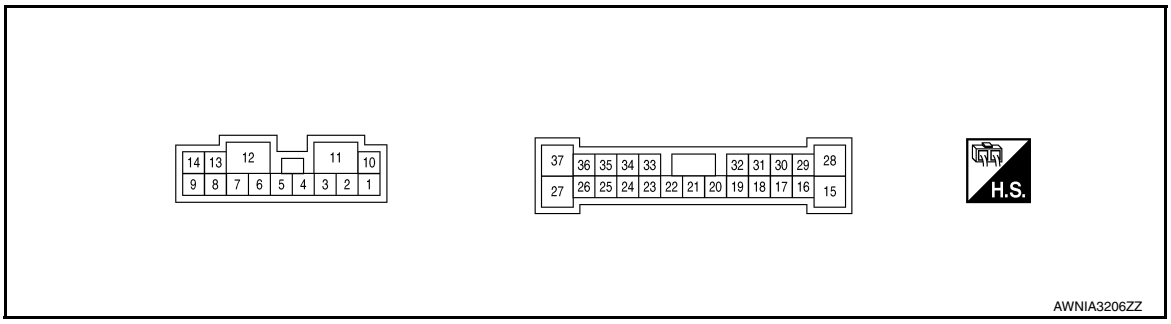
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
72 (B)	Ground	Satellite antenna signal	Input	ON	—	5.0 V
73 (Shield)	—	Satellite antenna signal shield	—	—	—	—

BOSE SPEAKER AMP

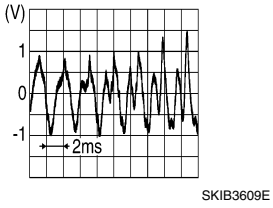
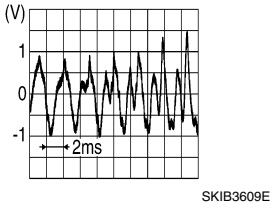
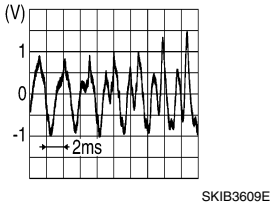
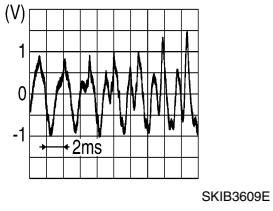
Reference Value

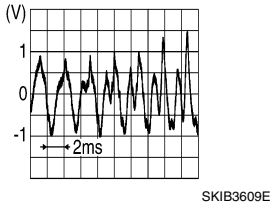
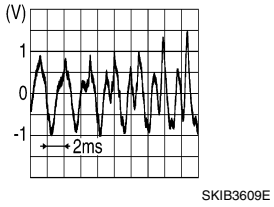
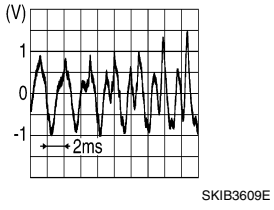
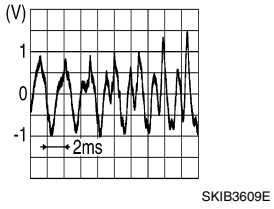
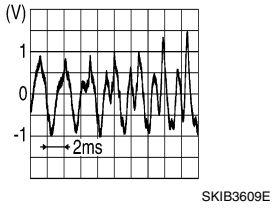
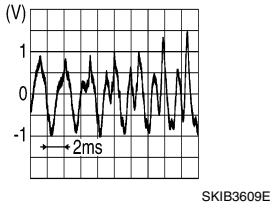
INFOID:0000000012591119

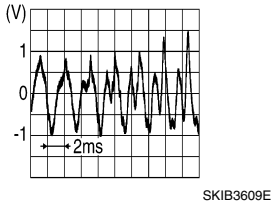
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
1 (W)	10 (G)	Rear speaker signal LH	Output	ON	Sound output	 SKIB3609E
2 (W)	3 (G)	Rear speaker signal RH	Output	ON	Sound output	 SKIB3609E
4 (P)	5 (R)	Front door speaker and front speaker signal LH	Output	ON	Sound output	 SKIB3609E
6 (G)	7 (R)	Center speaker signal	Output	ON	Sound output	 SKIB3609E

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
8 (P)	13 (BG)	Front door speaker and front speaker signal RH	Output	ON	Sound output	 SKIB3609E
11 (G)	Ground	Battery power supply	Input	–	–	Battery voltage
12 (GR)	Ground	Ground	–	ON	–	0V
15 (G)	28 (W)	Rear door speaker signal LH	Output	ON	Sound output	 SKIB3609E
18 (G)	32 (R)	Sound signal front speaker LH	Input	ON	Sound output	 SKIB3609E
19 (G)	20 (R)	Sound signal front speaker RH	Input	ON	Sound output	 SKIB3609E
21 (B)	22 (W)	Sound signal rear speaker LH	Input	ON	Sound output	 SKIB3609E
23 (B)	33 (W)	Sound signal rear speaker RH	Input	ON	Sound output	 SKIB3609E

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
31 (G)	Ground	Amp. ON signal	Input	ON	–	Greater than 6.5V
37 (G)	27 (W)	Rear door speaker signal RH	Output	ON	Sound output	 SKIB3609E

WIRING DIAGRAM

DISPLAY AUDIO WITH BOSE

Wiring Diagram

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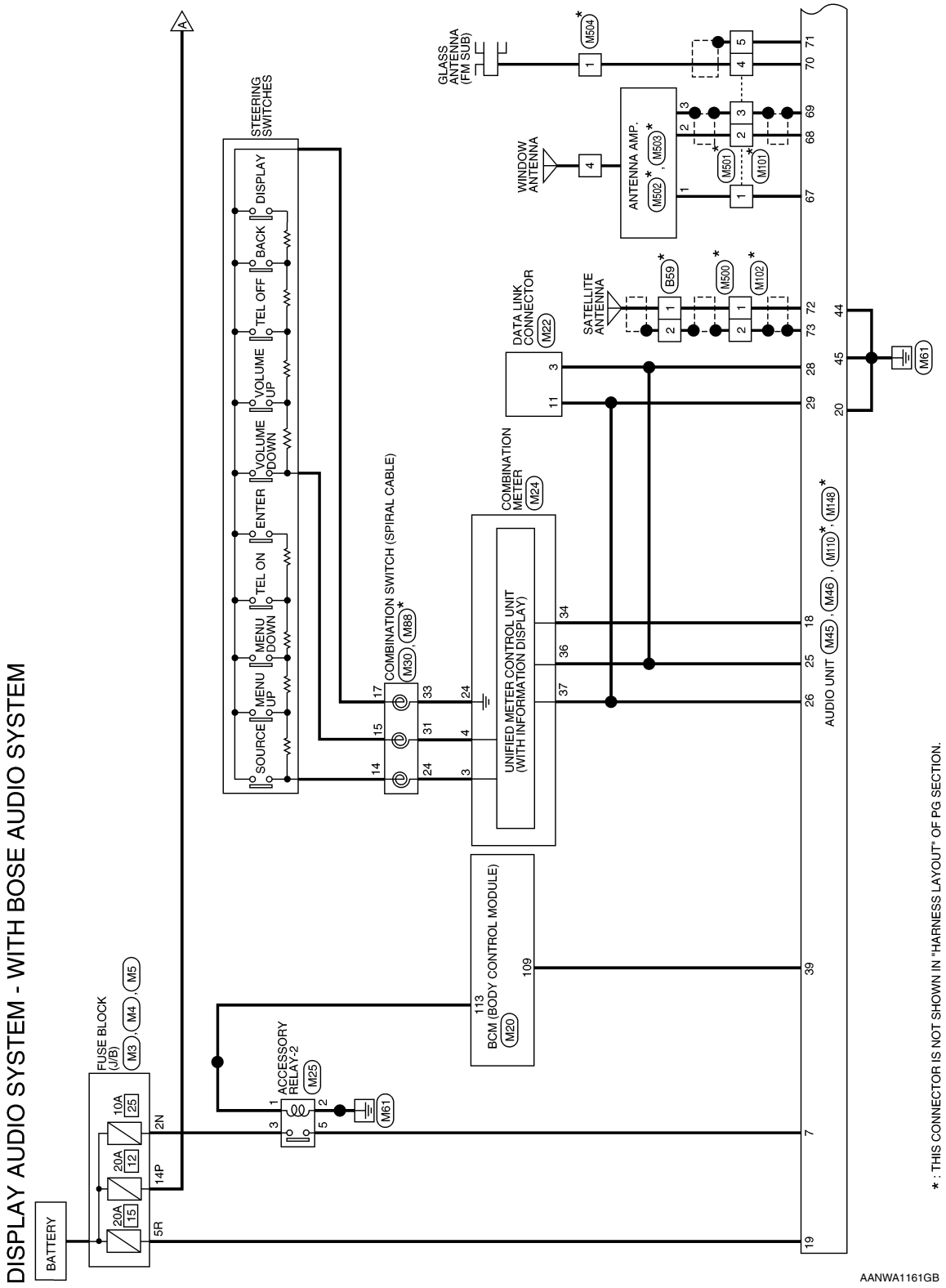
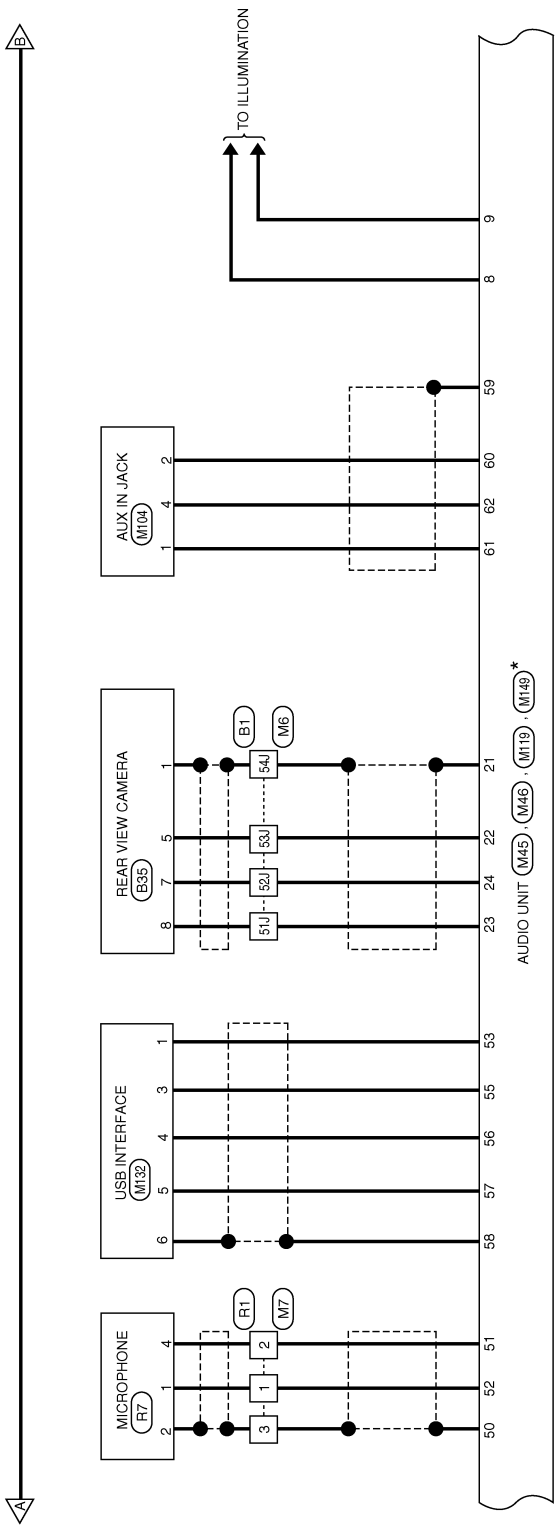
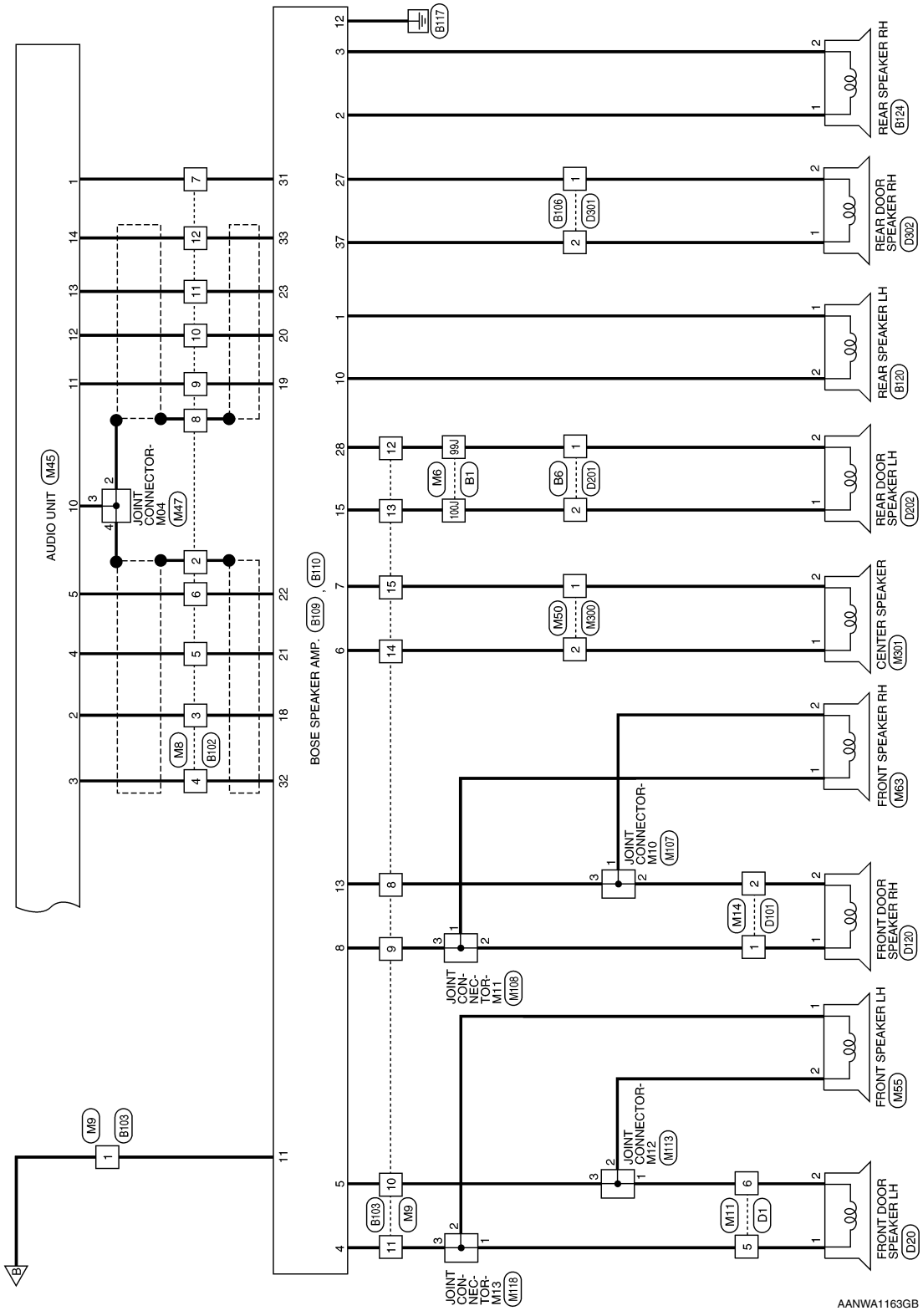




* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

ABNWA2933GB


AUDIO UNIT M45
JOINT CONNECTOR-M04 M47
BOSE SPEAKER AMP. B109, B110
B117
REAR SPEAKER RH B124
REAR DOOR SPEAKER RH D302
REAR SPEAKER LH B120
REAR DOOR SPEAKER LH D202
CENTER SPEAKER M301
FRONT SPEAKER RH M63
FRONT DOOR SPEAKER RH D120
FRONT SPEAKER LH M55
FRONT DOOR SPEAKER LH D20
JOINT CONNECTOR-M10 M107
JOINT CONNECTOR-M11 M108
JOINT CONNECTOR-M12 M113
JOINT CONNECTOR-M13 M118
M8 B102
M9 B103
M6 B1
B6 D201
M50 M300
B106 D301
M14 D101
M11 D1
AANWA1163GB

DISPLAY AUDIO SYSTEM CONNECTORS - WITH BOSE AUDIO SYSTEM

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

3N		2N	1N
8N	7N	6N	5N	4N

Terminal No.	Color of Wire	Signal Name
2N	LG	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
5R	G	–

Connector No.	M5
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
14P	G	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

			1J	2J	3J	4J	5J		
			6J	7J	8J	9J	10J		
11J	12J	13J	14J	15J	16J	17J	18J	19J	20J	21J
22J	23J	24J	25J	26J	27J	28J	29J	30J		
31J	32J	33J	34J	35J	36J	37J	38J	39J	40J	41J
42J	43J	44J	45J	46J	47J	48J	49J	50J		
51J	52J	53J	54J	55J	56J	57J	58J	59J	60J	61J
62J	63J	64J	65J	66J	67J	68J	69J	70J		
71J	72J	73J	74J	75J	76J	77J	78J	79J	80J	81J
82J	83J	84J	85J	86J	87J	88J	89J	90J		
			91J	92J	93J	94J	95J		
				96J	97J	98J	99J	100J		

Terminal No.	Color of Wire	Signal Name
51J	W	–
52J	R	–
53J	B	–
54J	SHIELD	–
99J	R	–
100J	G	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	B	–
2	W	–
3	SHIELD	–

ABNIA8218GB

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
3	B	–
4	W	–
5	G	–
6	R	–
7	W	–
8	SHIELD	–

Connector No.	M9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	G	–
8	BG	–
9	P	–
10	R	–
11	P	–
12	R	–
13	G	–
14	P	–
15	R	–

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

H.S.

116	115	114	113	112	111	110	109	108	107	106	105
128	127	126	125	124	123	122	121	120	119	118	117

Terminal No.	Color of Wire	Signal Name
109	G	REVERSE SIGNAL
113	P	ACC RELAY OUT

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	P	– (WITH BOSE AUDIO SYSTEM
6	R	– (WITH BOSE AUDIO SYSTEM)

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2		3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	P	– (WITH BOSE AUDIO SYSTEM)
2	BG	– (WITH BOSE AUDIO SYSTEM)

AANIA3072GB

Connector No.	M22
Connector Name	DATA LINK CONNECTOR
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	LG	–
11	SB	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	P	STRG SW INPUT1
4	R	STRG SW INPUT2
24	W	STRG SW GND
34	G	SPEED 8P/R
36	LG	M-CAN-L
37	SB	M-CAN-H

Connector No.	M25
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

H.S.

3		
5		
2		1

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	LG	–
5	P	–

Connector No.	M45
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM AND BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

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	W	AMP ON
2	B	FR SP LH (+)
3	W	FR SP LH (-)
4	G	RR SP LH (+)
5	R	RR SP LH (-)
6	–	–
7	P	ACC

Terminal No.	Color of Wire	Signal Name
8	GR	ILL (-)
9	R	ILL (+), LIGHT SW
10	B	PREAMP SHIELD
11	B	FR SP RH (+)
12	W	FR SP RH (-)
13	G	RR SP RH (+)
14	R	RR SP RH (-)
15	–	–
16	–	–
17	–	–
18	G	SPEED SIGNAL
19	G	+B
20	GR	GND

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

H.S.

25	24	31	32
27	21	22	33

Terminal No.	Color of Wire	Signal Name
24	P	–
31	R	–
33	W	–

AANIA3073GB

Connector No.	M46
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM AND BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52

Terminal No.	Color of Wire	Signal Name
21	SHIELD	COMPOSITE -
22	B	COMPOSITE +
23	W	CAMERA 6.2V
24	R	CAMERA GND
25	LG	M-CAN1-L

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

Terminal No.	Color of Wire	Signal Name
39	G	REV
40	–	–
41	–	–
42	–	–
43	–	–
44	B	GND
45	B	CAM DET
46	–	–
47	–	–
48	–	–
49	–	–
50	SHIELD	MIC GND
51	W	MIC V+
52	B	MIC +

Connector No.	M47
Connector Name	JOINT CONNECTOR-M04
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
3	B	–
4	SHIELD	–

Connector No.	M50
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Connector No.	M55
Connector Name	FRONT SPEAKER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	P	– (WITH BOSE AUDIO SYSTEM)
2	R	– (WITH BOSE AUDIO SYSTEM)

AANIA3074GB

Connector No.	M63
Connector Name	FRONT SPEAKER RH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	P	– (WITH BOSE AUDIO SYSTEM)
2	BG	– (WITH BOSE AUDIO SYSTEM)

Connector No.	M88
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
14	P	–
15	L	–
17	G	–

Connector No.	M101
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	SHIELD	–
4	B	–
5	SHIELD	–

Connector No.	M102
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

Connector No.	M104
Connector Name	AUX IN JACK
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
4	R	–

Connector No.	M107
Connector Name	JOINT CONNECTOR-M10
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	BG	–
2	BG	–
3	BG	–

AANIA3075GB

Connector No.	M108
Connector Name	JOINT CONNECTOR-M11
Connector Color	WHITE

H.S.

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

Connector No.	M110
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM)
Connector Color	PINK

H.S.

Terminal No.	Color of Wire	Signal Name
72	B	SAT ANT
73	SHIELD	SAT SHIELD

Connector No.	M113
Connector Name	JOINT CONNECTOR-M12
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	R	–
3	R	–

Connector No.	M132
Connector Name	USB INTERFACE
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	–	–
3	G	–
4	W	–
5	R	–
6	SHIELD	–

Connector No.	M118
Connector Name	JOINT CONNECTOR-M13
Connector Color	WHITE

H.S.

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

Connector No.	M119
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM AND BOSE AUDIO SYSTEM)
Connector Color	WHITE

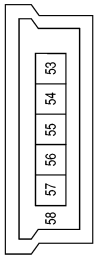
H.S.

Terminal No.	Color of Wire	Signal Name
59	SHIELD	AUX SHIELD
60	B	AUX GND
61	W	AUX R
62	R	AUX L
63	–	–
64	–	–
65	–	–
66	–	–

AANIA3076GB

Connector No.	M149
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM)
Connector Color	BLACK

H.S.



Terminal No.	Color of Wire	Signal Name
53	B	USB GND
54	–	–
55	G	USB D+
56	W	USB D-
57	R	VBUS
58	SHIELD	SHIELD

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
67	B	ANT +B
68	B	MAIN ANT
69	SHIELD	MAIN GND
70	B	ANT SUB
71	SHIELD	SUB GND

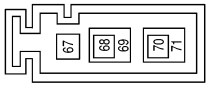
Connector No.	M301
Connector Name	CENTER SPEAKER
Connector Color	BROWN

H.S.

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

Connector No.	M148
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM)
Connector Color	GRAY

H.S.



Connector No.	M300
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

AANIA3077GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	SHIELD	–
4	B	–
5	SHIELD	–

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

H.S.

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

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

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–

Connector No.	M504
Connector Name	GLASS ANTENNA
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

AANIA3078GB

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

5J	4J	3J	2J	1J
10J	9J	8J	7J	6J

21J	20J	19J	18J	17J	16J	15J	14J	13J	12J	11J
	30J	29J	28J	27J	26J	25J	24J	23J	22J	

41J	40J	39J	38J	37J	36J	35J	34J	33J	32J	31J
	50J	49J	48J	47J	46J	45J	44J	43J	42J	

61J	60J	59J	58J	57J	56J	55J	54J	53J	52J	51J
	70J	69J	68J	67J	66J	65J	64J	63J	62J	

81J	80J	79J	78J	77J	76J	75J	74J	73J	72J	71J
	90J	89J	88J	87J	86J	85J	84J	83J	82J	

95J	94J	93J	92J	91J
100J	99J	98J	97J	96J

Terminal No.	Color of Wire	Signal Name
51J	W	–
52J	B	–
53J	R	–
54J	SHIELD	–
99J	R	–
100J	P	–

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

H.S.

1	2	3
4	5	6	7	8

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

Connector No.	B59
Connector Name	SATELLITE RADIO ANTENNA
Connector Color	BROWN

H.S.

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

Connector No.	B35
Connector Name	REAR VIEW CAMERA
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name
1	SHIELD	–
5	R	–
7	B	–
8	W	–

ABNIA8219GB

Connector No.	B102
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
3	G	–
4	R	–
5	B	–
6	W	–
7	G	–
8	SHIELD	–
9	G	–
10	R	–
11	B	–
12	W	–

Connector No.	B103
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
8	BG	–
9	P	–
10	R	–
11	P	–
12	W	–
13	G	–
14	G	–
15	R	–

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

H.S.

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

AANIA3080GB

Connector No.	B109
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN

H.S.

37	36	35	34	33		32	31	30	29	28
	27	26	25	24	23	22	21	20	19	18	17	16	15
---	---	---	---	---	---	---	---	---	---	---	---	---	---

Terminal No.	Color of Wire	Signal Name
15	G	–
18	G	–
19	G	–
20	R	–
21	B	–
22	W	–
23	B	–
27	W	–
28	W	–
31	G	–
32	R	–
33	W	–
37	G	–

Connector No.	B110
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	W	–
2	W	–
3	G	–
4	P	–
5	R	–
6	G	–
7	R	–
8	P	–
10	G	–
11	G	–
12	GR	–
13	BG	–

Connector No.	B120
Connector Name	REAR SPEAKER LH (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

2	1

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

Connector No.	B124
Connector Name	REAR SPEAKER RH (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

2	1

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

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
2	Y	–
3	SHIELD	–

Connector No.	R7
Connector Name	MICROPHONE
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	L	–
2	SHIELD	–
4	Y	–

ABNIA8220GB

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

H.S.

3		2	1
8	7	6	5	4

Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	– (WITH NAVI OR BOSE AUDIO SYSTEM)

Connector No.	D20
Connector Name	FRONT DOOR SPEAKER LH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN

H.S.

2	1

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

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	G	–
6	W	– (WITH NAVI OR BOSE AUDIO SYSTEM)

Connector No.	D120
Connector Name	FRONT DOOR SPEAKER RH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN

H.S.

2	1

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

Connector No.	D202
Connector Name	REAR DOOR SPEAKER LH
Connector Color	BROWN

H.S.

2	1

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

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

H.S.

3		2	1
8	7	6	5	4

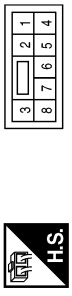
Terminal No.	Color of Wire	Signal Name
1	Y	–
2	LG	–

AANIA3082GB

Connector No.	D302
Connector Name	REAR DOOR SPEAKER RH
Connector Color	BROWN

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

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



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

AANIA3083GB

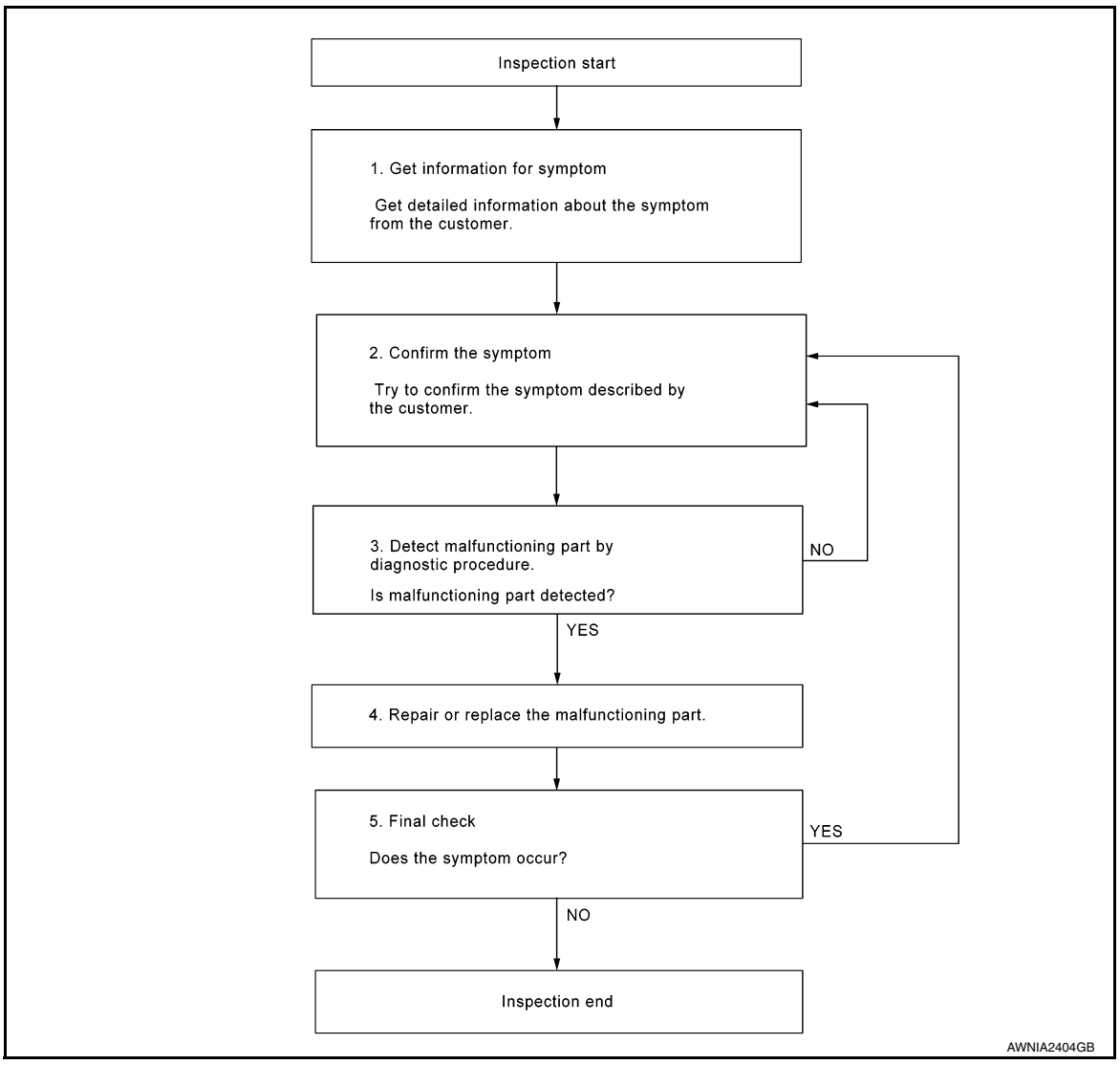
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000012591121

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

Is malfunctioning part detected?

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

4.REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5.FINAL CHECK

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

Was the repair confirmed?

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

INSPECTION AND ADJUSTMENT
REGISTRATION (AUDIO UNIT)

REGISTRATION (AUDIO UNIT) : Description

INFOID:0000000012591122

AFTER REPLACEMENT

If the audio unit is replaced with a new audio unit, the new audio unit must be registered using the Bluetooth D/C(serial #).

CAUTION:

If the new audio unit Bluetooth D/C(serial #) is not registered, the “APPS” mode will not function.

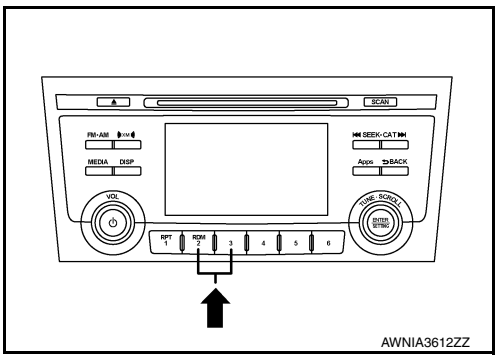
REGISTRATION (AUDIO UNIT) : Work Procedure

INFOID:0000000012591123

1.RECORD BLUETOOTH D/C(SERIAL #) FOR REPLACEMENT AUDIO UNIT

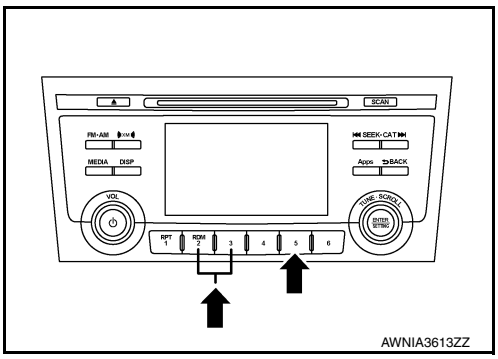
1. Turn ignition switch ON.
2. Turn audio unit OFF.
3. Access the diagnostic menu as follows:

- Press and hold preset buttons 2 and 3.



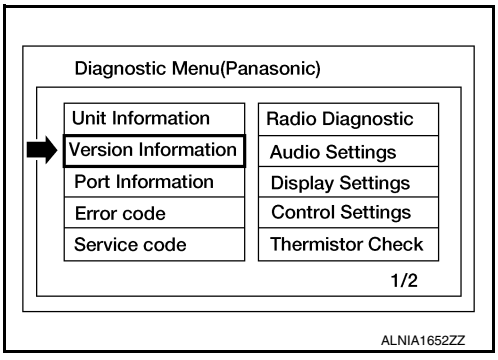
AWNIA3612ZZ

- While holding preset buttons 2 and 3, press preset button 5 three times.



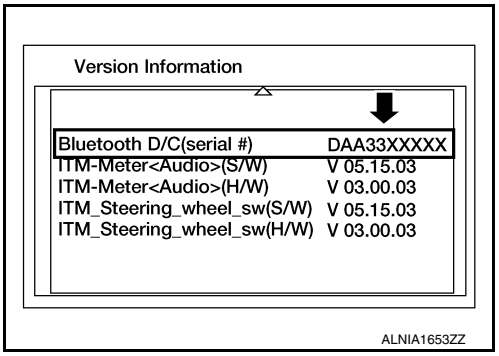
AWNIA3613ZZ

4. Select Version Information from the Diagnostic Menu.



ALNIA1652ZZ

5. Scroll through the menu pages to Bluetooth D/C(serial #) and record the number displayed.



>> GO TO 2.

2. REGISTER REPLACEMENT AUDIO UNIT

Register the replacement audio unit by contacting NISSAN Owner Services. Refer to TSB.

>> GO TO 3.

3. OPERATION CHECK

Verify that the audio unit “APPS” function operates normally.

>> Work End.

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000012591124

Regarding Wiring Diagram information, refer to AV-140, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	25 (10A)
19	Battery power supply	15 (20A)

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 M45.
3. Check voltage between audio unit connector M45 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M45	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 M46.
3. Check continuity between audio unit connectors and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M45	20	—	Yes
M46	44		
	45		

Is the inspection result normal?

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

BOSE SPEAKER AMP

BOSE SPEAKER AMP : Diagnosis Procedure

INFOID:0000000012591125

Regarding Wiring Diagram information, refer to AV-140, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
11	Battery power supply	12 (20A)

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 B110.
3. Check voltage between Bose speaker amp. connector B110 and ground.

Bose speaker amp.		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
B110	11	—	Ignition switch: OFF	Battery voltage

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 B110.
3. Check continuity between Bose speaker amp. connector B110 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B110	12	—	Yes

Is the inspection result normal?

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

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000012591126

Regarding Wiring Diagram information, refer to AV-140, "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 B110 and suspect front door speaker connector.
2. Check continuity between Bose speaker amp. connector B110 and suspect front door speaker connector.

Bose speaker amp.		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
B110	4	D20 (LH)	1	Yes
	5		2	
	8	D120 (RH)	1	
	13		2	

3. Check continuity between Bose speaker amp. connector B110 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B110	4	—	No
	5		
	8		
	13		

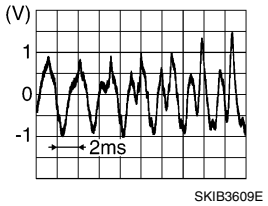
Is the inspection result normal?

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 B110 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between Bose speaker amp. connector B110 and ground.

Bose speaker amp. connector B110		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

4	5	Audio signal output	 SKIB3609E
8	13		

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-197, "Removal and Installation".
NO >> GO TO 4.

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

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B109 and audio unit connector M45.
3. Check continuity between Bose speaker amp. connector B109 and audio unit connector M45.

Bose speaker amp.		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
B109	32	M45	3	Yes
	18		2	
	20		12	
	19		11	

4. Check continuity between Bose speaker amp. connector B109 and ground.

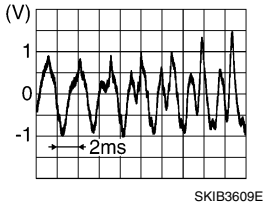
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B109	32	—	No
	18		
	20		
	19		

Is the inspection result normal?

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

5. CHECK FRONT DOOR SPEAKER SIGNAL (AUDIO UNIT)

1. Connect Bose speaker amp. connector B109 and audio unit connector M45.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M45 and ground.

Audio unit connector M45		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
2	3	Audio signal output	 SKIB3609E
11	12		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-200, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-192, "Removal and Installation".

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000012591127

Regarding Wiring Diagram information, refer to AV-140, "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 SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B110 and suspect front speaker connector.
2. Check continuity between Bose speaker amp. connector B110 and suspect front speaker connector.

Bose speaker amp.		Front speaker		Continuity
Connector	Terminal	Connector	Terminal	
B110	4	M55 (LH)	1	Yes
	5		2	
	8	M63 (RH)	1	
	13		2	

3. Check continuity between Bose speaker amp. connector B110 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B110	4	—	No
	5		
	8		
	13		

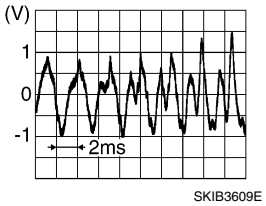
Is the inspection result normal?

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 B110 and suspect front speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between Bose speaker amp. connector B110 and ground.

Bose speaker amp. connector B110		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

4	5	Audio signal output	
8	13		

Is the inspection result normal?

YES >> Replace front speaker. Refer to AV-195, "Removal and Installation".
NO >> GO TO 4.

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

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B109 and audio unit connector M45.
3. Check continuity between Bose speaker amp. connector B109 and audio unit connector M45.

Bose speaker amp.		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
B109	32	M45	3	Yes
	18		2	
	20		12	
	19		11	

4. Check continuity between Bose speaker amp. connector B109 and ground.

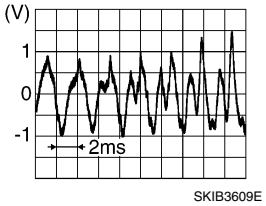
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B109	32	—	No
	18		
	20		
	19		

Is the inspection result normal?

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

5. CHECK FRONT SPEAKER SIGNAL (AUDIO UNIT)

1. Connect Bose speaker amp. connector B109 and audio unit connector M45.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M45 and ground.

Audio unit connector M45		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
2	3	Audio signal output	
11	12		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-200, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-192, "Removal and Installation".

CENTER SPEAKER

Diagnosis Procedure

INFOID:0000000012591128

Regarding Wiring Diagram information, refer to AV-140, "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 CENTER SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B110 and center speaker connector M301.
2. Check continuity between Bose speaker amp. connector B110 and center speaker connector M301.

Bose speaker amp.		Center speaker		Continuity
Connector	Terminal	Connector	Terminal	
B110	6	M301	1	Yes
	7		2	

3. Check continuity between Bose speaker amp. connector B110 and ground.

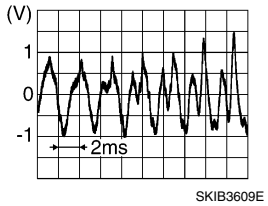
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B110	6	—	No
	7		

Is the inspection result normal?

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

3.CHECK CENTER SPEAKER SIGNAL (BOSE SPEAKER AMP.)

1. Connect Bose speaker amp. connector B110 and center speaker connector M301.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between Bose speaker amp. connector B110 and ground.

Bose speaker amp. connector B110		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
6	7	Audio signal output	

SKIB3609E

Is the inspection result normal?

YES >> Replace center speaker. Refer to AV-196, "Removal and Installation".
NO >> GO TO 4.

4. CHECK CENTER SPEAKER SIGNAL CIRCUIT CONTINUITY (AUDIO UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B109 and audio unit connector M45.
3. Check continuity between Bose speaker amp. connector B109 and audio unit connector M45.

Bose speaker amp.		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
B109	32	M45	3	Yes
	18		2	
	20		12	
	19		11	

4. Check continuity between Bose speaker amp. connector B109 and ground.

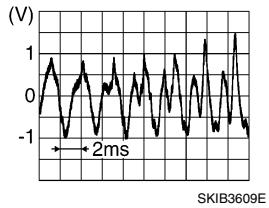
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B109	32	—	No
	18		
	20		
	19		

Is the inspection result normal?

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

5. CHECK CENTER SPEAKER SIGNAL (AUDIO UNIT)

1. Connect Bose speaker amp. connector B109 and audio unit connector M45.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M45 and ground.

Audio unit connector M45		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
2	3	Audio signal output	
11	12		

SKIB3609E

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-200, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-192, "Removal and Installation".

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000012591129

Regarding Wiring Diagram information, refer to AV-140, "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 B109 and suspect rear door speaker connector.
2. Check continuity between Bose speaker amp. connectors B109 and suspect rear door speaker connector.

Bose speaker amp.		Rear door speaker		Continuity
Connector	Terminal	Connector	Terminal	
B109	15	D202 (LH)	1	Yes
	28		2	
	37	D302 (RH)	1	
	27		2	

3. Check continuity between Bose speaker amp. connectors B109 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B109	15	—	No
	28		
	37		
	27		

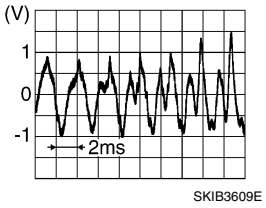
Is the inspection result normal?

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 B109 and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between Bose speaker amp. connectors B109 and ground.

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

B109	15	28	Audio signal output	
	37	27		

Is the inspection result normal?

YES >> Replace rear door speaker. Refer to AV-198, "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 B109 and audio unit connector M45.
3. Check continuity between Bose speaker amp. connector B109 and audio unit connector M45.

Bose speaker amp.		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
B109	21	M45	4	Yes
	22		5	
	23		13	
	33		14	

4. Check continuity between Bose speaker amp. connector B109 and ground.

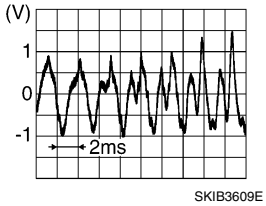
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B109	21	—	No
	22		
	23		
	33		

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 B109 and audio unit connector M45.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M45 and ground.

Audio unit connector M45		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
4	5	Audio signal output	
13	14		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-200, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-192, "Removal and Installation".

REAR SPEAKER

Diagnosis Procedure

INFOID:0000000012591130

Regarding Wiring Diagram information, refer to AV-140, "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 SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B110 and suspect rear speaker connector.
2. Check continuity between Bose speaker amp. connector B110 and suspect rear speaker connector.

Bose speaker amp.		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
B110	1	B120 (LH)	1	Yes
	10		2	
	2	B124 (RH)	1	
	3		2	

3. Check continuity between Bose speaker amp. connector B110 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B110	1	—	No
	10		
	2		
	3		

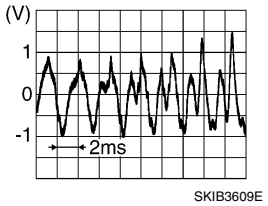
Is the inspection result normal?

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

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

1. Connect Bose speaker amp. connector B110 and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between Bose speaker amp. connector B110 and ground.

Bose speaker amp. connector B110		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

1	10	Audio signal output	 SKIB3609E
2	3		

Is the inspection result normal?

YES >> Replace rear speaker. Refer to AV-199, "Removal and Installation".
NO >> GO TO 4.

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

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B109 and audio unit connector M45.
3. Check continuity between Bose speaker amp. connector B109 and audio unit connector M45.

Bose speaker amp.		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
B109	21	M45	4	Yes
	22		5	
	23		13	
	33		14	

4. Check continuity between Bose speaker amp. connector B109 and ground.

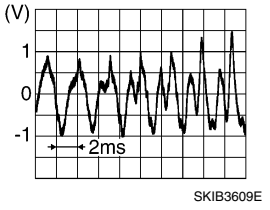
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B109	21	—	No
	22		
	23		
	33		

Is the inspection result normal?

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

5. CHECK REAR SPEAKER SIGNAL (AUDIO UNIT)

1. Connect Bose speaker amp. connector B109 and audio unit connector M45.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M45 and ground.

Audio unit connector M45		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
4	5	Audio signal output	 SKIB3609E
13	14		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-200, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-192, "Removal and Installation".

AMP ON SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591131

Regarding Wiring Diagram information, refer to AV-140, "Wiring Diagram".

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

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M45 and Bose speaker amp. connector B109.
3. Check continuity between audio unit connector M45 and Bose speaker amp. connector M109.

Audio unit		Bose speaker amp.		Continuity
Connector	Terminal	Connector	Terminal	
M45	1	B109	31	Yes

4. Check continuity between audio unit connector M45 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M45	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 M45.
2. Turn ignition switch ON.
3. Check voltage between audio unit connector M45 and ground.

Audio unit		Ground	Voltage (Approx.)
(+)		(–)	
Connector	Terminal		
M45	1	—	Battery voltage

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-200, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-192, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591132

Regarding Wiring Diagram information, refer to AV-140, "Wiring Diagram".

1.CHECK REVERSE INPUT SIGNAL

1. Turn ignition switch ON.
2. Shift the selector lever to R (reverse).
3. Check voltage between audio unit connector M46 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M46	39	—	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 audio unit connector M46 and rear view camera connector.
3. Check continuity between audio unit connector M46 and rear view camera connector B35.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M46	23	B35	8	Yes

4. Check continuity between audio unit connector M46 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M46	23		No

Is inspection result normal?

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

3.CHECK CAMERA POWER SUPPLY VOLTAGE

1. Connect audio unit connector M46 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check voltage between audio unit connector M46 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M46	23	—	Selector lever is in “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 4.
NO >> Replace audio unit. Refer to AV-192, "Removal and Installation".

4. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M46 and rear view camera connector.
3. Check continuity between audio unit connector M46 and rear view camera connector B35.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M46	22	B35	5	Yes

4. Check continuity between audio unit connector M46 terminal 22 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M46	22		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 audio unit connector M46 and rear view camera connector B35.

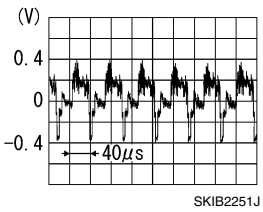
Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M46	24	B35	7	Yes

Is inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness or connectors.

6. CHECK CAMERA IMAGE SIGNAL

1. Connect audio unit connector M46 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check signal between audio unit connector M46 and ground.

Audio unit (+)		Ground (−)	Condition	Reference value
Connector	Terminal			
M46	22	—	Camera image displayed.	

SKIB2251J

Is inspection result normal?

YES >> Replace audio unit. Refer to AV-192, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-208, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591133

Regarding Wiring Diagram information, refer to AV-140, "Wiring Diagram".

