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< PRECAUTION > [BASE AUDIO]

PRECAUTION

PRECAUTIONS

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. 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

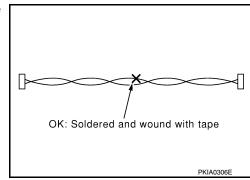
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

INFOID:0000000012591031

AV COMMUNICATION SYSTEM

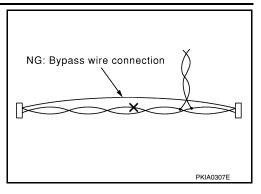
 Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



PRECAUTIONS

< PRECAUTION > [BASE AUDIO]

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



Precaution for Work

NFOID: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.

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PREPARATION

< PREPARATION > [BASE AUDIO]

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

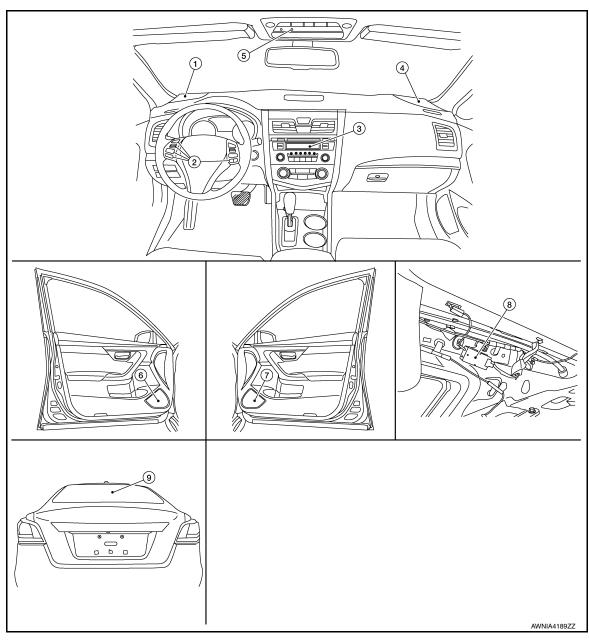
Tool name		Description
Power tool		Loosening nuts, screws and bolts
	PIIB1407E	

INFOID:0000000012591035

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location



- Front speaker LH
- Front speaker RH
- Front door speaker RH
- 2. Steering switches
- 5. Microphone
- Antenna amp.

- 3. Audio unit
- 6. Front door speaker LH
- Window antenna

Component Description

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

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

[BASE AUDIO]

Part name	Description	
Front door speakers	Outputs high, mid and low range audio signals from audio unit.	
Front speakers	thuis riigh, mid and low range addio signals from addio driit.	
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.	

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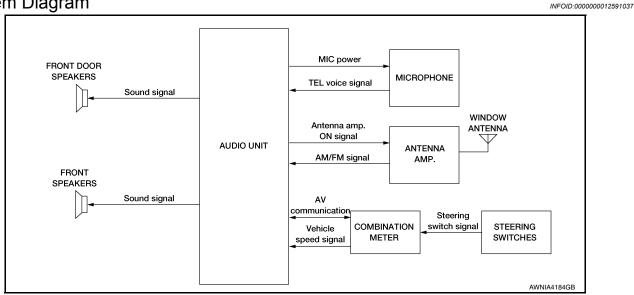
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SYSTEM

System Diagram



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

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

AV-15 Revision: November 2015 2016 Altima Sedan

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SYSTEM

< SYSTEM DESCRIPTION >

[BASE AUDIO]

- 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)

< SYSTEM DESCRIPTION >

[BASE AUDIO]

DIAGNOSIS SYSTEM (AUDIO UNIT)

Diagnosis Description

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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.

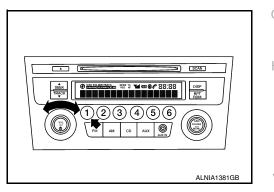
On Board Diagnosis Function

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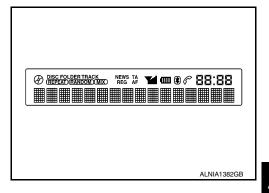
METHOD OF STARTING

Hardware/Software Versions and Speaker Channel Check

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



4. Initially, all display segments will be illuminated.



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

Communication Diagnosis

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

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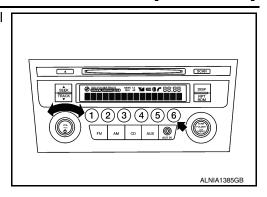
2016 Altima Sedan

DIAGNOSIS SYSTEM (AUDIO UNIT)

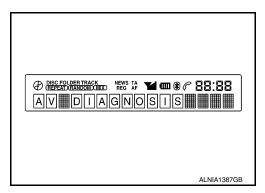
< SYSTEM DESCRIPTION >

[BASE AUDIO]

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.

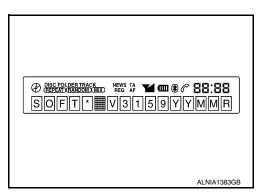


5. To exit communication diagnosis, turn the ignition OFF.

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

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

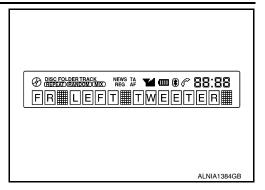
[BASE AUDIO]

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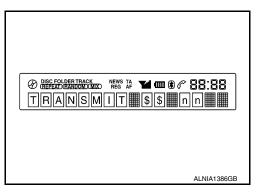
 Press the RPT/DRM button to enter speaker channel check, and the front left tweeter (front speaker LH) is displayed.



- 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.



- 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.