1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M46 and microphone connector R7.
3. Check continuity between audio unit connector M46 and microphone connector R7.

Audio unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M46	50	R7	2	Yes
	51		4	
	52		1	

4. Check continuity between audio unit connector M46 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M46	50	—	No
	51		
	52		

Is inspection result normal?

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

2.CHECK MICROPHONE VCC VOLTAGE

1. Connect audio unit connector M46.
2. Turn ignition switch ON.
3. Check voltage between terminals of audio unit connector M46.

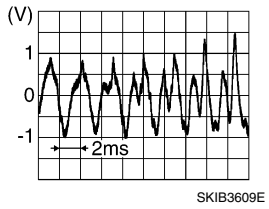
Audio unit connector M46		Voltage (Approx.)
(+)	(–)	
Terminal	Terminal	
51	50	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace audio unit. Refer to AV-192, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of audio unit connector M46.

Audio unit connector M46		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
52	50	Speak into microphone.	 SKIB3609E

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-192, "Removal and Installation".
NO >> Replace microphone. Refer to AV-207, "Removal and Installation".

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000012591134

Regarding Wiring Diagram information, refer to AV-140, "Wiring Diagram".

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M88.
3. Check resistance between combination switch connector terminals.

Combination switch connector M88		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress △ switch.	121
		Depress ▽ switch.	321
		Depress switch.	723
		Depress ENTER switch.	2023
15		Depress switch.	1
		Depress switch.	121
		Depress switch.	321
		Depress switch.	723
		Depress DISP switch.	2023

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace steering switches. Refer to AV-202, "Removal and Installation".

2.CHECK HARNESS BETWEEN COMBINATION SWITCH AND COMBINATION METER

1. Disconnect combination meter connector M24 and combination switch connector M30.
2. Check continuity between combination meter connector M24 and combination switch connector M30.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M24	3	M30	24	Yes
	24		33	
	4		31	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	3	—	No
	24		
	4		

Is the inspection result normal?

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

3. CHECK COMBINATION SWITCH

Check continuity between combination switch connectors M30 and M88.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M88	14	Yes
	31		15	
	33		17	

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

4. CHECK HARNESS BETWEEN COMBINATION METER AND AUDIO UNIT

1. Disconnect audio unit connector M46.
2. Check continuity between combination meter connector M24 and audio unit connector M46.

Combination meter		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
M24	37	M46	26	Yes
	36		25	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	37	—	No
	36		

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-192, "Removal and Installation".
NO >> Repair or replace harness or connectors.

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000012591135

Regarding Wiring Diagram information, refer to AV-140, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M149 and USB interface connector M132.
3. Check continuity between audio unit connector M149 and USB interface connector M132.

Audio unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M149	53	M132	1	Yes
	55		3	
	56		4	
	57		5	
	58		6	

4. Check continuity between audio unit connector M149 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M149	55	Ground	No
	57		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-193, "Removal and Installation".
NO >> Repair or replace harness or connectors.

AUXILIARY INPUT JACK

Diagnosis Procedure

INFOID:0000000012591136

Regarding Wiring Diagram information, refer to AV-140, "Wiring Diagram".

1.CHECK AUX IN JACK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M119 and AUX in jack connector M104.
3. Check continuity between audio unit connector M119 and AUX in jack connector M104.

Audio unit		AUX in jack		Continuity
Connector	Terminal	Connector	Terminal	
M119	61	M104	1	Yes
	60		2	
	62		4	

4. Check continuity between audio unit connector M119 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M119	61	Ground	No
	62		

Is the inspection result normal?

YES >> Replace the AUX in jack. Refer to AV-194, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000012591137

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-127, "On Board Diagnosis Function".

Symptoms	Check items	Probable malfunction location
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-140, "Wiring Diagram". • Bose amp. ON signal circuit malfunction. Refer to AV-176, "Diagnosis Procedure". • Bose speaker amp. power supply and ground circuits malfunction. Refer to AV-160, "BOSE SPEAKER AMP : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear door speaker LH, rear door speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and Bose speaker amp. Refer to: - AV-162, "Diagnosis Procedure" (front door speaker). - AV-165, "Diagnosis Procedure" (front speaker). - AV-168, "Diagnosis Procedure" (center speaker). - AV-170, "Diagnosis Procedure" (rear door speaker). - AV-173, "Diagnosis Procedure" (rear speaker). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: - AV-162, "Diagnosis Procedure" (front door speaker). - AV-165, "Diagnosis Procedure" (front speaker). - AV-168, "Diagnosis Procedure" (center speaker). - AV-170, "Diagnosis Procedure" (rear door speaker). - AV-173, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. Refer to: - AV-197, "Removal and Installation" (front door speaker). - AV-195, "Removal and Installation" (front speaker). - AV-196, "Removal and Installation" (center speaker). - AV-198, "Removal and Installation" (rear door speaker). - AV-199, "Removal and Installation" (rear speaker). • Malfunction in audio unit. Refer to AV-127, "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-200, "Removal and Installation".

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	• Malfunction in audio unit. Refer to AV-127, "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-200, "Removal and Installation".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear speaker door LH, rear door speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and Bose speaker amp. Refer to: - AV-162, "Diagnosis Procedure" (front door speaker). - AV-165, "Diagnosis Procedure" (front speaker). - AV-168, "Diagnosis Procedure" (center speaker). - AV-170, "Diagnosis Procedure" (rear door speaker). - AV-173, "Diagnosis Procedure" (rear speaker). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: - AV-162, "Diagnosis Procedure" (front door speaker). - AV-165, "Diagnosis Procedure" (front speaker). - AV-168, "Diagnosis Procedure" (center speaker). - AV-170, "Diagnosis Procedure" (rear door speaker). - AV-173, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-197, "Removal and Installation" (front door speaker). - AV-195, "Removal and Installation" (front speaker). - AV-196, "Removal and Installation" (center speaker). - AV-198, "Removal and Installation" (rear door speaker). - AV-199, "Removal and Installation" (rear speaker). • Malfunction in audio unit. Refer to AV-127, "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-200, "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-203, "Location of Antenna".
No radio reception or poor reception.	• 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).	• Antenna amp. ON signal circuit malfunction. Refer to AV-133, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-203, "Location of Antenna".

Symptoms	Check items	Probable malfunction location
No satellite radio reception.	Satellite radio antenna malfunction.	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-203, "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-192, "Removal and Installation".
Hands-free phone cannot be established.	• 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-179, "Diagnosis Procedure".

Symptoms	Check items	Probable malfunction location
The system cannot be operated.	• 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-202, "Removal and Installation".
	Steering switch's , , , and switches do not work.	Steering switch signal circuit malfunction. Refer to AV-181, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-181, "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 audio unit. Refer to AV-177, "Diagnosis Procedure".
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and audio unit. Refer to AV-177, "Diagnosis Procedure".
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-208, "Removal and Installation".

NORMAL OPERATING CONDITION

Description

INFOID:0000000012591138

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

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).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” in AV-185, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • 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. **NOTE:** 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.

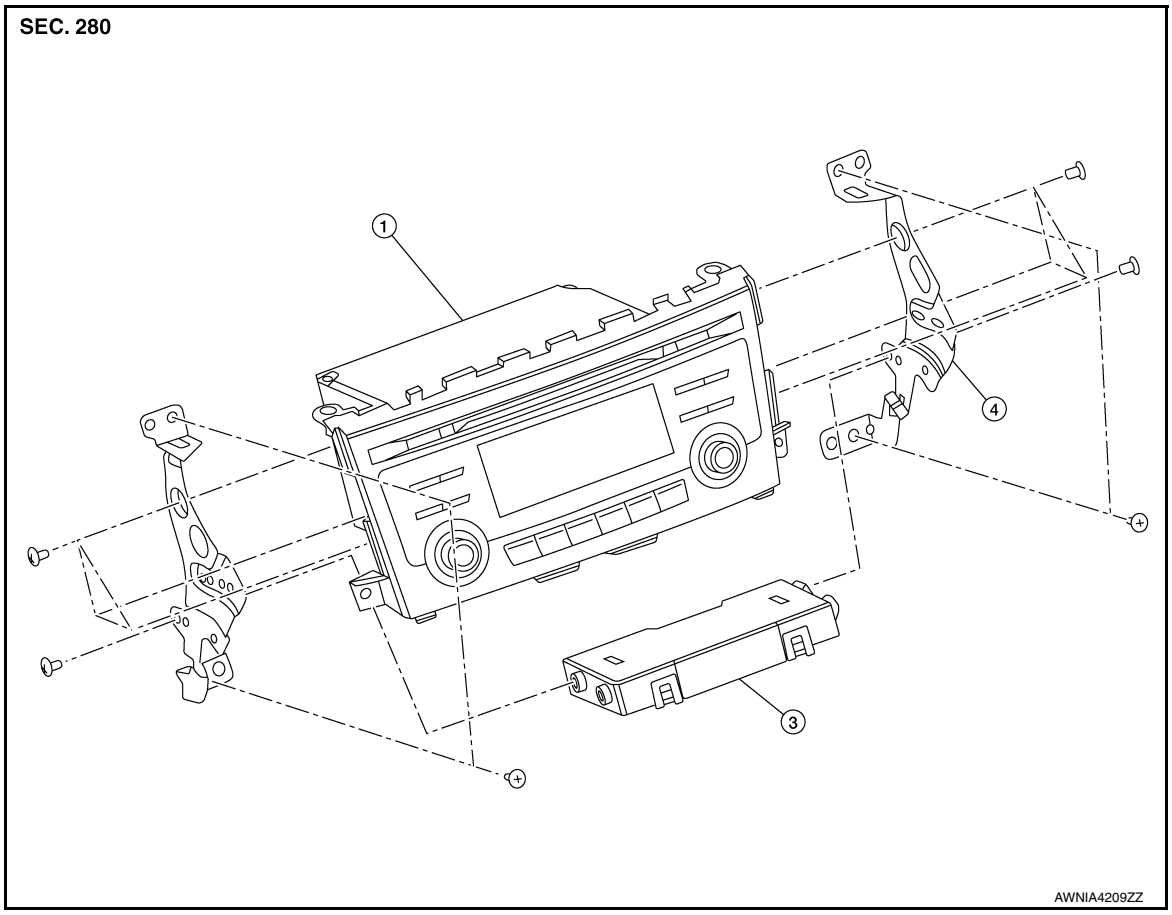
Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded 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:0000000012591139



1. Audio unit
2. Audio unit bracket (LH)
3. A/C auto amp.
4. Audio unit bracket (RH)

Removal and Installation

INFOID:0000000012591140

REMOVAL

1. Disconnect the negative battery terminal. Refer to PG-78, "Removal and Installation".
2. Remove cluster lid C. Refer to IP-20, "Cluster Lid C".
3. Remove the A/C switch assembly. Refer to HAC-100, "Removal and Installation".
4. Remove the audio unit bracket screws, then pull out the audio unit.
5. Disconnect the harness connectors from the audio unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

When replacing audio unit, the audio unit must be registered. Refer to AV-158, "REGISTRATION (AUDIO UNIT) : Description".

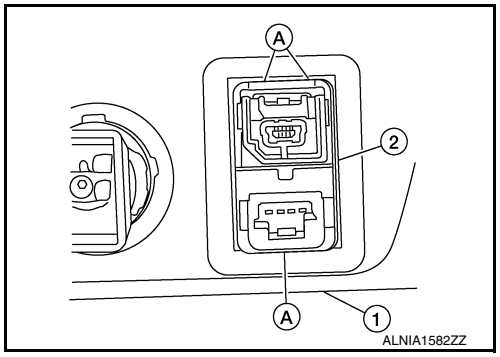
USB INTERFACE

Removal and Installation

INFOID:0000000012591141

REMOVAL

1. Remove the shift selector finisher. Refer to IP-18, "Removal and Installation".
2. Release the pawls (A) and remove the USB interface (2) from the back of the shift selector finisher (1).



INSTALLATION

Installation is in the reverse order of removal.

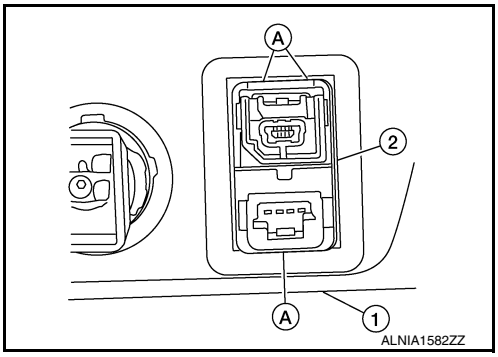
AUX IN JACK

Removal and Installation

INFOID:0000000012591142

REMOVAL

1. Remove the shift selector finisher. Refer to IP-18, "Removal and Installation".
2. Release the pawls (A) and remove the AUX in jack (2) from the back of the shift selector finisher (1).



INSTALLATION

Installation is in the reverse order of removal.

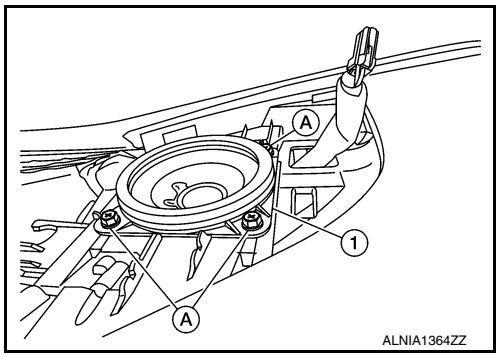
FRONT SPEAKER

Removal and Installation

INFOID:0000000012591143

REMOVAL

1. Remove the front pillar finisher. Refer to INT-21, "FRONT PILLAR FINISHER : Removal and Installation".
2. Remove the front speaker grille using a suitable tool.
3. Remove the front speaker screws (A).
4. Pull out the front speaker (1), disconnect the harness connector from front speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

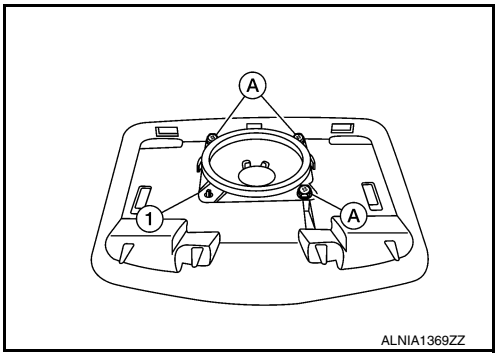
CENTER SPEAKER

Removal and Installation

INFOID:0000000012591144

REMOVAL

1. Remove the center speaker grille using a suitable tool.
2. Remove the center speaker screws (A).
3. Pull out the center speaker (1), disconnect the harness connector from the center speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

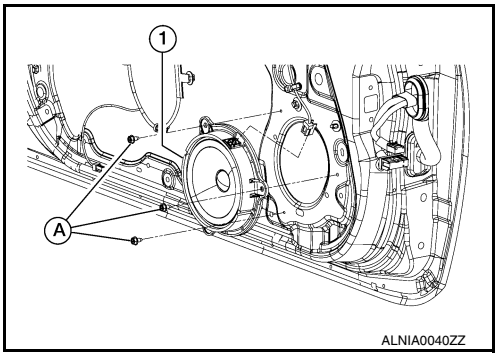
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000012591145

REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

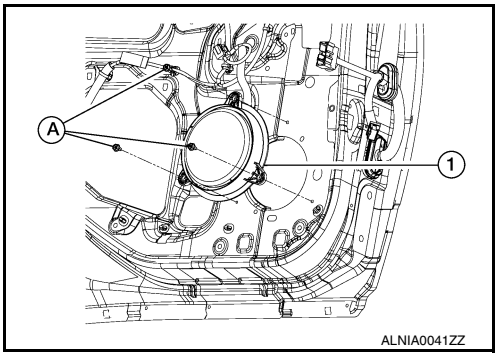
REAR DOOR SPEAKER

Removal and Installation

INFOID:0000000012591146

REMOVAL

1. Remove the rear door finisher. Refer to INT-18, "Removal and Installation".
2. Remove the rear door speaker screws (A).
3. Disconnect the harness connector from the rear door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

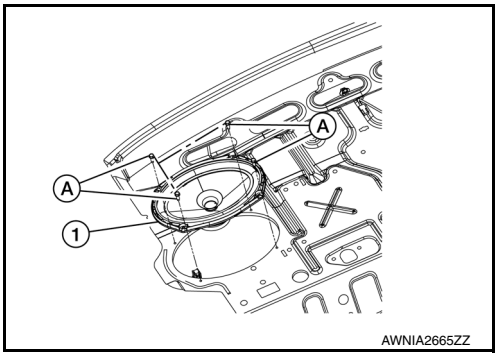
REAR SPEAKER

Removal and Installation

INFOID:0000000012591147

REMOVAL

1. Remove the rear parcel shelf finisher. Refer to INT-26, "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.

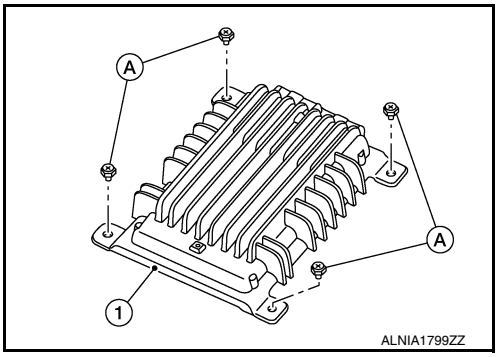
BOSE SPEAKER AMP

Removal and Installation

INFOID:0000000012591148

REMOVAL

1. Open the trunk lid.
2. Remove the Bose speaker amp. screws (A).
3. Disconnect the harness connectors from the Bose speaker amp. (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

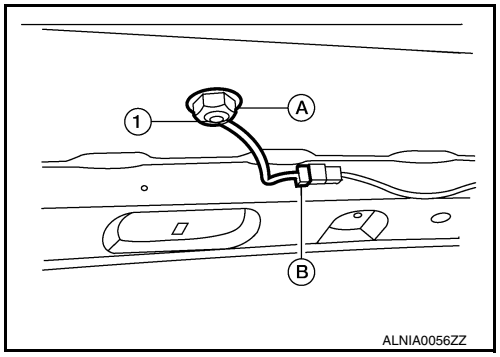
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:0000000012591149

REMOVAL

1. Lower the headlining at the rear. Refer to INT-30, "Removal and Installation".
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.

Satellite radio antenna nut : 6.5 N·m (0.66 kg-m, 58 in-lb)

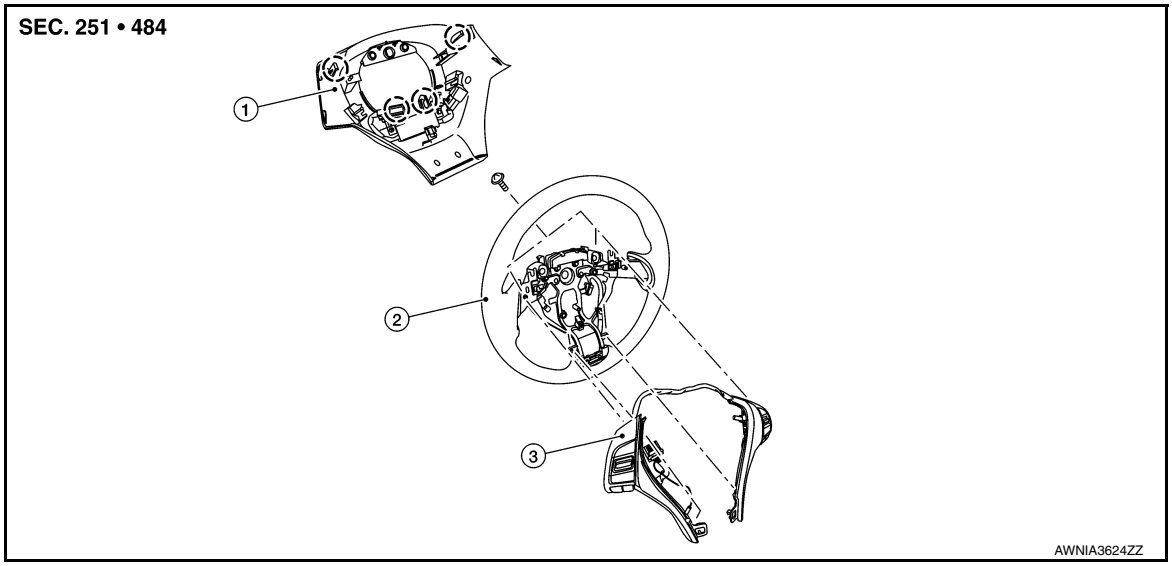
CAUTION:

If the satellite radio antenna nut is not tightened to the specified torque, lower sensitivity of the antenna may be experienced. If the nut is tightened tighter than the specified torque, this will deform the roof panel.

STEERING SWITCH

Exploded View

INFOID:0000000012591150



1. Steering wheel rear finisher
2. Steering wheel
3. Steering switches

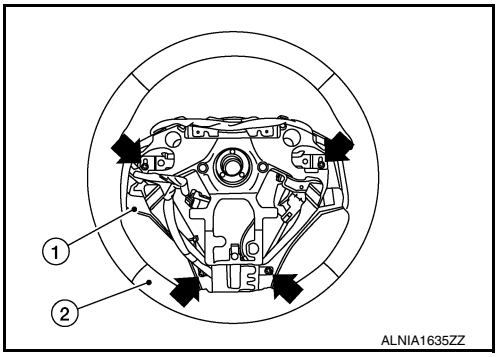
Pawl

Removal and Installation

INFOID:0000000012591151

REMOVAL

1. Remove the steering wheel. Refer to ST-32, "Removal and Installation"
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (⬅).
4. Remove the steering switches (1) from steering wheel (2).



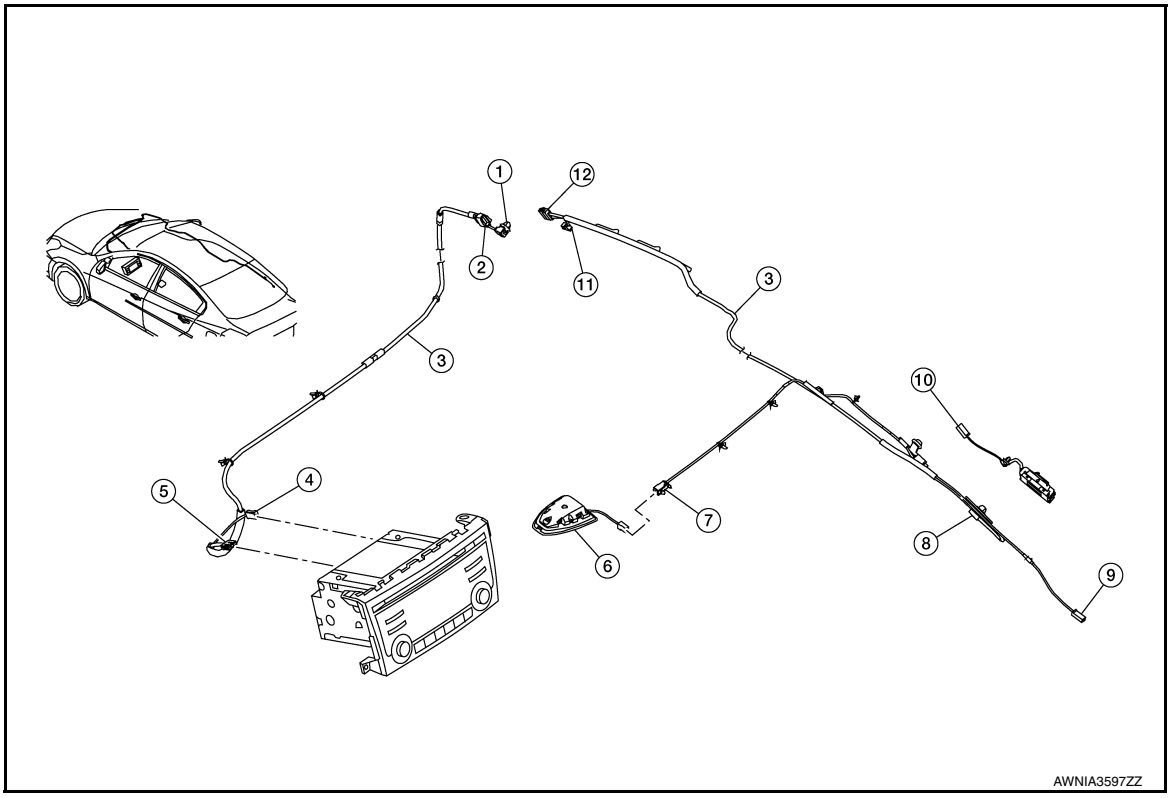
INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

Location of Antenna

INFOID:0000000012591152



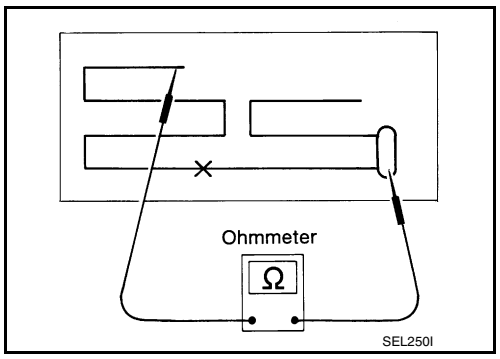
1. M102
2. M101
3. Antenna feeder
4. M110
5. M148
6. Satellite antenna
7. B59
8. M502
9. M504
10. M503
11. M500
12. M501

Window Antenna Repair

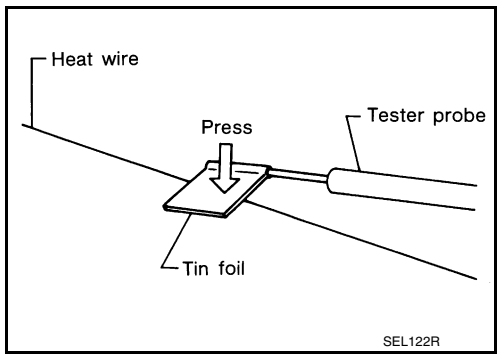
INFOID:0000000012591153

ELEMENT CHECK

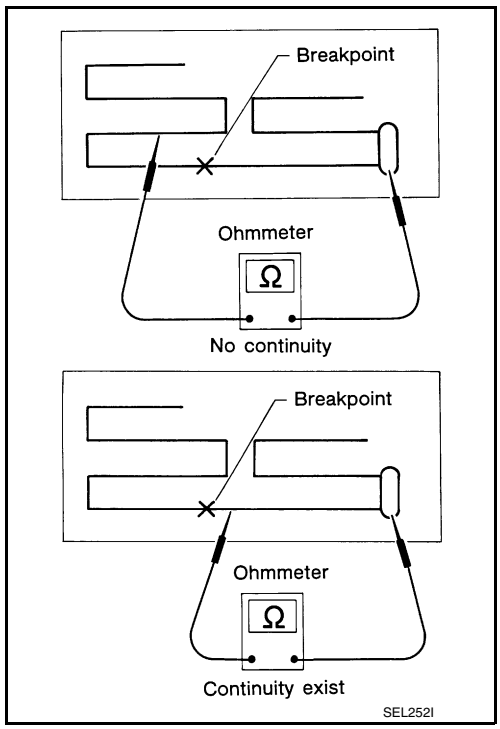
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



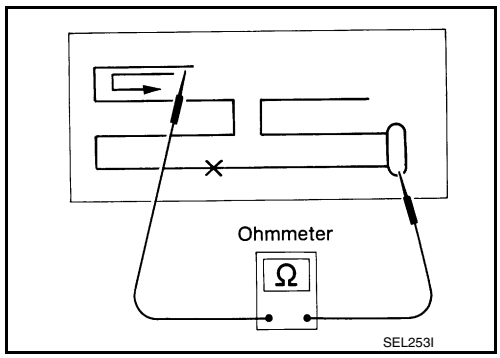
- **When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.**



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.

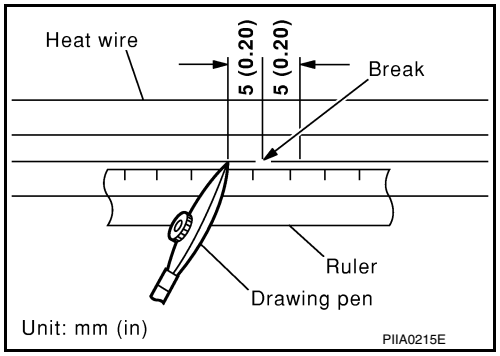


REPAIR EQUIPMENT

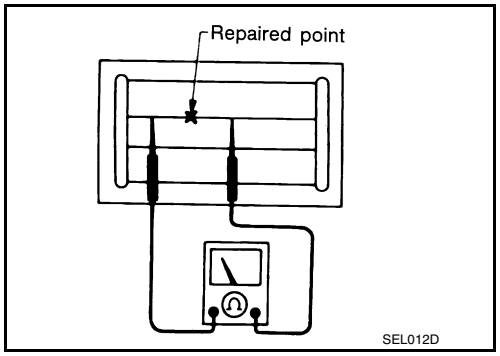
- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

REPAIRING PROCEDURE

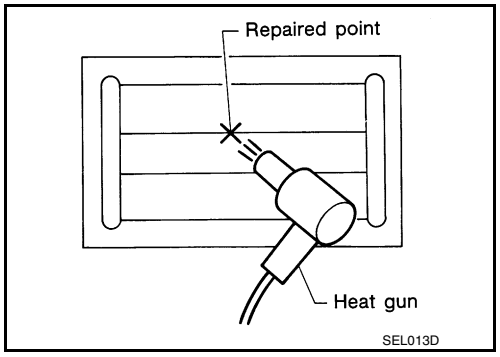
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.
   Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition 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.



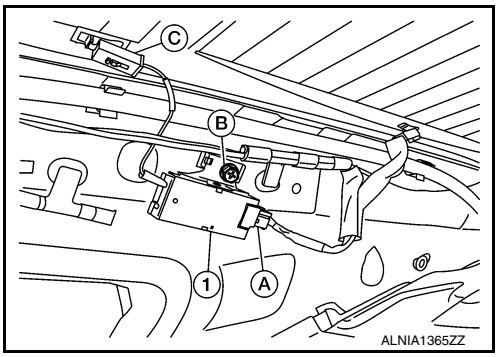
ANTENNA AMP.

Removal and Installation

INFOID:0000000012591154

REMOVAL

1. Remove the rear pillar finisher (RH). Refer to INT-25, "REAR PILLAR FINISHER : Removal and Installation".
2. Disconnect the harness connector (A) from the antenna amp. (1).
3. Disconnect the antenna amp. harness connector (C) from the rear window glass.
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

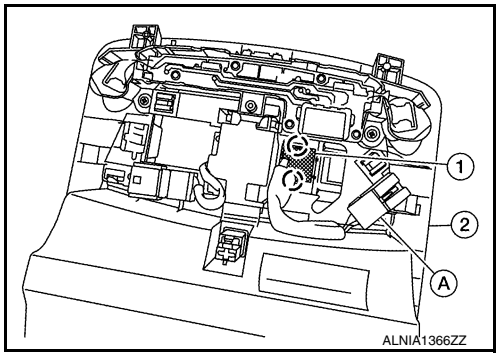
MICROPHONE

Removal and Installation

INFOID:0000000012591155

REMOVAL

1. Remove the front room/map lamp assembly. Refer to INL-60, "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.

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000012591157

REMOVAL

1. Remove license lamp finisher. Refer to EXT-46, "Removal and Installation".
2. Disconnect the harness connector from rear view camera.
3. Remove rear view camera.

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:0000000012591159

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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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 or batteries, and wait at least three minutes before performing any service.**

Cautions in Removing Battery Terminal and AV Control Unit (Models with AV Control Unit)

INFOID:0000000012591160

CAUTION:

Remove battery terminal and AV control unit 30 seconds or more after turning the ignition switch OFF.

NOTE:

After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

Precaution for Trouble Diagnosis

INFOID:0000000012591161

AV COMMUNICATION SYSTEM

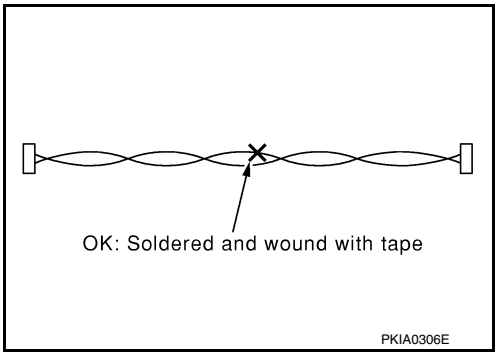
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

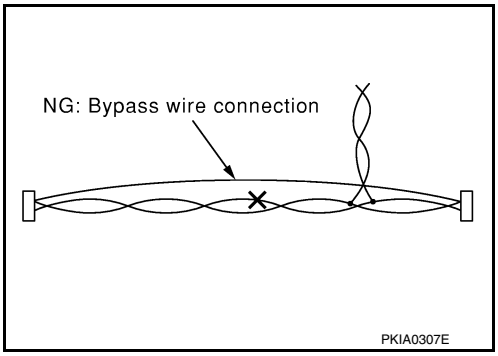
INFOID:0000000012591162

AV COMMUNICATION SYSTEM

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



- 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:0000000012591163

- 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.

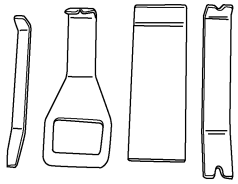
PREPARATION

PREPARATION

Special Service Tools

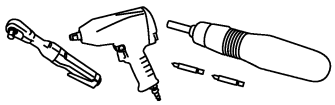
INFOID:0000000012591164

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:0000000012591165

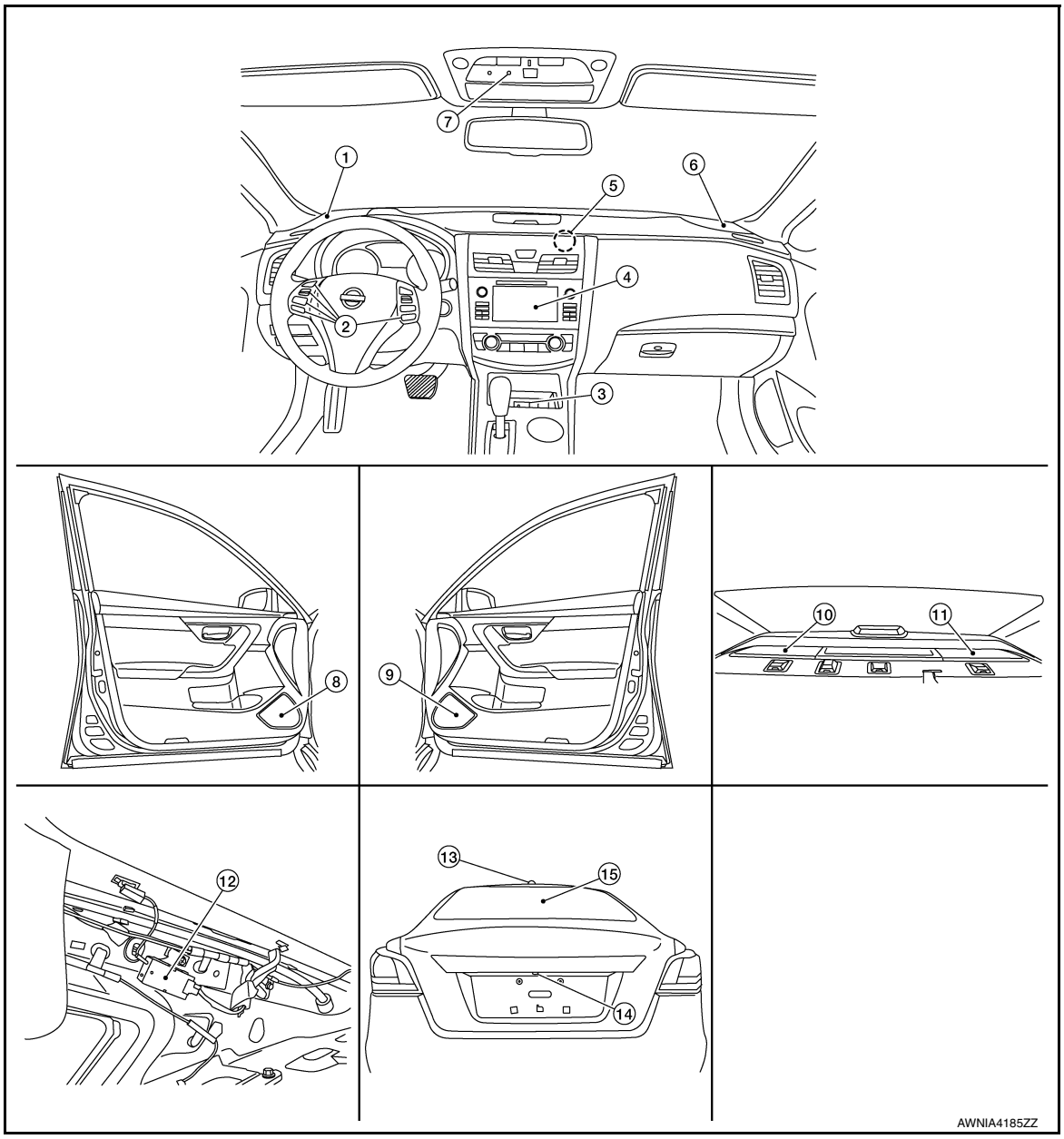
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012591166



1. Front speaker LH
2. Steering switches
3. USB interface and AUX in jack
4. AV control unit
5. GPS antenna
6. Front speaker RH
7. Microphone
8. Front door speaker LH
9. Front door speaker RH
10. Rear speaker RH
11. Rear speaker LH
12. Antenna amp.
13. Satellite antenna
14. Rear view camera
15. Window antenna

Component Description

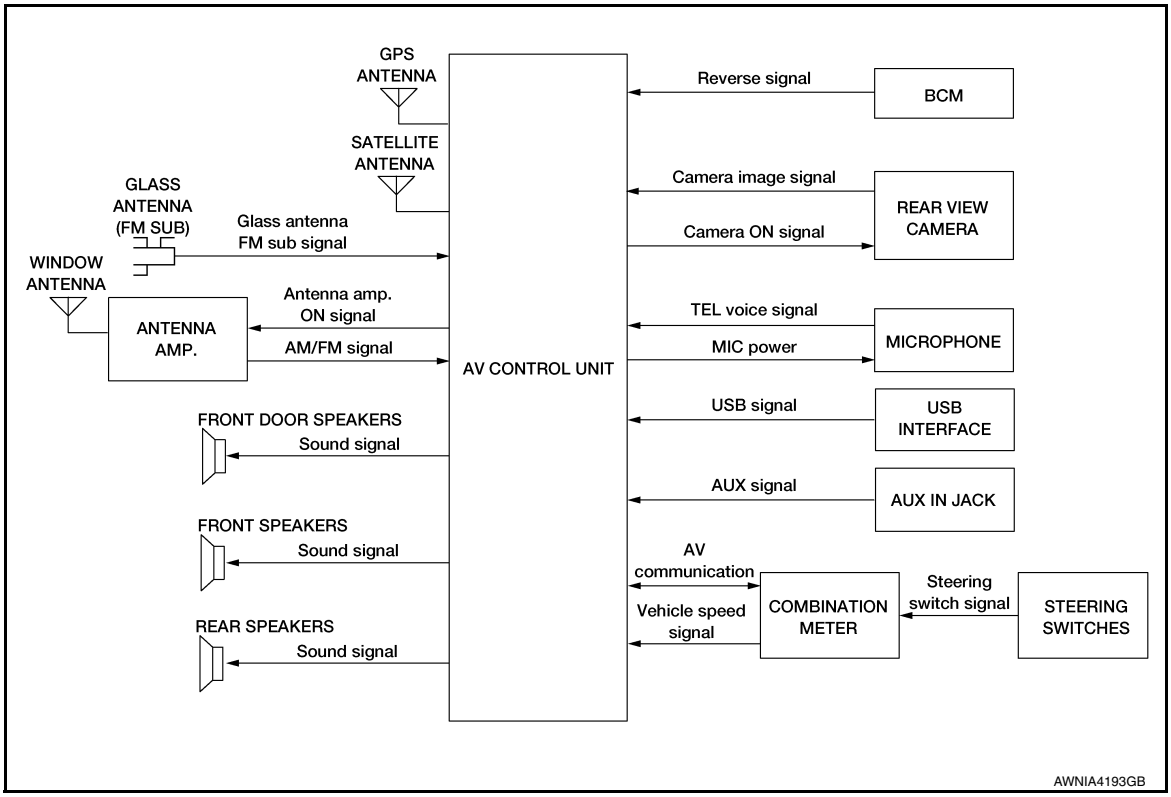
INFOID:0000000012591167

Part name	Description
AV control unit	• Operation of navigation and audio systems are integrated. • Includes the audio, hands-free phone, navigation, satellite radio, rear view monitor, USB interface and AUX in jack 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.
Front door speakers	Outputs high, mid and low range audio signals from AV control unit.
Front speakers	
Rear speakers	
Steering switches	• Operations for audio, hands-free phone and voice recognition are possible. • Steering switch signal is output to combination meter. • Combination meter outputs steering switch signal to AV control unit.
Microphone	• Used for hands-free phone operations. • Microphone signal is transmitted to AV control unit. • Power is supplied from AV control unit.
USB interface and AUX in jack	• USB sound and data input signals are transmitted to AV control unit. • AUX sound input signals are transmitted to AV control unit.
Rear view camera	• 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.	• 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.

SYSTEM

System Diagram

INFOID:0000000012591168



System Description

INFOID:0000000012591169

Refer to Owner's Manual for navigation and audio system operating instructions.
Audio function and display are built into AV control unit.
This navigation unit has the following functions:

- Map data on SD-card
- High resolution color 5 inch display with touch panel function
- FM/AM twin digital tuner
- USB interface and AUX in jack
- Full support for playback of music from iPod®
- 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

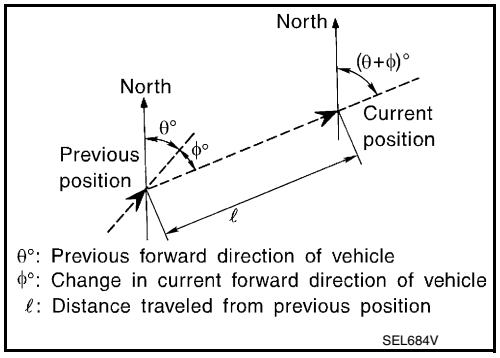
The navigation system periodically calculates the vehicle's current position according to the following three signals:

- 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.

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.



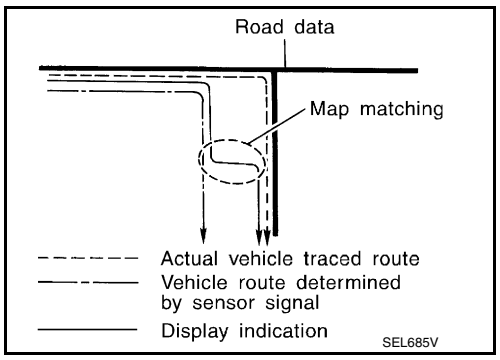
Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	Can detect the vehicle's turning angle quite accurately.	Direction errors may accumulate when vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	Can detect the vehicle's travel direction (North/South/East/West).	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

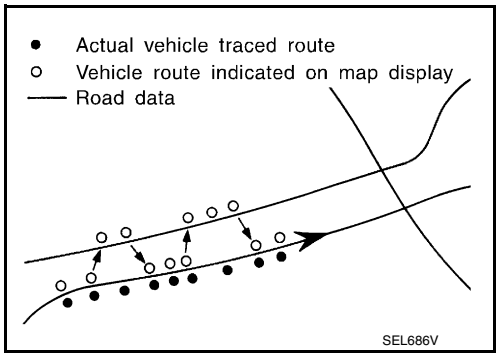
Map-matching compares a current location detected by the method in the “Location Detection Principle” with a road map data from map SD-card.

NOTE:
The road map data is based on data stored in the map SD-card.

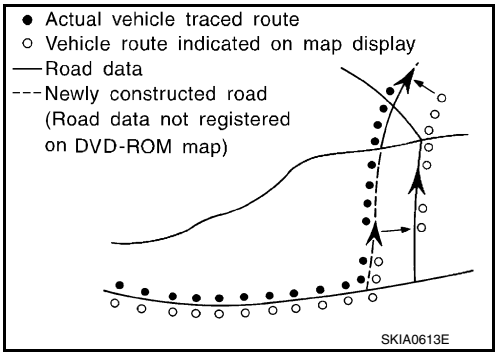


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

- 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.



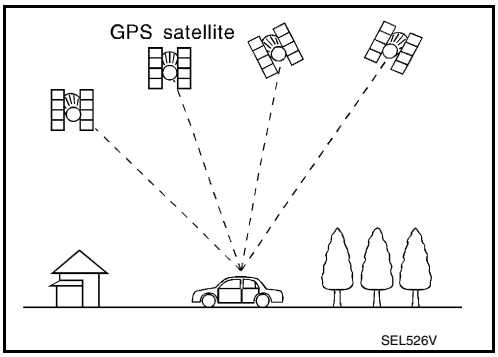
- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair.
  The map-matching function may find another road and position the vehicle 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.

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.

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.

USB INTERFACE AND AUX IN JACK FUNCTION

- Sound and data signals are transmitted from USB interface to the AV control unit and output to each speaker and tweeter.
- Sound signals are transmitted from AUX in jack to the AV control unit and output to each speaker and tweeter.

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.

HANDS-FREE PHONE SYSTEM

- Bluetooth® control is built into AV control unit.
- The connection between cellular phone and AV control unit is performed with Bluetooth® communication.
- 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.
- 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.
- TEL voice signal is input to AV control unit by establishing Bluetooth® communication from cellular phone, and the signal is output to front speakers.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000012591170

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	—	Calibration of the touch panel display can be performed.
	Screenshot to USB	—	A screenshot of the display can be saved to USB memory.
	Time Interval	—	Destination time interval can be selected.
Radio	FM monitor	—	Monitors the dynamic values of the current tuner
	AM monitor	—	
	SXM monitor	—	Version data is displayed.
System State	Running System Status	• SD card slot acces. • Power Supply • Speed Signal • Direction Signal • Illumination Signal • GPS Antenna • GPS tracking • Satellites visible • Satellites tracked • Microphone Current • Steer. wheel key • Radio Antenna • #No translation requi... • SXM Antenna • USB Device • iPod firmware ver. • BT Status	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	—	This provides a test sequence where test displays (plain colored display: e.g. white, black, red, blue, green) are shown one after the other. The respective color is shown for an indicated period of time (parameter). After the display test, the design of the display previously available is stored. While the screen shows a plain colored display, a pixel malfunction may be detected.
Self Test		• SD Card Access • BT Module Access • GPS Antenna • Radio Antenna • SXM 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.

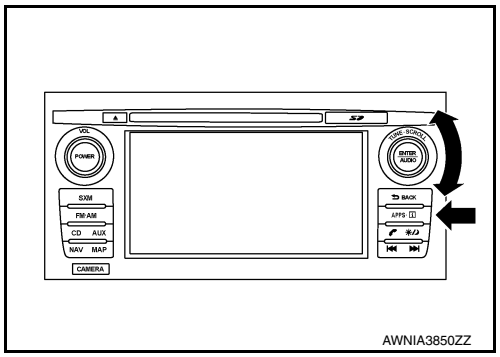
On Board Diagnosis Function

INFOID:0000000012591171

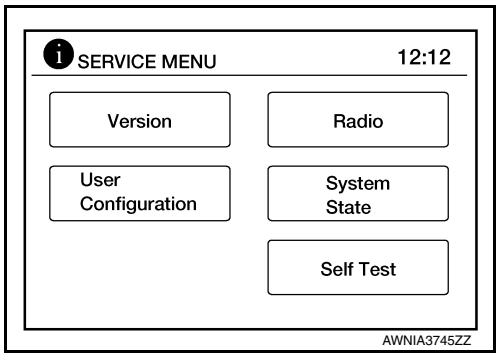
METHOD OF STARTING

1. Turn the ignition ON.

2. Turn the audio system OFF.
3. While pressing the APPS button, turn the TUNE-SCROLL dial counterclockwise 5 or more clicks, then clockwise 5 or more clicks, then counterclockwise 5 or more clicks. Shifting from current screen to previous screen is performed by pressing BACK button.



4. The trouble diagnosis initial screen is displayed, and Version, User Configuration, Radio, System State or Self Test can be selected.



CONSULT Function

INFOID:0000000012591172

CAUTION:
After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF → ON (for at least 5 seconds) → OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.

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	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing AV control unit.
CAN Diag Support Mntr	• 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-224, "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.

Monitor Item [Unit]	Description
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-239, "CONFIGURATION (AV CONTROL UNIT) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-16, "CAN Diagnostic Support Monitor".

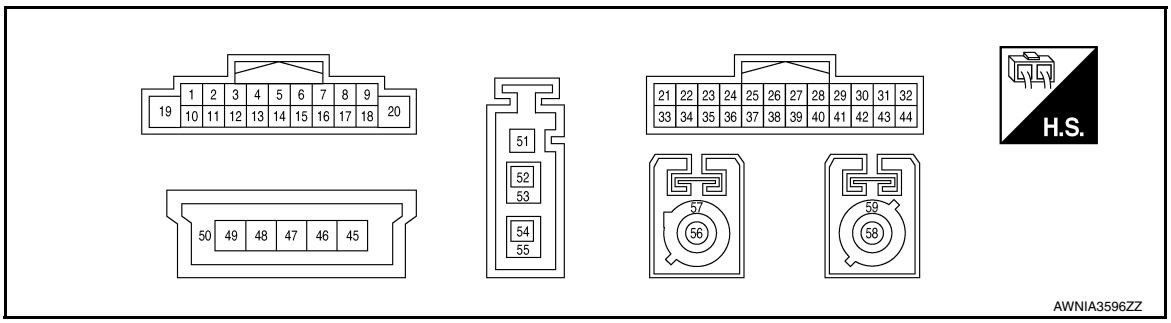
ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

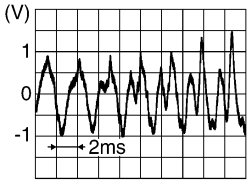
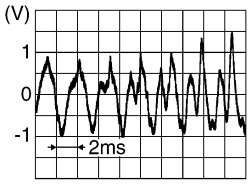
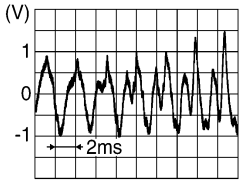
Reference Value

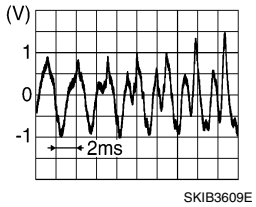
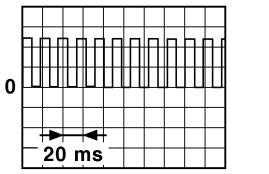
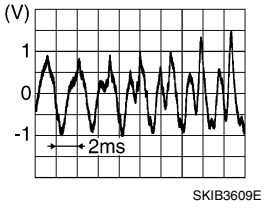
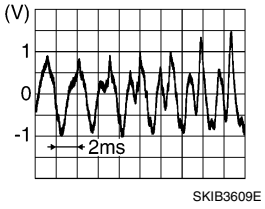
INFOID:0000000012591173

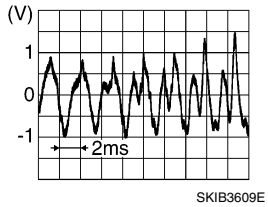
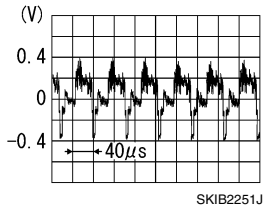
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
2 (V)	3 (SB)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
4 (BR)	5 (Y)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIB3609E
7 (P)	Ground	ACC power supply	Input	ACC	—	Battery voltage
8 (L)	—	CAN high	Input/ Output	—	—	—
9 (R)	33 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
11 (Y)	12 (BR)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
13 (LG)	14 (V)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
17 (P)	—	CAN low	Input/ Output	—	—	—
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (G)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (GR)	Ground	Ground	—	ON	—	0 V
21 (W)	Ground	AUX audio signal RH	Input	ON	AUX audio signal received	 SKIB3609E
22 (B)	—	AUX ground	—	ON	—	0V
23 (R)	Ground	AUX audio signal LH	Input	ON	AUX audio signal received	 SKIB3609E
24 (BR)	—	BF mic	Input	—	—	—
25 (G)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
					Selector lever in any position other than R (reverse)	0 V
30 (P)	—	MR output	Output	—	—	—
31 (SB)	—	AV communication (H)	Input/ Output	—	—	—
32 (LG)	—	AV communication (L)	Input/ Output	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
34 (B)	36 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 SKIB3609E
35 (W)	Ground	Microphone power supply	Output	ON	—	5.0 V
37 (Shield)	—	AUX shield	—	—	—	—
38 (SB)	—	AV communication (H)	Input/ Output	—	—	—
39 (LG)	—	AV communication (L)	Input/ Output	—	—	—
40 (BG)	Ground	Ignition power supply	Input	ON or START	—	Battery voltage
41 (B)	Ground	Camera image signal	Input	ON	When camera image is displayed	 SKIB2251J
42 (Shield)	—	Camera shield	—	—	—	—
43 (W)	Ground	Camera power supply	Output	ON	When camera image is displayed	6.0 V
					Except for above	0 V
44 (R)	Ground	Camera ground	—	ON	—	0 V
45 (B)	—	USB ground	—	—	—	—
47 (G)	—	USB D+ signal	—	—	—	—
48 (W)	—	USB D− signal	—	—	—	—
49 (R)	—	V BUS signal	—	—	—	—
50 (Shield)	—	USB shield	—	—	—	—
51 (B)	Ground	Antenna amp. ON signal	Output	ON	—	Battery voltage
52 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V
53 (Shield)	—	AM/FM antenna shield	—	—	—	—
54 (B)	Ground	Glass antenna (FM sub) signal	Input	ON	—	5.0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
55 (Shield)	—	Glass antenna shield	—	—	—	—
56 (B)	Ground	Satellite antenna signal	Input	ON	—	5.0 V
57 (Shield)	—	Satellite antenna shield	—	—	—	—
58 (B)	Ground	GPS antenna signal	Input	ON	—	5.0 V
59 (Shield)	—	GPS antenna shield	—	—	—	—

DTC Index

INFOID:0000000012591174

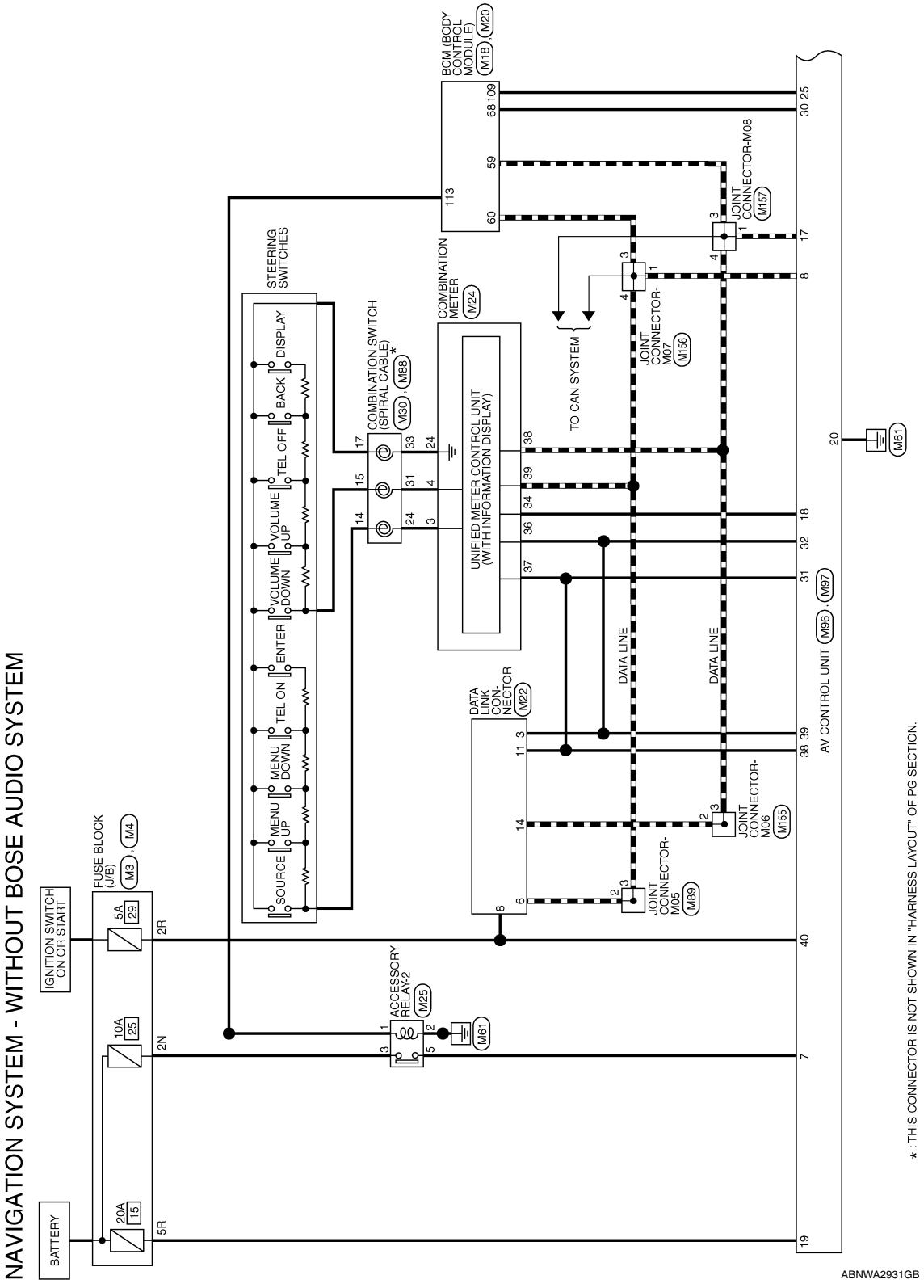
CONSULT Display	Reference Page
U1000: CAN COMM CIRCUIT	AV-242, "DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-243, "DTC Logic"
U1217: BLUETOOTH MODULE	AV-244, "DTC Logic"
U1229: iPod CERTIFICATION	AV-245, "DTC Logic"
U122F: Digital broadcasting connection error	AV-246, "DTC Logic"
U1244: GPS ANTENNA CONN	AV-247, "DTC Logic"
U1258: XM ANTENNA CONN	AV-248, "DTC Logic"
U1263: USB OVERCURRENT	AV-249, "DTC Logic"
U1264: ANTENNA AMP TERMINAL	AV-250, "DTC Logic"
U12AA: Configuration Error	AV-251, "DTC Logic"
U12AB: FM Antenna error	AV-252, "DTC Logic"
U12AC: Display Temperature too High	AV-253, "DTC Logic"
U12AD: ECU Temperature too High	AV-254, "DTC Logic"
U12AE: Internal Amplifier temperature Warning	AV-255, "DTC Logic"
U12AF: CD Mechanism Temperature Warning	AV-256, "DTC Logic"
U12B0: Supply Voltage Goes below 9V > 20s	AV-257, "DTC Logic"
U12B1: Supply Voltage Goes High > 16V for 20s	AV-258, "DTC Logic"
U1300: AV COMM CIRCUIT	AV-259, "DTC Logic"
U1310: CONTROL UNIT (AV)	AV-261, "DTC Logic"

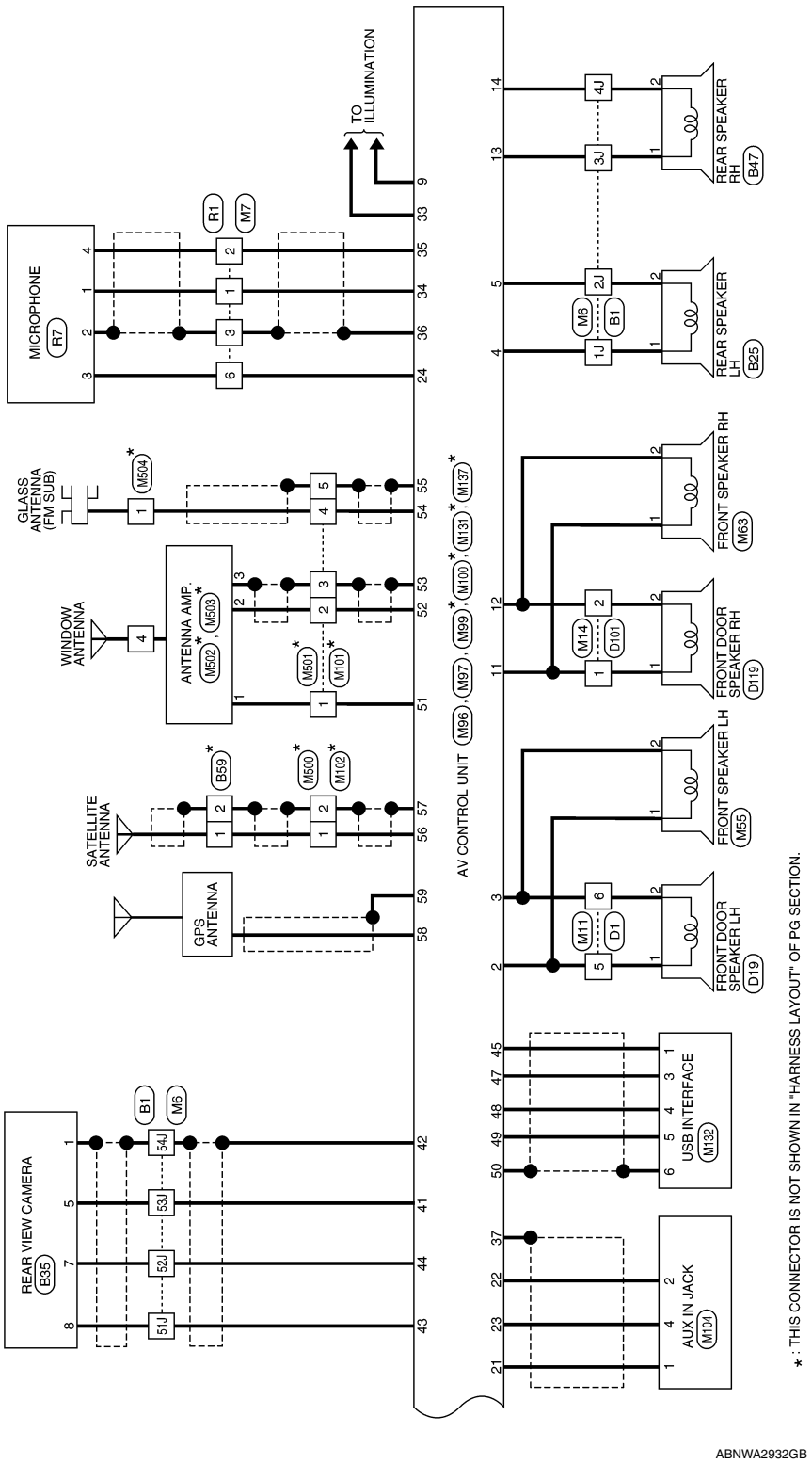
WIRING DIAGRAM

NAVIGATION WITHOUT BOSE

Wiring Diagram

INFOID:0000000012591175





ABNWA2932GB

NAVIGATION SYSTEM CONNECTORS - WITHOUT BOSE AUDIO SYSTEM

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

3N		2N	1N
		7N	6N	5N	4N
8N			

Terminal No.	Color of Wire	Signal Name
2N	LG	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
2R	BG	–
5R	G	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

			1J	2J	3J	4J	5J			
			6J	7J	8J	9J	10J			
11J	12J	13J	14J	15J	16J	17J	18J	19J	20J	21J
22J	23J	24J	25J	26J	27J	28J	29J	30J		
31J	32J	33J	34J	35J	36J	37J	38J	39J	40J	41J
42J	43J	44J	45J	46J	47J	48J	49J	50J		
51J	52J	53J	54J	55J	56J	57J	58J	59J	60J	61J
62J	63J	64J	65J	66J	67J	68J	69J	70J		
71J	72J	73J	74J	75J	76J	77J	78J	79J	80J	81J
82J	83J	84J	85J	86J	87J	88J	89J	90J		
			91J	92J	93J	94J	95J			
				96J	97J	98J	99J	100J		

Terminal No.	Color of Wire	Signal Name
1J	BR	–
2J	Y	–
3J	LG	–
4J	V	–
51J	W	–
52J	R	–
53J	B	–
54J	SHIELD	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	B	–
2	W	–
3	SHIELD	–
6	BR	–

ABNIA8210GB

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	V	– (WITHOUT BOSE AUDIO SYSTEM)
6	SB	– (WITHOUT BOSE AUDIO SYSTEM)

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2		3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	Y	– (WITHOUT BOSE AUDIO SYSTEM)
2	BR	– (WITHOUT BOSE AUDIO SYSTEM)

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
59	P	CAN-L
60	L	CAN-H
68	P	MR OUTPUT

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

H.S.

116	115	114	113	112	111	110	109	108	107	106	105
128	127	126	125	124	123	122	121	120	119	118	117

Terminal No.	Color of Wire	Signal Name
109	G	REVERSE SIGNAL
113	P	ACC RELAY OUT

Connector No.	M22
Connector Name	DATA LINK CONNECTOR
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	LG	–
6	L	–
8	BG	–
11	SB	–
14	P	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	P	STRG SW INPUT1
4	R	STRG SW INPUT2
24	W	STRG SW GND
34	G	SPEED 8P/R
36	LG	M-CAN-L
37	SB	M-CAN-H
38	P	CAN-L
39	L	CAN-H

AANIA3102GB

Connector No.	M55
Connector Name	FRONT SPEAKER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	V	– (WITHOUT BOSE AUDIO SYSTEM)
2	SB	– (WITHOUT BOSE AUDIO SYSTEM)

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

H.S.

Terminal No.	Color of Wire	Signal Name
24	P	–
31	R	–
33	W	–

Connector No.	M25
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	LG	–
5	P	–

Connector No.	M89
Connector Name	JOINT CONNECTOR-M05
Connector Color	WHITE

H.S.

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

Connector No.	M88
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
14	P	–
15	L	–
17	G	–

Connector No.	M63
Connector Name	FRONT SPEAKER RH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	– (WITHOUT BOSE AUDIO SYSTEM)
2	BR	– (WITHOUT BOSE AUDIO SYSTEM)

ABNIA8211GB

Connector No.	M96
Connector Name	AV CONTROL UNIT (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	–	–
2	V	FR SP LH (+)
3	SB	FR SP LH (-)
4	BR	RR SP LH (+)
5	Y	RR SP LH (-)
6	–	–
7	P	ACC
8	L	CAN-H
9	R	ILL (+), LIGHT SW
10	–	–
11	Y	FR SP RH (+)
12	BR	FR SP RH (-)
13	LG	RR SP RH (+)
14	V	RR SP RH (-)
15	–	–
16	–	–
17	P	CAN-L
18	G	SPEED SIGNAL
19	G	BAT
20	GR	GND

Connector No.	M97
Connector Name	AV CONTROL UNIT (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
21	W	AUX R
22	B	AUX GND
23	R	AUX L
24	BR	BF MIC
25	G	REVERSE
26	–	–
27	–	–
28	–	–
29	–	–
30	P	MR OUTPUT
31	SB	M-CAN-H
32	LG	M-CAN-L
33	GR	ILL (-)
34	B	MIC SIGNAL
35	W	MIC VCC
36	SHIELD	MIC GND
37	SHIELD	AUX SHIELD
38	SB	M-CAN-H
39	LG	M-CAN-L
40	BG	IGNITION
41	B	CAMERA +
42	SHIELD	CAMERA - (SHIELD)
43	W	CAMERA ON
44	R	CAMERA GND

Connector No.	M99
Connector Name	AV CONTROL UNIT
Connector Color	PINK

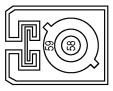
H.S.

Terminal No.	Color of Wire	Signal Name
56	B	SAT ANT
57	SHIELD	SAR SHIELD

ABNIA8212GB

Connector No.	M100
Connector Name	AV CONTROL UNIT
Connector Color	BLUE

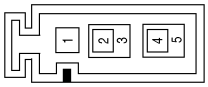
H.S.



Terminal No.	Color of Wire	Signal Name
58	B	GPS ANT
59	SHIELD	GPS SHIELD

Connector No.	M101
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	SHIELD	–
4	B	–
5	SHIELD	–

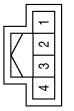
Connector No.	M102
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

Connector No.	M104
Connector Name	AUX IN JACK
Connector Color	WHITE

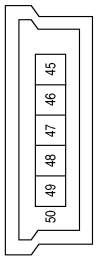
H.S.



Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
4	R	–

Connector No.	M131
Connector Name	AV CONTROL UNIT
Connector Color	BLACK

H.S.



Terminal No.	Color of Wire	Signal Name
45	B	USB GND
46	–	–
47	G	USB D+
48	W	USB D-
49	R	VBUS
50	SHIELD	SHIELD

ABNIA8213GB

Connector No.	M132
Connector Name	USB INTERFACE
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	–	–
3	G	–
4	W	–
5	R	–
6	SHIELD	–

Connector No.	M137
Connector Name	AV CONTROL UNIT
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
51	B	ANT B+
52	B	MAIN ANT
53	SHIELD	MAIN GND
54	B	ANT SUB
55	SHIELD	SUB GND

Connector No.	M155
Connector Name	JONIT CONNECTOR-M06
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	P	–
3	P	–

Connector No.	M156
Connector Name	JOINT CONNECTOR-M07
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
3	L	–
4	L	–

Connector No.	M157
Connector Name	JOINT CONNECTOR-M08
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	P	–
3	P	–
4	P	–

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

H.S.

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

ABNIA8214GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–

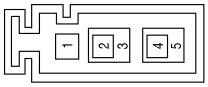
Connector No.	M502
Connector Name	ANTENNA AMP.
Connector Color	GRAY

H.S.

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

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

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	SHIELD	–
4	B	–
5	SHIELD	–

Connector No.	M504
Connector Name	GLASS ANTENNA
Connector Color	BLACK

H.S.

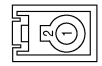
Terminal No.	Color of Wire	Signal Name
1	B	–

ABNIA8215GB

Connector No.	B25
Connector Name	REAR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

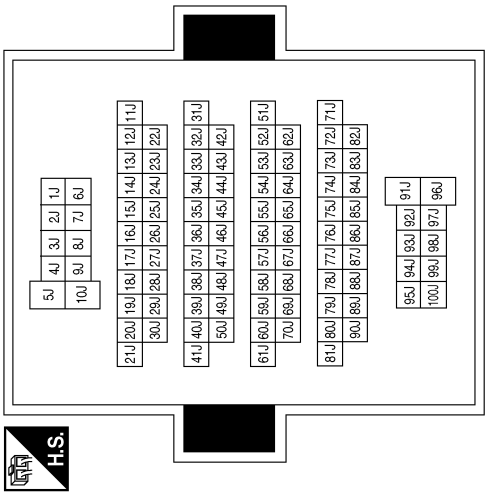
Terminal No.	Color of Wire	Signal Name
1	Y	–
2	LG	–

Connector No.	B59
Connector Name	SATELLITE RADIO ANTENNA
Connector Color	BROWN



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

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	GRAY

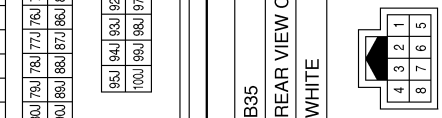


Terminal No.	Color of Wire	Signal Name
1J	Y	–
2J	LG	–
3J	LG	–
4J	L	–
51J	W	–
52J	B	–
53J	R	–
54J	SHIELD	–

Connector No.	B47
Connector Name	REAR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

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

Connector No.	B35
Connector Name	REAR VIEW CAMERA
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	SHIELD	–
5	R	–
7	B	–
8	W	–

ABNIA8216GB

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	G	–
6	W	– (WITH NAVI OR BOSE AUDIO SYSTEM)

Connector No.	R7
Connector Name	MICROPHONE
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	L	–
2	SHIELD	–
3	BR	–
4	Y	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
2	Y	–
3	SHIELD	–
6	BR	–

Connector No.	D119
Connector Name	FRONT DOOR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	– (WITH NAVI)

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

H.S.

3		2	1
8	7	6	5	4

Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	– (WITH NAVI OR BOSE AUDIO SYSTEM)

Connector No.	D19
Connector Name	FRONT DOOR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	– (WITH NAVI)

ABNIA8217GB

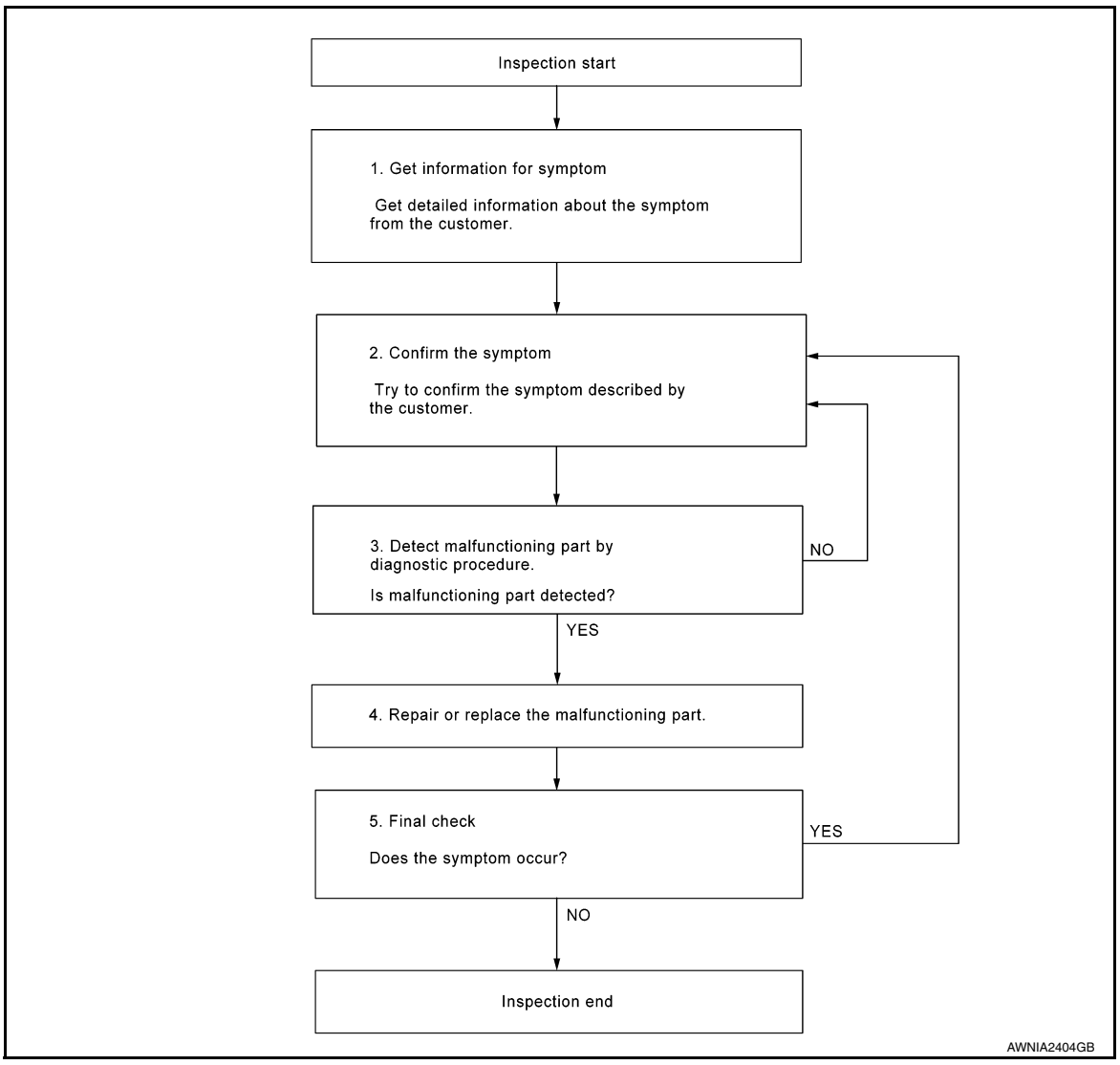
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000012591176

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-277, "Symptom Table".

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5. FINAL CHECK

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

Was the repair confirmed?

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

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:0000000012591177

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:0000000012591178

1. SAVING VEHICLE SPECIFICATION

-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-290, "Removal and Installation".

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

CONSULT

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-239, "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-239, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

>> GO TO 4.

4. REGISTER AV CONTROL UNIT

Perform AV control unit registration. Refer to AV-240, "REGISTRATION (AV CONTROL UNIT) : Work Procedure".

>> GO TO 5.

5. 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)

CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:0000000012591179

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"	• 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:0000000012591180

1.WRITING MODE SELECTION

CONSULT
Select “Reprogramming, Configuration” of “MULTI AV”.

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-240, "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.

>> Work End.

CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:0000000012591181

CAUTION:
Thoroughly read and understand the vehicle specification. Incorrect settings may result in abnormal control of ECU.

SETTING ITEM		NOTE
Items	Setting value	
SOUND SYSTEM	BASE ⇔ BOSE	BASE: Without BOSE audio BOSE: With BOSE audio
CAMERA SYSTEM	NONE/AVM ⇔ REAR CAMERA	NONE/AVM: With around view monitor REAR CAMERA: With rear view camera

⇔: Items which confirm vehicle specifications

REGISTRATION (AV CONTROL UNIT)

REGISTRATION (AV CONTROL UNIT) : Description

INFOID:0000000012591182

AFTER REPLACEMENT

If the AV control unit is replaced with a new AV control unit, the new AV control unit must be registered using the registration code.

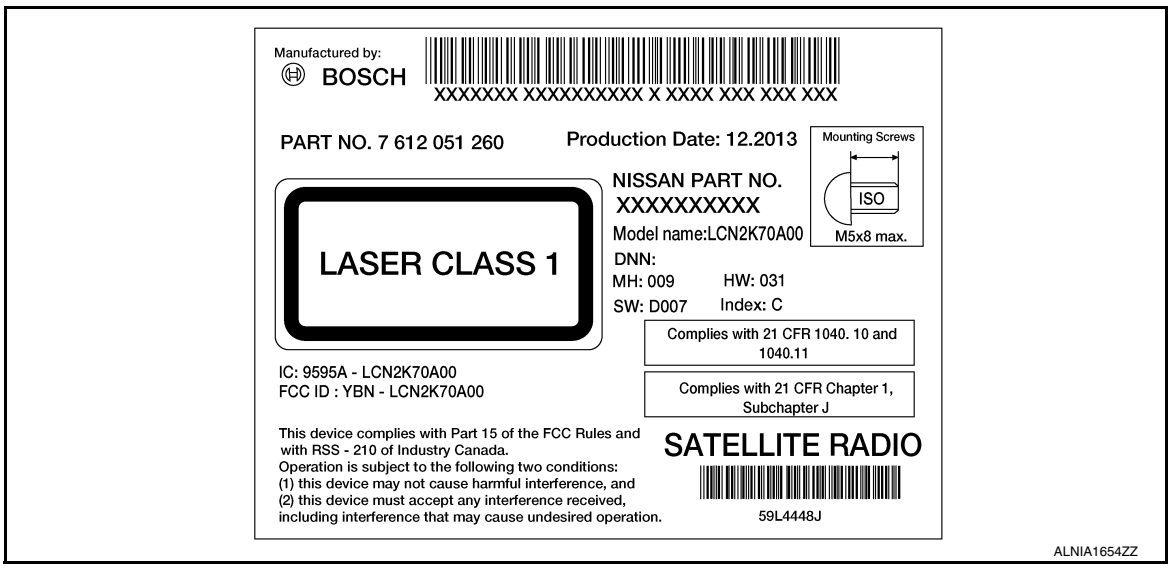
CAUTION:
If the new AV control unit registration code is not registered, the "APPS" mode will not function.

REGISTRATION (AV CONTROL UNIT) : Work Procedure

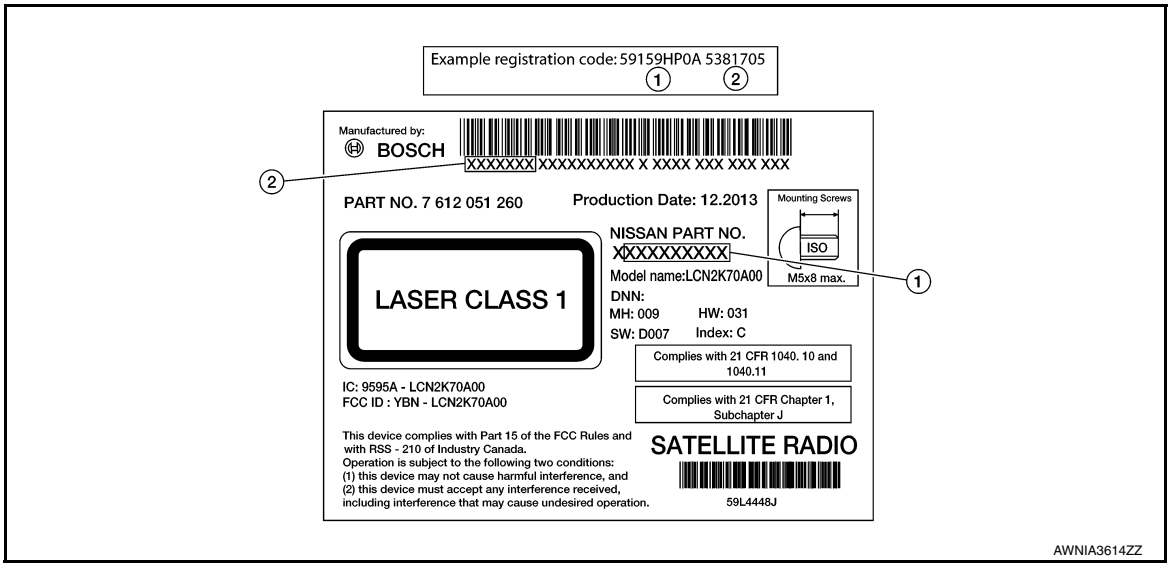
INFOID:0000000012591183

1.RECORD REGISTRATION CODE FOR REPLACEMENT AV CONTROL UNIT

1. Refer to the replacement AV control unit's label located on the top of the AV control unit.



2. Create a registration code to supply to NISSAN Owner Services by combining the last 9 digits of the NISSAN PART NO. (1) and the first 7 digits of the bar code number (2).



3. Record the registration code.

>> GO TO 2.

2. REGISTER REPLACEMENT AV CONTROL UNIT

Register the replacement AV control unit by contacting NISSAN Owner Services. Refer to TSB.

>> GO TO 3.

3. OPERATION CHECK

Verify that the AV control unit “APPS” function operates normally.

>> Work End.

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Logic

INFOID:0000000012591184

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:0000000012591185

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Perform “Self Diagnostic Result” of “MULTI AV” using CONSULT.

Is CAN COMM CIRCUIT displayed?

YES >> Refer to LAN-19, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-44, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000012591186

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-290, "Removal and Installation".

U1217 AV CONTROL UNIT

DTC Logic

INFOID:0000000012591187

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-290, "Removal and Installation".

U1229 AV CONTROL UNIT

DTC Logic

INFOID:0000000012591188

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-290, "Removal and Installation".

U122F AV CONTROL UNIT

DTC Logic

INFOID:0000000012591189

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-290, "Removal and Installation".

U1244 GPS ANTENNA

DTC Logic

INFOID:0000000012591190

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.	• GPS antenna disconnection. • Open or short to ground in GPS antenna signal circuit.

Diagnosis Procedure

INFOID:0000000012591191

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram".

1.GPS ANTENNA INSPECTION

Visually inspect the GPS antenna and antenna feeder. Refer to AV-297, "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 M100.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal 58 and ground.

AV control unit terminal	Ground	Voltage
(+)	(–)	
58	—	5.0 V

Is inspection result normal?

YES >> Replace GPS antenna. Refer to AV-297, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-290, "Removal and Installation".

U1258 SATELLITE RADIO ANTENNA

DTC Logic

INFOID:0000000012591192

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.	• Satellite antenna disconnection. • Open or short to ground in satellite antenna signal circuit.

Diagnosis Procedure

INFOID:0000000012591193

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram".

1.SATELLITE ANTENNA INSPECTION

Visually inspect the satellite antenna and antenna feeder. Refer to AV-299, "Location of Antenna".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK SATELLITE ANTENNA FEEDER CONTINUITY

1. Disconnect AV control unit connector M99 and satellite radio antenna connector B59.
2. Check continuity between AV control unit connector M99 and satellite radio antenna connector B59.

AV control unit		Satellite radio antenna		Continuity
Connector	Terminal	Connector	Terminal	
M99	56	B59	1	Yes

3. Check continuity between AV control unit connector M99 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M99	56	—	No

Is the inspection result normal?

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

3.CHECK AV CONTROL UNIT VOLTAGE

1. Turn ignition switch ON.
2. Check voltage between AV control unit terminal 56 and ground.

AV control unit terminal	Ground	Voltage
(+)	(−)	
56	—	5.0 V

Is inspection result normal?

YES >> Replace satellite radio antenna AV-296, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-290, "Removal and Installation".

U1263 USB

DTC Logic

INFOID:0000000012591194

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
USB OVERCURRENT [U1263]	Overcurrent in USB harness is detected.	• 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” of “MULTI AV” using CONSULT.

Is DTC U1263 displayed?

YES >> Refer to AV-249, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012591195

1.CHECK USB INTERFACE HARNESS

Visually inspect USB interface harness. Refer to AV-291, "Removal and Installation".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace USB interface harness. Refer to AV-291, "Removal and Installation".

2.CHECK USB INTERFACE HARNESS

Check USB interface harness. Refer to AV-275, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-290, "Removal and Installation".
NO >> Replace USB interface harness. Refer to AV-291, "Removal and Installation".

U1264 ANTENNA AMP.

DTC Logic

INFOID:0000000012591196

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.	• Antenna amp. disconnection. • Open or short to ground in antenna amp. ON signal circuit.

Diagnosis Procedure

INFOID:0000000012591197

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram".

1.ANTENNA AMP. INSPECTION

Visually inspect the antenna amp. and antenna feeder. Refer to AV-299, "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 M137 and antenna amp. connector M502.
3. Check continuity between AV control unit connector M137 and antenna amp. connector M502.

AV control unit		Antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	
M137	51	M502	1	Yes

4. Check continuity between AV control unit connector M137 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M137	51	—	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 M137.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M137 and ground.

AV control unit		Ground	Voltage (Approx.)
(+)		(–)	
Connector	Terminal		
M137	51	—	Battery voltage

Is the inspection result normal?

YES >> Replace antenna amp. Refer to AV-302, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-290, "Removal and Installation".

U12AA CONFIGURATION ERROR

DTC Logic

INFOID:0000000012591198

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-239, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

Diagnosis Procedure

INFOID:0000000012591199

1.PERFORM CONFIGURATION

When U12AA is detected, configuration data must be written.

>> Write configuration data with CONSULT. Refer to AV-239, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

U12AB ANTENNA

DTC Logic

INFOID:0000000012591200

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
FM Antenna error [U12AB]	Open or short to ground is detected in glass antenna (FM sub) connection.	• Glass antenna (FM sub) disconnection. • Open or short to ground in glass antenna (FM sub) signal circuit.

Diagnosis Procedure

INFOID:0000000012591201

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram".

1.GLASS ANTENNA (FM SUB) INSPECTION

Visually inspect the glass antenna (FM sub) and antenna feeder. Refer to AV-299, "Location of Antenna".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK GLASS ANTENNA (FM SUB) FEEDER CONTINUITY

1. Disconnect AV control unit connector M137 and inline connector M504.
2. Check continuity between AV control unit connector M137 and inline connector M504.

AV control unit		Inline		Continuity
Connector	Terminal	Connector	Terminal	
M137	54	M504	1	Yes

3. Check continuity between AV control unit connector M137 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M137	54	—	No

Is the inspection result normal?

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

3.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect AV control unit connector M137.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal 54 and ground.

AV control unit terminal	Ground	Voltage
(+)	(−)	
54	—	5.0 V

Is inspection result normal?

YES >> Replace glass antenna (FM sub). Refer to GW-25, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-290, "Removal and Installation".

U12AC AV CONTROL UNIT

DTC Logic

INFOID:0000000012591202

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-290, "Removal and Installation".

U12AD AV CONTROL UNIT

DTC Logic

INFOID:0000000012591203

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-290, "Removal and Installation".

U12AE AV CONTROL UNIT

DTC Logic

INFOID:0000000012591204

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-290, "Removal and Installation".

U12AF AV CONTROL UNIT

DTC Logic

INFOID:0000000012591205

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-290, "Removal and Installation".

U12B0 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:0000000012591206

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.	• Charging system malfunction. • AV control unit power supply or ground circuits.

Diagnosis Procedure

INFOID:0000000012591207

1.CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to CHG-17, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-20, "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-262, "AV CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-290, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U12B1 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:0000000012591208

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:0000000012591209

1.CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to CHG-17, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-20, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-290, "Removal and Installation".
NO >> Repair or replace the malfunctioning components.

U1300 AV COMM CIRCUIT

DTC Logic

INFOID:0000000012591210

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
AV COMM CIRCUIT [U1300]	AV communication circuit malfunction (MCAN) between AV control unit and combination meter.	AV communication circuits between AV control unit and combination meter.

Diagnosis Procedure

INFOID:0000000012591211

1.PERFORM SELF DIAGNOSTIC RESULT FOR METER M&A

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Perform “Self Diagnostic Result” of “METER M&A” using CONSULT.

Are any DTCs displayed?

YES >> Refer to MWI-29, "DTC Index".
NO >> GO TO 2.

2.CHECK AV COMMUNICATION CIRCUIT (L) CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M97 and combination meter connector M24.
3. Check continuity between AV control unit connector M97 and combination meter connector M24.

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M97	32	M24	36	Yes
	39			

4. Check continuity between AV control unit connector M97 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M97	32	—	No
	39		

Is the inspection result normal?

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

3.CHECK AV COMMUNICATION CIRCUIT (H) CONTINUITY

1. Check continuity between AV control unit connector M97 and combination meter connector M24.

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M97	31	M24	37	Yes
	38			

2. Check continuity between AV control unit connector M97 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M97	31	—	No
	38		

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-290, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U1310 AV CONTROL UNIT

DTC Logic

INFOID:0000000012591212

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-290, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT
AV CONTROL UNIT
AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000012591213

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	25 (10A)
19	Battery power supply	15 (20A)
40	Ignition power supply	29 (5A)

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 M96 and M97.
3. Check voltage between AV control unit connectors M96 and M97 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M96	19	—	Ignition switch: OFF	Battery voltage
	7		Ignition switch: ON	
M97	40			

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 M96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M96	20	—	Yes

Is the inspection result normal?

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

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000012591214

Regarding Wiring Diagram information, refer to AV-225, "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 M96 and suspect front door speaker connector.
2. Check continuity between AV control unit connector M96 and suspect front door speaker connector.

AV control unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M96	2	D19 (LH)	1	Yes
	3		2	
	11	D119 (RH)	1	
	12		2	

3. Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M96	2	—	No
	3		
	11		
	12		

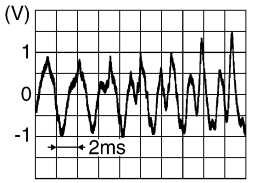
Is the inspection result normal?

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

3.CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect AV control unit connector M96 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M96 and ground.

AV control unit connector M96		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

2	3		
11	12	Audio signal output	 SKIB3609E

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-294, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-290, "Removal and Installation".

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000012591215

Regarding Wiring Diagram information, refer to AV-225, "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 SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M96 and suspect front speaker connector.
2. Check continuity between AV control unit connector M96 and suspect front speaker connector.

AV control unit		Front speaker		Continuity
Connector	Terminal	Connector	Terminal	
M96	2	M55 (LH)	1	Yes
	3		2	
	11	M63 (RH)	1	
	12		2	

3. Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M96	2	—	No
	3		
	11		
	12		

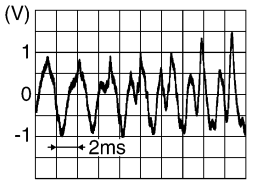
Is the inspection result normal?

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

3.CHECK FRONT SPEAKER SIGNAL

1. Connect AV control unit connector M96 and suspect front speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M96 and ground.

AV control unit connector M96		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

2	3		
11	12	Audio signal output	 SKIB3609E

Is the inspection result normal?

YES >> Replace front speaker. Refer to AV-293, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-290, "Removal and Installation".

REAR SPEAKER

Diagnosis Procedure

INFOID:0000000012591216

Regarding Wiring Diagram information, refer to AV-225, "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 M96 and suspect rear speaker connector.
2. Check continuity between AV control unit connector M96 and suspect rear speaker connector.

AV control unit		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
M96	4	B25 (LH)	1	Yes
	5		2	
	13	B47 (RH)	1	
	14		2	

3. Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M96	4	—	No
	5		
	13		
	14		

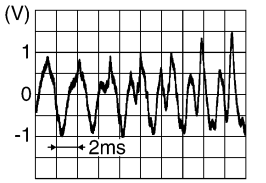
Is the inspection result normal?

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

3.CHECK REAR SPEAKER SIGNAL

1. Connect AV control unit connector M96 and suspect rear speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M96 and ground.

AV control unit connector M96		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

4	5		
13	14	Audio signal output	 SKIB3609E

Is the inspection result normal?