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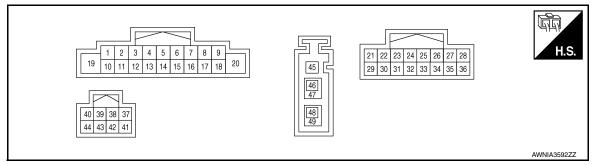
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ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
2 (V)	3 (SB)	Sound signal front speaker LH	Output	ON	Sound output	(V) 1 0 -1 -2ms 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	(V) 1 0 -1 + 2ms SKIB3609E
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH).	0 20 ms JSNIA0012GB
19 (G)	Ground	Battery power supply	Input	_	_	Battery voltage
27 (SB)	_	AV communication (H)	Input/ Output	_	_	_
28 (LG)	_	AV communication (L)	Input/ Output	_	_	

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO]

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	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
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.	(V) 1 0 -1 + 2ms 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	_	_	_	_

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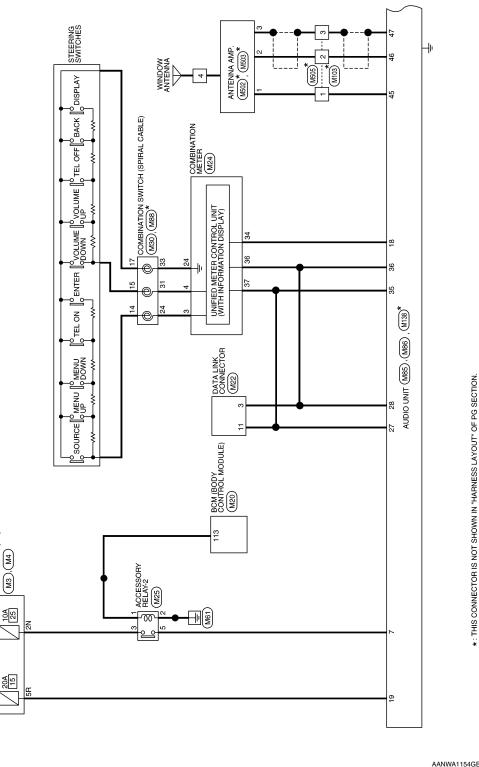
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[BASE AUDIO] < WIRING DIAGRAM >

WIRING DIAGRAM

BASE AUDIO

Wiring Diagram INFOID:0000000012591042

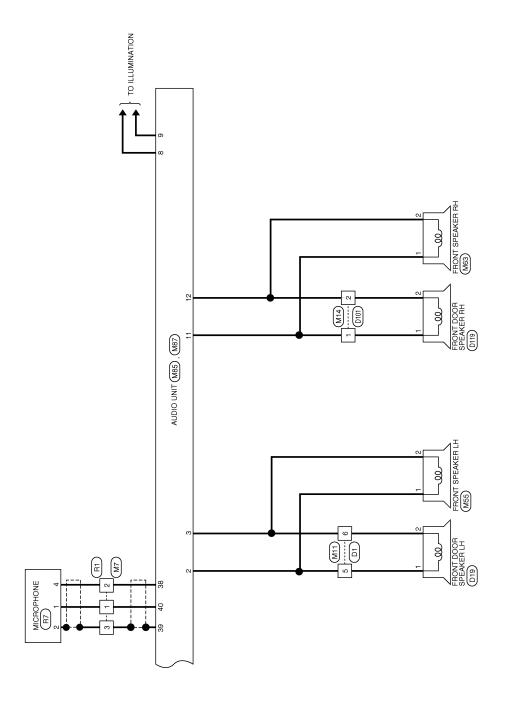


BASE AUDIO SYSTEM

BATTERY

FUSE BLOCK (J/B)
(M3), (M4)

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Connector Name WIRE TO WIRE Connector Color WHITE

Connector Name FUSE BLOCK (J/B)

Connector No. M4

Connector Color BROWN

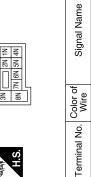
M7

Connector No.

BASE AUDIO SYSTEM CONNECTORS

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

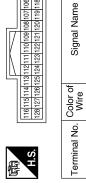
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2 3 4 5 6 7 8 10 11 12 13 14 15 16	Signal Name	ı	-	ı
2 01 0 11 11 11 11 11 11 11 11 11 11 11 1	Color of Wire	В	W	SHIELD
H.S.	Terminal No. Wire		2	3

Signal Name	1	
Color of Wire	G	
Terminal No.	5R	

Signal Name	I	I	-	
Color of Wire	В	Μ	SHIELD	
Terminal No.	1	2	3	

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

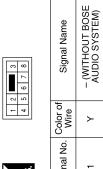


ACC RELAY OUT

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Connector No.	M14
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE
E SH	1 2 8 7 8 8

Connector No.



Signal Name	- (WITHOUT BOSE AUDIO SYSTEM)	- (WITHOUT BOSE AUDIO SYSTEM)
Color of Wire	\	BR
Terminal No. Wire	-	5

	1 1			٦.	ı
		7	16		
		9	15		
		2	14		
		4	13		
			12		
쁜			Ξ		
₹		က	9 10 11 12 13 14 15		Г
>		2	6		
or		-	8		
Connector Color WHITE		恒	S		

Connector Name WIRE TO WIRE

M11

Connector No.

Signal Name	- (WITHOUT BOSE AUDIO SYSTEM)	- (WITHOUT BOSE AUDIO SYSTEM)
Color of Wire	>	SB
Terminal No. Wire	5	9

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Connector No.). M24	4	Connector No.	No. M25	2
Connector Na	Ime CO	Connector Name COMBINATION METER	Connector	Name ACC	Connector Name ACCESSORY RELAY-2
Connector Color WHITE	lor WH	ITE	Connector Color BLUE	Color BLL	프
H.S. 20 19 18 17 16 40 39 38 37 38	16 15 14 13 12 11 10 36 35 34 33 32 31 30	9 8 7 6 5 4 3	22 21 H.S.		
Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Wire	o. Color of Wire	Signal Name
က	۵	STRG SW INPUT1	-	>	ı
4	Н	STRG SW INPUT2	2	В	-
24	>	STRG SW GND	က	ГG	1

Connector Name DATA LINK CONNECTOR Connector Color WHITE

M22

Connector No.