YES >> Replace rear speaker. Refer to AV-295, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-290, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591217

Regarding Wiring Diagram information, refer to AV-225, "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 M97 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M97	25	—	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 M97 and rear view camera connector.
3. Check continuity between AV control unit connector M97 and rear view camera connector B35.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M97	43	B35	8	Yes

4. Check continuity between AV control unit connector M97 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M97	43		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 M97 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 M97 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M97	43	—	Selector lever is in “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to AV-290, "Removal and Installation".

4. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M97 and rear view camera connector.
3. Check continuity between AV control unit connector M97 and rear view camera connector B35.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M97	41	B35	5	Yes

4. Check continuity between AV control unit connector M97 terminal 41 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M97	41		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 M97 and rear view camera connector B35.

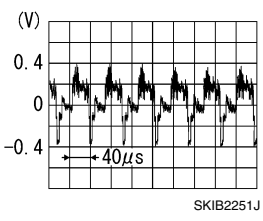
AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M97	44	B35	7	Yes

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 M97 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 M97 and ground.

AV control unit (+)		Ground (−)	Condition	Reference value
Connector	Terminal			
M97	41	—	Camera image displayed.	

SKIB2251J

Is inspection result normal?

YES >> Replace AV control unit. Refer to AV-290, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-304, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591218

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram".

1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M97 and microphone connector R7.
3. Check continuity between AV control unit connector M97 and microphone connector R7.

AV control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M97	36	R7	2	Yes
	35		4	
	34		1	

4. Check continuity between AV control unit connector M97 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M97	36	—	No
	35		
	34		

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 M97.
2. Turn ignition switch ON.
3. Check voltage between terminals of AV control unit connector M97.

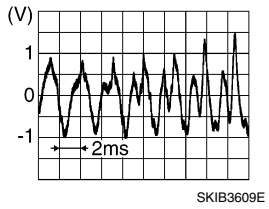
AV control unit connector M97		Voltage (Approx.)
(+)	(–)	
Terminal	Terminal	
35	36	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace AV control unit. Refer to AV-290, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of AV control unit connector M97.

AV control unit connector M97		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
34	36	Speak into microphone.	 SKIB3609E

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-290, "Removal and Installation".
NO >> Replace microphone. Refer to AV-303, "Removal and Installation".

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000012591219

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram".

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M88.
3. Check resistance between combination switch connector terminals.

Combination switch connector M88		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress △ switch.	121
		Depress ▽ switch.	321
		Depress switch.	723
		Depress ENTER switch.	2023
15		Depress switch.	1
		Depress switch.	121
		Depress switch.	321
		Depress switch.	723
		Depress DISP switch.	2023

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace steering switches. Refer to AV-298, "Removal and Installation".

2.CHECK HARNESS BETWEEN COMBINATION SWITCH AND COMBINATION METER

1. Disconnect combination meter connector M24 and combination switch connector M30.
2. Check continuity between combination meter connector M24 and combination switch connector M30.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M24	3	M30	24	Yes
	24		33	
	4		31	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	3	—	No
	24		
	4		

Is the inspection result normal?

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

3.CHECK COMBINATION SWITCH

Check continuity between combination switch connectors M30 and M88.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M88	14	Yes
	31		15	
	33		17	

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

4.CHECK HARNESS BETWEEN COMBINATION METER AND AV CONTROL UNIT

1. Disconnect AV control unit connector M97.
2. Check continuity between combination meter connector M24 and AV control unit connector M97.

Combination meter		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M24	37	M97	31	Yes
	36		32	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	37	—	No
	36		

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-290, "Removal and Installation".
NO >> Repair or replace harness or connectors.

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000012591220

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M131 and USB interface connector M132.
3. Check continuity between AV control unit connector M131 and USB interface connector M132.

AV control unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M131	45	M132	1	Yes
	47		3	
	48		4	
	49		5	
	50		6	

4. Check continuity between AV control unit connector M131 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M131	47	Ground	No
	49		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-291, "Removal and Installation".
NO >> Repair or replace harness or connectors.

AUXILIARY INPUT JACK

Diagnosis Procedure

INFOID:0000000012591221

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram".

1.CHECK AUX IN JACK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M97 and AUX in jack connector M104.
3. Check continuity between AV control unit connector M97 and AUX in jack connector M104.

AV control unit		AUX in jack		Continuity
Connector	Terminal	Connector	Terminal	
M97	21	M104	1	Yes
	22		2	
	23		4	

4. Check continuity between AV control unit connector M97 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M97	21	Ground	No
	23		

Is the inspection result normal?

YES >> Replace the AUX in jack. Refer to AV-292, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:0000000012591222

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-218, "On Board Diagnosis Function".
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-225, "Wiring Diagram". • AV control unit power supply and ground circuits malfunction. Refer to AV-262, "AV CONTROL UNIT : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and speaker. Refer to: - AV-263, "Diagnosis Procedure" (front door speaker). - AV-265, "Diagnosis Procedure" (front speaker). - AV-267, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. Refer to: - AV-294, "Removal and Installation" (front door speaker). - AV-293, "Removal and Installation" (front speaker). - AV-295, "Removal and Installation" (rear speaker). • Malfunction in AV control unit. Refer to AV-218, "On Board Diagnosis Function".

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-218, "On Board Diagnosis Function".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and speaker. Refer to: - AV-263, "Diagnosis Procedure" (front door speaker). - AV-265, "Diagnosis Procedure" (front speaker). - AV-267, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-294, "Removal and Installation" (front door speaker). - AV-293, "Removal and Installation" (front speaker). - AV-295, "Removal and Installation" (rear speaker). • Malfunction in AV control unit. Refer toAV-218, "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-299, "Location of Antenna".
No radio reception or poor reception.	• 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).	• Antenna amp. ON signal circuit malfunction. Refer to AV-250, "Diagnosis Procedure". • Poor connector connection of antenna or antenna feeder. Refer to AV-299, "Location of Antenna".
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result. Refer to AV-219, "CONSULT Function".	• Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis. Refer to AV-248, "Diagnosis Procedure". • Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. Refer to AV-299, "Location of Antenna".
	There is no malfunction in the CONSULT self diagnosis result. Refer to AV-219, "CONSULT Function".	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-299, "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 AV control unit. Replace AV control unit. Refer to AV-290, "Removal and Installation".
Hands-free phone cannot be established.	• 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-271, "Diagnosis Procedure".
The system cannot be operated.	• The voice recognition can be controlled. • Steering switch's [VOL+], [VOL−], and [BACK] switch works, but [PHONE] does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-298, "Removal and Installation".
	Steering switch's [PHONE], [VOL+], [VOL−], and [BACK] switches do not work.	Steering switch signal circuit malfunction. Refer to AV-273, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-273, "Diagnosis Procedure".

RELATED TO NAVIGATION

Symptoms	Check items	Probable malfunction location
Navigation system is inoperative.	Navigation malfunction.	• Malfunction in SD card. • Malfunction in AV control unit. Refer toAV-218, "On Board Diagnosis Function".
	Steering switches malfunction.	Steering switch signal circuit malfunction. Refer to AV-273, "Diagnosis Procedure".
	Voice activated control malfunction.	Microphone signal circuit malfunction. Refer to AV-271, "Diagnosis Procedure". Steering switch signal circuit malfunction. Refer to AV-273, "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-269, "Diagnosis Procedure".
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and AV control unit. Refer to AV-269, "Diagnosis Procedure".
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-304, "Removal and Installation".

NORMAL OPERATING CONDITION

Description

INFOID:0000000012591223

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

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).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” in AV-277, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • 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. **NOTE:** 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.

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 malfunction.

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.

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

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

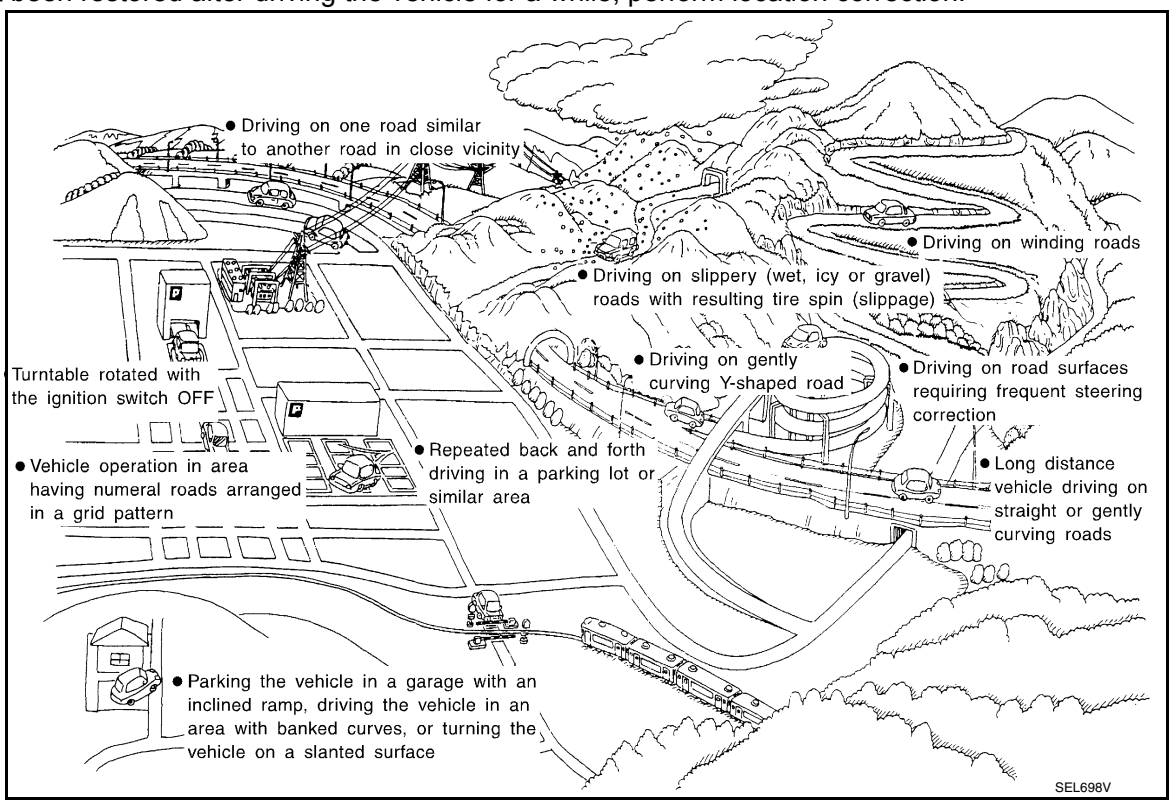
Symptom	Cause	Remedy
No route is shown.	No road to be searched is found around the destination.	Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads.
	Starting point and the destination 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.

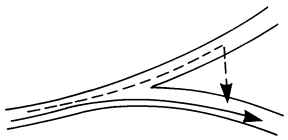
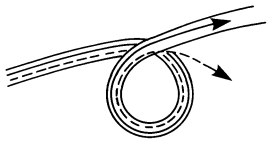
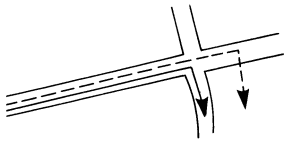
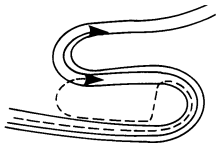
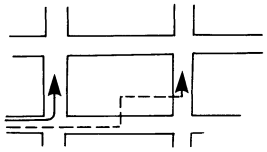
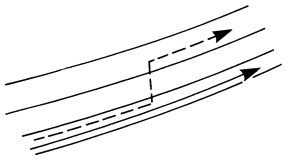
NOTE:

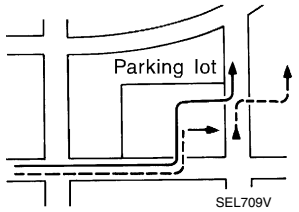
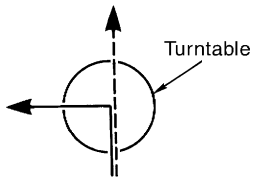
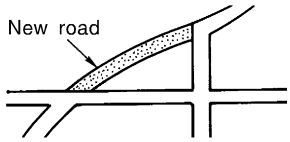
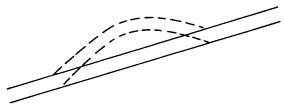
Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

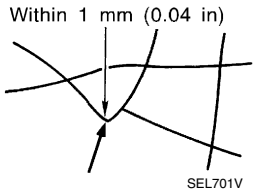
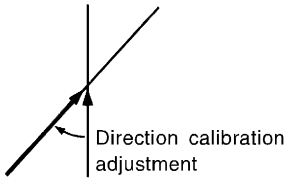
Examples of Current-Location Mark Displacement

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.



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 sideway), the map may be matched to the other road by mistake and the vehicle mark may deviate from the correct location.	

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.)

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 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  SEL701V	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  SEL702V	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

- 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.

Vehicle Mark Jumps

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location.

- 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.

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.

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.

When Driving on Same Road, Sometimes Vehicle Mark is in Right Place and Sometimes it is in Wrong Place

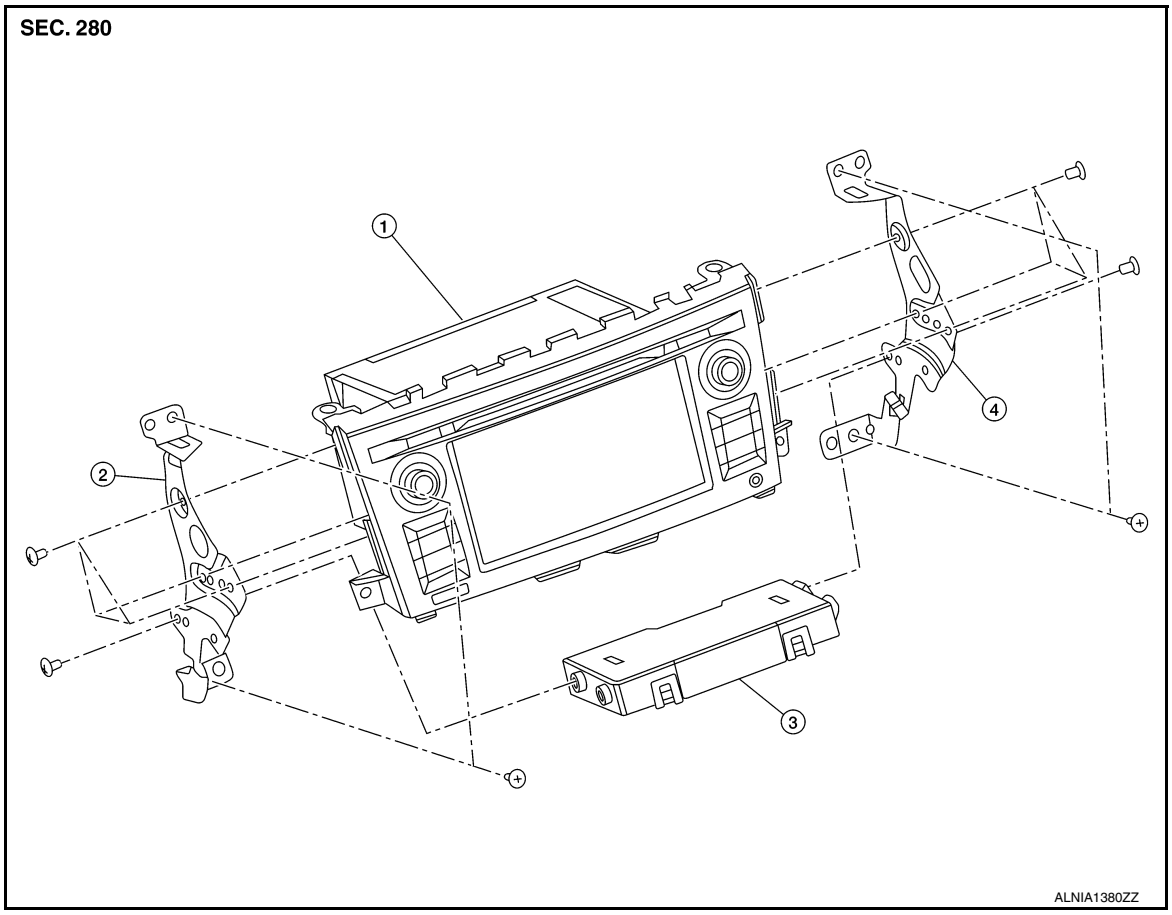
The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:0000000012591224



1. AV control unit
2. AV control unit bracket (LH)
3. A/C auto amp.
4. AV control unit bracket (RH)

Removal and Installation

INFOID:0000000012591225

REMOVAL

CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to AV-239, "CONFIGURATION (AV CONTROL UNIT) : Description".

1. Disconnect the negative battery terminal. Refer to PG-78, "Removal and Installation".
2. Remove cluster lid C. Refer to IP-20, "Cluster Lid C".
3. Remove the A/C switch assembly. Refer to HAC-100, "Removal and Installation".
4. Remove the AV control unit bracket screws, then pull out the AV control unit.
5. 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-239, "CONFIGURATION (AV CONTROL UNIT) : Description".**
- **When replacing AV control unit, the AV control unit must be registered. Refer to AV-240, "REGISTRATION (AV CONTROL UNIT) : Description".**

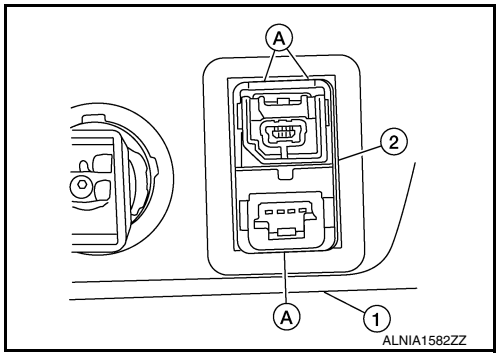
USB INTERFACE

Removal and Installation

INFOID:0000000012591226

REMOVAL

1. Remove the shift selector finisher. Refer to IP-18, "Removal and Installation".
2. Release the pawls (A) and remove the USB interface (2) from the back of the shift selector finisher (1).



INSTALLATION

Installation is in the reverse order of removal.

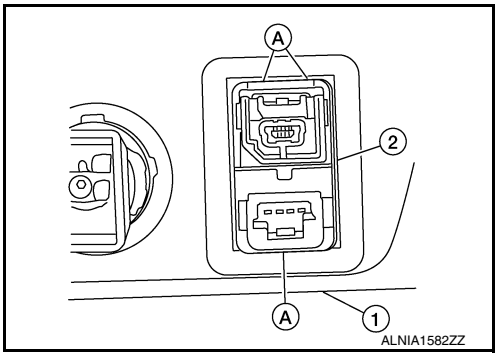
AUX IN JACK

Removal and Installation

INFOID:0000000012591227

REMOVAL

1. Remove the shift selector finisher. Refer to IP-18, "Removal and Installation".
2. Release the pawls (A) and remove the AUX in jack (2) from the back of the shift selector finisher (1).



INSTALLATION

Installation is in the reverse order of removal.

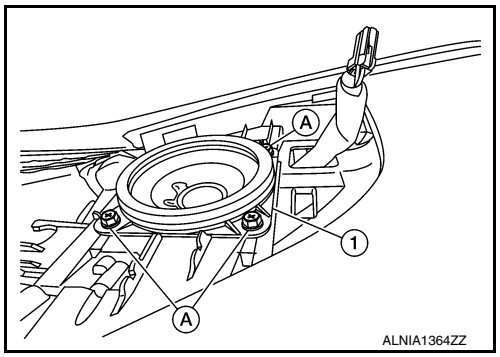
FRONT SPEAKER

Removal and Installation

INFOID:0000000012591228

REMOVAL

1. Remove the front pillar finisher. Refer to INT-21, "FRONT PILLAR FINISHER : Removal and Installation".
2. Remove the front speaker grille using a suitable tool.
3. Remove the front speaker screws (A).
4. Pull out the front speaker (1), disconnect the harness connector from front speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

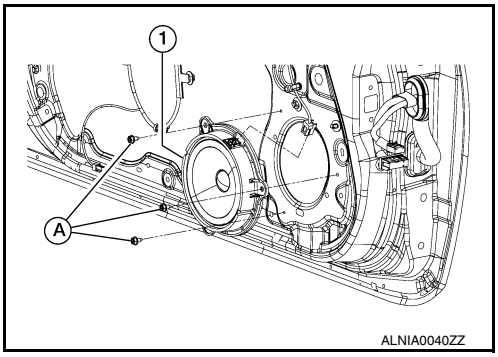
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000012591229

REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

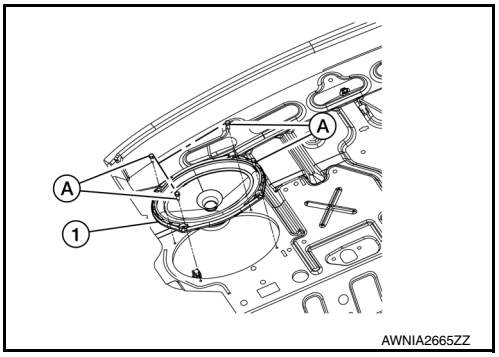
REAR SPEAKER

Removal and Installation

INFOID:0000000012591230

REMOVAL

1. Remove the rear parcel shelf finisher. Refer to INT-26, "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.

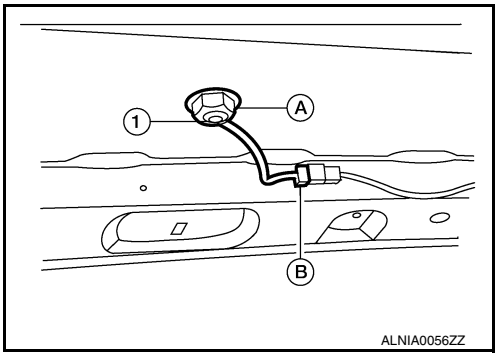
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:0000000012591231

REMOVAL

1. Lower the headlining at the rear. Refer to INT-30, "Removal and Installation".
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.

Satellite radio antenna nut : 6.5 N·m (0.66 kg-m, 58 in-lb)

CAUTION:

If the satellite radio antenna nut is not tightened to the specified torque, lower sensitivity of the antenna may be experienced. If the nut is tightened tighter than the specified torque, this will deform the roof panel.

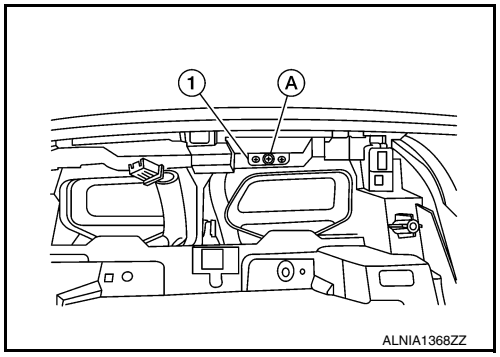
GPS ANTENNA

Removal and Installation

INFOID:0000000012591232

REMOVAL

1. Remove the AV control unit. Refer to AV-106, "Removal and Installation".
2. Remove the GPS antenna screw (A) and the GPS antenna (1).



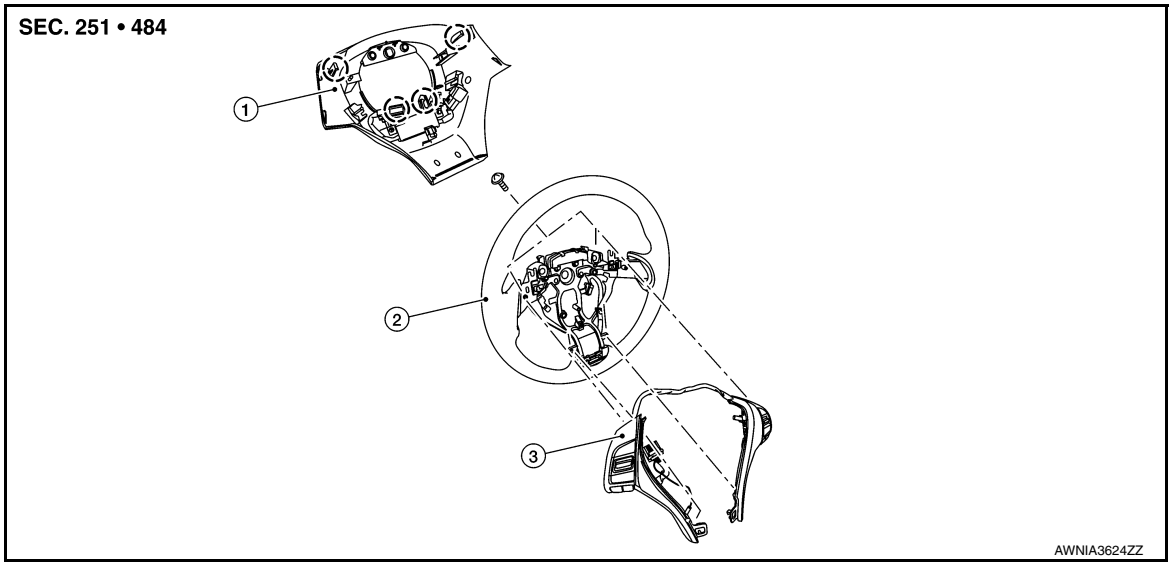
INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

Exploded View

INFOID:0000000012591233



1. Steering wheel rear finisher
2. Steering wheel
3. Steering switches

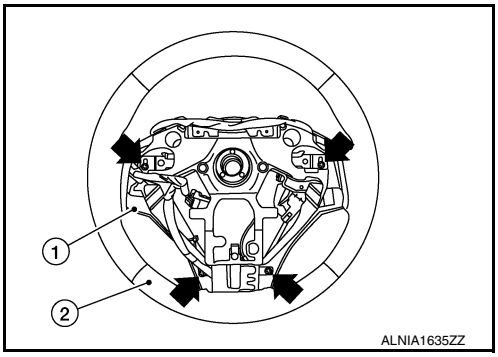
Pawl

Removal and Installation

INFOID:0000000012591234

REMOVAL

1. Remove the steering wheel. Refer to ST-32, "Removal and Installation"
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (⬅).
4. Remove the steering switches (1) from steering wheel (2).



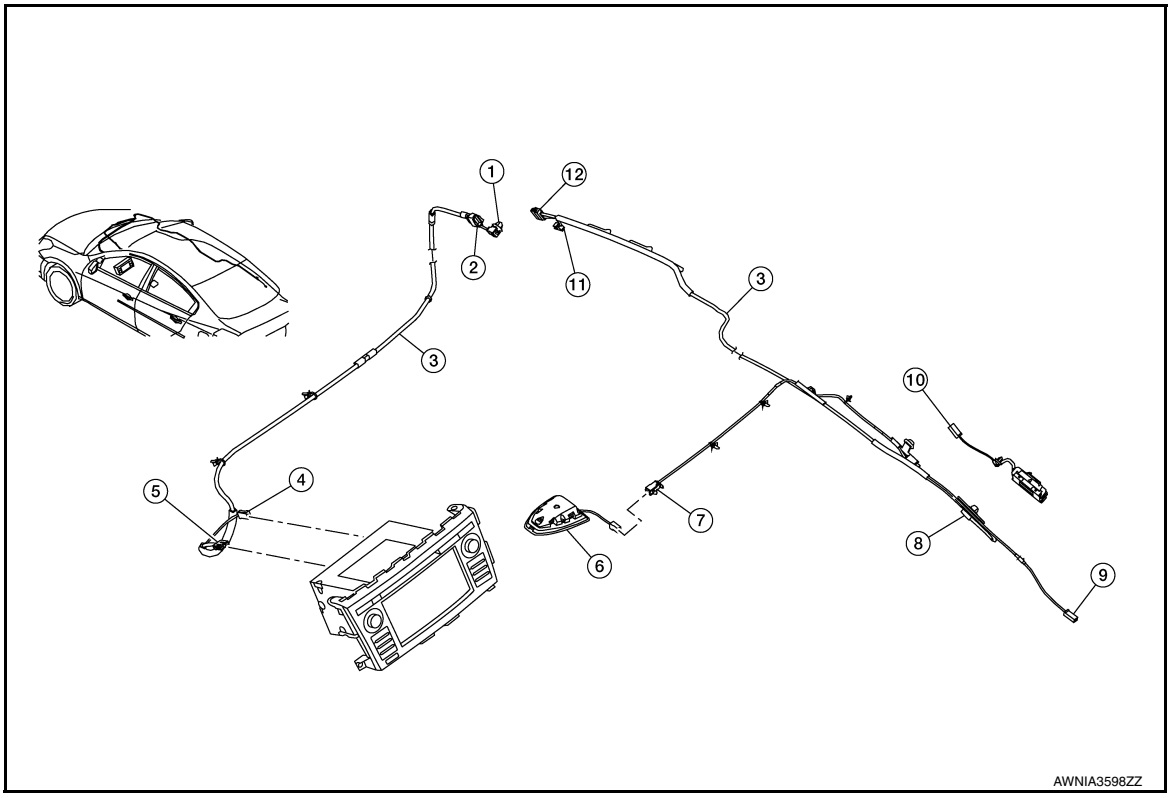
INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

Location of Antenna

INFOID:0000000012591235



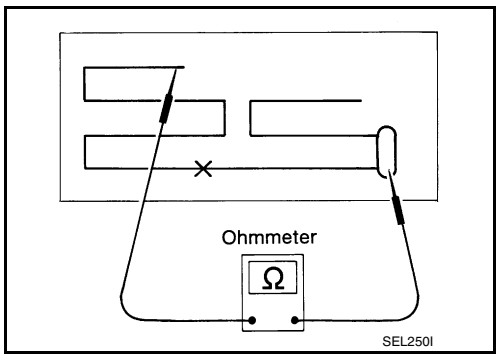
1. M102
2. M101
3. Antenna feeder
4. M99
5. M137
6. Satellite antenna
7. B59
8. M502
9. M504
10. M503
11. M500
12. M501

Window Antenna Repair

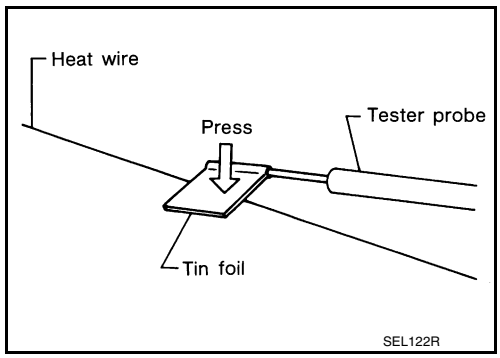
INFOID:0000000012591236

ELEMENT CHECK

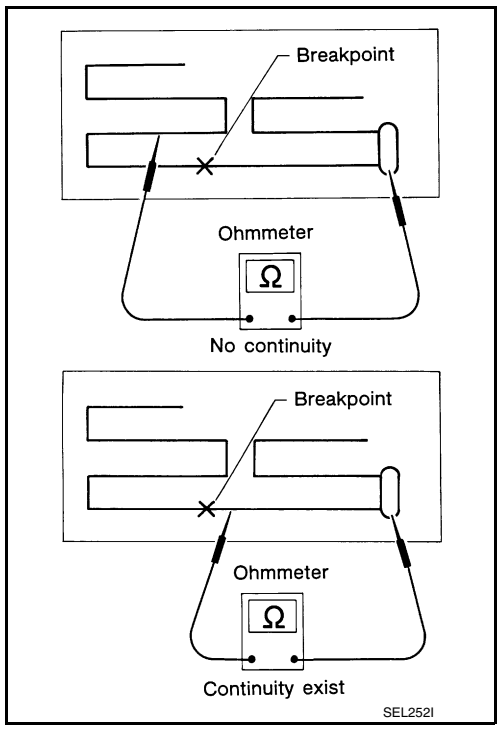
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



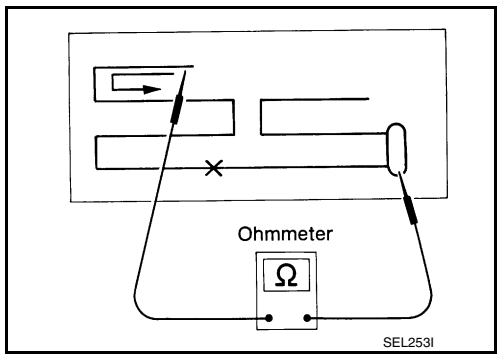
- **When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.**



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.

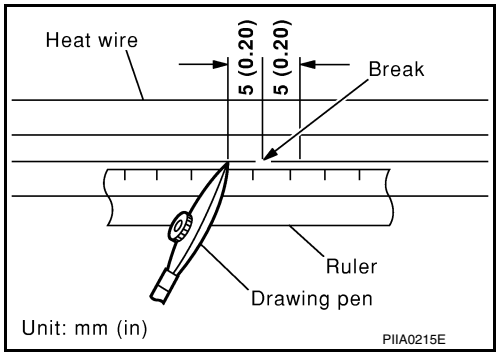


REPAIR EQUIPMENT

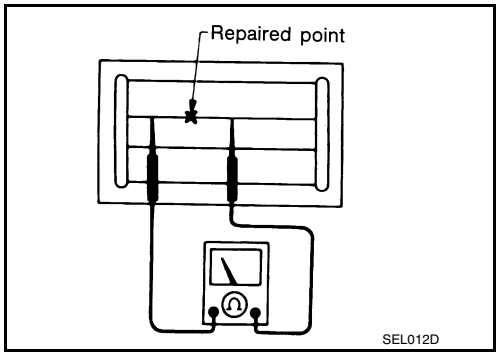
- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

REPAIRING PROCEDURE

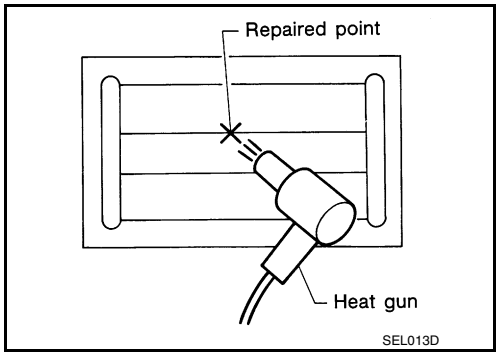
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.
   Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition 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.



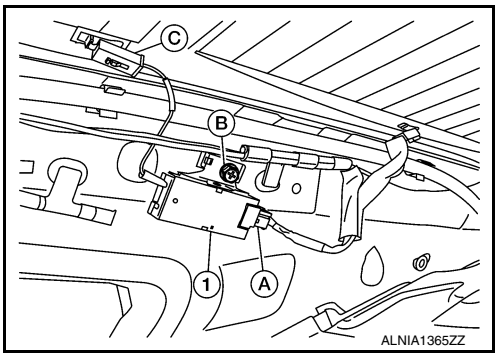
ANTENNA AMP.

Removal and Installation

INFOID:0000000012591237

REMOVAL

1. Remove the rear pillar finisher (RH). Refer to INT-25, "REAR PILLAR FINISHER : Removal and Installation".
2. Disconnect the harness connector (A) from the antenna amp. (1).
3. Disconnect the antenna amp. harness connector (C) from the rear window glass.
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

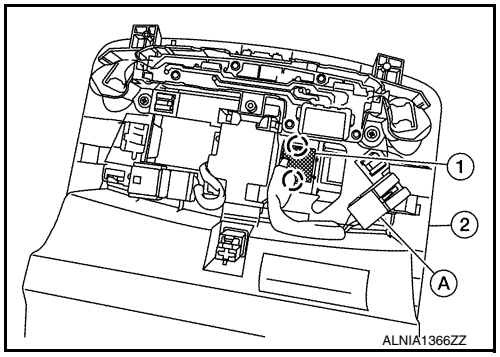
MICROPHONE

Removal and Installation

INFOID:0000000012591238

REMOVAL

1. Remove the front room/map lamp assembly. Refer to INL-60, "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.

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000012591239

REMOVAL

1. Remove license lamp finisher. Refer to EXT-46, "Removal and Installation".
2. Disconnect the harness connector from rear view camera.
3. Remove rear view camera.

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:0000000012591241

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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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 or batteries, and wait at least three minutes before performing any service.**

Cautions in Removing Battery Terminal and AV Control Unit (Models with AV Control Unit)

INFOID:0000000012591242

CAUTION:

Remove battery terminal and AV control unit 30 seconds or more after turning the ignition switch OFF.

NOTE:

After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

Precaution for Trouble Diagnosis

INFOID:0000000012591243

AV COMMUNICATION SYSTEM

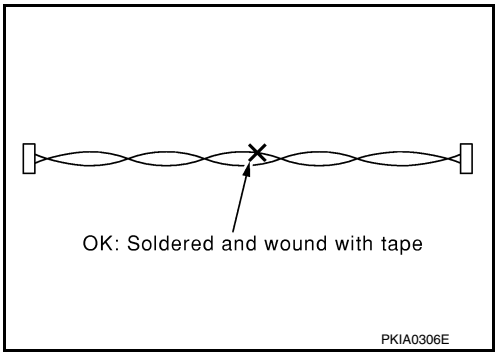
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

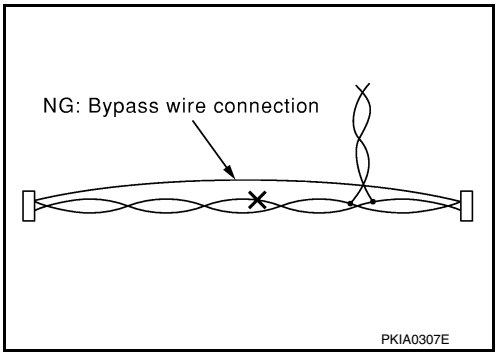
INFOID:0000000012591244

AV COMMUNICATION SYSTEM

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



- 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:0000000012591245

- 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.

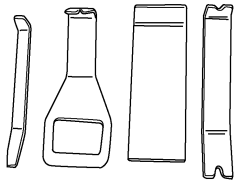
PREPARATION

PREPARATION

Special Service Tools

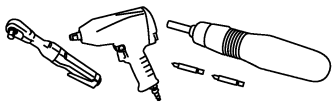
INFOID:0000000012591246

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:0000000012591247

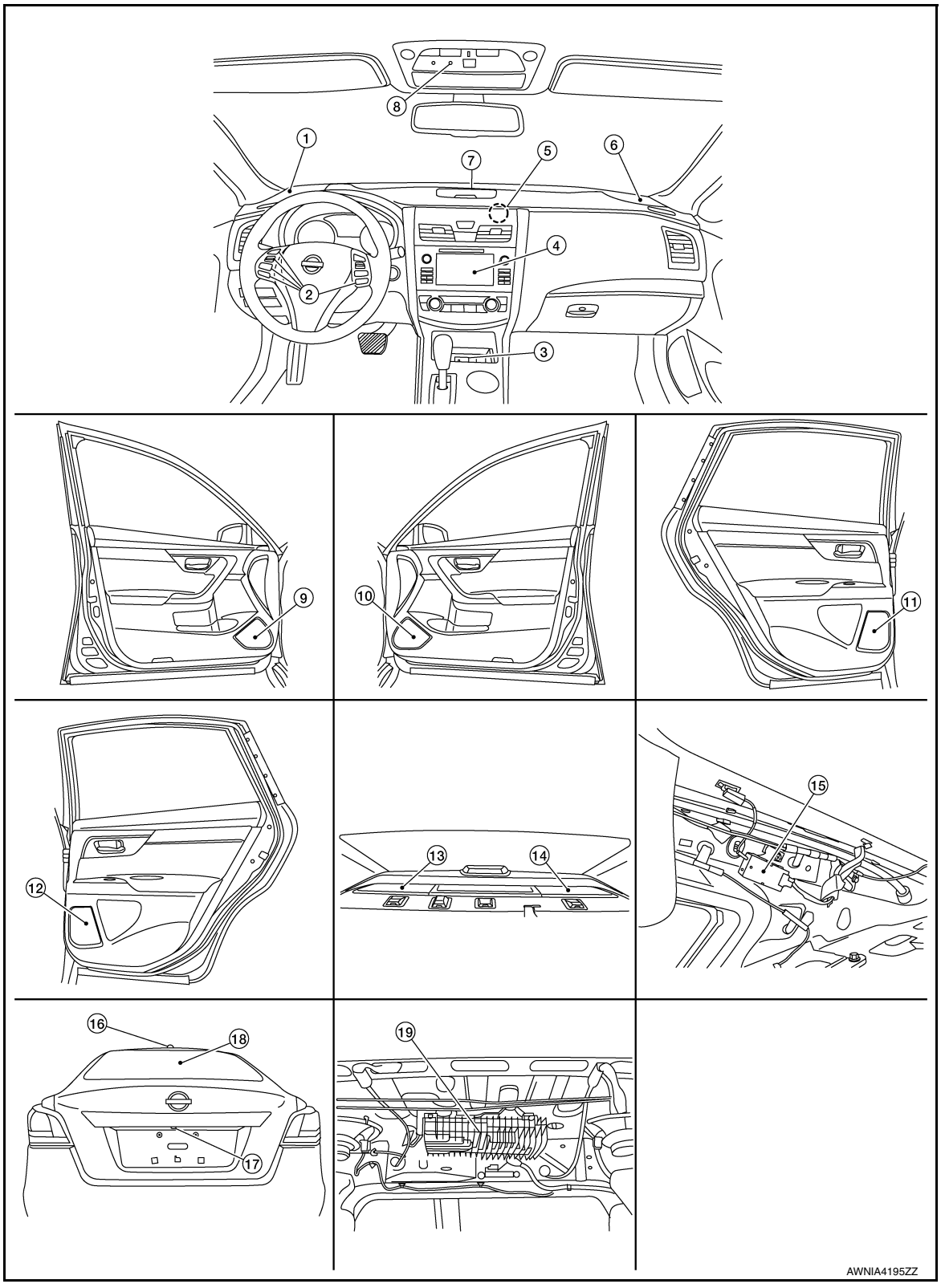
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012591248



1. Front speaker LH
2. Steering switches
3. USB interface and AUX in jack
4. AV control unit
5. GPS antenna
6. Front speaker RH
7. Center speaker
8. Microphone
9. Front door speaker LH
10. Front door speaker RH
11. Rear door speaker LH
12. Rear door speaker RH
13. Rear speaker RH
14. Rear speaker LH
15. Antenna amp.
16. Satellite antenna
17. Rear view camera
18. Window antenna
19. Bose speaker amp.

Component Description

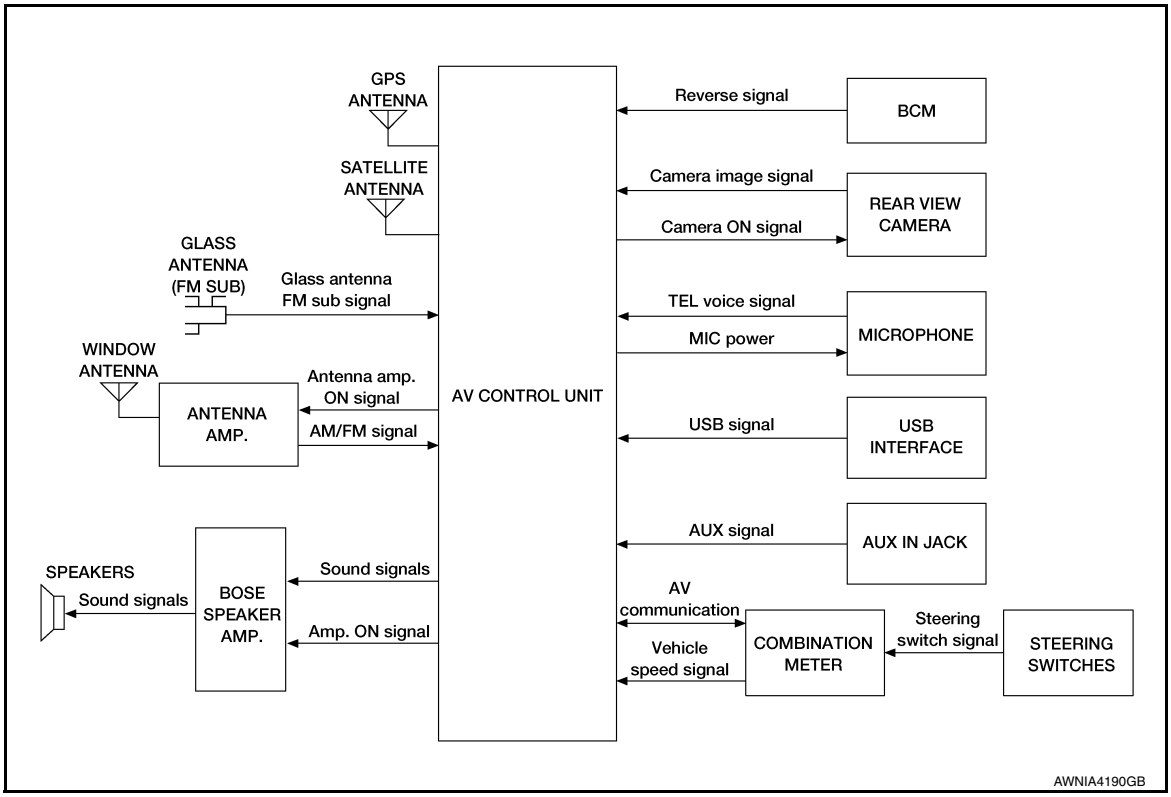
INFOID:0000000012591249

Part name	Description
AV control unit	• Operation of navigation and audio systems are integrated. • Includes the audio, hands-free phone, navigation, satellite radio, rear view monitor, USB interface and AUX in jack 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 speakers	Outputs high, mid and low range audio signals from Bose speaker amp.
Center speaker	
Front door speakers	
Rear door speakers	
Rear speakers	
Steering switches	• Operations for audio, hands-free phone and voice recognition are possible. • Steering switch signal is output to combination meter. • Combination meter outputs steering switch signal to AV control unit.
Microphone	• Used for hands-free phone operations. • Microphone signal is transmitted to AV control unit. • Power is supplied from AV control unit.
USB interface and AUX in jack	• USB sound and data input signals are transmitted to AV control unit. • AUX sound input signals are transmitted to AV control unit.
Rear view camera	• 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.	• 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.

SYSTEM

System Diagram

INFOID:0000000012591250



System Description

INFOID:0000000012591251

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
- High resolution color 5 inch display with touch panel function
- FM/AM twin digital tuner
- USB interface and AUX in jack
- Full support for playback of music from iPod®
- 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

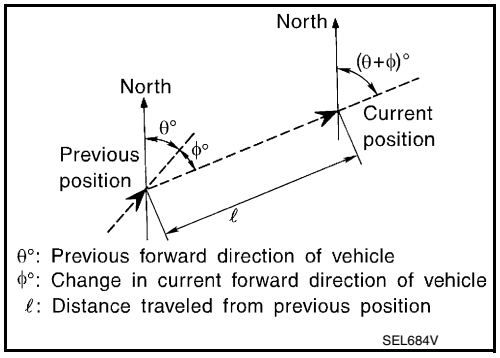
The navigation system periodically calculates the vehicle's current position according to the following three signals:

- 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.

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.



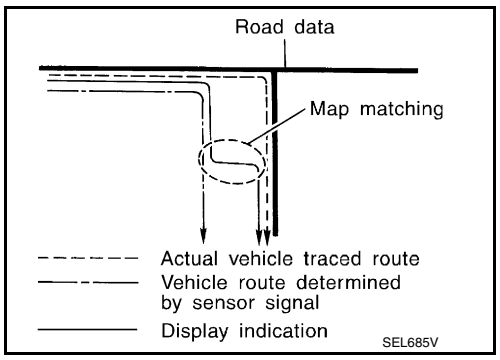
Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	Can detect the vehicle's turning angle quite accurately.	Direction errors may accumulate when vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	Can detect the vehicle's travel direction (North/South/East/West).	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

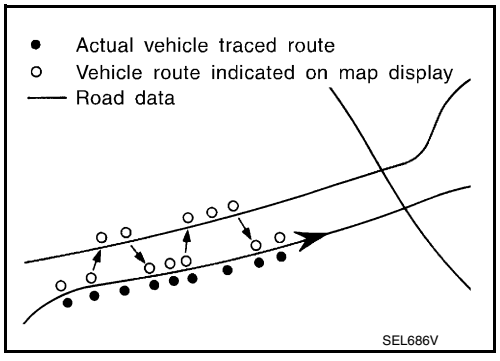
Map-matching compares a current location detected by the method in the “Location Detection Principle” with a road map data from map SD-card.

NOTE:
The road map data is based on data stored in the map SD-card.

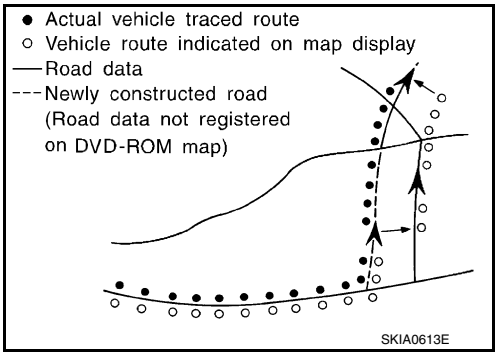


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

- 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.



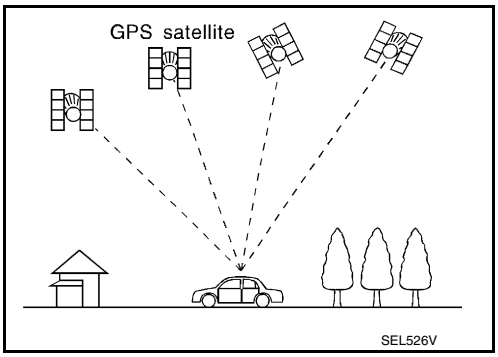
- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair.
  The map-matching function may find another road and position the vehicle 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.

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.

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.

USB INTERFACE AND AUX IN JACK FUNCTION

- Sound and data signals are transmitted from USB interface to the AV control unit and output to each speaker and tweeter.
- Sound signals are transmitted from AUX in jack to the AV control unit and output to each speaker and tweeter.

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.

HANDS-FREE PHONE SYSTEM

- Bluetooth® control is built into AV control unit.
- The connection between cellular phone and AV control unit is performed with Bluetooth® communication.
- 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.
- 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.
- TEL voice signal is input to AV control unit by establishing Bluetooth® communication from cellular phone, and the signal is output to front speakers.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000012591252

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	—	Calibration of the touch panel display can be performed.
	Screenshot to USB	—	A screenshot of the display can be saved to USB memory.
	Time Interval	—	Destination time interval can be selected.
Radio	FM monitor	—	Monitors the dynamic values of the current tuner
	AM monitor	—	
	SXM monitor	—	Version data is displayed.
System State	Running System Status	• SD card slot acces. • Power Supply • Speed Signal • Direction Signal • Illumination Signal • GPS Antenna • GPS tracking • Satellites visible • Satellites tracked • Microphone Current • Steer. wheel key • Radio Antenna • #No translation requi... • SXM Antenna • USB Device • iPod firmware ver. • BT Status	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	—	This provides a test sequence where test displays (plain colored display: e.g. white, black, red, blue, green) are shown one after the other. The respective color is shown for an indicated period of time (parameter). After the display test, the design of the display previously available is stored. While the screen shows a plain colored display, a pixel malfunction may be detected.
Self Test		• SD Card Access • BT Module Access • GPS Antenna • Radio Antenna • SXM 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.

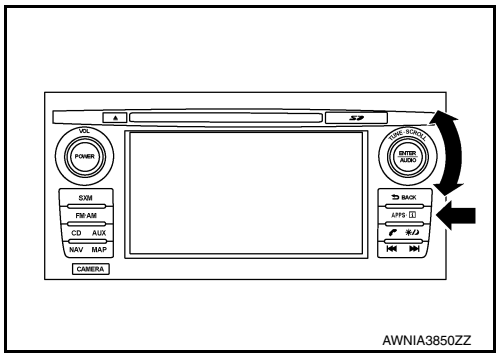
On Board Diagnosis Function

INFOID:0000000012591253

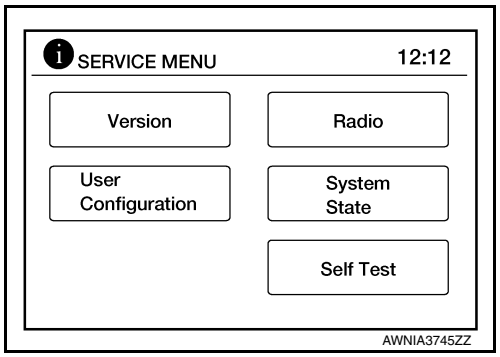
METHOD OF STARTING

1. Turn the ignition ON.

2. Turn the audio system OFF.
3. While pressing the APPS button, turn the TUNE-SCROLL dial counterclockwise 5 or more clicks, then clockwise 5 or more clicks, then counterclockwise 5 or more clicks. Shifting from current screen to previous screen is performed by pressing BACK button.



4. The trouble diagnosis initial screen is displayed, and Version, User Configuration, Radio, System State or Self Test can be selected.



CONSULT Function

INFOID:0000000012591254

CAUTION:
After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF → ON (for at least 5 seconds) → OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.

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	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing AV control unit.
CAN Diag Support Mntr	• 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-320, "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.

Monitor Item [Unit]	Description
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-344, "CONFIGURATION (AV CONTROL UNIT) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-16, "CAN Diagnostic Support Monitor".

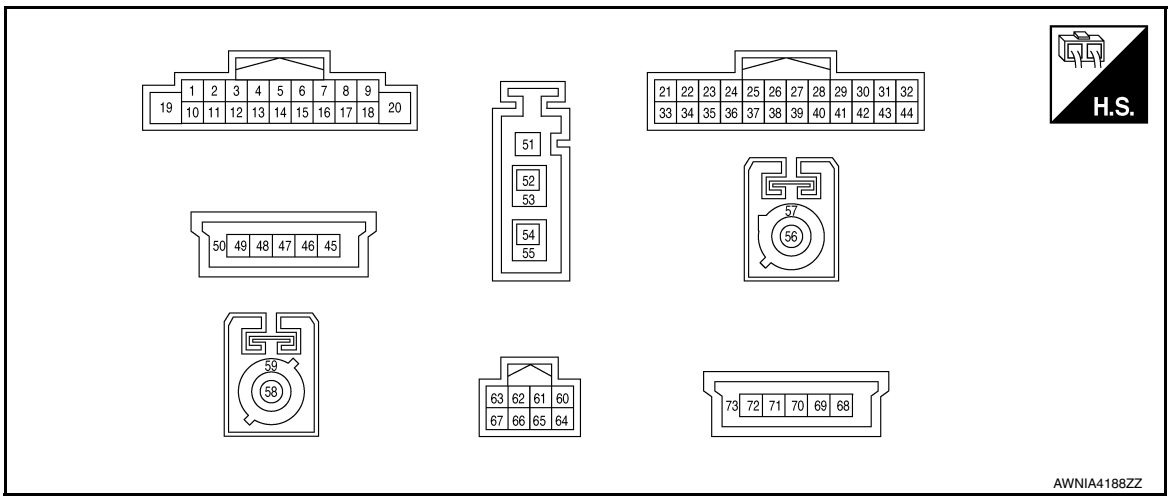
ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

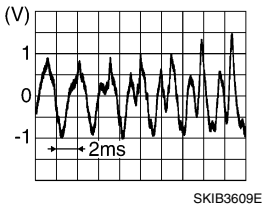
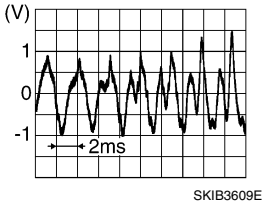
Reference Value

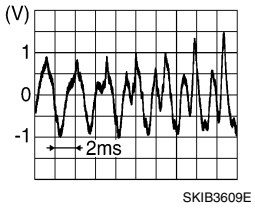
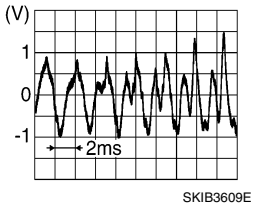
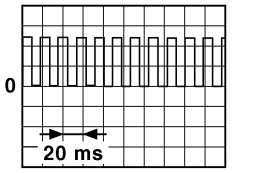
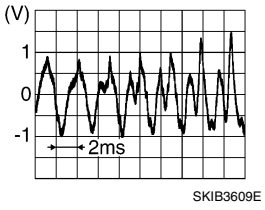
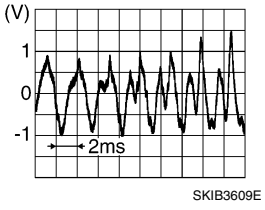
INFOID:0000000012591255

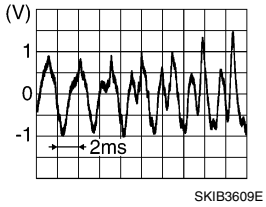
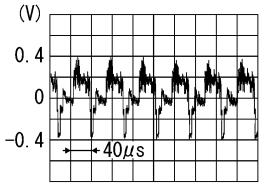
TERMINAL LAYOUT

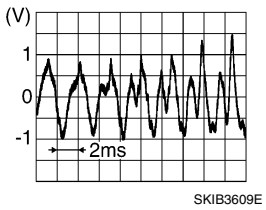


PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
1 (W)	Ground	BOSE amp. ON signal	Output	ACC	—	Battery voltage
2 (B)	3 (W)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
4 (G)	5 (R)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIB3609E
7 (P)	Ground	ACC power supply	Input	ACC	—	Battery voltage
8 (L)	—	CAN high	Input/ Output	—	—	—
9 (R)	33 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
10 (B)	—	Sound signal shield	—	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
11 (B)	12 (W)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E
13 (G)	14 (R)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
17 (P)	—	CAN low	Input/ Output	—	—	—
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (G)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (GR)	Ground	Ground	—	ON	—	0 V
21 (W)	Ground	AUX audio signal RH	Input	ON	AUX audio signal received	 SKIB3609E
22 (B)	—	AUX ground	—	ON	—	0V
23 (R)	Ground	AUX audio signal LH	Input	ON	AUX audio signal received	 SKIB3609E
24 (BR)	—	BF mic	Input	—	—	—
25 (G)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
					Selector lever in any position other than R (reverse)	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
30 (P)	—	MR output	Output	—	—	—
31 (SB)	—	AV communication (H)	Input/ Output	—	—	—
32 (LG)	—	AV communication (L)	Input/ Output	—	—	—
34 (B)	36 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 SKIB3609E
35 (W)	Ground	Microphone power supply	Output	ON	—	5.0 V
37 (Shield)	—	AUX shield	—	—	—	—
38 (SB)	—	AV communication (H)	Input/ Output	—	—	—
39 (LG)	—	AV communication (L)	Input/ Output	—	—	—
40 (BG)	Ground	Ignition power supply	Input	ON or START	—	Battery voltage
41 (B)	42 (Shield)	Camera image signal	Input	ON	When camera image is displayed	 SKIB2251J
43 (W)	Ground	Camera power supply	Output	ON	—	6.2 V
44 (R)	Ground	Camera ground	—	ON	—	0 V
45 (B)	—	USB ground	—	—	—	—
47 (G)	—	USB D+ signal	—	—	—	—
48 (W)	—	USB D− signal	—	—	—	—
49 (R)	—	V BUS signal	—	—	—	—
50 (Shield)	—	USB shield	—	—	—	—
51 (B)	Ground	Antenna amp. ON signal	Output	ON	—	Battery voltage
52 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
53 (Shield)	—	AM/FM antenna shield	—	—	—	—
54 (B)	Ground	Glass antenna (FM sub) signal	Input	ON	—	5.0 V
55 (Shield)	—	Glass antenna shield	—	—	—	—
56 (B)	Ground	Satellite antenna signal	Input	ON	—	5.0 V
57 (Shield)	—	USB shield	—	—	—	—
58 (B)	Ground	GPS antenna signal	Input	ON	—	5.0 V
59 (Shield)	—	GPS antenna shield	—	—	—	—
60* (W)	64* (B)	Microphone signal	Output	ON	While speaking into the microphone	 SKIB3609E
61* (Shield)	—	Microphone shield	—	—	—	—
68* (B)	—	USB ground	—	—	—	—
70* (G)	—	USB D+ signal	—	—	—	—
71* (W)	—	USB D- signal	—	—	—	—
72* (R)	—	V BUS signal	—	—	—	—
73* (Shield)	—	USB shield	—	—	—	—

*: With telematics system.

DTC Index

INFOID:0000000012591256

CONSULT Display	Reference Page
U1000: CAN COMM CIRCUIT	AV-347, "DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-348, "DTC Logic"
U1217: BLUETOOTH MODULE	AV-349, "DTC Logic"
U1229: iPod CERTIFICATION	AV-350, "DTC Logic"
U122F: Digital broadcasting connection error	AV-351, "DTC Logic"
U1244: GPS ANTENNA CONN	AV-352, "DTC Logic"
U1258: XM ANTENNA CONN	AV-353, "DTC Logic"
U1263: USB OVERCURRENT	AV-354, "DTC Logic"
U1264: ANTENNA AMP TERMINAL	AV-355, "DTC Logic"

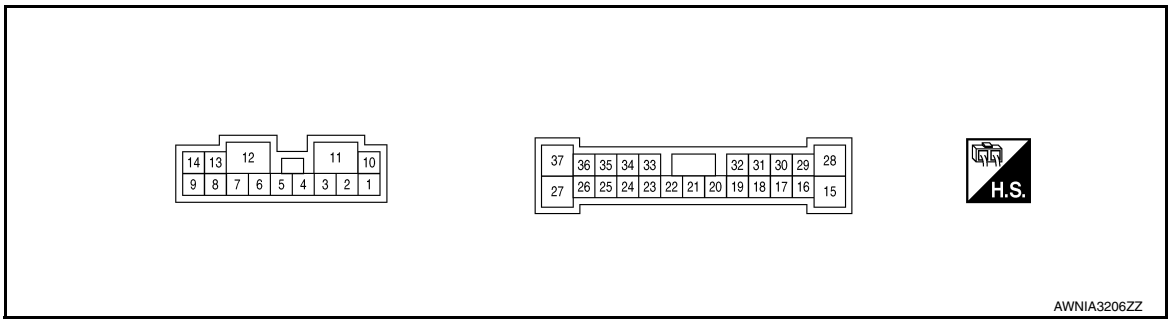
CONSULT Display	Reference Page
U1265: AMP ON TERMINAL	AV-356, "DTC Logic"
U12AA: Configuration Error	AV-357, "DTC Logic"
U12AB: FM Antenna error	AV-358, "DTC Logic"
U12AC: Display Temperature too High	AV-359, "DTC Logic"
U12AD: ECU Temperature too High	AV-360, "DTC Logic"
U12AE: Internal Amplifier temperature Warning	AV-361, "DTC Logic"
U12AF: CD Mechanism Temperature Warning	AV-362, "DTC Logic"
U12B0: Supply Voltage Goes below 9V > 20s	AV-363, "DTC Logic"
U12B1: Supply Voltage Goes High > 16V for 20s	AV-364, "DTC Logic"
U1300: AV COMM CIRCUIT	AV-365, "DTC Logic"
U1310: CONTROL UNIT (AV)	AV-367, "DTC Logic"

BOSE SPEAKER AMP

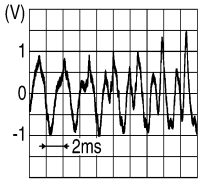
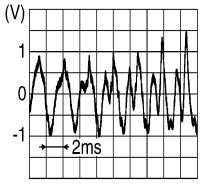
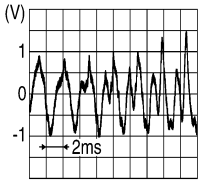
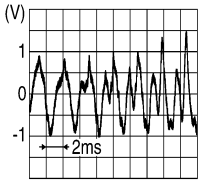
Reference Value

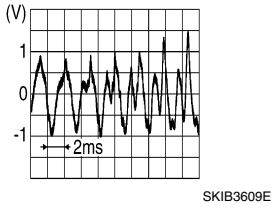
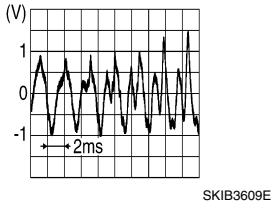
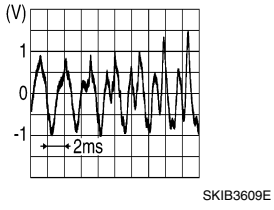
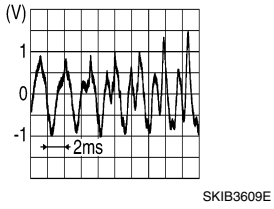
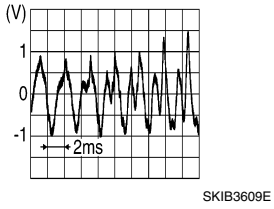
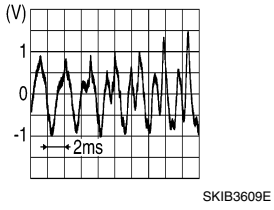
INFOID:0000000012591257

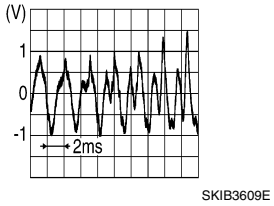
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
1 (W)	10 (G)	Rear speaker signal LH	Output	ON	Sound output	 SKIB3609E
2 (W)	3 (G)	Rear speaker signal RH	Output	ON	Sound output	 SKIB3609E
4 (P)	5 (R)	Front door speaker and front speaker signal LH	Output	ON	Sound output	 SKIB3609E
6 (G)	7 (R)	Center speaker signal	Output	ON	Sound output	 SKIB3609E

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
8 (P)	13 (BG)	Front door speaker and front speaker signal RH	Output	ON	Sound output	 SKIB3609E
11 (G)	Ground	Battery power supply	Input	–	–	Battery voltage
12 (GR)	Ground	Ground	–	ON	–	0V
15 (G)	28 (W)	Rear door speaker signal LH	Output	ON	Sound output	 SKIB3609E
18 (G)	32 (R)	Sound signal front speaker LH	Input	ON	Sound output	 SKIB3609E
19 (G)	20 (R)	Sound signal front speaker RH	Input	ON	Sound output	 SKIB3609E
21 (B)	22 (W)	Sound signal rear speaker LH	Input	ON	Sound output	 SKIB3609E
23 (B)	33 (W)	Sound signal rear speaker RH	Input	ON	Sound output	 SKIB3609E

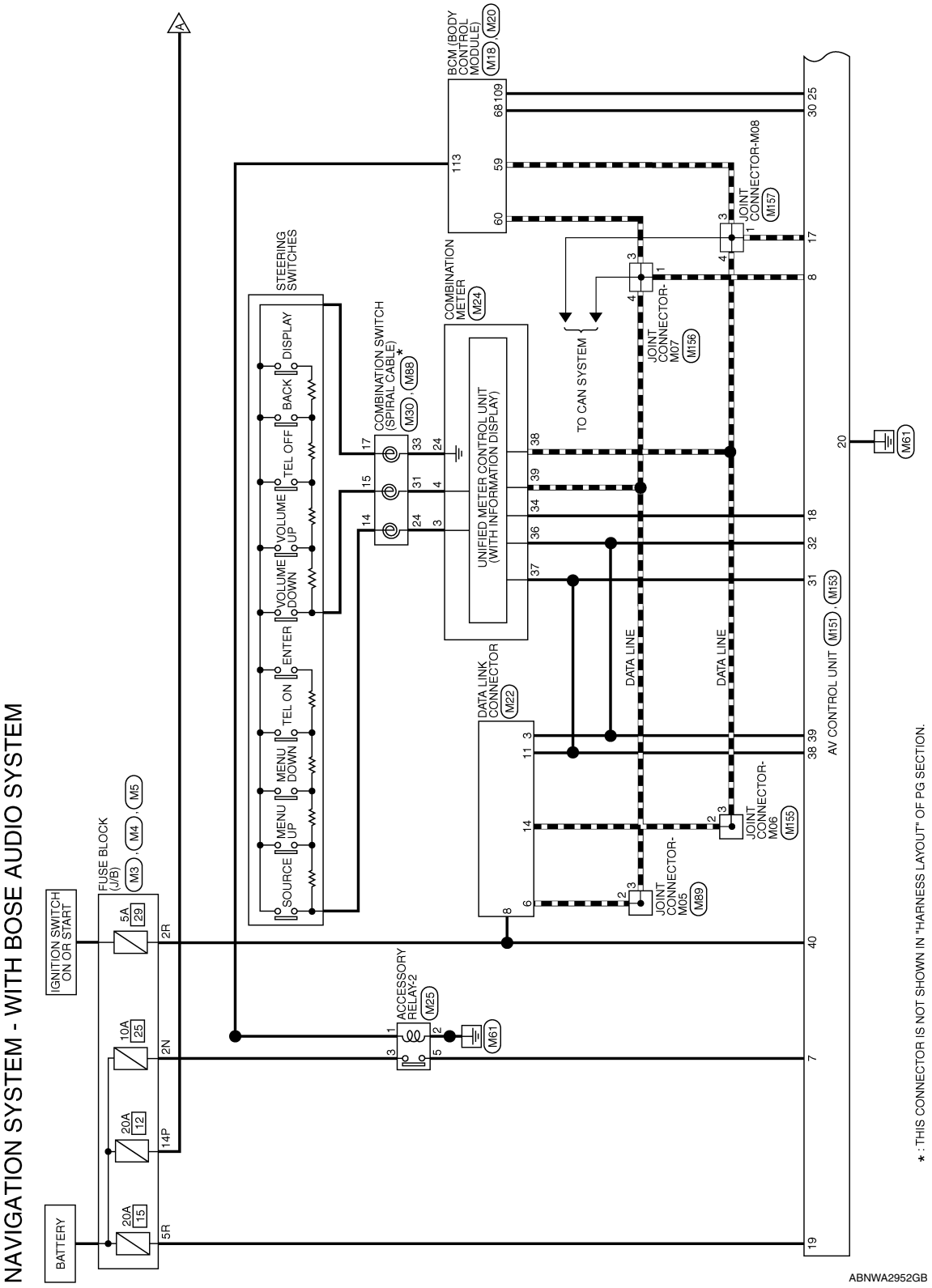
Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
31 (G)	Ground	Amp. ON signal	Input	ON	–	Greater than 6.5V
37 (G)	27 (W)	Rear door speaker signal RH	Output	ON	Sound output	 SKIB3609E

WIRING DIAGRAM

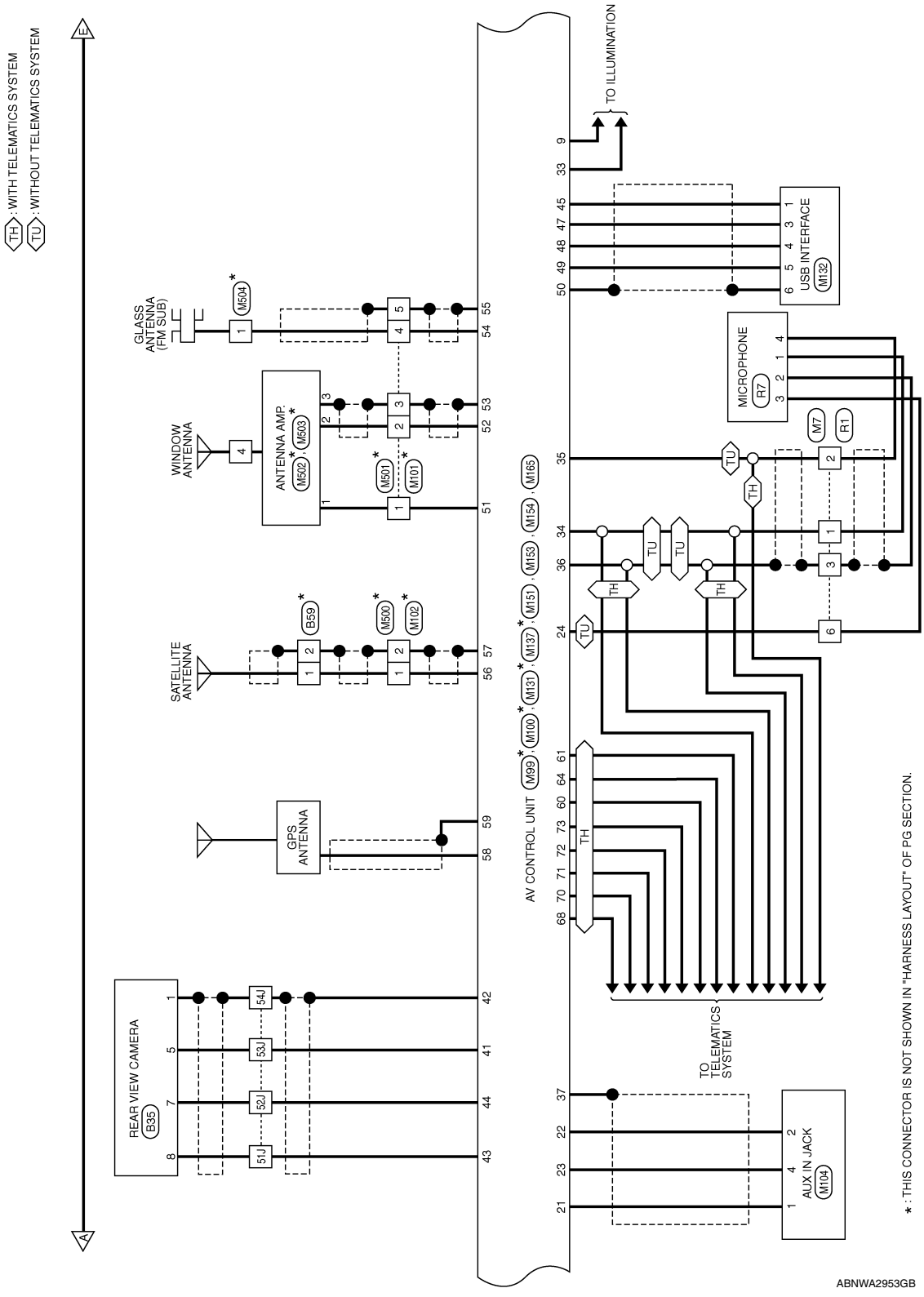
NAVIGATION WITH BOSE

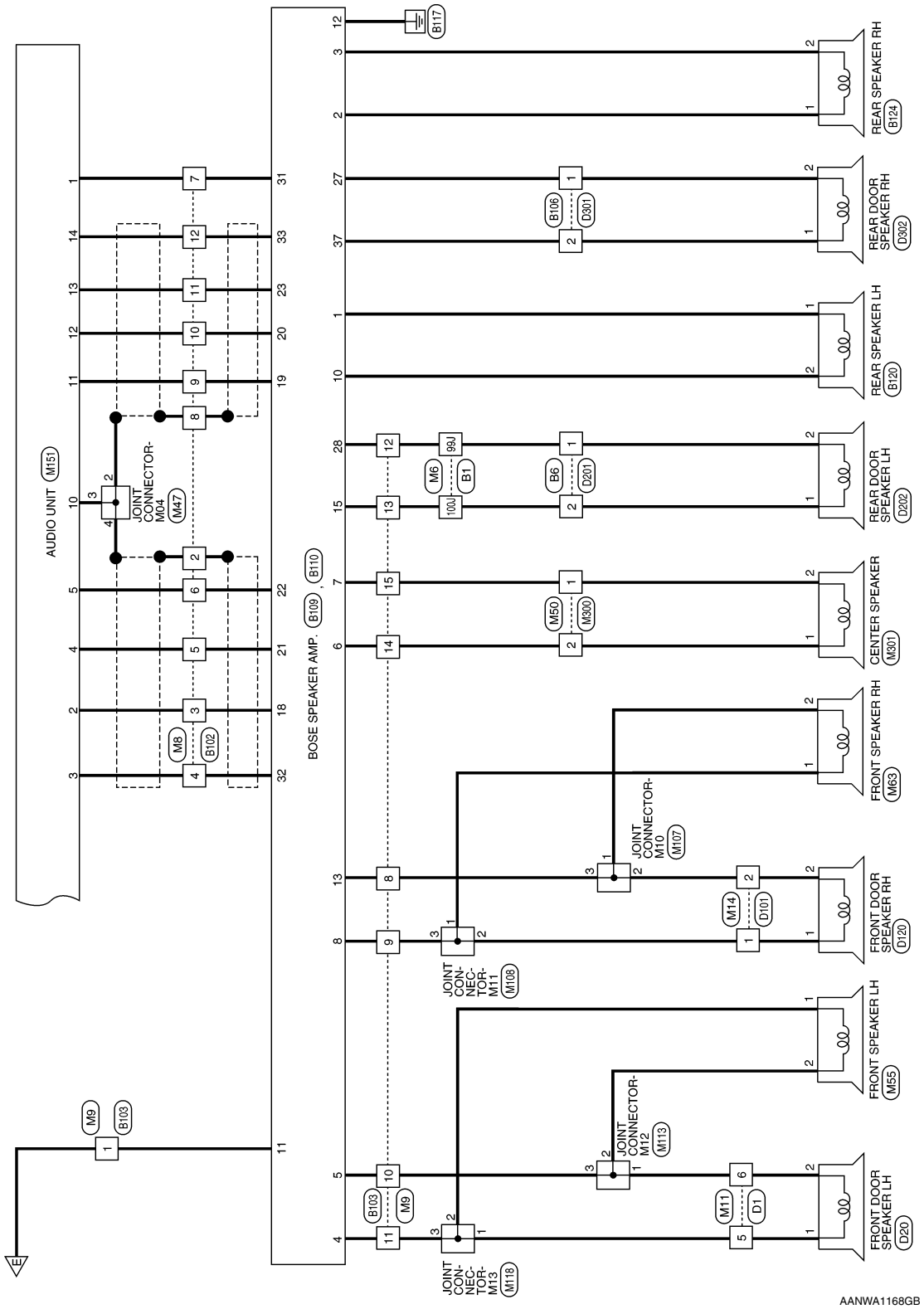
Wiring Diagram

INFOID:0000000012591258



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


TH : WITH TELEMATICS SYSTEM
TU : WITHOUT TELEMATICS SYSTEM
TO ILLUMINATION
GLASS ANTENNA (FM SUB)
WINDOW ANTENNA
ANTENNA AMP.
SATELLITE ANTENNA
GPS ANTENNA
REAR VIEW CAMERA
AV CONTROL UNIT
USB INTERFACE
MICROPHONE
AUX IN JACK
TO TELEMATICS SYSTEM
★: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.
ABNWA2953GB


AUDIO UNIT M151
JOINT CONNECTOR-M04 M47
BOSE SPEAKER AMP. B109, B110
B117
REAR SPEAKER RH B124
REAR DOOR SPEAKER RH D302
REAR SPEAKER LH B120
REAR DOOR SPEAKER LH D202
CENTER SPEAKER M301
FRONT SPEAKER RH M63
FRONT DOOR SPEAKER RH D120
FRONT SPEAKER LH M55
FRONT DOOR SPEAKER LH D20
JOINT CONNECTOR-M10 M107
JOINT CONNECTOR-M11 M108
JOINT CONNECTOR-M12 M113
JOINT CONNECTOR-M13 M118
M8 B102
M9 B103
M6 99J 100J B1
B6 D201
M50 M300
B106 D301
M14 D101
M11 D1
AANWA1168GB

NAVIGATION SYSTEM CONNECTORS - WITH BOSE AUDIO SYSTEM

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

3N		2N	1N
8N	7N	6N	5N	4N

Terminal No.	Color of Wire	Signal Name
2N	LG	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
2R	BG	–
5R	G	–

Connector No.	M5
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
14P	G	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

			1J	2J	3J	4J	5J		
			6J	7J	8J	9J	10J		
11J	12J	13J	14J	15J	16J	17J	18J	19J	20J	21J
	22J	23J	24J	25J	26J	27J	28J	29J	30J	
31J	32J	33J	34J	35J	36J	37J	38J	39J	40J	41J
		42J	43J	44J	45J	46J	47J	48J	49J	50J
51J	52J	53J	54J	55J	56J	57J	58J	59J	60J	61J
	62J	63J	64J	65J	66J	67J	68J	69J	70J	
71J	72J	73J	74J	75J	76J	77J	78J	79J	80J	81J
		82J	83J	84J	85J	86J	87J	88J	89J	90J
			91J	92J	93J	94J	95J		
				96J	97J	98J	99J	100J		

Terminal No.	Color of Wire	Signal Name
51J	W	–
52J	R	–
53J	B	–
54J	SHIELD	–
99J	R	–
100J	G	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	B	–
2	W	–
3	SHIELD	–
6	BR	–

ABNIA8301GB

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
3	B	–
4	W	–
5	G	–
6	R	–
7	W	–
8	SHIELD	–
9	B	–
10	W	–
11	G	–
12	R	–

Connector No.	M9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	G	–
8	BG	–
9	P	–
10	R	–
11	P	–
12	R	–
13	G	–
14	P	–
15	R	–

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	P	– (WITH BOSE AUDIO SYSTEM)
6	R	– (WITH BOSE AUDIO SYSTEM)

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	P	– (WITH BOSE AUDIO SYSTEM)
2	BG	– (WITH BOSE AUDIO SYSTEM)

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
59	P	CAN-L
60	L	CAN-H
68	P	MR OUTPUT

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

H.S.

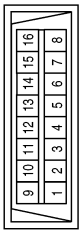
116	115	114	113	112	111	110	109	108	107	106	105
128	127	126	125	124	123	122	121	120	119	118	117

Terminal No.	Color of Wire	Signal Name
109	G	REVERSE SIGNAL
113	P	ACC RELAY OUT

AANIA3088GB

Connector No.	M22
Connector Name	DATA LINK CONNECTOR
Connector Color	WHITE

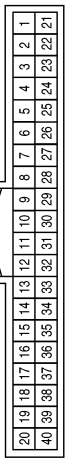
H.S.



Terminal No.	Color of Wire	Signal Name
3	LG	–
6	L	–
8	BG	–
11	SB	–
14	P	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
3	P	STRG SW INPUT1
4	R	STRG SW INPUT2
24	W	STRG SW GND
34	G	SPEED 8P/R
36	LG	M-CAN-L
37	SB	M-CAN-H
38	P	CAN-L
39	L	CAN-H

Connector No.	M25
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	LG	–
5	P	–

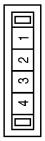
Connector No.	M30
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
24	P	–
31	R	–
33	W	–

Connector No.	M47
Connector Name	JOINT CONNECTOR-M04
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
3	B	–
4	SHIELD	–

Connector No.	M50
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

AANIA3089GB

Connector No.	M55
Connector Name	FRONT SPEAKER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	P	– (WITH BOSE AUDIO SYSTEM)
2	R	– (WITH BOSE AUDIO SYSTEM)

Connector No.	M63
Connector Name	FRONT SPEAKER RH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	P	– (WITH BOSE AUDIO SYSTEM)
2	BG	– (WITH BOSE AUDIO SYSTEM)

Connector No.	M88
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
14	P	–
15	L	–
17	G	–

Connector No.	M89
Connector Name	JOINT CONNECTOR-M05
Connector Color	WHITE

H.S.

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

Connector No.	M99
Connector Name	AV CONTROL UNIT
Connector Color	PINK

H.S.

Terminal No.	Color of Wire	Signal Name
56	B	SAT ANT
57	SHIELD	SAT SHIELD

Connector No.	M100
Connector Name	AV CONTROL UNIT
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
58	B	GPS ANT
59	SHIELD	GPS SHIELD

ABNIA8302GB

Connector No.	M101
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	SHIELD	–
4	B	–
5	SHIELD	–

Connector No.	M102
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

Connector No.	M104
Connector Name	AUX IN JACK
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
4	R	–

Connector No.	M107
Connector Name	JOINT CONNECTOR-M10
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	BG	–
2	BG	–
3	BG	–

Connector No.	M108
Connector Name	JOINT CONNECTOR-M11
Connector Color	WHITE

H.S.

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

Connector No.	M113
Connector Name	JOINT CONNECTOR-M12
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	R	–
3	R	–

ABNIA8303GB

Connector No.	M118
Connector Name	JOINT CONNECTOR-M13
Connector Color	WHITE

H.S.

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

Connector No.	M131
Connector Name	AV CONTROL UNIT
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
45	B	USB GND
46	–	–
47	G	USB D+
48	W	USB D-
49	R	VBUS
50	SHIELD	SHIELD

Connector No.	M132
Connector Name	USB INTERFACE
Connector Color	BLACK

H.S.

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

Connector No.	M137
Connector Name	AV CONTROL UNIT
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
51	B	ANT +B
52	B	MAIN ANT
53	SHIELD	MAIN GND
54	B	ANT SUB
55	SHIELD	SUB GND

Connector No.	M151
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	AMP ON
2	B	FR SP LH (+)
3	W	FR SP LH (-)
4	G	RR SP LH (+)
5	R	RR SP LH (-)
6	–	–

Terminal No.	Color of Wire	Signal Name
7	P	ACC
8	L	CAN-H
9	R	ILL (+), LIGHT SW
10	B	PREAMP SHIELD
11	B	FR SP RH (+)
12	W	FR SP RH (-)
13	G	RR SP RH (+)
14	R	RR SP RH (-)
15	–	–
16	–	–
17	P	CAN-L
18	G	SPEED SIGNAL
19	G	BAT
20	GR	GND

ABNIA8304GB

Connector No.	M153
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

21	22	23	24	25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40	41	42	43	44

Terminal No.	Color of Wire	Signal Name
21	W	AUX R
22	B	AUX GND
23	R	AUX L
24	BR	BF MIC
25	G	REVERSE
26	–	–
27	–	–
28	–	–

Connector No.	M154
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

63	62	61	60
67	66	65	64

Terminal No.	Color of Wire	Signal Name
29	–	–
30	P	MR OUTPUT
31	SB	M-CAN-H
32	LG	M-CAN-L
33	GR	ILL (-)
34	B	MIC SIGNAL
35	W	MIC VCC
36	SHIELD	MIC GND
37	SHIELD	AUX SHIELD
38	SB	M-CAN-H
39	LG	M-CAN-L
40	BG	IGNITION
41	B	CAMERA +
42	SHIELD	CAMERA - (SHIELD)
43	W	CAMERA ON
44	R	CAMERA GND

Terminal No.	Color of Wire	Signal Name
60	W	AUDIO HU OUT +
61	SHIELD	AUDIO HU OUT SHIELD
62	–	–
63	–	–
64	B	AUDIO HU OUT -
65	–	–
66	–	–
67	–	–

Connector No.	M155
Connector Name	JOINT CONNECTOR-M06
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
2	P	–
3	P	–

Connector No.	M156
Connector Name	JOINT CONNECTOR-M07
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	L	–
3	L	–
4	L	–

Connector No.	M157
Connector Name	JOINT CONNECTOR-M08
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	P	–
3	P	–
4	P	–

ABNIA8305GB

Connector No.	M165
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
68	B	GND
70	G	D+
71	W	D-
72	R	VBUS
73	SHIELD	SHIELD

Connector No.	M300
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Connector No.	M301
Connector Name	CENTER SPEAKER
Connector Color	BROWN

H.S.

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

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

H.S.

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

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

H.S.

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

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

H.S.

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

ABNIA8306GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–

Connector No.	M504
Connector Name	GLASS ANTENNA
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
51J	W	–
52J	B	–
53J	R	–
54J	SHIELD	–
99J	R	–
100J	P	–

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

H.S.

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

ABNIA8307GB

Connector No.	B35
Connector Name	REAR VIEW CAMERA
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	SHIELD	–
5	R	–
7	B	–
8	W	–

Connector No.	B59
Connector Name	SATELLITE RADIO ANTENNA
Connector Color	BROWN

H.S.

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

Connector No.	B102
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
3	G	–
4	R	–
5	B	–
6	W	–
7	G	–
8	SHIELD	–
9	G	–
10	R	–
11	B	–
12	W	–

Connector No.	B103
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
8	BG	–
9	P	–
10	R	–
11	P	–
12	W	–
13	G	–
14	G	–
15	R	–

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

H.S.

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

ABNIA8308GB

Connector No.	B109
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN

H.S.

37	36	35	34	33		32	31	30	29	28
27	26	25	24	23	22	21	20	19	18	17	16	15

Terminal No.	Color of Wire	Signal Name
15	G	–
18	G	–
19	G	–
20	R	–
21	B	–
22	W	–
23	B	–
27	W	–
28	W	–
31	G	–
32	R	–
33	W	–
37	G	–

Connector No.	B110
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	W	–
2	W	–
3	G	–
4	P	–
5	R	–
6	G	–
7	R	–
8	P	–
10	G	–
11	G	–
12	GR	–
13	BG	–

Connector No.	B120
Connector Name	REAR SPEAKER LH (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

2	1

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

Connector No.	B124
Connector Name	REAR SPEAKER RH (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

2	1

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

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
2	Y	–
3	SHIELD	–
6	BR	–

Connector No.	R7
Connector Name	MICROPHONE
Connector Color	WHITE

H.S.

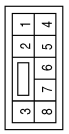
1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	L	–
2	SHIELD	–
3	BR	–
4	Y	–

ABNIA8309GB

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

H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	– (WITH NAVI OR BOSE AUDIO SYSTEM)

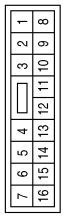
Connector No.	D20
Connector Name	FRONT DOOR SPEAKER LH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN

H.S.

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

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
5	G	–
6	W	– (WITH NAVI OR BOSE AUDIO SYSTEM)

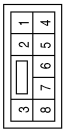
Connector No.	D202
Connector Name	REAR DOOR SPEAKER LH
Connector Color	BROWN

H.S.

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

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

H.S.



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

Connector No.	D120
Connector Name	FRONT DOOR SPEAKER RH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN

H.S.

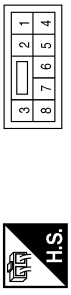
Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

ABNIA8310GB

Connector No.	D302
Connector Name	REAR DOOR SPEAKER RH
Connector Color	BROWN

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

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



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

ABNIA8316GB

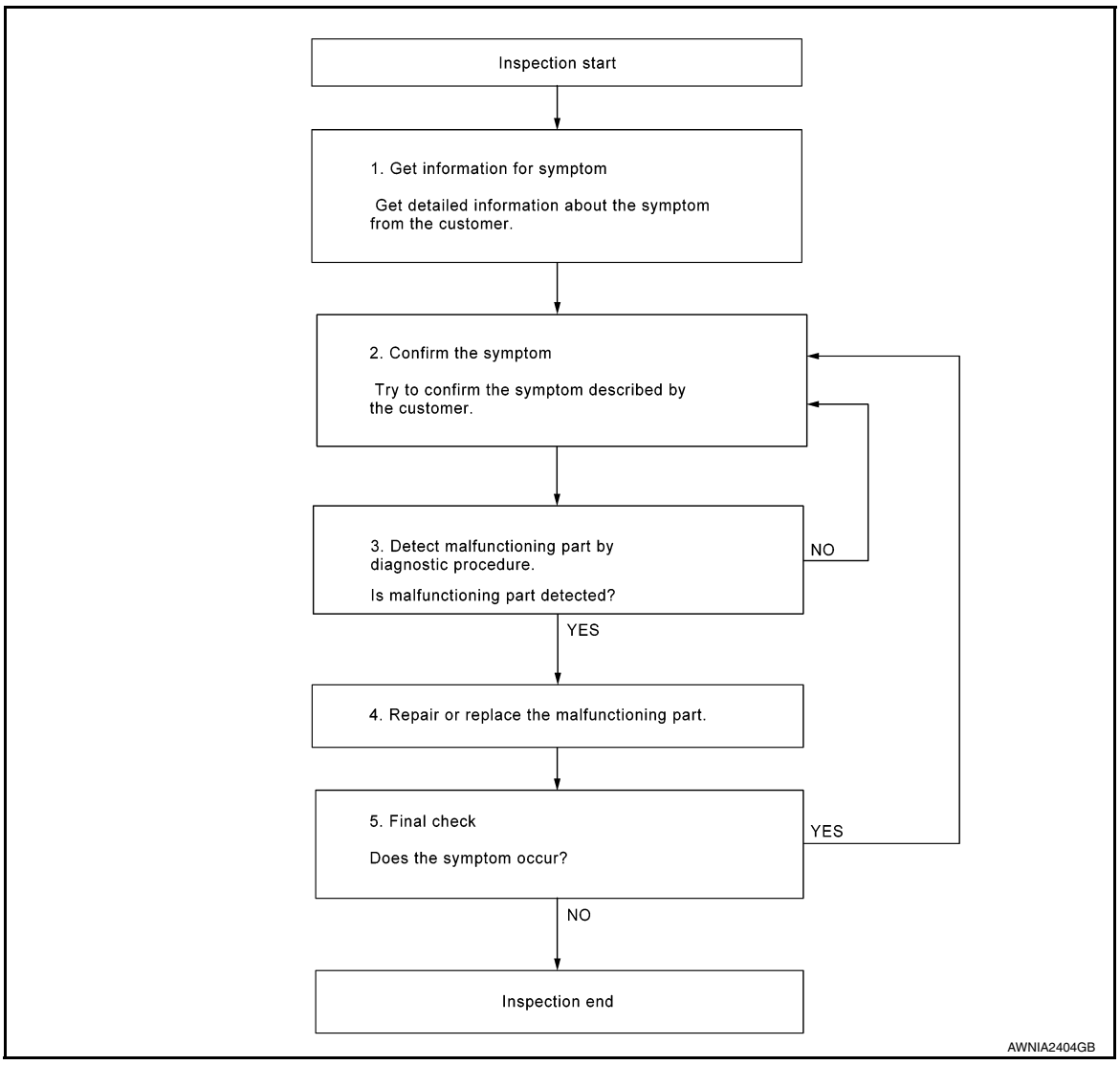
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000012591259

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.

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:0000000012591260

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:0000000012591261

1. SAVING VEHICLE SPECIFICATION

Ⓐ-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-407, "Removal and Installation".

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

ⒶCONSULT

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-344, "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-344, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

>> GO TO 4.

4. REGISTER AV CONTROL UNIT

Perform AV control unit registration. Refer to AV-345, "REGISTRATION (AV CONTROL UNIT) : Work Procedure".