	O)							
	Color of Wire	8	В	LG	Д			
	Terminal No. Wire	1	2	က	5			
ſ								
	Signal Name	STRG SW INPUT1	STRG SW INPUT2	STRG SW GND	SPEED 8P/R	M-CAN-L	M-CAN-H	
	Color of Wire	Д	ш	8	ŋ	ГG	SB	
	Terminal No. Wire	3	4	24	34	36	37	
				1				
	Signal Name	1	1					
	Color of Wire	ГG	SB					
	Terminal No. Wire	ဇ	11					

3	Connector Name FRONT SPEAKER RH	NMC	21	Signal Name	- (WITHOUT BOSE AUDIO SYSTEM)	- (WITHOUT BOSE AUDIO SYSTEM)
M63	ne FR(or BR(Color of Wire	>	BB
Connector No.	Connector Nar	Connector Color BROWN	H.S.	Terminal No. Color of Wire	1	2
	Sonnector Name FRONT SPEAKER LH	NMC	<u></u>	Signal Name	- (WITHOUT BOSE AUDIO SYSTEM)	– (WITHOUT BOSE AUDIO SYSTEM)
M55	ne FRC	or BRC		Color of Wire	^	SB
Connector No.	Connector Nar	Connector Color BROWN	原 H.S.	Terminal No. Wire	1	2

	COMBINATION SWITCH (SPIRAL CABLE)	4Y	25 24 31 32 27 21 22 33	Signal Name	-	-	-
. M30	me COI	lor GR/	25 24 27 21	Color of Wire	۵	Œ	8
Connector No.	Connector Name	Connector Color GRAY	H.S.	Terminal No.	24	31	33

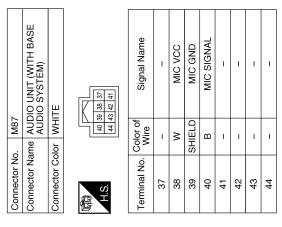
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Signal Name	ILL (+), LIGHT SW	I	FR SP RH (+)	FR SP RH (-)	1	ı	-	1	I	SPEED SIGNAL	BAT	ı
Color of Wire	æ	-	>	BR	ı	ı	-	ı	ı	G	ŋ	-
Terminal No. Wire	6	10	11	12	13	14	15	16	17	18	19	50

Signal Name	1	1	ACC	(-)
Color of Wire	-	ı	Д	GR
Terminal No.	2	9	7	8

Connector No.	M85
Connector Name	Connector Name AUDIO UNIT (WITH BASE AUDIO SYSTEM)
Connector Color WHITE	WHITE
H.S.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 20

19 10 11 12 13 14 15 16 17 18	Solor of Signal Name	1	V FR SP LH (+)	SB FR SP LH (-)	1
H.S.	Terminal No. Color of Wire	-	2	3	4



			_						
Signal Name	M-CAN-L	ı	I	-	ı	I	_	M-CAN-H	M-CAN-L
Color of Wire	ГG	1	1	_	1	1	_	SB	ГG
Terminal No.	28	29	30	31	32	33	34	35	36

2	AUDIO UNIT (WITH BASE AUDIO SYSTEM)	WHITE	22 23 24 28 28 28 28 28 28 28 28 28 28 28 28 28	Signal Name	1	I	-	I	I	_	M-CAN-H
. M86		_	21 22 23 23 23 33 31	Color of Wire	-	1	ı	1	1	ı	SB
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	21	22	23	24	25	56	27

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2	ANTENNA AMP. GRAY		Signal Name	ı	ı	ı
. M502	_		Color of Wire	В	В	SHIELD
Connector No.	Connector Name Connector Color	H.S.	Terminal No.	-	2	3

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



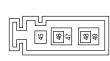
Signal Name	ı	ı	1
Color of Wire	В	В	SHIELD
Terminal No.	-	2	3

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

Signal Name	I	ı	I
Color of Wire	Ь	٦	ŋ
Terminal No.	14	15	17

Signal Name	ANT +B	ANTENNA SIGNAL	SHIELD	1	1
Color of Wire	В	В	SHIELD	ı	-
Terminal No.	45	46	47	48	49

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





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			1 B - 1 L - 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Signa	Color of Wire	Terminal No.	Signa	Color o Wire	Terminal No
	Z	_		Signal Name Terminal No. Color of Wire 1 B - 1 L L		Y			SHIELD	ი გ
2 B - 2 Y SUIED - 3 CHIED		1 8 1				Color of Wire	Terminal No.		Color o Wire	Terminal No
15 14 13 12 17 18 18 19 19 19 19 19 19	15 14 13 12 17 18 19 19 19 19 19 19 19	16 15 14 13 12 17 17 17 17 17 17 17	Signal Name Terminal No. Wire Signal Name Terminal No. Wire Signal Name Terminal No. Wire		13 12 11 10	15 14	<u> </u>			5
Signal Name Terminal No. Wire Signal Name Terminal No. Wire Color of Signal Name Terminal No. Wire 2 B - 1 L 2 Y	Signal Name Terminal No. Wire Signal Name Terminal No. Wire	Signal Name	Signal Name Terminal No. Color of Signal Name Terminal No. Wire W		13 2 1 10 10 10 10 10 10 10 10 10 10 10 10 1	15 14	S.H.			H.S.
Connector Color GRAY Connector Color WHITE	Connector Color GRAY Connector Color WHITE	Connector Color GRAY Connector Color WHITE	Connector Color GRAY Connector Color WHITE	Connector Color WHITE	1 3 2 1 1 10 2	NHI NHI	Connector Cole	*AY	GP	Connector C
Connector Name WIRE TO WIRE	Connector Name WIRE TO WIRE	Connector Name WIRE TO WIRE	Connector Name WIRE TO WIRE Connector Color GRAY Connector Color WHIE TO WIRE Connector Color WHIE Connector Color Of Whire	NA AMP. Connector Name WIRE TO WIRE Connector Color GRAY	NE TO WIRE TTE 13 2 1 1 10 9 9	ME WIR	Sonnector Nar Sonnector Col	RE TO WIRE	Solor GF	Connector Connector CH.S.