>> GO TO 5.

5. 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)

CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:0000000012591262

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"	• 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:0000000012591263

1.WRITING MODE SELECTION

CONSULT
Select “Reprogramming, Configuration” of “MULTI AV”.

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-345, "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.

>> Work End.

CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:0000000012591264

CAUTION:
Thoroughly read and understand the vehicle specification. Incorrect settings may result in abnormal control of ECU.

SETTING ITEM		NOTE
Items	Setting value	
SOUND SYSTEM	BASE ⇔ BOSE	BASE: Without BOSE audio BOSE: With BOSE audio
CAMERA SYSTEM	NONE/AVM ⇔ REAR CAMERA	NONE/AVM: With around view monitor REAR CAMERA: With rear view camera

⇔: Items which confirm vehicle specifications

REGISTRATION (AV CONTROL UNIT)

REGISTRATION (AV CONTROL UNIT) : Description

INFOID:0000000012591265

AFTER REPLACEMENT

If the AV control unit is replaced with a new AV control unit, the new AV control unit must be registered using the registration code.

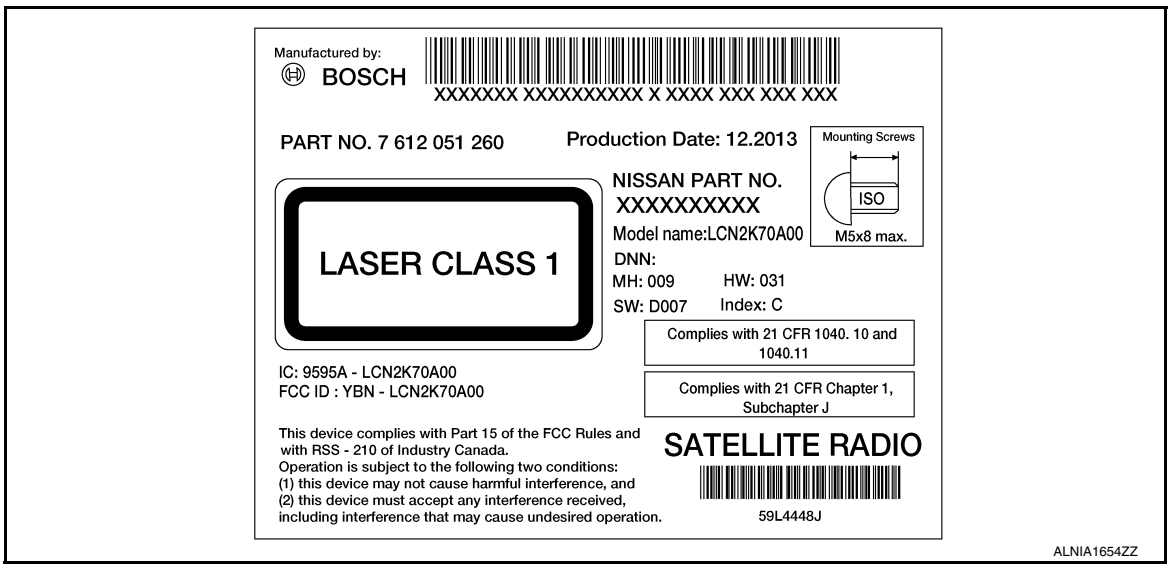
CAUTION:
If the new AV control unit registration code is not registered, the “APPS” mode will not function.

REGISTRATION (AV CONTROL UNIT) : Work Procedure

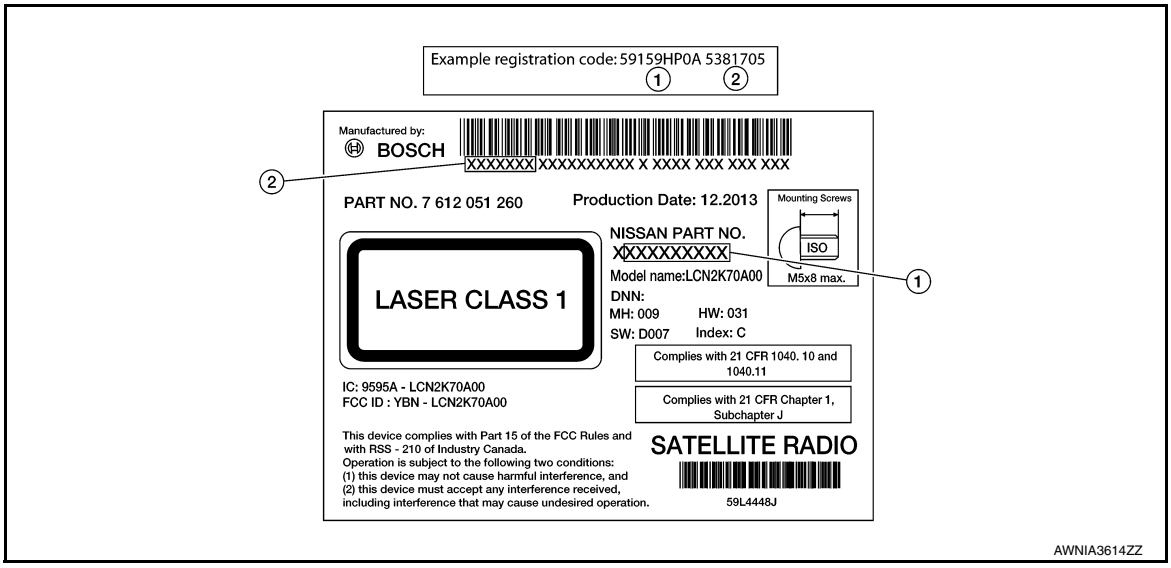
INFOID:0000000012591266

1. RECORD REGISTRATION CODE FOR REPLACEMENT AV CONTROL UNIT

1. Refer to the replacement AV control unit’s label located on the top of the AV control unit.



2. Create a registration code to supply to NISSAN Owner Services by combining the last 9 digits of the NISSAN PART NO. (1) and the first 7 digits of the bar code number (2).



3. Record the registration code.

>> GO TO 2.

2. REGISTER REPLACEMENT AV CONTROL UNIT

Register the replacement AV control unit by contacting NISSAN Owner Services. Refer to TSB.

>> GO TO 3.

3. OPERATION CHECK

Verify that the AV control unit “APPS” function operates normally.

>> Work End.

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Logic

INFOID:0000000012591267

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:0000000012591268

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Perform “Self Diagnostic Result” of “MULTI AV” using CONSULT.

Is CAN COMM CIRCUIT displayed?

YES >> Refer to LAN-19, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-44, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000012591269

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-407, "Removal and Installation".

U1217 AV CONTROL UNIT

DTC Logic

INFOID:0000000012591270

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-407, "Removal and Installation".

U1229 AV CONTROL UNIT

DTC Logic

INFOID:0000000012591271

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-407, "Removal and Installation".

U122F AV CONTROL UNIT

DTC Logic

INFOID:0000000012591272

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-407, "Removal and Installation".

U1244 GPS ANTENNA

DTC Logic

INFOID:0000000012591273

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.	• GPS antenna disconnection. • Open or short to ground in GPS antenna signal circuit.

Diagnosis Procedure

INFOID:0000000012591274

Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1.GPS ANTENNA INSPECTION

Visually inspect the GPS antenna and antenna feeder. Refer to AV-417, "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 M100.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal 58 and ground.

AV control unit terminal	Ground	Voltage
(+)	(−)	
58	—	5.0 V

Is inspection result normal?

YES >> Replace GPS antenna. Refer to AV-417, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

U1258 SATELLITE RADIO ANTENNA

DTC Logic

INFOID:0000000012591275

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.	• Satellite antenna disconnection. • Open or short to ground in satellite antenna signal circuit.

Diagnosis Procedure

INFOID:0000000012591276

Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1.SATELLITE ANTENNA INSPECTION

Visually inspect the satellite antenna and antenna feeder. Refer to AV-419, "Location of Antenna".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK SATELLITE ANTENNA FEEDER CONTINUITY

1. Disconnect AV control unit connector M99 and satellite radio antenna connector B59.
2. Check continuity between AV control unit connector M99 and satellite radio antenna connector B59.

AV control unit		Satellite radio antenna		Continuity
Connector	Terminal	Connector	Terminal	
M99	56	B59	1	Yes

3. Check continuity between AV control unit connector M99 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M99	56	—	No

Is the inspection result normal?

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

3.CHECK AV CONTROL UNIT VOLTAGE

1. Turn ignition switch ON.
2. Check voltage between AV control unit terminal 56 and ground.

AV control unit terminal	Ground	Voltage
(+)	(−)	
56	—	5.0 V

Is inspection result normal?

YES >> Replace satellite radio antenna. Refer to AV-416, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

U1263 USB

DTC Logic

INFOID:0000000012591277

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
USB OVERCURRENT [U1263]	Overcurrent in USB harness is detected.	• 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” of “MULTI AV” using CONSULT.

Is DTC U1263 displayed?

YES >> Refer to AV-354, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012591278

1.CHECK USB INTERFACE HARNESS

Visually inspect USB interface harness. Refer to AV-408, "Removal and Installation".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace USB interface harness. Refer to AV-408, "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-407, "Removal and Installation".
NO >> Replace USB interface harness. Refer to AV-408, "Removal and Installation".

U1264 ANTENNA AMP.

DTC Logic

INFOID:0000000012591279

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.	• Antenna amp. disconnection. • Open or short to ground in antenna amp. ON signal circuit.

Diagnosis Procedure

INFOID:0000000012591280

Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1.ANTENNA AMP. INSPECTION

Visually inspect the antenna amp. and antenna feeder. Refer to AV-419, "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 M137 and antenna amp. connector M502.
3. Check continuity between AV control unit connector M137 and antenna amp. connector M502.

AV control unit		Antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	
M137	51	M502	1	Yes

4. Check continuity between AV control unit connector M137 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M137	51	—	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 M137.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M137 and ground.

AV control unit		Ground	Voltage (Approx.)
(+)		(–)	
Connector	Terminal		
M137	51	—	Battery voltage

Is the inspection result normal?

YES >> Replace antenna amp. Refer to AV-422, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

U1265 BOSE AMP.

DTC Logic

INFOID:0000000012591281

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:0000000012591282

Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND BOSE SPEAKER AMP.

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M151 and Bose speaker amp. connector B109.
3. Check continuity between AV control unit connector M151 and Bose speaker amp. connector B109.

AV control unit		Bose speaker amp.		Continuity
Connector	Terminal	Connector	Terminal	
M151	1	B109	31	Yes

4. Check continuity between AV control unit connector M151 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M151	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 M151.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M151 and ground.

AV control unit		Ground	Voltage (Approx.)
(+)		(–)	
Connector	Terminal		
M151	1	—	Battery voltage

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-415, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

U12AA CONFIGURATION ERROR

DTC Logic

INFOID:0000000012591283

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-344, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

Diagnosis Procedure

INFOID:0000000012591284

1.PERFORM CONFIGURATION

When U12AA is detected, configuration data must be written.

>> Write configuration data with CONSULT. Refer to AV-344, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

U12AB ANTENNA

DTC Logic

INFOID:0000000012591285

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
FM Antenna error [U12AB]	Open or short to ground is detected in glass antenna (FM sub) connection.	• Glass antenna (FM sub) disconnection. • Open or short to ground in glass antenna (FM sub) signal circuit.

Diagnosis Procedure

INFOID:0000000012591286

Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1.GLASS ANTENNA (FM SUB) INSPECTION

Visually inspect the glass antenna (FM sub) and antenna feeder. Refer to AV-419, "Location of Antenna".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK GLASS ANTENNA (FM SUB) FEEDER CONTINUITY

1. Disconnect AV control unit connector M137 and inline connector M504.
2. Check continuity between AV control unit connector M137 and inline connector M504.

AV control unit		Inline		Continuity
Connector	Terminal	Connector	Terminal	
M137	54	M504	1	Yes

3. Check continuity between AV control unit connector M137 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M137	54	—	No

Is the inspection result normal?

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

3.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect AV control unit connector M137.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal 54 and ground.

AV control unit terminal	Ground	Voltage
(+)	(−)	
54	—	5.0 V

Is inspection result normal?

YES >> Replace glass antenna (FM sub). Refer to GW-25, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

U12AC AV CONTROL UNIT

DTC Logic

INFOID:0000000012591287

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-407, "Removal and Installation".

U12AD AV CONTROL UNIT

DTC Logic

INFOID:0000000012591288

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-407, "Removal and Installation".

U12AE AV CONTROL UNIT

DTC Logic

INFOID:0000000012591289

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-407, "Removal and Installation".

U12AF AV CONTROL UNIT

DTC Logic

INFOID:0000000012591290

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-407, "Removal and Installation".

U12B0 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:0000000012591291

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.	• Charging system malfunction. • AV control unit power supply or ground circuits.

Diagnosis Procedure

INFOID:0000000012591292

1.CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to CHG-17, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-20, "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-368, "AV CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-407, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U12B1 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:0000000012591293

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:0000000012591294

1.CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to CHG-17, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-20, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-407, "Removal and Installation".
NO >> Repair or replace the malfunctioning components.

U1300 AV COMM CIRCUIT

DTC Logic

INFOID:0000000012591295

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
AV COMM CIRCUIT [U1300]	AV communication circuit malfunction (MCAN) between AV control unit and combination meter.	AV communication circuits between AV control unit and combination meter.

Diagnosis Procedure

INFOID:0000000012591296

1.PERFORM SELF DIAGNOSTIC RESULT FOR METER M&A

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Perform “Self Diagnostic Result” of “METER M&A” using CONSULT.

Are any DTCs displayed?

YES >> Refer to MWI-29, "DTC Index".
NO >> GO TO 2.

2.CHECK AV COMMUNICATION CIRCUIT (L) CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M153 and combination meter connector M24.
3. Check continuity between AV control unit connector M153 and combination meter connector M24.

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M153	32	M24	36	Yes
	39			

4. Check continuity between AV control unit connector M153 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M153	32	—	No
	39		

Is the inspection result normal?

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

3.CHECK AV COMMUNICATION CIRCUIT (H) CONTINUITY

1. Check continuity between AV control unit connector M153 and combination meter connector M24.

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M153	31	M24	37	Yes
	38			

2. Check continuity between AV control unit connector M153 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M153	31	—	No
	38		

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-407, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U1310 AV CONTROL UNIT

DTC Logic

INFOID:0000000012591297

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-407, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000012591298

Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	25 (10A)
19	Battery power supply	15 (20A)
40	Ignition power supply	29 (5A)

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 M151 and M153.
3. Check voltage between AV control unit connectors M151 and M153 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M151	19	—	Ignition switch: OFF	Battery voltage
	7		Ignition switch: ON	
M153	40			

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 M151 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M151	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:0000000012591299

Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
11	Battery power supply	12 (20A)

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 B110.
3. Check voltage between Bose speaker amp. connector B110 and ground.

Bose speaker amp.		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
B110	11	—	Ignition switch: OFF	Battery voltage

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 B110.
3. Check continuity between Bose speaker amp. connector B110 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B110	12	—	Yes

Is the inspection result normal?

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

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000012591300

Regarding Wiring Diagram information, refer to AV-325, "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 B110 and suspect front door speaker connector.
2. Check continuity between Bose speaker amp. connector B110 and suspect front door speaker connector.

Bose speaker amp.		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
B110	4	D20 (LH)	1	Yes
	5		2	
	8	D120 (RH)	1	
	13		2	

3. Check continuity between Bose speaker amp. connector B110 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B110	4	—	No
	5		
	8		
	13		

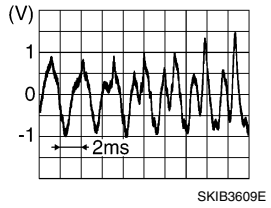
Is the inspection result normal?

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 B110 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between Bose speaker amp. connector B110 and ground.

Bose speaker amp. connector B110		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

4	5	Audio signal output	 SKIB3609E
8	13		

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-412, "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 B109 and AV control unit connector M151.
3. Check continuity between Bose speaker amp. connector B109 and AV control unit connector M151.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B109	32	M151	3	Yes
	18		2	
	20		12	
	19		11	

4. Check continuity between Bose speaker amp. connector B109 and ground.

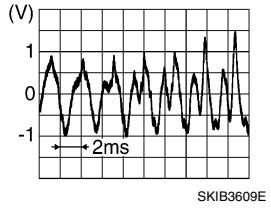
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B109	32	—	No
	18		
	20		
	19		

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 B109 and AV control unit connector M151.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M151 and ground.

AV control unit connector M151		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
2	3	Audio signal output	 SKIB3609E
11	12		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-415, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000012591301

Regarding Wiring Diagram information, refer to AV-325, "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 B110 and suspect front speaker connector.
2. Check continuity between Bose speaker amp. connector B110 and suspect front speaker connector.

Bose speaker amp.		Front speaker		Continuity
Connector	Terminal	Connector	Terminal	
B110	4	M55 (LH)	1	Yes
	5		2	
	8	M63 (RH)	1	
	13		2	

3. Check continuity between Bose speaker amp. connector B110 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B110	4	—	No
	5		
	8		
	13		

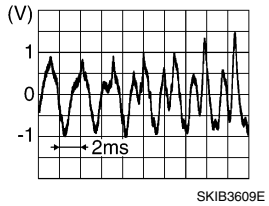
Is the inspection result normal?

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 B110 and suspect front speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between Bose speaker amp. connector B110 and ground.

Bose speaker amp. connector B110		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

4	5	Audio signal output	
8	13		

Is the inspection result normal?

YES >> Replace front speaker. Refer to AV-410, "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 B109 and AV control unit connector M151.
3. Check continuity between Bose speaker amp. connector B109 and AV control unit connector M151.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B109	32	M151	3	Yes
	18		2	
	20		12	
	19		11	

4. Check continuity between Bose speaker amp. connector B109 and ground.

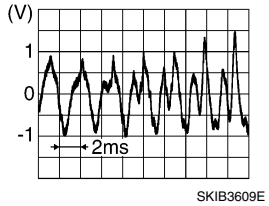
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B109	32	—	No
	18		
	20		
	19		

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 B109 and AV control unit connector M151.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M151 and ground.

AV control unit connector M151		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
2	3	Audio signal output	
11	12		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-415, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

CENTER SPEAKER

Diagnosis Procedure

INFOID:0000000012591302

Regarding Wiring Diagram information, refer to AV-325, "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 CENTER SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B110 and center speaker connector M301.
2. Check continuity between Bose speaker amp. connector B110 and center speaker connector M301.

Bose speaker amp.		Center speaker		Continuity
Connector	Terminal	Connector	Terminal	
B110	6	M301	1	Yes
	7		2	

3. Check continuity between Bose speaker amp. connector B110 and ground.

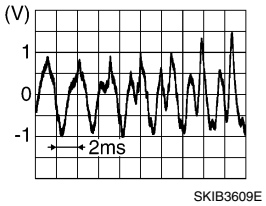
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B110	6	—	No
	7		

Is the inspection result normal?

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

3.CHECK CENTER SPEAKER SIGNAL (BOSE SPEAKER AMP.)

1. Connect Bose speaker amp. connector B110 and center speaker connector M301.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between Bose speaker amp. connector B110 and ground.

Bose speaker amp. connector B110		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
6	7	Audio signal output	

SKIB3609E

Is the inspection result normal?

YES >> Replace center speaker. Refer to AV-411, "Removal and Installation".
NO >> GO TO 4.

4. CHECK CENTER SPEAKER SIGNAL CIRCUIT CONTINUITY (AV CONTROL UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B109 and AV control unit connector M151.
3. Check continuity between Bose speaker amp. connector B109 and AV control unit connector M151.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B109	32	M151	3	Yes
	18		2	
	20		12	
	19		11	

4. Check continuity between Bose speaker amp. connector B109 and ground.

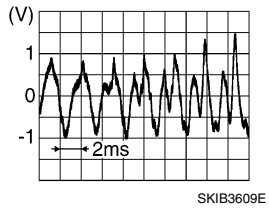
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B109	32	—	No
	18		
	20		
	19		

Is the inspection result normal?

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

5. CHECK CENTER SPEAKER SIGNAL (AV CONTROL UNIT)

1. Connect Bose speaker amp. connector B109 and AV control unit connector M151.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M151 and ground.

AV control unit connector M151		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
2	3	Audio signal output	
11	12		

SKIB3609E

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-415, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000012591303

Regarding Wiring Diagram information, refer to AV-325, "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	
B109	15	D202 (LH)	1	Yes
	28		2	
	37	D302 (RH)	1	
	27		2	

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

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B109	15	—	No
	28		
	37		
	27		

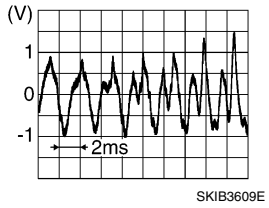
Is the inspection result normal?

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 Bose speaker amp. connectors and ground.

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

B109	15	28	Audio signal output	 SKIB3609E
	37	27		

Is the inspection result normal?

YES >> Replace rear door speaker. Refer to AV-413, "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 B109 and AV control unit connector M151.
3. Check continuity between Bose speaker amp. connector B109 and AV control unit connector M151.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B109	21	M151	4	Yes
	22		5	
	23		13	
	33		14	

4. Check continuity between Bose speaker amp. connector B109 and ground.

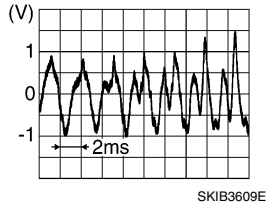
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B109	21	—	No
	22		
	23		
	33		

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 B109 and AV control unit connector M151.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M151 and ground.

AV control unit connector M151		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
4	5	Audio signal output	 SKIB3609E
13	14		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-415, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

REAR SPEAKER

Diagnosis Procedure

INFOID:0000000012591304

Regarding Wiring Diagram information, refer to AV-325, "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 SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B110 and suspect rear speaker connector.
2. Check continuity between Bose speaker amp. connector B110 and suspect rear speaker connector.

Bose speaker amp.		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
B110	1	B120 (LH)	1	Yes
	10		2	
	2	B124 (RH)	1	
	3		2	

3. Check continuity between Bose speaker amp. connector B110 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B110	1	—	No
	10		
	2		
	3		

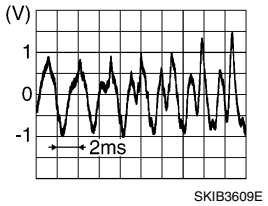
Is the inspection result normal?

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

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

1. Connect Bose speaker amp. connector B110 and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between Bose speaker amp. connector B110 and ground.

Bose speaker amp. connector B110		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

1	10	Audio signal output	
2	3		

Is the inspection result normal?

YES >> Replace rear speaker. Refer to AV-414, "Removal and Installation".
NO >> GO TO 4.

4. CHECK REAR SPEAKER SIGNAL CIRCUIT CONTINUITY (AV CONTROL UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B109 and AV control unit connector M151.
3. Check continuity between Bose speaker amp. connector B109 and AV control unit connector M151.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B109	21	M151	4	Yes
	22		5	
	23		13	
	33		14	

4. Check continuity between Bose speaker amp. connector B109 and ground.

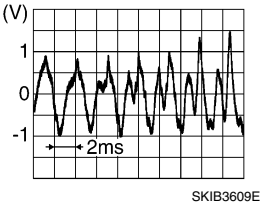
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B109	21	—	No
	22		
	23		
	33		

Is the inspection result normal?

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

5. CHECK REAR SPEAKER SIGNAL (AV CONTROL UNIT)

1. Connect Bose speaker amp. connector B109 and AV control unit connector M151.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M151 and ground.

AV control unit connector M151		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
4	5	Audio signal output	
13	14		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-415, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

AMP ON SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591305

Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND BOSE SPEAKER AMP.

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M151 and Bose speaker amp. connector B109.
3. Check continuity between AV control unit connector M151 and Bose speaker amp. connector B109.

AV control unit		Bose speaker amp.		Continuity
Connector	Terminal	Connector	Terminal	
M151	1	B109	31	Yes

4. Check continuity between AV control unit connector M151 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M151	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 M151.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M151 and ground.

AV control unit		Ground	Voltage (Approx.)
(+)		(–)	
Connector	Terminal		
M151	1	—	Battery voltage

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-415, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591306

Regarding Wiring Diagram information, refer to AV-325, "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 M153 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M153	25	—	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 M153 and rear view camera connector.
3. Check continuity between AV control unit connector M153 and rear view camera connector B35.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M153	43	B35	8	Yes

4. Check continuity between AV control unit connector M153 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M153	43		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 M153 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 M153 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M153	43	—	Selector lever is in “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

4.CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M153 and rear view camera connector.
3. Check continuity between AV control unit connector M153 and rear view camera connector B35.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M153	41	B35	5	Yes

4. Check continuity between AV control unit connector M153 terminal 41 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M153	41		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 M153 and rear view camera connector B35.

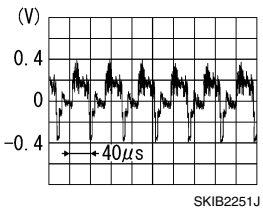
AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M153	44	B35	7	Yes

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 M153 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 M153 and ground.

AV control unit (+)		Ground (−)	Condition	Reference value
Connector	Terminal			
M153	41	—	Camera image displayed.	

SKIB2251J

Is inspection result normal?

YES >> Replace AV control unit. Refer to AV-407, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-423, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591307

Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M153 and microphone connector R7.
3. Check continuity between AV control unit connector M153 and microphone connector R7.

AV control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M153	36	R7	2	Yes
	35		4	
	34		1	

4. Check continuity between AV control unit connector M153 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M153	36	—	No
	35		
	34		

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 M153.
2. Turn ignition switch ON.
3. Check voltage between terminals of AV control unit connector M153.

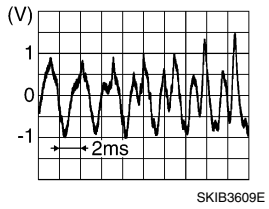
AV control unit connector M153		Voltage (Approx.)
(+)	(−)	
Terminal	Terminal	
35	36	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of AV control unit connector M153.

AV control unit connector M153		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
34	36	Speak into microphone.	

SKIB3609E

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-407, "Removal and Installation".
NO >> Replace microphone. Refer to AV-479, "Removal and Installation".

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000012591308

Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M88.
3. Check resistance between combination switch connector terminals.

Combination switch connector M88		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress △ switch.	121
		Depress ▽ switch.	321
		Depress switch.	723
		Depress ENTER switch.	2023
15		Depress switch.	1
		Depress switch.	121
		Depress switch.	321
		Depress switch.	723
		Depress DISP switch.	2023

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace steering switches. Refer to AV-418, "Removal and Installation".

2.CHECK HARNESS BETWEEN COMBINATION SWITCH AND COMBINATION METER

1. Disconnect combination meter connector M24 and combination switch connector M30.
2. Check continuity between combination meter connector M24 and combination switch connector M30.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M24	3	M30	24	Yes
	24		33	
	4		31	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	3	—	No
	24		
	4		

Is the inspection result normal?

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

3.CHECK COMBINATION SWITCH

Check continuity between combination switch connectors M30 and M88.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M88	14	Yes
	31		15	
	33		17	

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

4.CHECK HARNESS BETWEEN COMBINATION METER AND AV CONTROL UNIT

1. Disconnect AV control unit connector M153.
2. Check continuity between combination meter connector M24 and AV control unit connector M153.

Combination meter		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M24	37	M153	31	Yes
	36		32	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	37	—	No
	36		

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-407, "Removal and Installation".
NO >> Repair or replace harness or connectors.

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000012591309

Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M131 and USB interface connector M132.
3. Check continuity between AV control unit connector M131 and USB interface connector M132.

AV control unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M131	45	M132	1	Yes
	47		3	
	48		4	
	49		5	
	50		6	

4. Check continuity between AV control unit connector M131 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M131	47	Ground	No
	49		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-408, "Removal and Installation".
NO >> Repair or replace harness or connectors.

AUXILIARY INPUT JACK

Diagnosis Procedure

INFOID:0000000012591310

Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1.CHECK AUX IN JACK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M153 and AUX in jack connector M104.
3. Check continuity between AV control unit connector M153 and AUX in jack connector M104.

AV control unit		AUX in jack		Continuity
Connector	Terminal	Connector	Terminal	
M153	21	M104	1	Yes
	22		2	
	23		4	

4. Check continuity between AV control unit connector M153 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M153	21	Ground	No
	22		

Is the inspection result normal?

YES >> Replace the AUX in jack. Refer to AV-409, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:0000000012591311

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-314, "On Board Diagnosis Function".

Symptoms	Check items	Probable malfunction location
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-325, "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-368, "BOSE SPEAKER AMP : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear door speaker LH, rear door speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and Bose speaker amp. Refer to: - AV-370, "Diagnosis Procedure" (front door speaker). - AV-373, "Diagnosis Procedure" (front speaker). - AV-376, "Diagnosis Procedure" (center speaker). - AV-378, "Diagnosis Procedure" (rear door speaker). - AV-381, "Diagnosis Procedure" (rear speaker). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: - AV-370, "Diagnosis Procedure" (front door speaker). - AV-373, "Diagnosis Procedure" (front speaker). - AV-376, "Diagnosis Procedure" (center speaker). - AV-378, "Diagnosis Procedure" (rear door speaker). - AV-381, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. Refer to: - AV-412, "Removal and Installation" (front door speaker). - AV-410, "Removal and Installation" (front speaker). - AV-411, "Removal and Installation" (center speaker). - AV-413, "Removal and Installation" (rear door speaker). - AV-414, "Removal and Installation" (rear speaker). • Malfunction in AV control unit. Refer to AV-314, "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-415, "Removal and Installation".

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-314, "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-415, "Removal and Installation".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear door speaker LH, rear door speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and Bose speaker amp. Refer to: - AV-370, "Diagnosis Procedure" (front door speaker). - AV-373, "Diagnosis Procedure" (front speaker). - AV-376, "Diagnosis Procedure" (center speaker). - AV-378, "Diagnosis Procedure" (rear door speaker). - AV-381, "Diagnosis Procedure" (rear speaker). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: - AV-370, "Diagnosis Procedure" (front door speaker). - AV-373, "Diagnosis Procedure" (front speaker). - AV-376, "Diagnosis Procedure" (center speaker). - AV-378, "Diagnosis Procedure" (rear door speaker). - AV-381, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-412, "Removal and Installation" (front door speaker). - AV-410, "Removal and Installation" (front speaker). - AV-411, "Removal and Installation" (center speaker). - AV-413, "Removal and Installation" (rear door speaker). - AV-414, "Removal and Installation" (rear speaker). • Malfunction in AV control unit. Refer to AV-314, "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-415, "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-419, "Location of Antenna".
No radio reception or poor reception.	• 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).	• Antenna amp. ON signal circuit malfunction. Refer to AV-355, "Diagnosis Procedure". • Poor connector connection of antenna or antenna feeder. Refer to AV-419, "Location of Antenna".

Symptoms	Check items	Probable malfunction location
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result. Refer to AV-315, "CONSULT Function".	• Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis. Refer to AV-353, "Diagnosis Procedure". • Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. Refer to AV-419, "Location of Antenna".
	There is no malfunction in the CONSULT self diagnosis result. Refer to AV-315, "CONSULT Function".	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-419, "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 AV control unit. Replace AV control unit. Refer to AV-418, "Removal and Installation".
Hands-free phone cannot be established.	• 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-387, "Diagnosis Procedure".
The system cannot be operated.	• 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-418, "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.	• Malfunction in SD card. • Malfunction in AV control unit. Refer to AV-314, "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-423, "Removal and Installation".

NORMAL OPERATING CONDITION

Description

INFOID:0000000012591312

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

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).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” in AV-393, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • 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. **NOTE:** 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.

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 malfunction.

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.

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

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

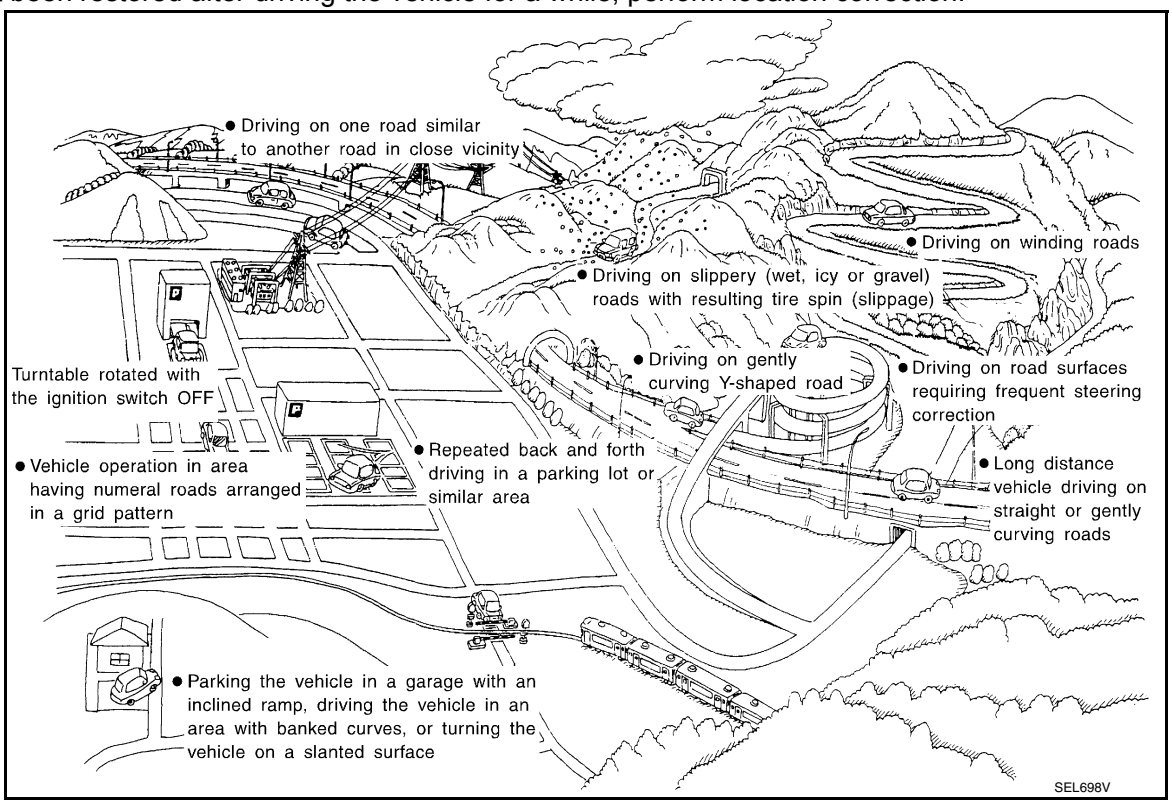
Symptom	Cause	Remedy
No route is shown.	No road to be searched is found around the destination.	Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads.
	Starting point and the destination 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.

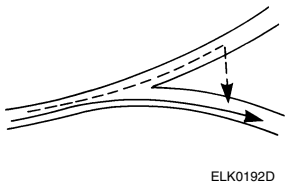
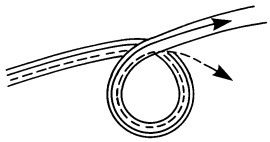
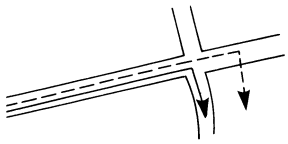
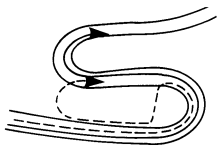
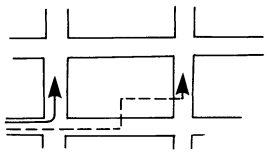
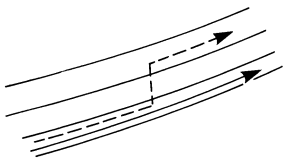
NOTE:

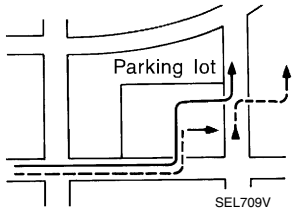
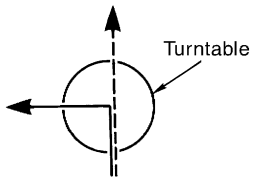
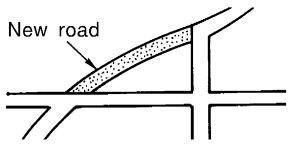
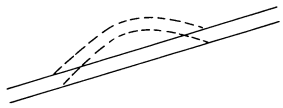
Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

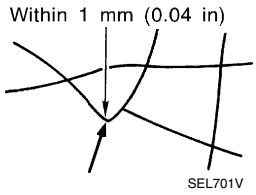
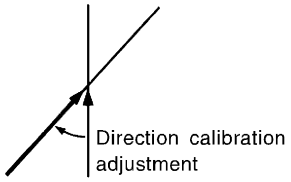
Examples of Current-Location Mark Displacement

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.



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 sideway), the map may be matched to the other road by mistake and the vehicle mark may deviate from the correct location.	

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.)

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 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  SEL701V	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  SEL702V	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

- 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.

Vehicle Mark Jumps

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location.

• 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.

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.

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.

When Driving on Same Road, Sometimes Vehicle Mark is in Right Place and Sometimes it is in Wrong Place

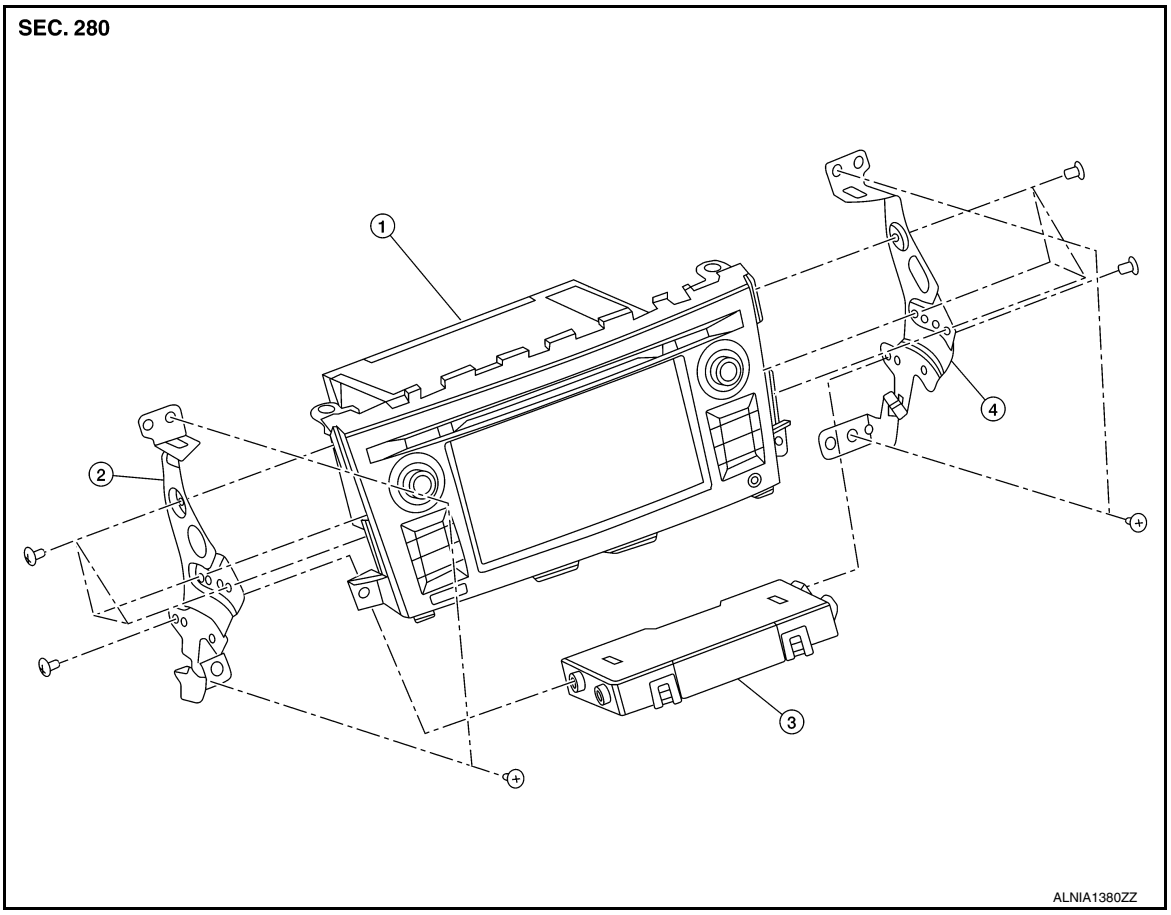
The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:0000000012591313



1. AV control unit
2. AV control unit bracket (LH)
3. A/C auto amp.
4. AV control unit bracket (RH)

Removal and Installation

INFOID:0000000012591314

REMOVAL

CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to AV-344, "CONFIGURATION (AV CONTROL UNIT) : Description".

1. Disconnect the negative battery terminal. Refer to PG-78, "Removal and Installation".
2. Remove cluster lid C. Refer to IP-20, "Cluster Lid C".
3. Remove the A/C switch assembly. Refer to HAC-100, "Removal and Installation".
4. Remove the AV control unit bracket screws, then pull out the AV control unit.
5. 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-239, "CONFIGURATION (AV CONTROL UNIT) : Description".**
- **When replacing AV control unit, the AV control unit must be registered. Refer to AV-343, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description".**

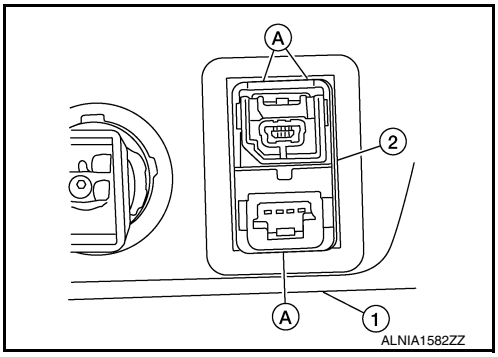
USB INTERFACE

Removal and Installation

INFOID:0000000012591315

REMOVAL

1. Remove the shift selector finisher. Refer to IP-18, "Removal and Installation".
2. Release the pawls (A) and remove the USB interface (2) from the back of the shift selector finisher (1).



INSTALLATION

Installation is in the reverse order of removal.

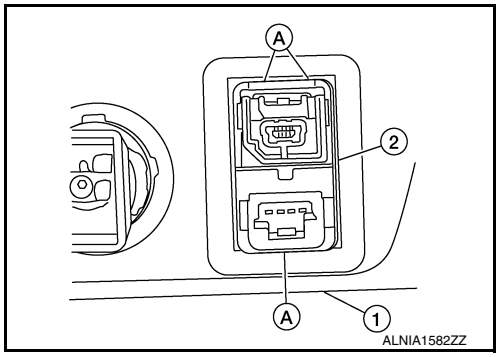
AUX IN JACK

Removal and Installation

INFOID:0000000012591316

REMOVAL

1. Remove the shift selector finisher. Refer to IP-18, "Removal and Installation".
2. Release the pawls (A) and remove the AUX in jack (2) from the back of the shift selector finisher (1).



INSTALLATION

Installation is in the reverse order of removal.

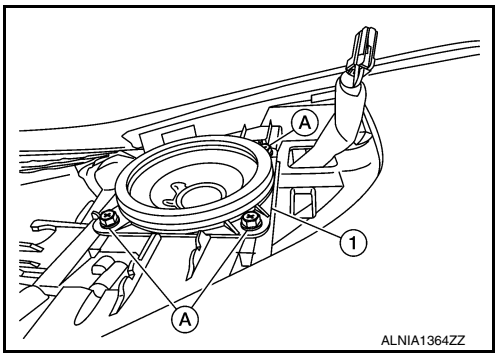
FRONT SPEAKER

Removal and Installation

INFOID:0000000012591317

REMOVAL

1. Remove the front pillar finisher. Refer to INT-21, "FRONT PILLAR FINISHER : Removal and Installation".
2. Remove the front speaker grille using a suitable tool.
3. Remove the front speaker screws (A).
4. Pull out the front speaker (1), disconnect the harness connector from front speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

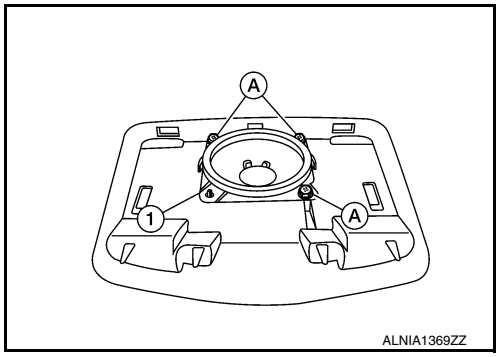
CENTER SPEAKER

Removal and Installation

INFOID:0000000012591318

REMOVAL

1. Remove the center speaker grille using a suitable tool.
2. Remove the center speaker screws (A).
3. Pull out the center speaker (1), disconnect the harness connector from the center speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

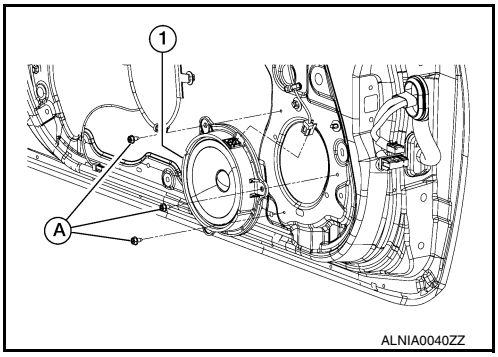
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000012591319

REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

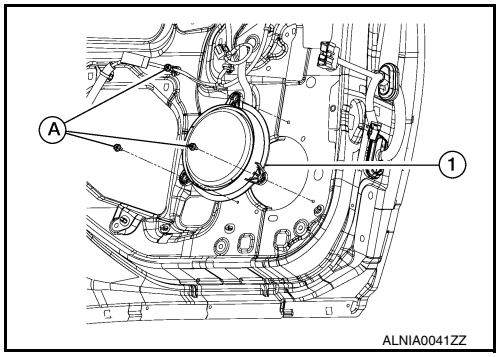
REAR DOOR SPEAKER

Removal and Installation

INFOID:0000000012591320

REMOVAL

1. Remove the rear door finisher. Refer to INT-18, "Removal and Installation".
2. Remove the rear door speaker screws (A).
3. Disconnect the harness connector from the rear door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

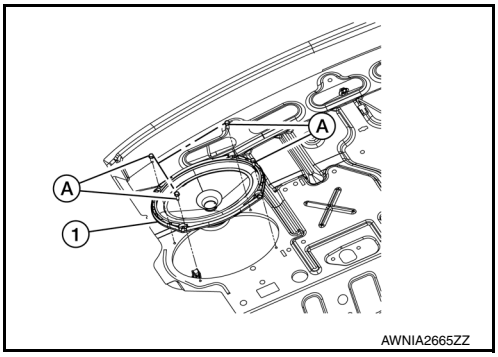
REAR SPEAKER

Removal and Installation

INFOID:0000000012591321

REMOVAL

1. Remove the rear parcel shelf finisher. Refer to INT-26, "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.

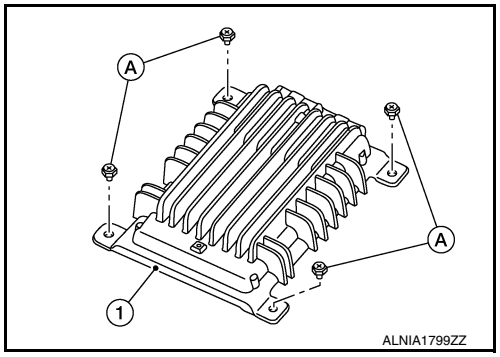
BOSE SPEAKER AMP

Removal and Installation

INFOID:0000000012591322

REMOVAL

1. Open the trunk lid.
2. Remove the Bose speaker amp. screws (A).
3. Disconnect the harness connectors from the Bose speaker amp. (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

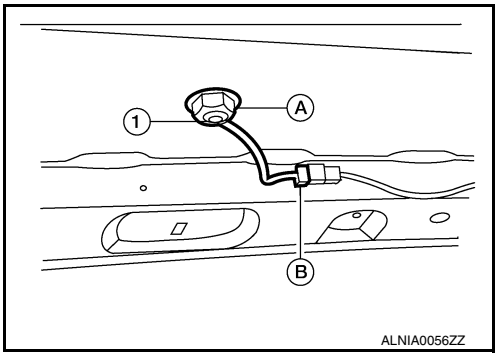
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:0000000012591323

REMOVAL

1. Lower the headlining at the rear. Refer to INT-25, "REAR PILLAR FINISHER : Removal and Installation".
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.