ı					ı				
		Connector Name FRONT DOOR SPEAKER	LH (WITHOUT BOSE AUDIO SYSTEM)	ITE	2 1	Signal Name	ı	- (WITHOUT NAVI)	
). D19	me FR	<u> </u>	lor WH		Color of Wire	G	В	
	Connector No.	Connector Na		Connector Color WHITE	南 H.S.	Terminal No. Wire	-	2	
				G		ЭС		VI OR	(STEM)
		E TO WIRE	TE		7 6 5 4 3 2 1	Signal Name	I	- (EXCEPT NAVI OR	BOSE AUDIO SYSTEM)
		me WIR	lor WHI		16 15	Color of Wire	G	α	Ē
	Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	þ	H.S.	Terminal No. Wire	5	u	٥

BASE AUDIO

Connector No.). R7	
Connector Name MICROPHONE	me MIC	ROPHONE
Connector Color	lor WHITE	ТЕ
H.S.	1 2	3 4
Terminal No.	Color of Wire	Signal Name
-	_	ı
2	SHIELD	ı
4	٨	-

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	R SPEAKER IT BOSE AUDIO		







Connector Color WHITE

Connector No. D119

Connector Name

Color of Wire	9	Н	
Terminal No.	1	2	

Signal Name

- (WITHOUT NAVI)

		I
Connector No.	D101	
Connector Name WIRE TO WIRE	WIRE TO WIRE	
Connector Color	WHITE	
晋	3 2 1	
011	8 7 6 5 4	

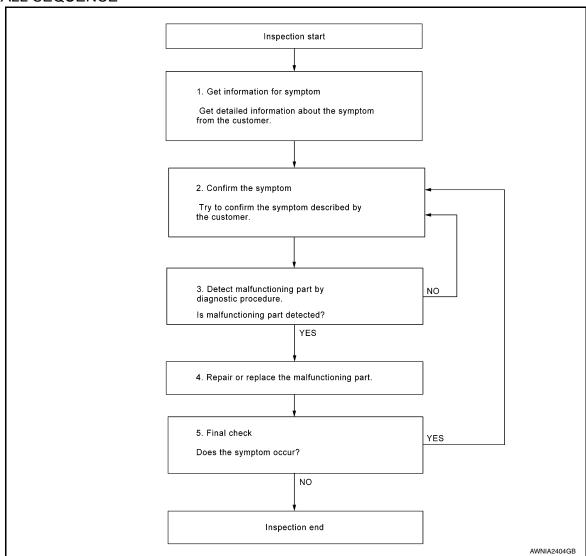


BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

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.

DIAGNOSIS AND REPAIR WORKFLOW	IDAGE AUDIG
< BASIC INSPECTION >	[BASE AUDIO]
Is malfunctioning part detected?	
YES >> GO TO 4. NO >> GO TO 2.	
4.REPAIR OR REPLACE THE MALFUNCTIONING PART	
 Repair or replace the malfunctioning part. Reconnect parts or connectors disconnected during Diagnostic Procedure. 	
>> GO TO 5. 5. FINAL CHECK	
Refer to confirmed symptom in step 2, and make sure that the symptom is not detected.	
Has the symptom been repaired?	
YES >> Inspection End.	
NO >> GO TO 2.	

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID: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

- Turn ignition switch OFF.
- 2. Disconnect audio unit connector M85.
- 3. Check voltage between audio unit connector M85 and ground.

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

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

FRONT DOOR SPEAKER

Diagnosis Procedure

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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

- Disconnect audio unit connector M85 and suspect front door speaker connector.
- Check continuity between audio unit connector M85 and suspect front door speaker connector.

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

Check continuity between audio unit connector M85 and ground.

Auc	lio unit	Ground	Continuity	
Connector	Connector Terminal		Continuity	
	2			
M85	3		No	
IVIOS	11	_		
	12			

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.check front door speaker signal

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

Audio unit co	onnector M85		
(+)	(-)	Condition	Reference value
Terminal	Terminal		

AV-33 Revision: November 2015 2016 Altima Sedan

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FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

2	3		4.0
11	12	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

>> Replace front door speaker. Refer to <u>AV-48, "Removal and Installation"</u>. >> Replace audio unit. Refer to <u>AV-46, "Removal and Installation"</u>. YES

NO

[BASE AUDIO]

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000012591046

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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

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

Audio unit		Front speaker		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
	2	M55 (LH)	MEE (LLI)	1	
M85	3		2	Yes	
IVIOO	11	MG2 (DLI)	1	res	
	12	M63 (RH)	2		

Check continuity between audio unit connector M85 and ground.

Auc	lio unit	Ground	Continuity	
Connector	Connector Terminal		Continuity	
	2			
M85	3		No	
IVIOS	11	_		
	12			

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK FRONT SPEAKER SIGNAL

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

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

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ΑV

FRONT SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

2	3		0.0
11	12	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

>> Replace front speaker. Refer to <u>AV-47, "Removal and Installation"</u>. >> Replace audio unit. Refer to <u>AV-46, "Removal and Installation"</u>. YES

NO

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

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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.

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

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

Audio unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
	39		No
M87	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 co		
(+)	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

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

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Revision: November 2015 AV-37 2016 Altima Sedan

MICROPHONE SIGNAL CIRCUIT

[BASE AUDIO]

Audio unit co	Audio unit connector M87		
(+)	(-)	Condition	Reference value
Terminal	Terminal		
40	39	Speak into microphone.	(V) 1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

YES

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

[BASE AUDIO]

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000012591049

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

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

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

Combination swit	ch connector M88	Condition	Resistance Ω
Terminal	Terminal	Condition	(Approx.)
		Depress SOURCE switch.	1
		Depress △ switch.	121
14		Depress ∇ switch.	321
		Depress € ½ switch.	723
		Depress ENTER switch.	2023
	17	Depress 乓 - switch.	1
	15	Depress ♥ + switch.	121
15		Depress 🗪 switch.	321
		Depress 5 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.
- Check continuity between combination meter connector M24 and combination switch connector M30.

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

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

Combination meter		Ground	Continuity
Connector	Terminal	Ground	Continuity
	3		
M24	24	<u> </u>	No
	4		

Is the inspection result normal?

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK COMBINATION SWITCH

Check continuity between combination switch connectors M30 and M88.

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

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace spiral cable. Refer to <u>SR-15, "Removal and Installation"</u>.

4. CHECK HARNESS BETWEEN COMBINATION METER AND AUDIO UNIT

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

Combina	tion meter	Audio unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M24	37	M86	35	Yes
17124	36	- IVI86	36	165

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

Combina	Combination meter		Continuity
Connector	Terminal	Ground	Continuity
M24	37		No
IVI24	36	_	No

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-46, "Removal and Installation".

NO >> Repair or replace harness or connectors.

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[BASE AUDIO]

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

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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 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".
ale count comes out or the level of the		 Poor connector connection of speaker. Sound signal circuit malfunction between audio unit and speaker. Refer to: AV-33. "Diagnosis Procedure" (front door
No sound comes out or the level of the sound is low.	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker	speaker). - AV-35, "Diagnosis Procedure" (front speaker). • Malfunction in speaker.
	LH, front speaker RH) does not output sound.	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 comes out from all speakers.	Malfunction in audio unit. Refer to AV-17, "On Board Diagnosis Function".
		 Poor connector connection of speaker. Sound signal circuit malfunction between audio unit and speaker. Refer to:
Noise is mixed with audio.		 AV-33, "Diagnosis Procedure" (front door speaker). AV-35, "Diagnosis Procedure" (front
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker RH).	Poor Installation of speaker (e.g. back- lash 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".

[BASE AUDIO]

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 <u>AV-20, "Reference Value"</u>. Poor connector connection of antenna or antenna feeder. Refer to <u>AV-51, "Location of Antenna"</u>.
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.

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

Symptoms	Check items	Probable malfunction location	
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.		
Hands-free phone cannot be established.	 Hands-free phone operation can be made, but the communication cannot be established. Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation. 	Malfunction in audio unit. Replace audio unit. Refer to AV-46, "Removal and Installation".	
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.		
Originating sound is not heard by the other	Sound operation function is normal.		
party with hands-free phone communication.	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-37, "Diagnosis Procedure".	

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[BASE AUDIO]

Symptoms	Check items	Probable malfunction location
The system cannot be operated.	 The voice recognition can be controlled. Steering switch's □+ , □- , and ⇒ switch works, but voice does not work. 	Steering switch malfunction. Replace steering switch. Refer to AV-49. "Removal and Installation".
	Steering switch's	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".

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[BASE AUDIO]

NORMAL OPERATING CONDITION

Description INFOID:000000012591051

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 lin	ked with the operation of the fuel pump.	Fuel pump condenser
Noise only occurs when various electrical components are oper-	A cracking or snapping sound occurs with the operation of various switches.	Relay malfunction, audio unit malfunction
ating.	The noise occurs when various motors are operating.	Motor case ground Motor
The noise occurs constantly, not 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.

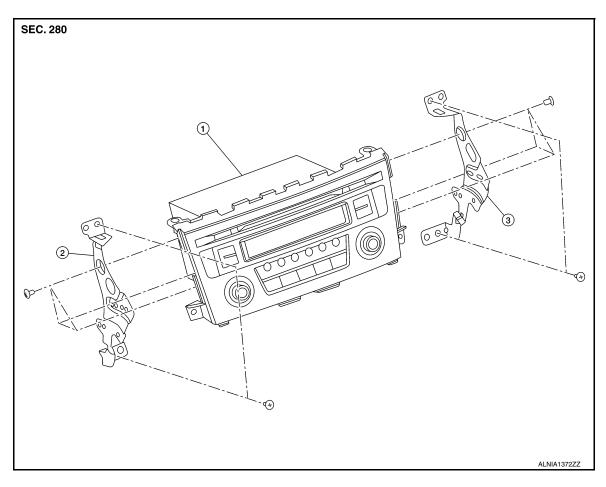
NORMAL OPERATING CONDITION

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

REMOVAL AND INSTALLATION

AUDIO UNIT

Exploded View



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 <u>HAC-160, "Removal and Installation"</u>.
- 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.