Satellite radio antenna nut : 6.5 N·m (0.66 kg-m, 58 in-lb)

CAUTION:

If the satellite radio antenna nut is not tightened to the specified torque, lower sensitivity of the antenna may be experienced. If the nut is tightened tighter than the specified torque, this will deform the roof panel.

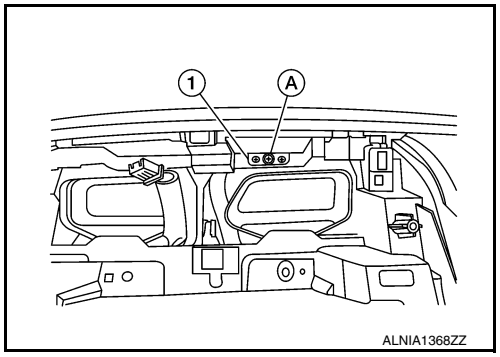
GPS ANTENNA

Removal and Installation

INFOID:0000000012591324

REMOVAL

1. Remove the AV control unit. Refer to AV-106, "Removal and Installation".
2. Remove the GPS antenna screw (A) and the GPS antenna (1).



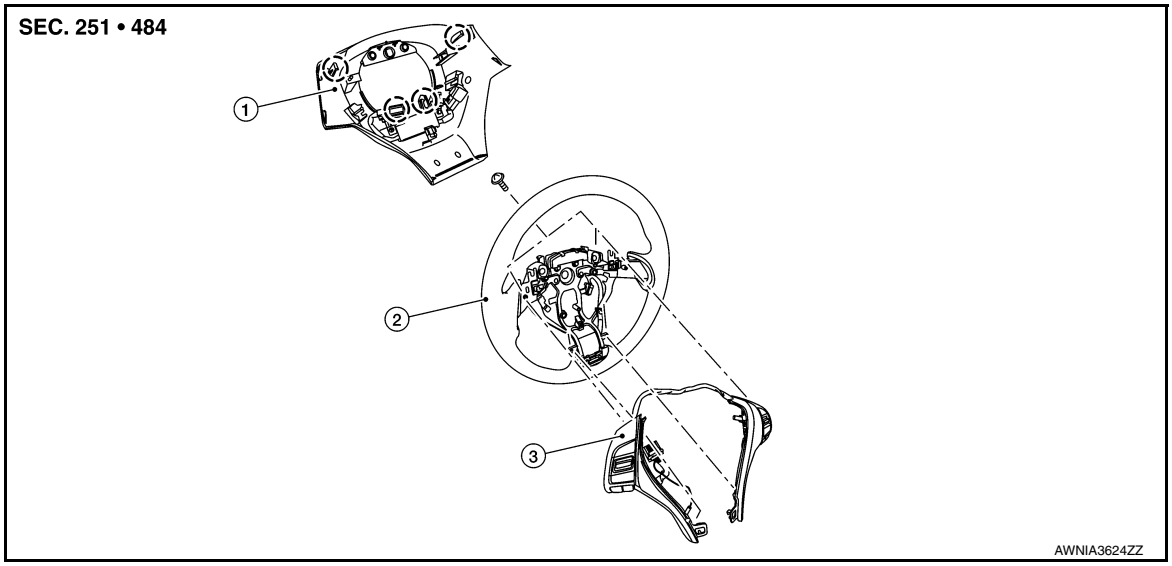
INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

Exploded View

INFOID:0000000012591325



1. Steering wheel rear finisher
2. Steering wheel
3. Steering switches

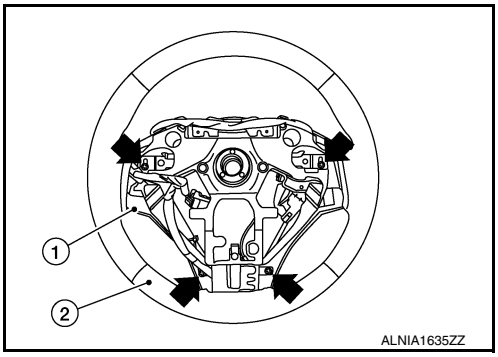
Pawl

Removal and Installation

INFOID:0000000012591326

REMOVAL

1. Remove the steering wheel. Refer to ST-32, "Removal and Installation"
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (⬅).
4. Remove the steering switches (1) from steering wheel (2).



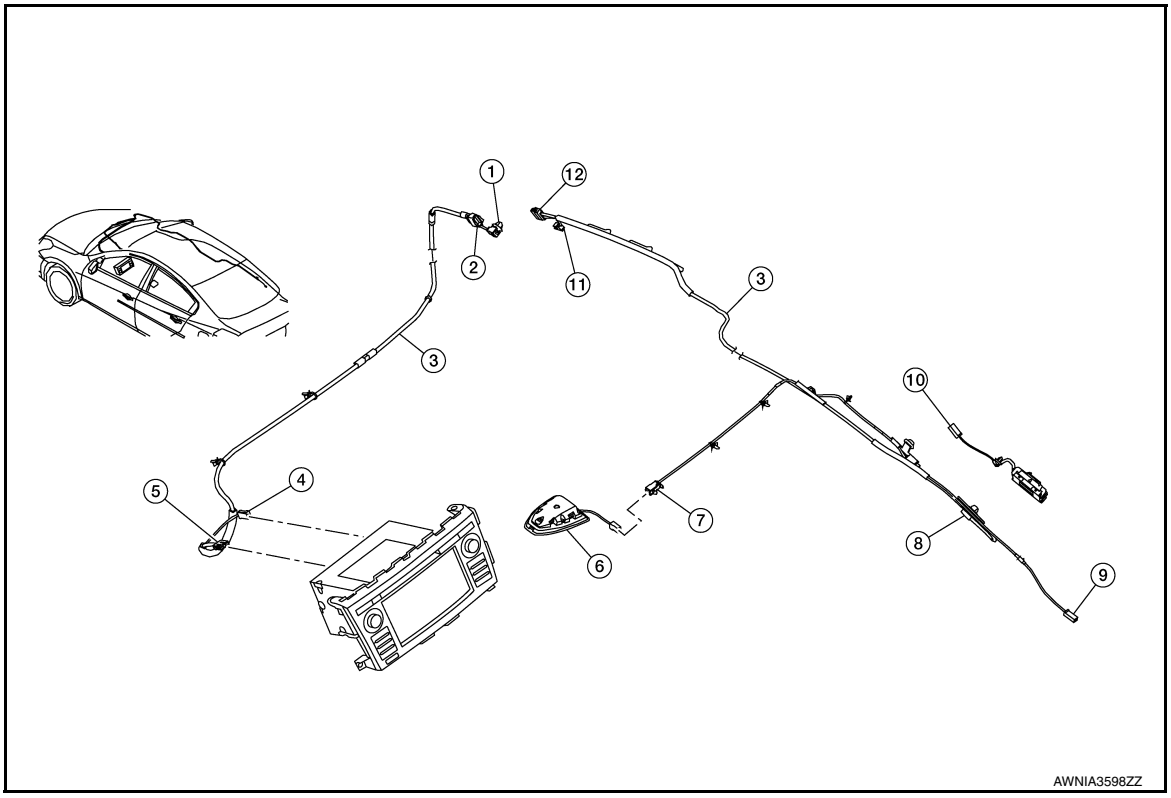
INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

Location of Antenna

INFOID:0000000012591327



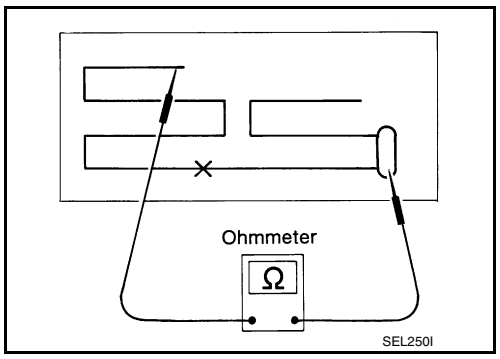
1. M102
2. M101
3. Antenna feeder
4. M99
5. M137
6. Satellite antenna
7. B59
8. M502
9. M504
10. M503
11. M500
12. M501

Window Antenna Repair

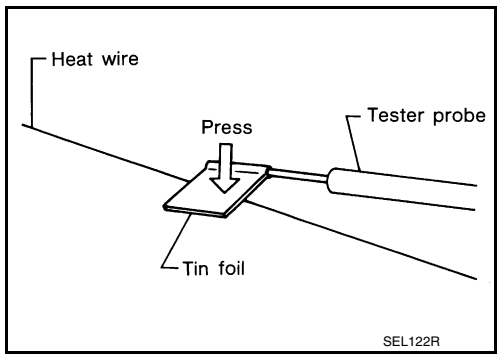
INFOID:0000000012591328

ELEMENT CHECK

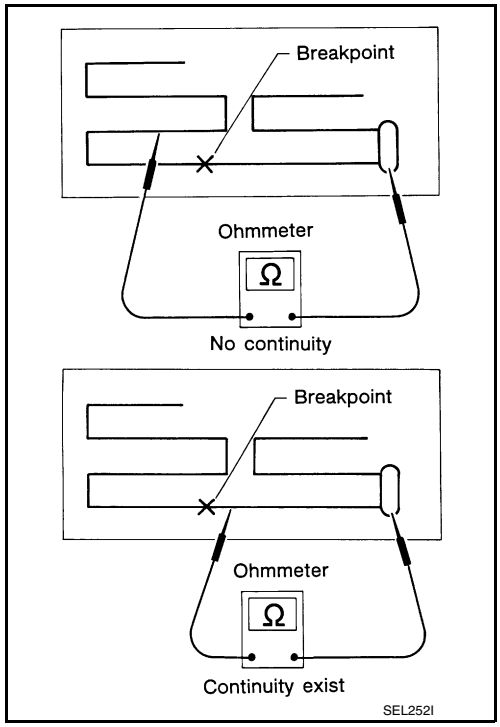
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



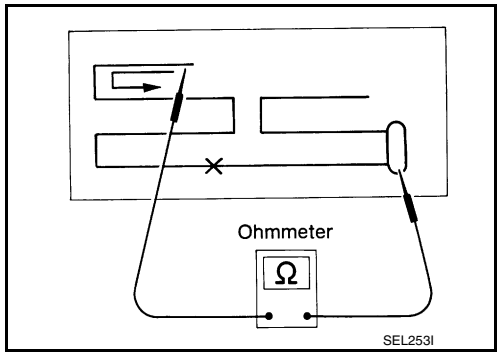
- **When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.**



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.

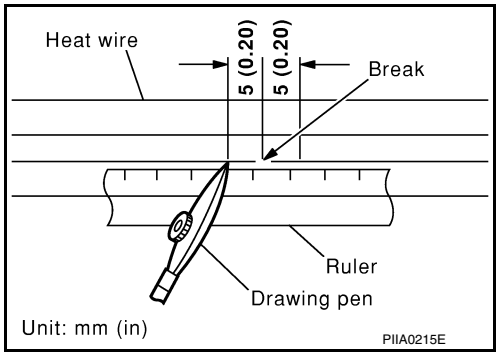


REPAIR EQUIPMENT

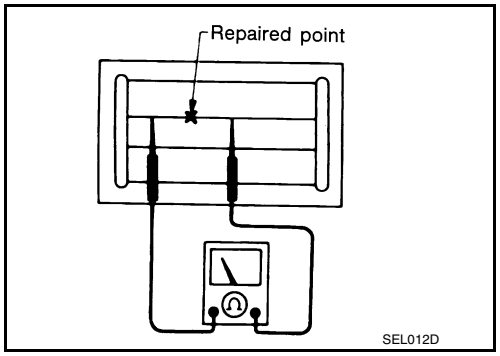
- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

REPAIRING PROCEDURE

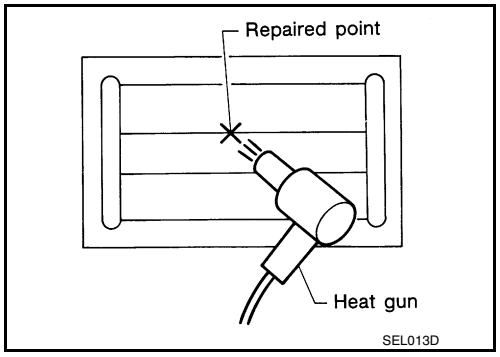
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.
   Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition 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.



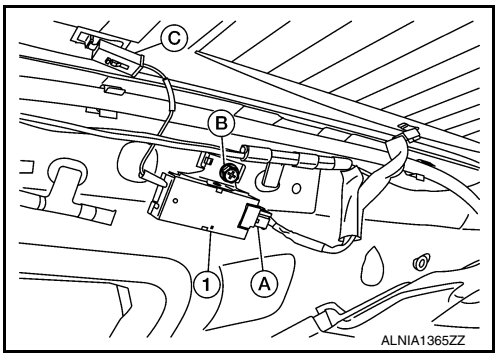
ANTENNA AMP.

Removal and Installation

INFOID:0000000012591329

REMOVAL

1. Remove the rear pillar finisher (RH). Refer to INT-21, "FRONT PILLAR FINISHER : Removal and Installation".
2. Disconnect the harness connector (A) from the antenna amp. (1).
3. Disconnect the antenna amp. harness connector (C) from the rear window glass.
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000012591332

REMOVAL

1. Remove license lamp finisher. Refer to EXT-46, "Removal and Installation".
2. Disconnect the harness connector from rear view camera.
3. Remove rear view camera.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Perform rear view camera calibration. Refer to AV-344, "CONFIGURATION (AV CONTROL UNIT) : Description".

PRECAUTION

PRECAUTIONS

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

INFOID:0000000012921983

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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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 or batteries, and wait at least three minutes before performing any service.**

Cautions in Removing Battery Terminal and AV Control Unit (Models with AV Control Unit)

INFOID:0000000012921984

CAUTION:

Remove battery terminal and AV control unit 30 seconds or more after turning the ignition switch OFF.

NOTE:

After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

Precaution for Trouble Diagnosis

INFOID:0000000012921985

AV COMMUNICATION SYSTEM

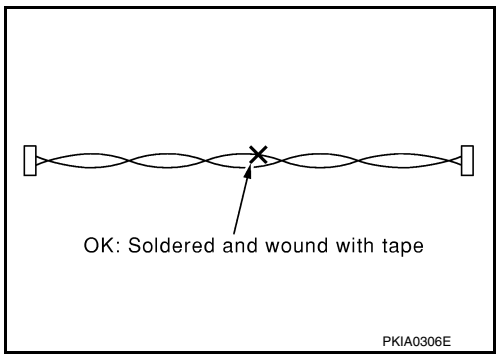
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

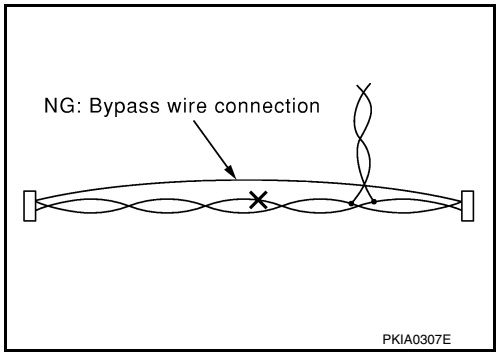
INFOID:0000000012921986

AV COMMUNICATION SYSTEM

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



- 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:0000000012921987

- 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.

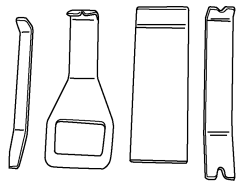
PREPARATION

PREPARATION

Special Service Tool

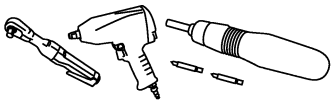
INFOID:0000000012921988

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:0000000012921989

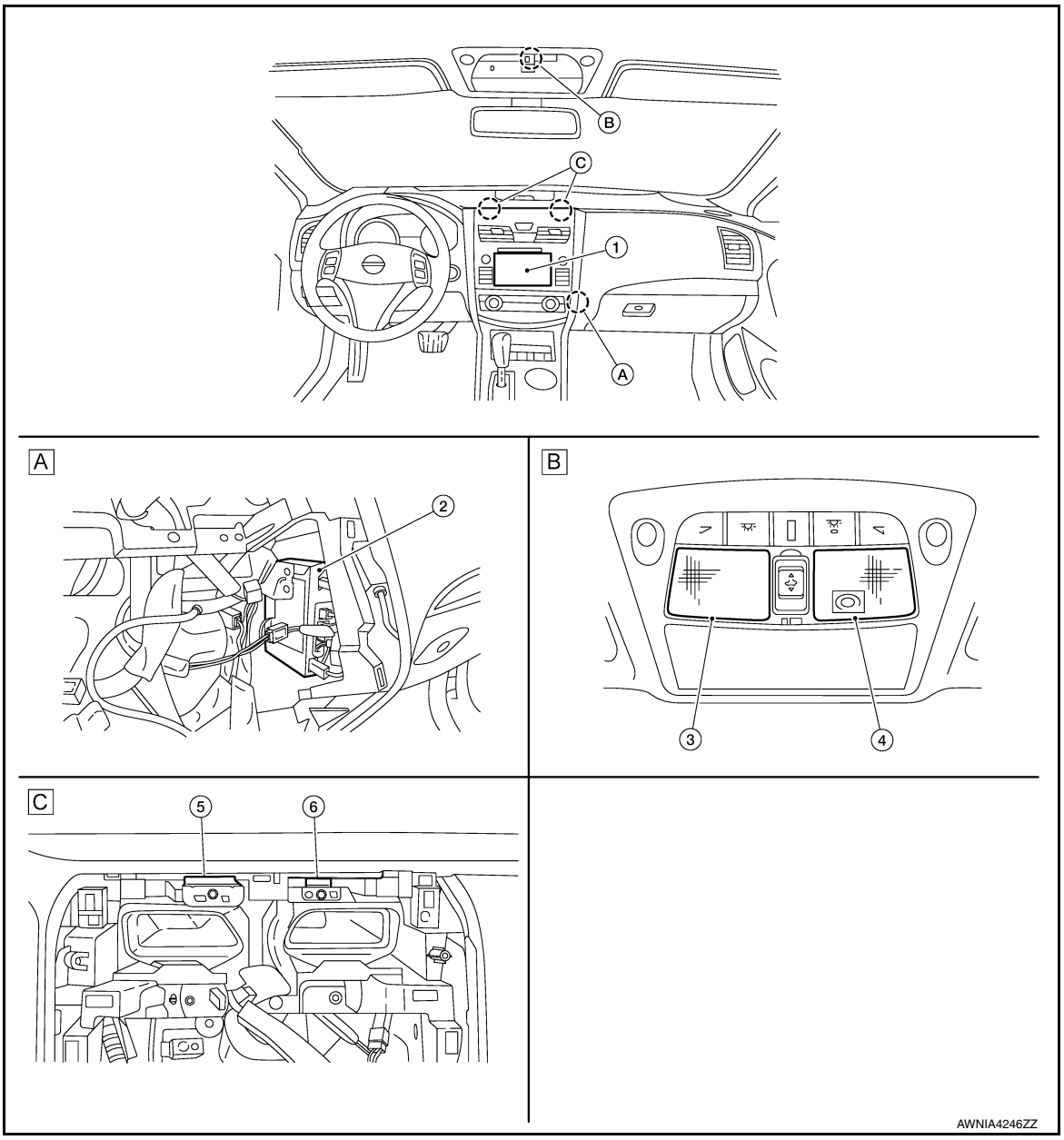
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012921990



A. View with the center stack removed B. Overhead console C. View with the center stack removed

No.	Component	Function
1.	AV control unit	TCU with the signals necessary for telematics is sent and received. Refer to AV-428, "AV Control Unit" for detailed installation location.
2.	TCU	Refer to AV-428, "TCU".
3.	Microphone	Refer to AV-429, "Microphone".
4.	Telematics switch	Refer to AV-429, "Telematics Switch".

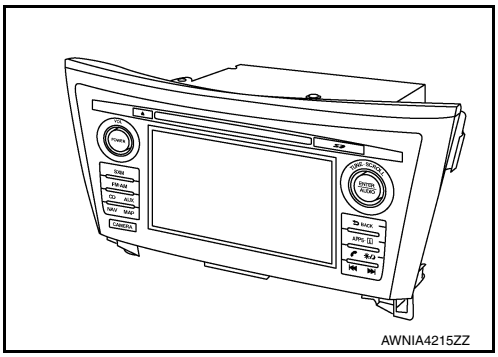
No.	Component	Function
5.	TEL antenna	• Transmits and receives data communication and voice signals for telematics control unit (TCU). • Power is supplied with TCU activated.
6.	GPS antenna	• Amplifies radio waves received from the GPS satellite and transmits GPS signal to AV control unit. • Power is supplied from AV control unit. • GPS signal is sent from AV control unit to telematics control unit (TCU) via USB harness.

AV Control Unit

INFOID:0000000012921991

Description

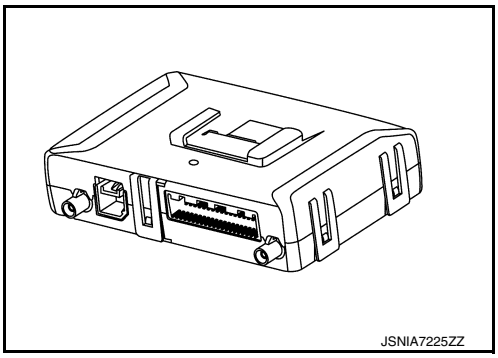
- A 7-inch WVGA display, an AM/FM electronic tuner radio, CD drive and navigation unit are integrated into the AV control unit.
- AV control unit is connected to TCU with the USB harness, and signals necessary for Telematics function and NISSANCONNECT^{SM} function are sent and received.


AWNIA4215ZZ

TCU

INFOID:0000000012921992

- TCU is abbreviation of Telematics Communication Unit.
- It is installed at the back of the glove box cover assembly.
- A radio communication terminal and SIM card are built into the unit and data is sent and received in SMS*, DTMF tone signal with the NISSANCONNECT^{SM} center through the TEL antenna.
  NOTE:
  *: SMS stands for Short Message Service. It is also referred to as Text Messaging, Short Mail, etc. It is the service that performs text based message communication.
- It is connected to the AV control unit with the USB harness for sound signal input/output and USB communication.
- It is connected to the airbag diagnosis sensor unit. TCU performs an emergency report when the air bag is inflated.
- VIN information necessary for the Telematics service is memorized.
- Audio signals received during SOS/Operator call are transmitted from TCU to each speaker via the AV control unit.
- During the communication with NISSANCONNECT^{SM} center, TCU transmits a TEL ON signal to the AV control unit to prohibit the use of Bluetooth® hands-free phone.

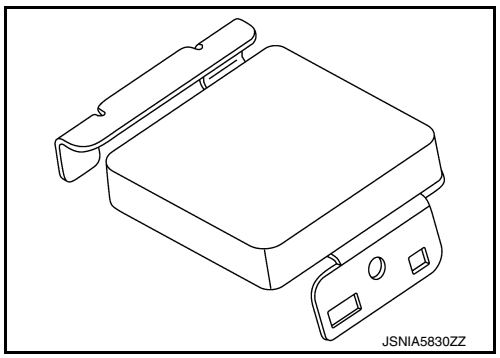

JSNIA7225ZZ

Telematics Antenna

INFOID:0000000012921993

- The telematics antenna consists of TEL antenna and GPS antenna.

- It is installed in the instrument panel.
  NOTE:
  The placement of an object on the instrument panel may cause desensitization in the receiver sensitivity.

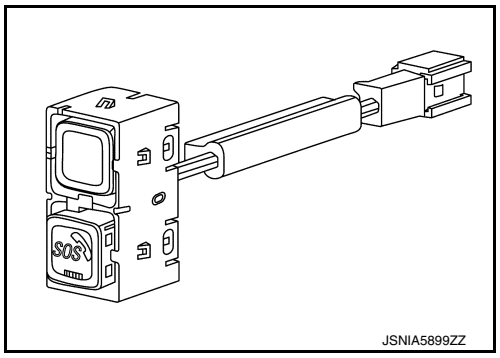

JSNIA5830ZZ

Telematics Switch

INFOID:0000000012921994

- The Telematics switch is located on the map lamp assembly.
- The Telematics switch is connected to TCU and transmits an operation signal.
- The state of LED (ON/Blink/OFF) shows the status of SOS call.

LED ON	:SOS Call available
LED Blink	:SOS Call in communication
LED OFF	:Out of service area or system error

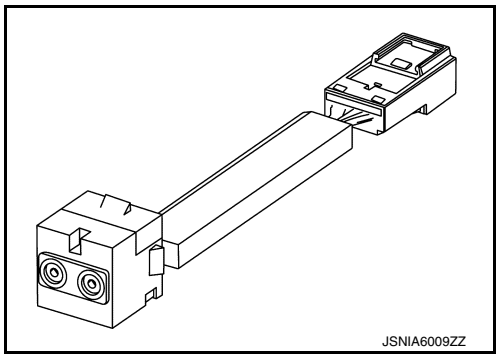


JSNIA5899ZZ

Microphone

INFOID:0000000012921995

- Microphone is installed on the map lamp assembly.
- The microphone is used for the operation of the NISSANCONNECT^{SM}, hands-free phone system, voice recognition function.
- The power is supplied from the TCU to the microphone, transmitting sound signals to the TCU at the during operation of the NISSANCONNECT^{SM} system, hands-free phone communication, and voice recognition.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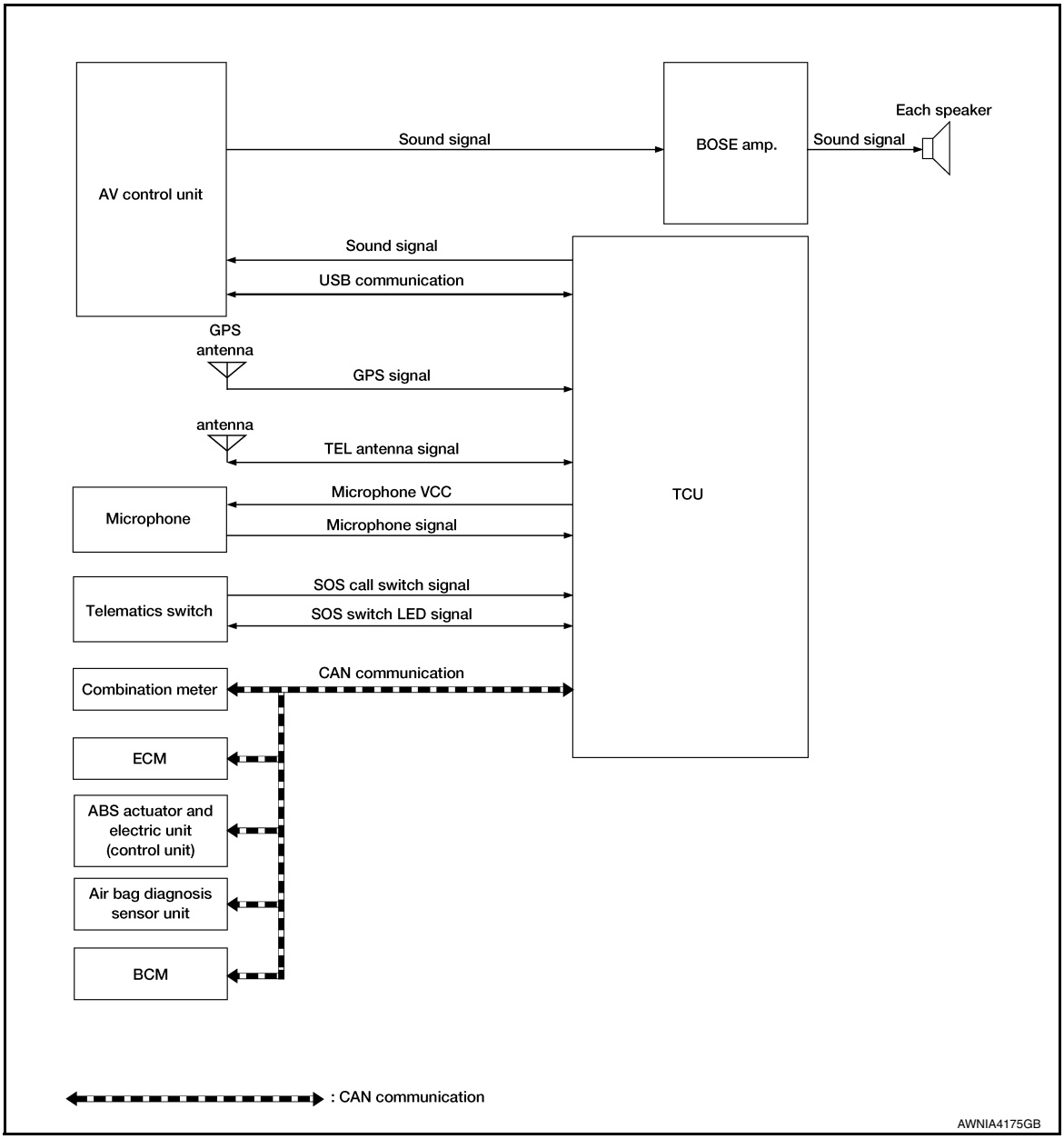
TELEMATICS SYSTEM
TELEMATICS SYSTEM

TELEMATICS SYSTEM : System Description

INFOID:0000000012921996

SYSTEM DIAGRAM



NOTE:
To use the Telematics system, it is necessary to apply for the services separately.

TCU Input Signal (CAN Communication)

Transmit unit	Signal name
ECM	Engine status signal
	Malfunction indicator lamp signal
	Engine oil pressure warning lamp signal
ABS actuator and electric unit (control unit)	ABS warning lamp signal
	VDC warning lamp signal
Combination meter	Brake warning lamp signal

Transmit unit	Signal name
Air bag diagnosis sensor unit	Car crash information signal
BCM	Auto ACC signal
	Door lock status signal
	Sleep wake up signal

DESCRIPTION

- The Telematics system is a system for providing information and services supporting the safe and pleasant car life by connecting the vehicle and the user all the time via NISSANCONNECT^{SM} center.
- TCU (Telematics Communication Unit) equipped with a radio communication terminal communicates with the information center (NISSANCONNECT^{SM} center) via radio waves for receiving NISSANCONNECT^{SM} services.
- With the equipment of the radio communication terminal, TCU communicate with NISSANCONNECT^{SM} center by Packet communication^{*1} and SMS^{*2} via TEL antenna mounted on the Telematics antenna.

NOTE:

- *1: Packet communication means a communication method that data are broken down into smaller chunks for communication. The split data is called a packet and improves the efficiency of the communication circuit.
- *2: SMS stands for Short Message Service, also known as text messaging or short mail, and provides text-based message communication services.

- While communicating with the operator, data (e.g. transmission of own vehicle location) are transmitted to the NISSANCONNECT^{SM} Service Center by using DTMF tone signals and SMS via the radio communication module included in TCU.
- Audio signals transmitted and received while communicating with the operator are input by the microphone connected to TCU, and then these audio signals are output from TCU via the audio data circuit by using the audio signal circuit connected to the AV control unit.
- To use the Telematics System, TCU must be activated. Refer to the following requirements:

- Sign up for Telematics Service.
- Perform the activation procedure, refer to AV-447, "ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM (WORK STEP VIEW) : Process Chart".

NISSANCONNECT^{SM} SERVICES

NISSANCONNECT^{SM} provides services as follows:

Service item
Information Service
Vehicle tracking
Tow notification, Vehicle abnormal status Notification, Burglar warning / Invasion notification
Operator service

Information Service

1. When the Information channel is operated, the AV control unit issues a request of data communications between the user and NISSANCONNECT^{SM} center to TCU via USB.
2. TCU starts up and starts data communications with NISSANCONNECT^{SM} center via TEL antenna.
3. TCU receives various information, such as Internet contents and traffic information, from NISSANCONNECT^{SM} center by packet communication.
4. TCU transmits received signals to the AV control unit via USB. The AV control unit converts the signals to start voice guidance and display information on the screen.

Vehicle Tracking

1. When performing an own vehicle location verification with cell phone or personal computer, the user can access to NISSANCONNECT^{SM} center.
2. Own vehicle location information is transmitted from the vehicle to NISSANCONNECT^{SM} center by SMS.
3. TCU starts up when SMS is received via TEL antenna.

4. Own vehicle location information is obtained via GPS antenna connected to TCU and transmitted to NISSANCONNECT^{SM} center by SMS.
5. NISSANCONNECT^{SM} center transmits own vehicle location information and accumulated probe data to user's terminal equipment.

Tow notification, Vehicle Abnormal Status Notification, Burglar Warning / Invasion Notification

1. TCU starts up when receiving a specific warning signal from each unit connected via CAN communication.
2. TCU transmits data to NISSANCONNECT^{SM} center by SMS.
3. NISSANCONNECT^{SM} center transmits date to user's terminal equipment.

Operator Service

1. When receiving a Telematics switch signal or a shock sensor signal of the air bag diagnosis sensor unit, TCU communicates with the NISSANCONNECT^{SM} Service Center by voice call.
2. Own vehicle location information is obtained through the GPS antenna connected to TCU and the information is transmitted to NISSANCONNECT^{SM} center by SMS and DTMF tone signal.
3. TCU receives a microphone signal.
4. Audio signals received by TCU are transmitted to each speaker via the AV control unit.

TELEMATICS SYSTEM : Fail-safe

INFOID:0000000012921997

If a malfunction occurs in the telematics system, TCU performs fail-safe activation according to the detected malfunction.

Detection item	Telematics system operation in fail-safe mode	DTC
Air-bag connection	• Some telematics system does not function. • Inform a NISSANCONNECT^{SM} center about abnormality.	U1A10
CAN communication	• Telematics system does not function. • Inform a NISSANCONNECT^{SM} center about abnormality.	U1000
AV communication	• Some telematics system does not function. • Inform a NISSANCONNECT^{SM} center about abnormality.	B13E1
TEL antenna	• Telematics switch LED indicator turn OFF. (LED indicator turns ON 10 times when push the SOS call switch.) • When operated a telematics system, inform that cannot be connected to the NISSANCONNECT^{SM} center.	U1A06
GPS antenna	• Telematics system cannot send correct positional information. • Inform a NISSANCONNECT^{SM} center about abnormality.	U1A09 U1A0A
USB communication	• Telematics system does not function. • Inform a NISSANCONNECT^{SM} center about abnormality.	B13D9
TCU	Telematics system function stops.	B1310 B130D U1010 U1A01
	• Telematics system function stops. • When operated a telematics system, inform that cannot be connected to the NISSANCONNECT^{SM} center.	U1A03 U1A11
Telematics switch (SOS call switch)	• Telematics system does not function. (Only SOS call does not operate.) • Telematics switch LED indicator turn OFF.	B2E33 U1A0E
Microphone	• Transmit an own vehicle position to the NISSANCONNECT^{SM} center. • Inform a NISSANCONNECT^{SM} center about abnormality.	U1A0B U1A0C
VIN	Telematics service does not function.	U1A04

DIAGNOSIS SYSTEM (TCU)

CONSULT Function

INFOID:0000000012921998

APPLICABLE ITEM

CONSULT performs the following items by communication with TCU:

Diagnosis mode	Description
Self-Diagnosis Result	Performs the diagnosis of TCU and displays the current and past malfunctions collectively.
Data Monitor	The diagnosis of the vehicle signal that is input to TCU can be performed.
Work support	Performs TCU activation setting and center connection setting.
ECU identification	Checks TCU part number and various ID numbers.

SELF-DIAGNOSIS RESULT

Refer to AV-439, "DTC Index".

- In CONSULT self-diagnosis, the self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates “0”. The counter increases by 1 if the condition is normal at the next power switch ON cycle.

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Display item	Display	Condition	Note
HF TYPE	BT/NO BT	—	Indicates state of configuration result. **NOTE:** This item is displayed, but not used.
AUDIO UNIT TYPE	AUDIO/ NAVI	—	
CALL SWITCH TYPE	SOS/OP	—	
SPEAKER TYPE	INDRCT	—	
ZONE	PRC	—	
CHANNEL	NISSAN	—	
CAN COMM	GEN.5	—	
AV COMM	ENABLE/ DISABLE	—	
K-LINE	ENABLE/ DISABLE	—	
VEHICLE TYPE	ENG	—	
ECHO CANCEL	TYPE 1	—	This item is displayed, but cannot be monitored.
	TYPE 2		
	TYPE 3		
	TYPE 4		
NOISE CANCEL	TYPE 1	—	This item is displayed, but cannot be monitored.
	TYPE 2		
	TYPE 3		
	TYPE 4		
TCU STANDBY TIME	14DAYS	Set at 14 days (default)	Set value for continued operation time to control battery consumption
	2DAYS	Set at 2 days	
	30DAYS	Set at 30 days	
	NON	No setting	

Display item	Display	Condition	Note
SENSOR ANGLE X	—	—	Indicates state of configuration result. **NOTE:** This item is displayed, but not used.
SENSOR ANGLE Y	—	—	
SENSOR ANGLE Z	—	—	
SVTB	—	—	
REMOTE DOOR LOCK	ENABLE/ DISABLE	—	
REMOTE HORN & LAMP	ENABLE/ DISABLE	—	
REMOTE START	ENABLE/ DISABLE	—	
NAD OUTPUT STATUS	On	When TCU activation is ON	NAD: Abbreviation of Network Access Device. ON/OFF setting of radio wave
	Off	When TCU activation is OFF	
ACN COMM SEQUENCE LOG	—	—	—
SOS COMM SEQUENCE LOG	—	—	—
SOS SW	On	SOS switch pressed	—
	Off	SOS switch released	—

WORK SUPPORT

Performs TCU activation setting and center connection setting.

Item name	Description
SAVE VIN DATA	The VIN data saved in TCU is stored in CONSULT.
TCU ACTIVATE SETTING	TCU ON/OFF setting is available.
WRITE VIN (SAVED DATA)	Write VIN data stored by “SAVE VIN DATA” in work support mode to TCU.
WRITE VIN (MANUAL INPUT)	Write VIN data in TCU. (MANUAL)

ECU IDENTIFICATION

Displays TCU part number and various ID numbers.

Display items	Description
ECU PART NUMBER	Displays TCU part number.
UNIT ID	Displays AV control unit ID number.
TCU ID	Displays TCU ID number.
SIM ID	Displays ICC ID of SIM card.
V.I.N	Displays the vehicle identification number stored in TCU.

ECU DIAGNOSIS INFORMATION

TCU

Reference Value

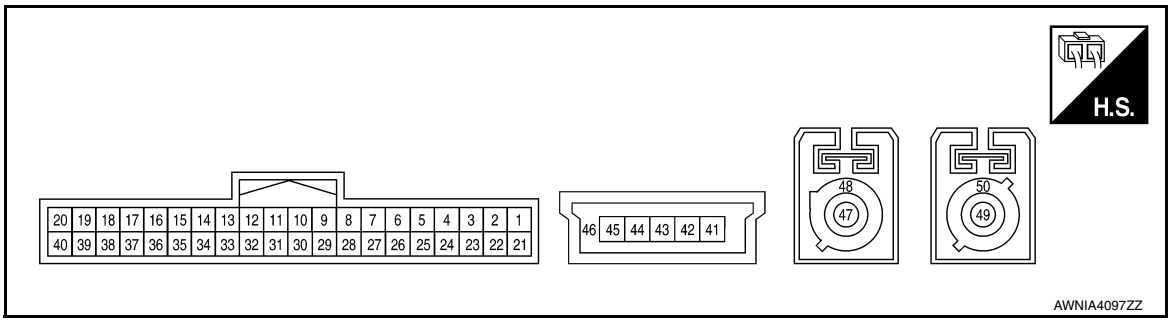
INFOID:0000000012921999

VALUES ON THE DIAGNOSIS TOOL

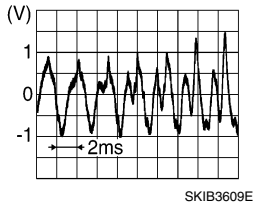
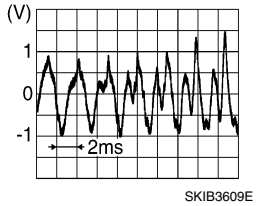
NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

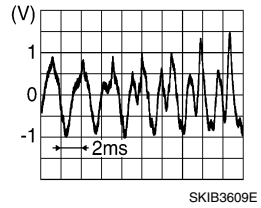
Monitor Item	Condition	Value/Status
HF TYPE	Ignition switch ON	BT
AUDIO UNIT TYPE	Ignition switch ON	NAVI
CALL SWITCH TYPE	Ignition switch ON	SOS
SPEAKER TYPE	Ignition switch ON	INDRCT
ZONE	Ignition switch ON	PRC
CHANNEL	Ignition switch ON	NISSAN
CAN COMM	Ignition switch ON	GEN.5
AV COMM	Ignition switch ON	ENABLE
K-LINE	Ignition switch ON	DISABLE
VEHICLE TYPE	Ignition switch ON	ENG
ECHO CANCEL	Ignition switch ON	TYPE1
NOISE CANCEL	Ignition switch ON	TYPE1
TCU STANDBY TIME	Set at 14 days (default)	14DAYS
	Set at 2 days	2DAYS
	Set at 30 days	30DAYS
	No setting	NON
SENSOR ANGLE X	Ignition switch ON	4.0
SENSOR ANGLE Y	Ignition switch ON	4.0
SENSOR ANGLE Z	Ignition switch ON	4.0
SVTB	Ignition switch ON	DISABLE
REMOTE DOOR LOCK	Ignition switch ON	DISABLE
REMOTE HORN & LAMP	Ignition switch ON	DISABLE
REMOTE START	Ignition switch ON	DISABLE
NAD OUTPUT STATUS	When TCU activation is ON	On
	When TCU activation is OFF	Off
ACN COMM SEQUENCE LOG	—	—
SOS COMM SEQUENCE LOG	—	—
SOS SW	SOS switch pressed	On
	SOS switch released	Off

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	–	Signal name	Input/ Output		
1 (BG)	29 (B)	Battery power supply	Input	[Ignition switch OFF]	Battery Voltage
2 (P)	29 (B)	ACC power supply	Input	[Ignition switch ACC]	12 V
3 (P)	29 (B)	ACC power supply	Output	[Ignition switch ACC]	12 V
5 (BG)	28 (B)	SOS switch LED signal	Input	[Ignition switch ACC] • When not illuminated LED lamp of SOS switch	12 V
				[Ignition switch ACC] • When illuminated LED lamp of SOS switch	0 V
6 (L)	—	CAN high	Input/ Output	—	—
7 (P)	—	CAN low	Input/ Output	—	—
10 (LG)	29 (B)	Ignition signal	Input	[Ignition switch ON]	12 V
11 (Shield)	—	Shield	—	—	—
12 (B)	11 (Shield)	Microphone signal	Output	[Ignition switch ACC] • When inputting interior sound	
16 (Shield)	—	Microphone shield	—	—	—
17 (B)	16 (Shield)	Microphone signal	Input	[Ignition switch ACC] • When inputting interior sound	

Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	–	Signal name	Input/ Output		
18 (W)	16 (Shield)	Microphone VCC	Input	[Ignition switch ACC]	5 V
26 (SB)	—	M-CAN high	Input/ Output	—	—
27 (LG)	—	M-CAN low	Input/ Output	—	—
28 (B)	Ground	Ground	—	[Ignition switch ON]	0 V
29 (B)	Ground	Ground	—	[Ignition switch ON]	0 V
31 (W)	32 (B)	Sound signal (+)	Output	[Ignition switch ACC] • When inputting interior sound	 SKIB3609E
32 (B)	—	Sound signal (–)	—	—	—
36 (B)	—	SOS call switch B	—	—	—
37 (P)	28 (B)	SOS call switch signal	Input	[Ignition switch ACC] • When pressing SOS switch	0 V
				[Ignition switch ACC] • Except for above	5 V
41 (B)	—	USB ground	—	—	—
43 (G)	—	USB D+ signal	Input/ Output	[Ignition switch ON]	—
44 (W)	—	USB D- signal	Input/ Output	[Ignition switch ON]	—
45 (R)	—	USB V BUS signal	Input	[Ignition switch ON]	—
46 (Shield)	—	Shield	—	—	—
47 (B)	Ground	TEL antenna signal	Input	Not connected TEL antenna connector.	2.8 V
48 (Shield)	—	Shield	—	—	—
49 (B)	Ground	GPS antenna signal	Input	Not connected GPS antenna connector.	2.8 V
50 (Shield)	—	Shield	—	—	—

Fail-safe

INFOID:0000000012922000

If a malfunction occurs in the telematics system, TCU performs fail-safe activation according to the detected malfunction.