[BASE AUDIO]

FRONT SPEAKER

Removal and Installation

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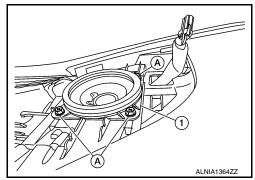
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REMOVAL

- 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.

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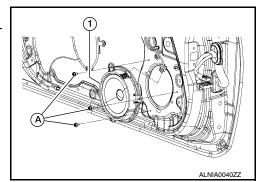
FRONT DOOR SPEAKER

Removal and Installation

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REMOVAL

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

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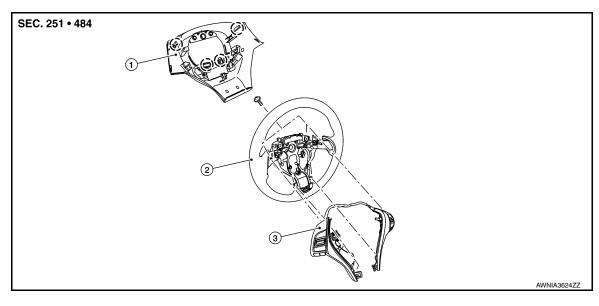
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- 1. Steering wheel rear finisher
- 2. Steering wheel
- 3. Steering switches

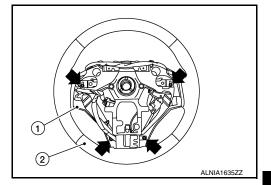
(Pawl

Removal and Installation

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REMOVAL

- Remove the steering wheel. Refer to <u>ST-32, "Removal and Installation"</u>.
- 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.

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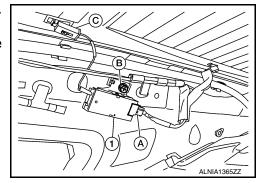
ANTENNA AMP.

Removal and Installation

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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).

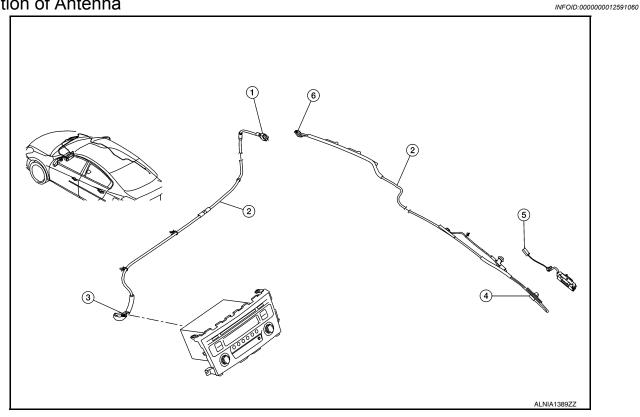


INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

Location of Antenna



- 1. M101
- 4. M502

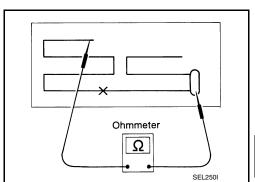
- Antenna feeder
- 5. M503

- 3. M138
- 6. M501

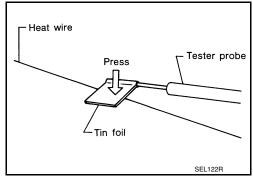
Window Antenna Repair

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.



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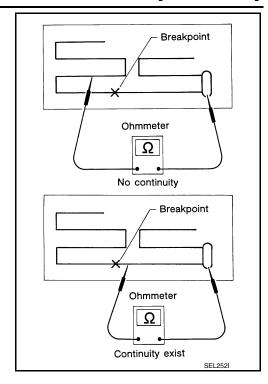
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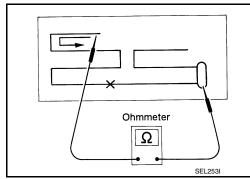
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If an element is broken, no continuity will exist.



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

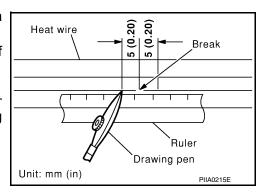


REPAIR EQUIPMENT

- 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.



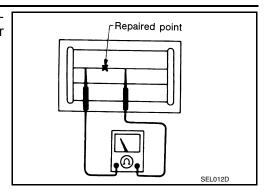
ANTENNA FEEDER

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

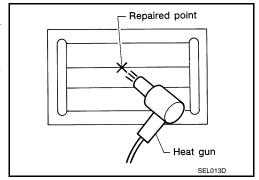
After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.

Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet.

If a heat gun is not available, let the repaired area dry for 24 hours.



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[BASE AUDIO]

MICROPHONE

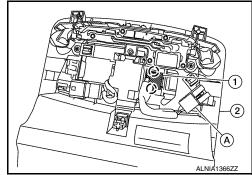
Removal and Installation

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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"

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

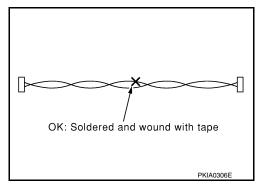
AV COMMUNICATION SYSTEM

- 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

AV COMMUNICATION SYSTEM

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



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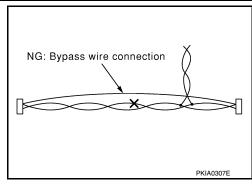
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PRECAUTIONS

< PRECAUTION >

[DISPLAY AUDIO WITHOUT BOSE]

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



Precaution for Work

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

PREPARATION

< PREPARATION >

[DISPLAY AUDIO WITHOUT BOSE]

PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000012591067

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

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

Commercial Service Tools

INFOID:0000000012591068

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

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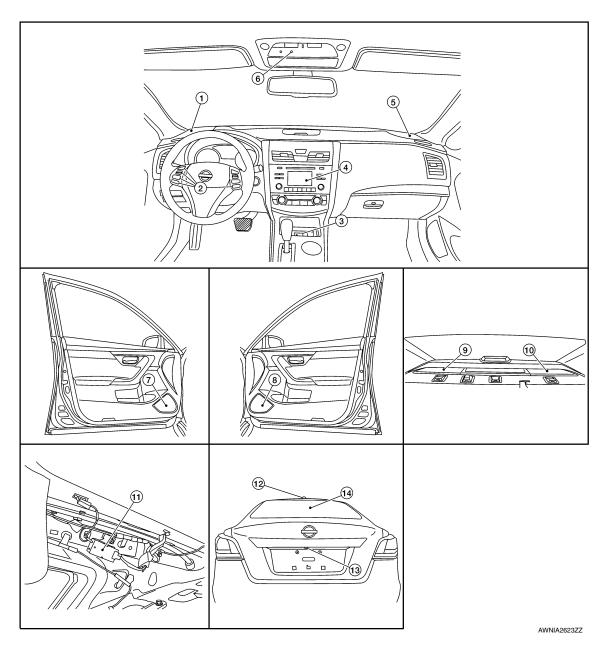
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SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012591069



- 1. Front speaker LH
- 4. Audio unit
- 7. Front door speaker LH
- 10. Rear speaker LH
- 13. Rear view camera

- 2. Steering switches
- 5. Front speaker RH
- 8. Front door speaker RH
- 11. Antenna amp.
- 14. Window antenna

- 3. USB interface and AUX in jack
- 6. Microphone
- 9. Rear speaker RH
- 12. Satellite antenna (if equipped)

Component Description

INFOID:0000000012591070

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITHOUT BOSE]

Part name	Description Controls audio, hands-free phone, USB interface and AUX in jack connection, salite radio and rear view camera functions. Display unit is built in to audio unit.	
Audio unit		
Front door speakers		
Front speakers	Outputs high, mid and low range audio signals from audio unit.	
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.	

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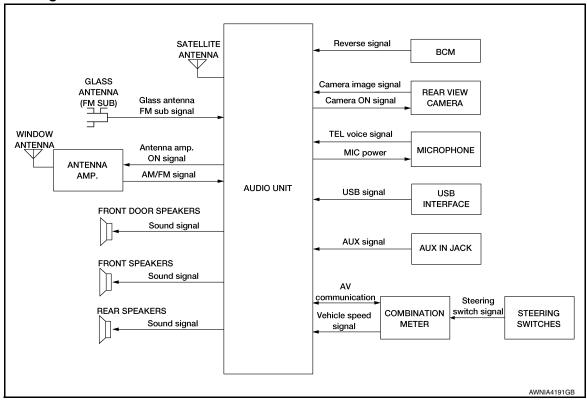
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SYSTEM

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-

SYSTEM

[DISPLAY AUDIO WITHOUT BOSE] < SYSTEM DESCRIPTION > 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. Α Refer to the Owner's Manual for Bluetooth® telephone system operating instructions. В 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. 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 D Start a voice recognition session Answer and end telephone calls · Adjust the volume of calls Е Record memos Microphone The microphone is located in the roof console assembly. The microphone sends a signal to the audio unit. F 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. Н 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. M

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DIAGNOSIS SYSTEM (AUDIO UNIT)

Description INFOID:0000000012591073

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

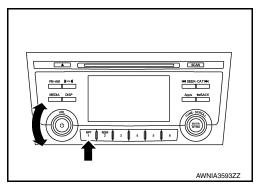
	Mode	Description
	Self Diagnosis	Audio unit diagnosis. Diagnoses the connections across system components.
	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of 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.
Confirmation/ Adjustment	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

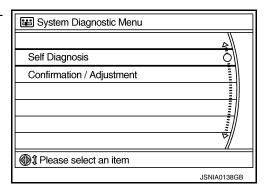
INFOID:0000000012591074

METHOD OF STARTING

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

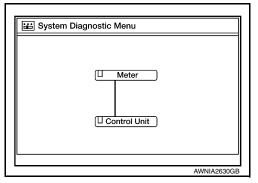
1. Select Self Diagnosis.

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

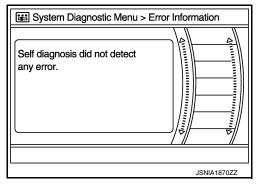
[DISPLAY AUDIO WITHOUT BOSE]

- 2. Self diagnosis screen is displayed. The bar graph visible in center of screen indicates progress of self diagnosis.
- 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 <u>AV-106</u>, "<u>Removal and Installation</u>".
- 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 <u>AV-86</u>. "<u>AUDIO UNIT</u>: <u>Diagnosis Procedure</u>". If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to <u>AV-106</u>. "<u>Removal and Installation</u>".

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.				

Revision: November 2015 AV-63 2016 Altima Sedan

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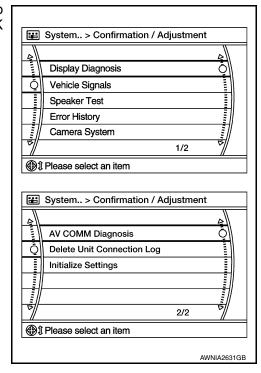
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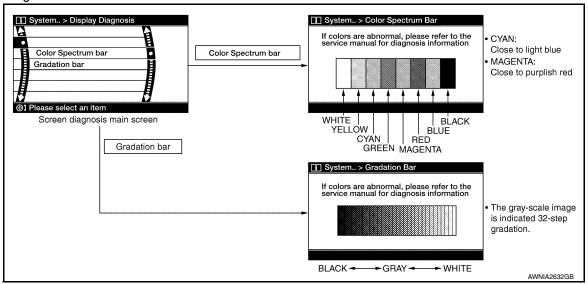
< SYSTEM DESCRIPTION >

Audio Unit Confirmation/Adjustment

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

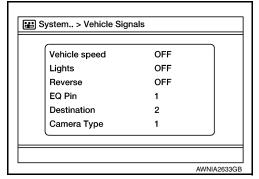


Display Diagnosis



Vehicle Signals

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



Speaker Test

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITHOUT BOSE]

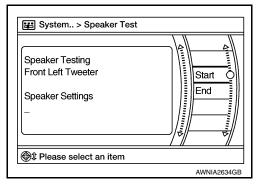
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Select Speaker Test to display the Speaker Diagnosis screen. Press Start to generate a test tone in a speaker. Press Start again to generate a test tone in the next speaker. Press End to stop the test tones.