Detection item	Telematics system operation in fail-safe mode	DTC
Air-bag connection	• Some telematics system does not function. • Inform a NISSANCONNECT^{SM} center about abnormality.	U1A10
CAN communication	• Telematics system does not function. • Inform a NISSANCONNECT^{SM} center about abnormality.	U1000
AV communication	• Some telematics system does not function. • Inform a NISSANCONNECT^{SM} center about abnormality.	B13E1
TEL antenna	• Telematics switch LED indicator turn OFF. (LED indicator turns ON 10 times when push the SOS call switch.) • When operated a telematics system, inform that cannot be connected to the NISSANCONNECT^{SM} center.	U1A06
GPS antenna	• Telematics system cannot send correct positional information. • Inform a NISSANCONNECT^{SM} center about abnormality.	U1A09 U1A0A
USB communication	• Telematics system does not function. • Inform a NISSANCONNECT^{SM} center about abnormality.	B13D9
TCU	Telematics system function stops.	B1310 B130D U1010 U1A01
	• Telematics system function stops. • When operated a telematics system, inform that cannot be connected to the NISSANCONNECT^{SM} center.	U1A03 U1A11
Telematics switch (SOS call switch)	• Telematics system does not function. (Only SOS call does not operate.) • Telematics switch LED indicator turn OFF.	B2E33 U1A0E
Microphone	• Transmit an own vehicle position to the NISSANCONNECT^{SM} center. • Inform a NISSANCONNECT^{SM} center about abnormality.	U1A0B U1A0C
VIN	Telematics service does not function.	U1A04

DTC Inspection Priority Chart

INFOID:0000000012922001

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart.

Priority	Detected items (DTC)
1	U1A04: VIN UNFINISHED
2	• U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
3	• B130D: TEL LINE OUT ERROR • B1310: TCU TEMPERATURE ERROR • B13D9: USB CONNECTION • B13E1: CAN COMMUNICATION • B2E33: ECALL BUTTON • U1A00: ACC NO CONN • U1A01: INTERNAL ERROR (TCU) • U1A03: SIM CARD • U1A06: TEL ANTENNA • U1A09: GPS ANTENNA CONN • U1A0A: GPS MODULE COMM • U1A0B: MIC IN CONN • U1A0C: MIC OUT CONN • U1A0E: SOS SWITCH ON STUCK • U1A10: AIRBAG SIGNAL • U1A11: TEL MUTE OUTPUT SIGNAL NO CONN

DTC Index

INFOID:0000000012922002

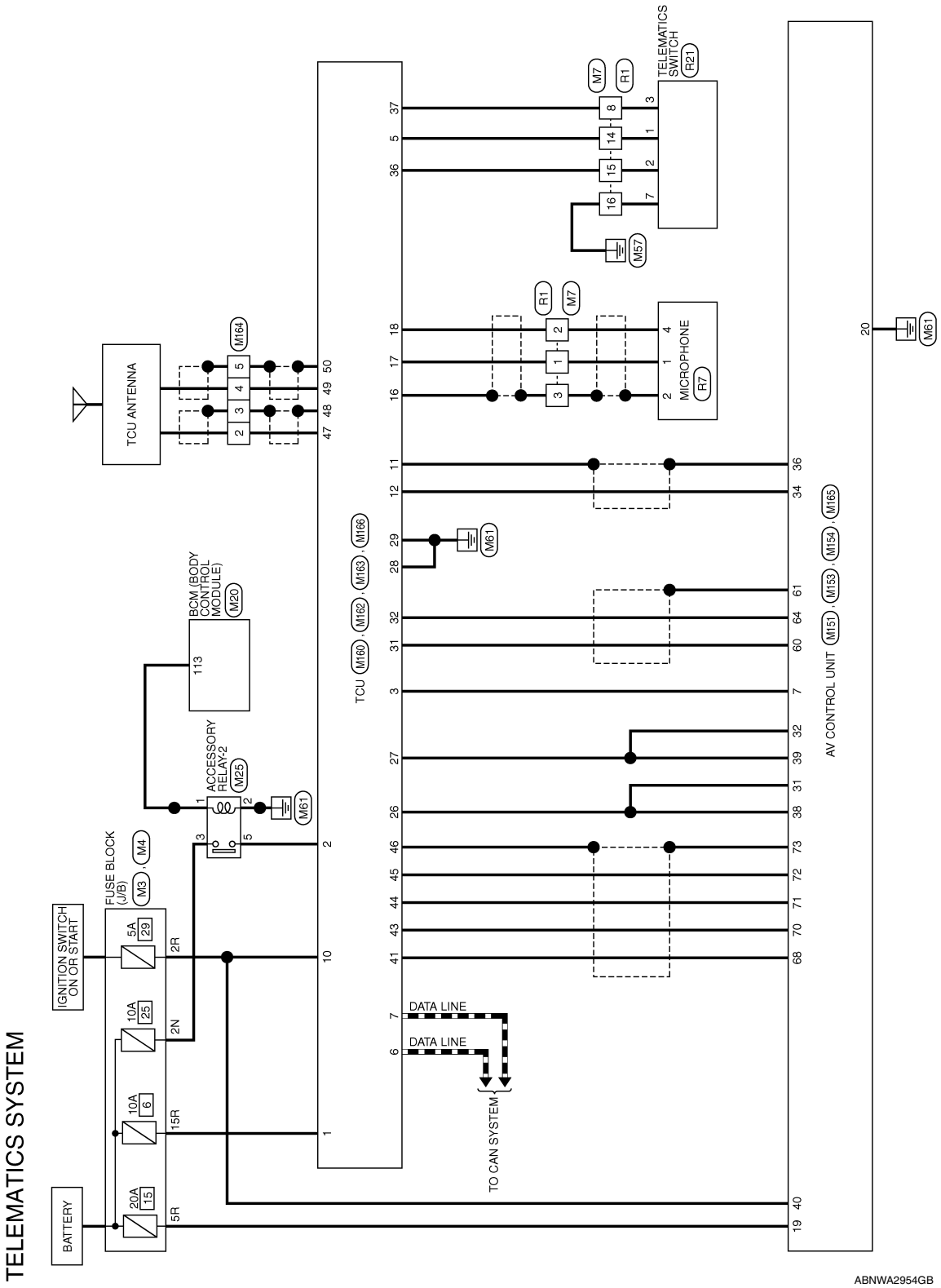
DTC	Display contents of CONSULT	Reference
B130D	TEL LINE OUT ERROR	AV-451, "DTC Description"
B1310	TCU TEMPERATURE ERROR	AV-452, "DTC Description"
B13D9	USB CONNECTION	AV-453, "DTC Description"
B13E1	CAN COMMUNICATION	AV-454, "DTC Description"
B2E33	ECALL BUTTON	AV-455, "DTC Description"
U1000	CAN COMM CIRCUIT	AV-456, "TCU : DTC Logic"
U1010	CONTROL UNIT (CAN)	AV-457, "TCU : DTC Logic"
U1A00	ACC NO CONN	AV-458, "DTC Description"
U1A01	INTERNAL ERROR (TCU)	AV-459, "DTC Logic"
U1A03	SIM CARD	AV-460, "DTC Description"
U1A04	VIN UNFINISHED	AV-461, "DTC Description"
U1A06	TEL ANTENNA	AV-462, "DTC Description"
U1A09	GPS ANTENNA CONN	AV-463, "DTC Description"
U1A0A	GPS MODULE COMM	AV-466, "DTC Description"
U1A0B	MIC IN CONN	AV-467, "DTC Logic"
U1A0C	MIC OUT CONN	AV-469, "DTC Logic"
U1A0E	SOS SWITCH ON STUCK	AV-471, "DTC Logic"
U1A10	AIR BAG SIGNAL	AV-464, "DTC Description"
U1A11	TEL MUTE OUTPUT SIGNAL NO CONN	AV-465, "DTC Description"

WIRING DIAGRAM

TELEMATICS SYSTEM

Wiring Diagram

INFOID:0000000012922003



TELEMATICS SYSTEM CONNECTORS

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2N	LG	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2R	BG	–
5R	G	–
15R	BG	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	W	–
3	SHIELD	–
8	P	–
14	BG	–
15	B	–
16	W	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
113	P	ACC RELAY OUT

Connector No.	M25
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	LG	–
5	P	–

Connector No.	M151
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
7	P	ACC
19	G	BAT
20	GR	GND

ABNIA8313GB

Connector No.	M153
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

21	22	23	24	25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40	41	42	43	44

Terminal No.	Color of Wire	Signal Name
31	SB	M-CAN-H
32	LG	M-CAN-L
34	B	MIC SIGNAL
36	SHIELD	MIC GND
38	SB	M-CAN-H
39	LG	M-CAN-L
40	BG	IGNITION

Connector No.	M154
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

63	62	61	60
67	66	65	64

Terminal No.	Color of Wire	Signal Name
60	W	AUDIO HU OUT +
61	SHIELD	AUDIO HU OUT SHIELD
62	–	–
63	–	–
64	B	AUDIO HU OUT -
65	–	–
66	–	–
67	–	–

Connector No.	M160
Connector Name	TCU
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	BG	B+
2	P	ACC
3	P	ACC OUT
5	BG	LED A
6	L	CAN-H
7	P	CAN-L

Terminal No.	Color of Wire	Signal Name
10	LG	IGN
11	SHIELD	MIC OUT GND
12	B	MIC OUT SIG
16	SHIELD	MIC GND
17	B	MIC SIG
18	W	MIC VCC
26	SB	M-CAN H
27	LG	M-CAN L
28	B	GND
29	B	GND
31	W	AUDIO HU OUT+
32	B	AUDIO HU OUT-
36	B	CALL SW B
37	P	ECALL SW

Connector No.	M162
Connector Name	TCU
Connector Color	RED

H.S.

Terminal No.	Color of Wire	Signal Name
47	B	GSM ANT
48	SHIELD	GSM SHIELD

ABNIA8314GB

Connector No.	M165
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
68	B	GND
70	G	D+
71	W	D-
72	R	VBUS
73	SHIELD	SHIELD

Connector No.	M164
Connector Name	TCU ANTENNA
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
2	B	–
3	SHIELD	–
4	B	–
5	SHIELD	–

Connector No.	R7
Connector Name	MICROPHONE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	SHIELD	–
4	Y	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	Y	–
3	SHIELD	–
8	P	–
14	W	–
15	B	–
16	BG	–

Connector No.	M163
Connector Name	TCU
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
49	B	GPS ANT
50	SHIELD	GPS SHIELD

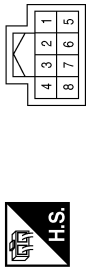
Connector No.	M166
Connector Name	TCU
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
41	B	GND
43	GW	D+
44	B	D-
45	R	VBUS
45	SHIELD	SHIELD

ABNIA8315GB

Connector No.	R21
Connector Name	TELEMATICS SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	P	–
7	BG	–

ABNIA8320GB

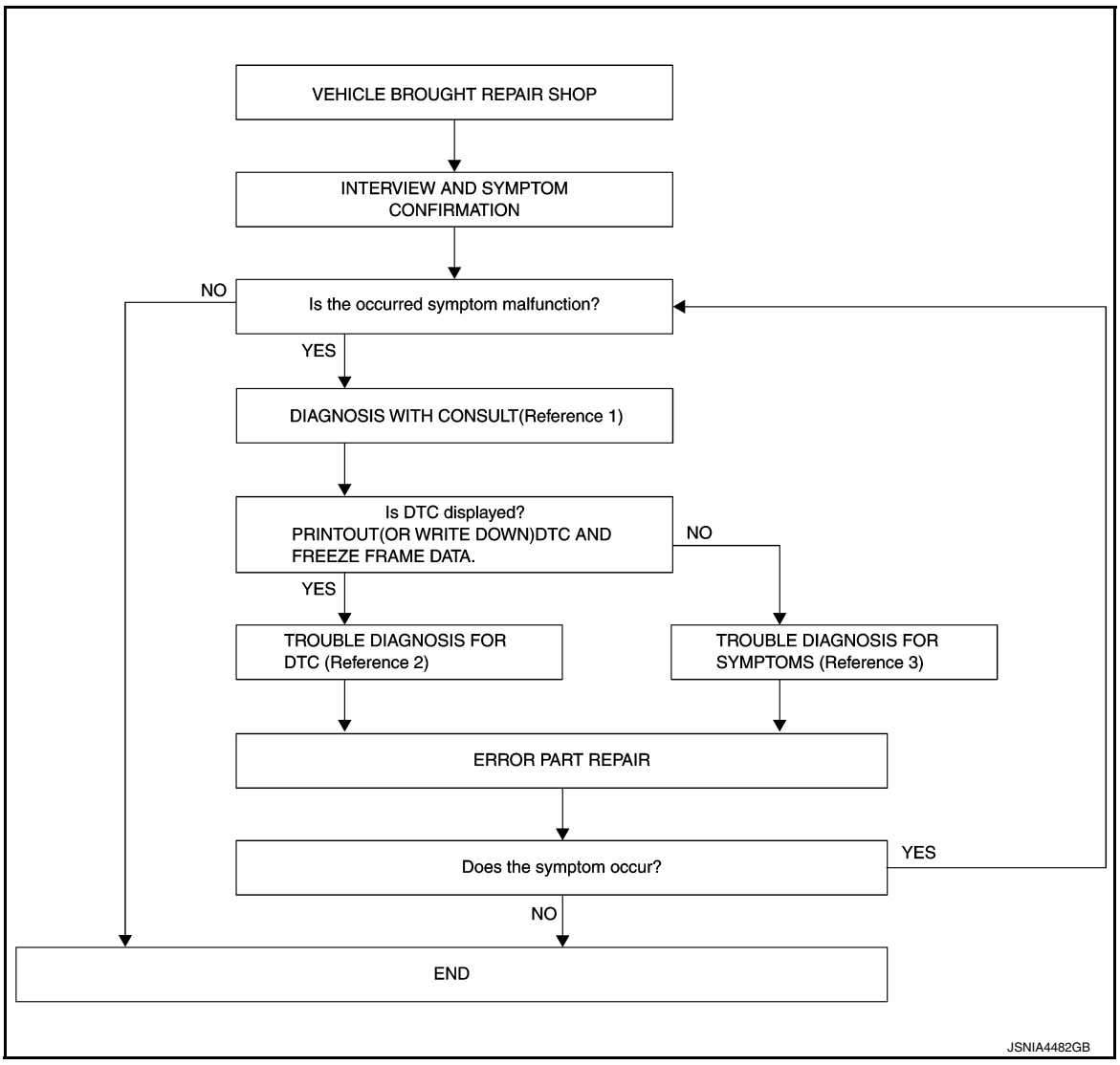
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000012922004

OVERALL SEQUENCE



- Reference 1··· Refer to AV-433, "CONSULT Function".
- Reference 2··· Refer to AV-439, "DTC Index".
- Reference 3··· Refer to AV-473, "Symptom Table".

DETAILED FLOW

1. INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.
- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

Is the occurred symptom malfunction?

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

2. DIAGNOSIS WITH CONSULT

1. Connect CONSULT and perform a self-diagnosis for “TCU”. Refer to AV-433, "CONSULT Function".
2. When DTC is detected, follow the instructions below:

- Record DTC and Freeze Frame Data.

Is DTC displayed?

YES >> GO TO 3.
NO >> GO TO 4.

3. TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to AV-439, "DTC Index".

>> GO TO 5.

4. TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-473, "Symptom Table".

>> GO TO 5.

5. ERROR PART REPAIR

1. Repair or replace the identified malfunctioning parts.
2. Perform a self-diagnosis for “TCU” with CONSULT.
3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.
NO >> Inspection End.

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM (WORK STEP VIEW)

ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM (WORK STEP VIEW) : Process Chart

INFOID:0000000012922005

	Initial Subscription (AV-447)	TCU Replacement (AV-448)	Cancellation (AV-450)	Re-subscription (AV-447)	Scrap (AV-450)
TCU; Read VIN data		1			
TCU; Turn off RF			1		1
TCU; Remove and Install		2			
TCU; Write VIN data		3			
TCU; User-info update		4			
TCU; Turn on RF	1	5		1	
VIN Check		6			
Telematics system; Confirmation of operation	2	7		2	

ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM FOR THE FIRST TIME/RE-SUBSCRIPTION

ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM FOR THE FIRST TIME/RE-SUBSCRIPTION : Description

INFOID:0000000012922006

When the driver uses telematics system for the first time/re-subscription, TCU activation operation is required.

PREPARATION BEFORE ACTIVATION OPERATION

- Subscribe to telematics service.

ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM FOR THE FIRST TIME/RE-SUBSCRIPTION : Procedure

INFOID:0000000012922007

1. CHECK TCU CONTRACT

Check the contract of TCU.

Is this the recontract?

YES >> GO TO 2.
NO >> GO TO 7.

2. CHECK THE SETTINGS OF TCU ACTIVATION

CONSULT work support
Select “TCU ACTIVATE SETTING” to check its settings.

Is the ACTIVATE setting ON?

YES >> GO TO 3.
NO >> GO TO 7.

3. INITIALIZE TCU

1. CONSULT work support
   Select “TCU ACTIVATE SETTING”. Change the setting of TCU activate from OFF to ON.
2. Check the status of the SOS indicator for 30 seconds.

Does the SOS indicator turn ON?

YES >> GO TO 8.
NO >> GO TO 4.

4.CHECK THE STATUS OF TCU

Press the operator switch.

The voice guidance of “It is out of service. Please try again.” can be heard with the indicator lamp remained OFF. >> Move to within a service area (where the indicator lamp turns ON) of the cellular phone to restart the test.
The indicator lamp blinks ten times.>>GO TO 5.

5.PERFORM SELF-DIAGNOSIS OF CONSULT

Perform self-diagnosis of CONSULT.

IS DTC detected?

YES >> Repair or replace malfunctioning parts, according to the self-diagnosis results.
NO >> GO TO 6.

6.CHECK THE SETTINGS OF TCU ACTIVATION

CONSULT work support
Select “TCU ACTIVATE SETTING” to check its settings.

Is the activate setting ON?

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".
NO >> GO TO 3.

7.TCU ACTIVATION

CONSULT work support
Select “TCU ACTIVATE SETTING”, then “ON” on changing screen to activate TCU.

>> GO TO 8.

8.CONFIRMATION OF OPERATION

1. After turning ON TCU, wait for 30 seconds to perform the procedure.
2. Operate the telematics switch to check that the connection to the operator is established.
   NOTE:
   If the connection to the operator cannot be established, check that the ID confirmed with CONSULT agrees with the one registered with the NISSANCONNECT^{SM} operation system.

Is communication test result normal?

Abnormal>>GO TO 1.
Normal >> operation end.

ADDITIONAL SERVICE WHEN REPLACING TCU

ADDITIONAL SERVICE WHEN REPLACING TCU : Description

INFOID:0000000012922008

When TCU is replaced, TCU activation operation is required.

Preparation before activation operation

- Subscribe to telematics service

ADDITIONAL SERVICE WHEN REPLACING TCU : Procedure

INFOID:0000000012922009

1.READING OF VIN DATA

CONSULT work support
Select “SAVE VIN DATA”, “START SAVE VIN DATA” then “YES” on START SAVE VIN DATA screen to save the VIN data stored in replaced TCU in CONSULT. If it cannot be saved, writing operation must be performed manually.

>> GO TO 2.

2.TCU REMOVE

Remove TCU. Refer to AV-476, "Removal and Installation".

>> GO TO 3.

3.NOTICE TO CARRIER “COTINENTAL HELP DESK”

Contact CONTINENTAL to have the malfunctioning TCU repaired.
NOTE:
The telematics system cannot be used when TCU is under repair

The repaired TCU is back.>>GO TO 4.

4.TCU INSTALL

Install TCU. Refer to AV-476, "Removal and Installation".

Can ID data be saved to CONSULT at 1st step?

YES >> GO TO 5.
NO >> GO TO 6.

5.AUTOMATIC WRITING OF VIN DATA TO TCU

CONSULT work support
Select “WRITE VIN DATA”, “WRITE SAVED VIN DATA” then “YES” at WRITE SAVED VIN DATA screen to write the VIN data saved in CONSULT into new TCU.

>> GO TO 7.

6.MANUAL WRITING OF VIN DATA TO TCU

CONSULT work support
Select “WRITE VIN DATA (MANUAL)”, “WRITE VIN DATA” then “START” on changing screen to write the VIN data saved into new TCU.

>> GO TO 7.

7.USER INFORMATION UPDATE

Update each ID according to the repair record from CONTINENTAL.
- Replace SIM card: ICC ID update
- Replace TCU: TCU ID update

>> GO TO 8.

8.TCU ACTIVATION

CONSULT work support
Select “TCU ACTIVATE SETTING”, then “ON” on changing screen to activate TCU.

>> GO TO 9.

9.CONFIRMATION OF OPERATION

Operate the telematics switch to check that the connection to the operator is established.

Is communication test result normal?

Abnormal>>GO TO 6.
Normal >> operation end.

ADDITIONAL SERVICE WHEN TCU DEACTIVATION

ADDITIONAL SERVICE WHEN TCU DEACTIVATION : Description

INFOID:0000000012922010

After canceling a contract with NISSANCONNECT^{SM}, TCU must be deactivated.

ADDITIONAL SERVICE WHEN TCU DEACTIVATION : Procedure

INFOID:0000000012922011

1. TCU DEACTIVATION

CONSULT work support
Select “TCU ACTIVATE SETTING”, then “OFF” on changing screen to activate TCU.

>> Work End.

DTC/CIRCUIT DIAGNOSIS

B130D TCU

DTC Description

INFOID:0000000012922012

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
TEL LINE OUT ERROR [B130D]	Malfunction is detected audio signal circuits between TCU and AV control unit.	TCU audio signal circuits.

Diagnosis Procedure

INFOID:0000000012922013

Regarding Wiring Diagram information, refer to AV-440, "Wiring Diagram".

1.CHECK CONTINUITY BETWEEN TCU AND AV CONTROL UNIT CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TCU harness connector M160 and AV control unit harness connector M154.
3. Check continuity between TCU harness connector M160 and AV control unit harness connector M154.

TCU		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M160	31	M154	60	Yes

4. Check continuity between TCU harness connector M160 and ground.

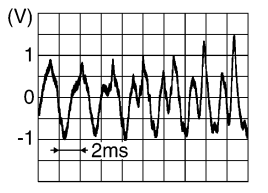
TCU		Ground	Continuity
Connector	Terminals		
M160	31		No

Is the inspection result normal?

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

2.CHECK AUDIO SIGNAL

1. Connect TCU harness connector M160 and AV control unit harness connector M154.
2. Turn ignition switch ON.
3. Check signal between TCU harness connector M160 terminals.

TCU			Condition	Reference value
Connector	(+)	(−)		
	Terminal			
M160	31	32	When inputting interior sound	

SKIB3609E

Is the inspection result normal?

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-475, "Removal and Installation".

B1310 TCU

DTC Description

INFOID:0000000012922014

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
TCU TEMPERATURE ERROR [B1310]	TCU internal temperature out of range	Internal TCU failure.

Diagnosis Procedure

INFOID:0000000012922015

1.CHECK AROUND TCU

Check whether there is any factor which causes a temperature rise near TCU.

Was there any factor?

YES >> Remove a factor.
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC confirmation procedure.

Is DTC B1310 detected again?

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".
NO >> Inspection End.

B13D9 TCU

DTC Description

INFOID:0000000012922016

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
USB CONNECTION [B13D9]	Communication between AV control unit and TCU is malfunctioning.	USB harness between TCU and AV control unit.

Diagnosis Procedure

INFOID:0000000012922017

1.CHECK USB HARNESS CONNECTION

1. Turn ignition switch OFF.
2. Visually check USB harness connector between AV control unit and TCU.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace USB harness.

2.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC confirmation procedure.

Is DTC B13D9 detected again?

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".
NO >> Inspection End.

B13E1 TCU

DTC Description

INFOID:0000000012922018

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CAN COMMUNICATION [B13E1]	AV communication circuit between AV control unit and TCU is malfunctioning.	CAN communication system.

Diagnosis Procedure

INFOID:0000000012922019

Regarding Wiring Diagram information, refer to AV-440, "Wiring Diagram".

1.CHECK AV COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit harness connector M153 and TCU harness connector M160.
3. Check the continuity between AV control unit harness connector M153 and TCU harness connector M160.

AV control unit		TCU		Continuity
Connector	Terminal	Connector	Terminal	
M153	32	M160	27	Yes
	39			
	31		26	
	38			

Is the inspection result normal?

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".
NO >> Repair or replace malfunctioning parts.

B2E33 TELEMATICS SWITCH

DTC Description

INFOID:0000000012922020

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ECALL BUTTON [B2E33]	Malfunction detected is SOS call switch signal circuit between TCU and telematics switch.	Telematics switch, or switch circuits.

Diagnosis Procedure

INFOID:0000000012922021

Regarding Wiring Diagram information, refer to AV-440, "Wiring Diagram".

1.CHECK SOS SWITCH LED SIGNAL

1. Turn ignition switch ON.
2. Check the voltage between TCU harness connector M160 and ground.

TCU		Ground	Voltage (Approx.)
Connector	Terminal		
M160	5	—	12 V

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace TCU. Refer to AV-476, "Removal and Installation".

2.CHECK SOS SWITCH LED SIGNAL CIRCUIT FOR OPEN

1. Turn ignition switch OFF.
2. Disconnect TCU harness connector M160 and telematics switch harness connector R21.
3. Check the continuity between TCU harness connector M160 and telematics switch harness connector R21.

TCU		Telematics switch		Continuity
Connector	Terminal	Connector	Terminal	
M160	5	R21	1	Yes

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace malfunctioning parts.

3.CHECK SOS SWITCH LED SIGNAL CIRCUIT FOR SHORT

Check the continuity between TCU harness connector M160 and ground.

TCU		Ground	Continuity
Connector	Terminal		
M160	5		No

Is the inspection result normal?

YES >> Replace telematics switch. Refer to AV-477, "Removal and Installation".
NO >> Repair or replace malfunctioning parts.

U1000 CAN COMM CIRCUIT
TCU

TCU : DTC Logic

INFOID:0000000012922022

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CAN COMM CIRCUIT [U1000]	TCU is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

TCU : Diagnosis Procedure

INFOID:0000000012922023

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-19, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-44, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)
TCU

TCU : DTC Logic

INFOID:0000000012922024

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	Error during CAN controller hardware initialization (VCAN).	Replace the TCU if the malfunction occurs constantly. Refer to AV-476, "Removal and Installation".

U1A00 TCU

DTC Description

INFOID:0000000012922025

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ACC NO CONN [U1A00]	No input of ACC signal.	Replace TCU if malfunction occurs constantly. Refer to AV-476, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000012922026

1.CHECK ACC POWER CIRCUIT

Check the ACC power circuit. Refer to AV-472, "TCU : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".
NO >> Repair or replace malfunctioning parts.

U1A01 TCU

DTC Logic

INFOID:0000000012922027

CONSULT Display	DTC Detection Condition	Possible Cause
INTERNAL ERROR (TCU) [U1A01]	Malfunction in TCU is detected.	Replace TCU if malfunction occurs constantly. Refer to AV-476, "Removal and Installation".

U1A03 TCU

DTC Description

INFOID:0000000012922028

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
SIM CARD [U1A03]	SIM card malfunction is detected.	Replace TCU if malfunction occurs constantly. Refer to AV-476, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000012922029

1.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC confirmation procedure again. Refer to AV-460, "DTC Description".

Is DTC U1A03 detected again?

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".
NO >> Inspection End.

U1A04 TCU

DTC Description

INFOID:0000000012922030

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
VIN UNFINISHED [U1A04]	No write of VIN number is detected.	VIN is not written to TCU.

Diagnosis Procedure

INFOID:0000000012922031

1.PERFORM WRITING VIN DATA TO TCU

Perform writing VIN data to TCU. Refer to AV-447, "ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM FOR THE FIRST TIME/RE-SUBSCRIPTION : Description".

Was the writing of VIN data completed?

YES >> GO TO 2.
NO >> Replace TCU. Refer to AV-476, "Removal and Installation".

2.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC confirmation procedure again. Refer to AV-461, "DTC Description".

Is DTC U1A04 detected again?

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".
NO >> Inspection End.

U1A06 TEL ANTENNA

DTC Description

INFOID:0000000012922032

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
TEL ANTENNA [U1A06]	Malfunction detected is TEL antenna signal circuit between TCU and TEL antenna.	TEL antenna signal circuit

Diagnosis Procedure

INFOID:0000000012922033

Regarding Wiring Diagram information, refer to AV-440, "Wiring Diagram".

1.CHECK TELEMATICS ANTENNA

Visually check telematics antenna and antenna feeder.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2.CHECK TCU VOLTAGE

1. Disconnect TCU harness connector M162.
2. Turn ignition switch ON.
3. Check voltage between TCU terminal and ground.

TCU		Ground	Continuity
Connector	Terminal		
M162	47		No

Is the check result normal?

YES >> Replace telematics antenna. Refer to AV-478, "Removal and Installation".
NO >> Replace TCU. Refer to AV-476, "Removal and Installation".

U1A09 GPS ANTENNA

DTC Description

INFOID:0000000012922034

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
GPS ANTENNA CONN [U1A09]	No input of GPS antenna signal.	GPS antenna signal circuit.

Diagnosis Procedure

INFOID:0000000012922035

Regarding Wiring Diagram information, refer to AV-440, "Wiring Diagram".

1.CHECK TELEMATICS ANTENNA

Visually check telematics antenna and antenna feeder.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2.CHECK TCU VOLTAGE

1. Disconnect TCU harness connector M163.
2. Turn ignition switch ON.
3. Check voltage between TCU terminal and ground.

TCU		Ground	Continuity
Connector	Terminals		
M163	49		No

Is the check result normal?

YES >> Replace telematics antenna. Refer to AV-478, "Removal and Installation".
NO >> Replace TCU. Refer to AV-476, "Removal and Installation".

U1A10 TCU

DTC Description

INFOID:0000000012922036

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
AIRBAG SIGNAL [U1A10]	When detected an abnormal signal from air bag diagnosis sensor.	CAN communication system.

Diagnosis Procedure

INFOID:0000000012922037

1.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC confirmation procedure again. Refer to AV-464, "DTC Description"

Is DTC U1A10 detected again?

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".
NO >> Inspection End.

U1A11 TCU

DTC Description

INFOID:0000000012922038

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
TEL MUTE OUTPUT SIGNAL NO CONN [U1A11]	Malfunction is detected audio signal circuits between TCU and AV control unit.	TCU audio signal circuit.

Diagnosis Procedure

INFOID:0000000012922039

Regarding Wiring Diagram information, refer to AV-440, "Wiring Diagram".

1.CHECK CONTINUITY BETWEEN TCU AND AV CONTROL UNIT CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TCU harness connector M160 and AV control unit harness connector M154.
3. Check continuity between TCU harness connector M160 and AV control unit harness connector M154.

TCU		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M160	31	M154	60	Yes

4. Check continuity between TCU harness connector M160 and ground.

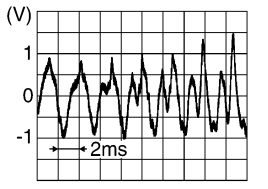
TCU		Ground	Continuity
Connector	Terminals		
M160	31		No

Is the inspection result normal?

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

2.CHECK AUDIO SIGNAL

1. Connect TCU harness connector M160 and AV control unit harness connector M154.
2. Turn ignition switch ON.
3. Check signal between TCU harness connector M160 terminals.

TCU			Condition	Reference value
Connector	(+)	(−)		
	Terminal			
M160	31	32	When inputting interior sound	

SKIB3609E

Is the inspection result normal?

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-475, "Removal and Installation".

U1A0A TCU

DTC Description

INFOID:0000000012922040

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
GPS MODULE COMM [U1A0A]	Malfunction on the GPS module in TCU is detected.	Replace TCU if malfunction occurs constantly. Refer to AV-476, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000012922041

1.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC confirmation procedure.

Is DTC U1A0A detected again?

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".
NO >> Inspection End.

U1A0B MICROPHONE

DTC Logic

INFOID:0000000012922042

CONSULT Display	DTC Detection Condition	Possible Cause
MIC IN CONN [U1A0B]	No input of microphone circuits.	• Harness or connectors. • Microphone. • Replace TCU if malfunction occurs constantly. Refer to AV-476, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000012922043

Regarding Wiring Diagram information, refer to AV-440, "Wiring Diagram".

1. CHECK MIC IN SIGNAL CIRCUIT AND MIC VCC CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect TCU connector M160 and microphone connector R7.
3. Check continuity between TCU connector M160 and microphone connector R7.

TCU		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M160	16	R7	2	Yes
	17		1	
	18		4	

4. Check the continuity between TCU connector M160 and ground.

TCU		Ground	Continuity
Connector	Terminal		
M160	17	—	No
	18		

Is the inspection result normal?

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

2. CHECK MIC VCC VOLTAGE

1. Connect TCU connector M160 and microphone connector R7.
2. Turn ignition switch ON.
3. Check voltage between terminals of TCU connector M160.

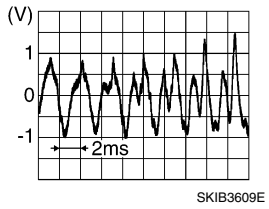
TCU connector M160		Voltage (Approx.)
(+)	(–)	
Terminal	Terminal	
18	16	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace TCU. Refer to AV-476, "Removal and Installation".

3. CHECK MIC IN SIGNAL

Check signal between terminals of TCU connector M160.

TCU connector M160		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
17	16	Speak into microphone.	 SKIB3609E

Is the inspection result normal?

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".
NO >> Replace microphone. Refer to AV-479, "Removal and Installation".

U1A0C MICROPHONE

DTC Logic

INFOID:0000000012922044

CONSULT Display	DTC Detection Condition	Possible Cause
MIC OUT CONN [U1A0C]	No output of microphone circuits.	• Harness or connectors. • Microphone. • Replace TCU if malfunction occurs constantly. Refer to AV-476, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000012922045

Regarding Wiring Diagram information, refer to AV-440, "Wiring Diagram".

1.CHECK DCM MIC SIGNAL CIRCUIT AND DCM MIC VCC CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect TCU connector M160 and AV control unit connector M154.
3. Check continuity between TCU connector M160 and AV control unit connector M154.

TCU		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M160	31	M154	60	Yes
	32		64	

4. Check the continuity between TCU connector M160 and ground.

TCU		Ground	Continuity
Connector	Terminal		
M160	31	—	No
	32		

Is the inspection result normal?

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

2.CHECK DCM MIC VCC VOLTAGE

1. Connect TCU connector M160 and AV control unit connector M154.
2. Turn ignition switch ON.
3. Check voltage between TCU connector terminals.

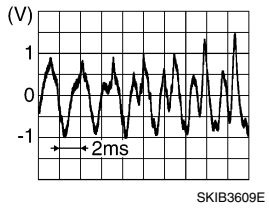
TCU connector M160		Voltage (Approx.)
(+)	(−)	
Terminal	Terminal	
18	16	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace TCU. Refer to AV-476, "Removal and Installation".

3.CHECK DCM MIC SIGNAL

Check signal between TCU connector M160.

TCU connector		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
17	16	Speak into microphone.	 SKIB3609E

Is the inspection result normal?

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".
NO >> Replace microphone. Refer to AV-479, "Removal and Installation".

U1A0E TELEMATICS SWITCH

DTC Logic

INFOID:0000000012922046

CONSULT Display	DTC Detection Condition	Possible Cause
SOS SWITCH ON STUCK [U1A0E]	ECALL SW short circuit.	• Harness or connectors. • Telematics switch. • Replace TCU if malfunction occurs constantly. Refer to AV-476, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000012922047

Regarding Wiring Diagram information, refer to AV-440, "Wiring Diagram".

1.CHECK ECALL SW CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect TCU connector M160 and telematics switch connector R21.
3. Check the continuity between TCU connector M160 and ground.

TCU		Ground	Continuity
Connector	Terminal		
M160	37	—	No

Is the inspection result normal?

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

2.CHECK TELEMATICS SWITCH

Check continuity between telematics switch terminals.

Telematics switch connector R21		Condition	Continuity
Terminal	Terminal		
3	7	Switch pressed	Yes
		Switch released	No

Is the inspection result normal?

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".
NO >> Replace telematics switch. Refer to AV-477, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT
TCU
TCU : Diagnosis Procedure

INFOID:0000000012922048

Regarding Wiring Diagram information, refer to AV-440, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
1	Battery power supply	6 (10A)
2	ACC power supply	25 (10A)
10	Ignition signal	29 (5A)

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 TCU connector M160.
3. Check voltage between TCU connector M160 and ground.

TCU		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M160	1	—	Ignition switch: OFF	Battery voltage
	2		Ignition switch: ACC	
	10		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 TCU connector M160 and ground.

TCU		Ground	Continuity
Connector	Terminal		
M160	28	—	Yes
	29		

Is the inspection result normal?

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

SYMPTOM DIAGNOSIS

TELEMATICS SYSTEM

Symptom Table

INFOID:0000000012922049

TELEMATICS SYSTEM

Symptom	Display icon	Error message	Possible cause
Telematics operation not available.	—	Telematics unit is not connected.	Perform self-diagnosis with CONSULT. Refer to AV-433, "CONSULT Function".
		The connection to the center failed.	Check ON/OFF status of TCU using the data monitor of CONSULT. • Replace TCU if it is ON. Refer to AV-476, "Removal and Installation". • Turn it ON again if it is OFF. Replace TCU if ON is switched to OFF. Refer to AV-476, "Removal and Installation".
		No service.	Use a cellular phone to check reception. • If service is available, replace TCU or TEL antenna. - For TCU replacement, refer to AV-476, "Removal and Installation". - For TEL antenna replacement, refer to AV-478, "Removal and Installation". • If the service is not available, move the vehicle to the position where service is available and perform the operation again.
		Service inoperative due to poor reception.	Use a cellular phone to check reception. • If it is OK, there may be a cause at the NISSANCONNECTION[SM] Data Center. Check connection after a short period of time. If there is no problem at the NISSANCONNECTION[SM] Data Center, replace TCU or TEL antenna. - For TCU replacement, refer to AV-476, "Removal and Installation". - For TEL antenna replacement, refer to AV-478, "Removal and Installation". • If it is NG, check connection again after a short period of time.
		Service not registered.	Check input of user ID and password from the navigation setting screen. If malfunction such as input or no memory despite input is detected, replace AV control unit. Refer to AV-475, "Removal and Installation".
		TCU line is used.	Check connection after a short period of time. Replace TCU if it is frequently displayed. Refer to AV-476, "Removal and Installation".
		The connection to the center failed.	There may be a cause at the NISSANCONNECTION[SM] Data Center. Check connection after a short period of time. If there is no problem at the NISSANCONNECTION[SM] Data Center, replace TCU or TEL antenna. • For TCU replacement, refer to AV-476, "Removal and Installation". • For TEL antenna replacement, refer to AV-478, "Removal and Installation".

NORMAL OPERATING CONDITION

Description

INFOID:0000000012922050

NOTE:
For Telematics system operation detail information, refer to Navigation system Owner's Manual.

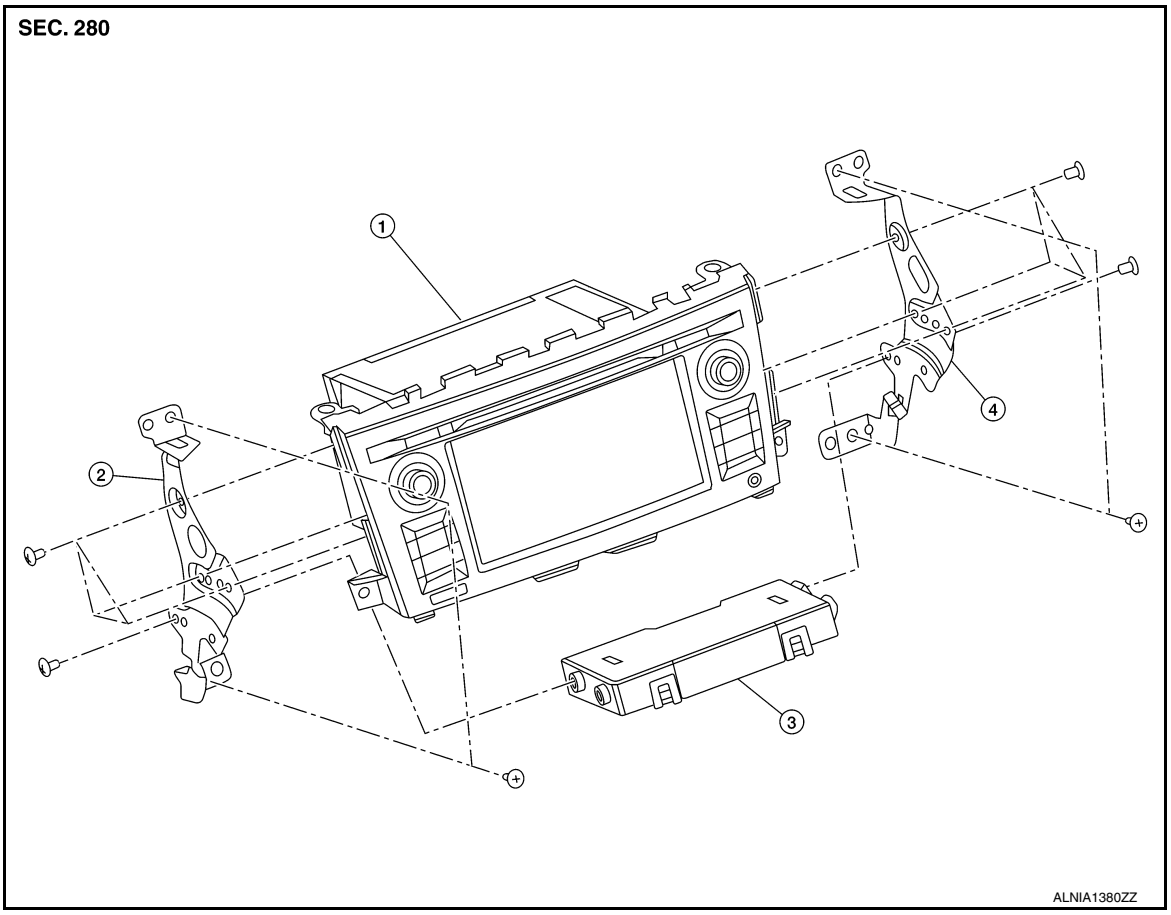
Symptom	Possible cause	Possible solution
The system cannot connect to the NISSANCONNECT^{SM} Data Center.	A subscription for the CONNECT service has not been established.	Sign up for a subscription to the NISSAN-CONNECT^{SM} service. For details about subscriptions, contact an NISSAN dealer or visit the NISSANCONNECT^{SM} Data Center website.
	The user ID and password are not entered.	Enter the user ID and password.
	The communication line is busy.	Try again after a short period of time.
	The vehicle is in a location where reception is difficult.	When the vehicle moves to an area where radio waves can be transmitted sufficiently, communication will be restored. When the icon on the display shows that the vehicle is inside the communication area, the system can be used.
	TCU reception is insufficient.	When the vehicle moves to an area where radio waves can be transmitted sufficiently, communication will be restored. When the icon on the display shows that the vehicle is inside the communication area, the system can be used.
Some of the items that are displayed on the menu screen cannot be selected.	The vehicle is being driven and some menu items are disabled.	The vehicle is being driven. Stop the vehicle in a safe location and apply the parking brake before operating the functions.
Some parts of the screen are not displayed		Operate the system after stopping the vehicle in a safe location and applying the parking brake.
The system does not announce information.	The volume level is set to the minimum.	Adjust the volume level by operating the VOL switches located on the control panel or on the steering switch while the system is announcing information.

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:0000000012943983



1. AV control unit
2. AV control unit bracket (LH)
3. A/C auto amp.
4. AV control unit bracket (RH)

Removal and Installation

INFOID:0000000012943984

REMOVAL

CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to AV-344, "CONFIGURATION (AV CONTROL UNIT) : Description".

1. Disconnect the negative battery terminal. Refer to PG-78, "Removal and Installation".
2. Remove cluster lid C. Refer to IP-20, "Cluster Lid C".
3. Remove the A/C switch assembly. Refer to HAC-100, "Removal and Installation".
4. Remove the AV control unit bracket screws, then pull out the AV control unit.
5. 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-239, "CONFIGURATION (AV CONTROL UNIT) : Description".**
- **When replacing AV control unit, the AV control unit must be registered. Refer to AV-343, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description".**

TCU

Removal and Installation

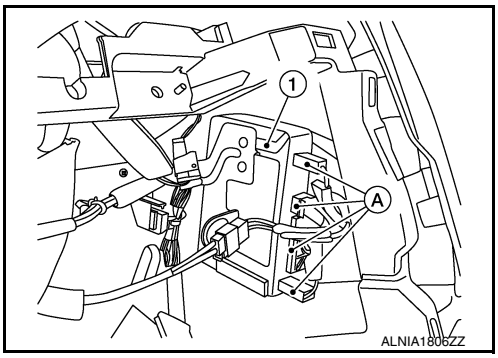
INFOID:0000000012922053

REMOVAL

NOTE:

Before replacing TCU, perform "SAVE VIN DATA" to save current vehicle specification. For details, refer to AV-448, "ADDITIONAL SERVICE WHEN REPLACING TCU : Description".

1. Remove AV control unit. Refer to AV-475, "Removal and Installation".
2. Disconnect the harness connectors (A) from the TCU (1).



3. Remove TCU from steering member bracket.

INSTALLATION

Installation is in the reverse order of removal.

NOTE:

After installation, perform activation. Refer to AV-448, "ADDITIONAL SERVICE WHEN REPLACING TCU : Description".

TELEMATICS SWITCH

Removal and Installation

INFOID:0000000012922054

The telematics switch is serviced as part of the front room/map lamp assembly. Refer to INL-60, "Removal and Installation".

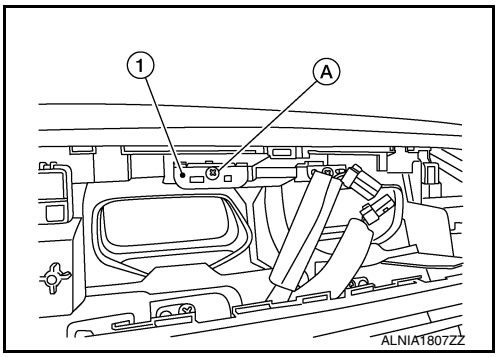
TEL ANTENNA

Removal and Installation

INFOID:0000000012922055

REMOVAL

1. Remove AV control unit. Refer to AV-475, "Removal and Installation".
2. Disconnect harness connector from telematics antenna.
3. Remove screw (A) to remove telematics antenna (1) from instrument panel.



INSTALLATION

Installation is in the reverse order of removal.

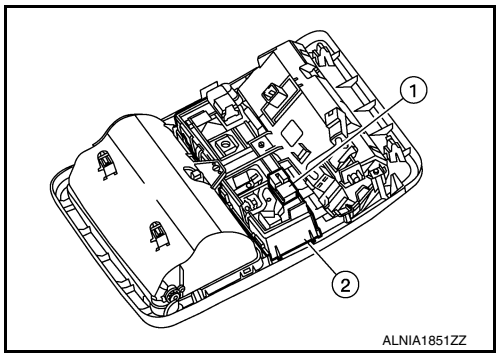
MICROPHONE

Removal and Installation

INFOID:0000000012943985

REMOVAL

1. Remove front room/map lamp assembly. Refer to INL-60, "Removal and Installation".
2. Disconnect harness connector from microphone.
3. Remove the microphone (1) from front room/map lamp assembly (1).



INSTALLATION

Installation is in the reverse order of removal.