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.

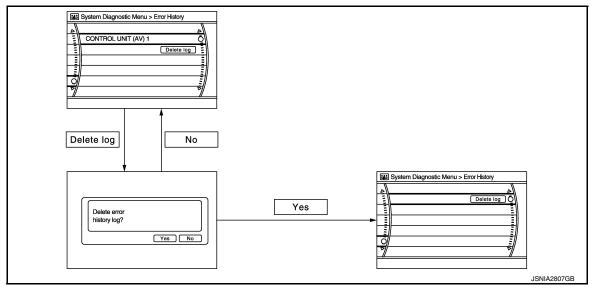
Count up method A

- 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

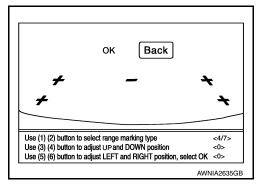
Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

[DISPLAY AUDIO WITHOUT BOSE]

Error item	Description	Possible cause	
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	Replace the audio unit if the malfunction occurs constantly. Refer to AV-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

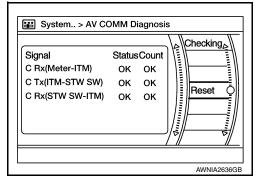
This mode is used to adjust the guide line display position of the rear view camera.



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

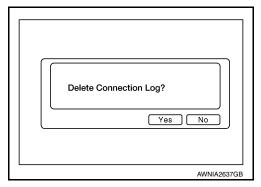


NOTE:

"???" 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

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITHOUT BOSE]

Deletes data stored from the audio unit.

The memory of a system is eliminated. Are you sure?
Yes No JSNIA0155GB

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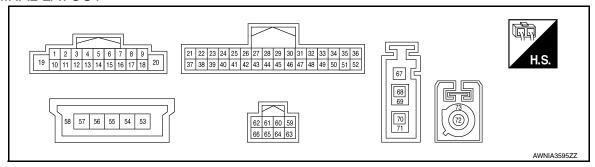
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ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
2 (V)	3 (SB)	Sound signal front speaker LH	Output	ON	Sound output	(V) 1 0 -1 *** 2ms SKIB3609E
4 (BR)	5 (Y)	Sound signal rear speaker LH	Output	ON	Sound output	(V) 1 0 -1 + 2ms 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	(V) 1 0 -1 + 2ms SKIB3609E

AUDIO UNIT

[DISPLAY AUDIO WITHOUT BOSE]

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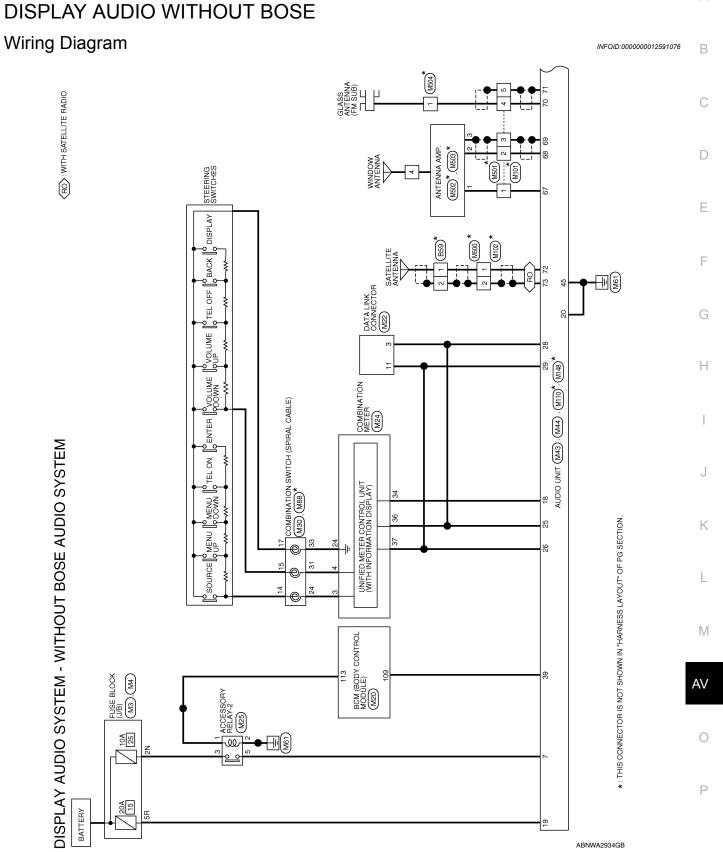
Terminal (Wire color)		Description		Condition		Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
13 (LG)	14 (V)	Sound signal rear speaker RH	Output	ON	Sound output	(V) 1 0 -1 2ms SKIB3609E
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	0 20 ms 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	(V) 0. 4 0 -0. 4 • + 40μs SKIB2251J
23 (W)	Ground	Camera power supply	Output	ON	When camera image is displayed Except for above	6.0 V 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) Selector lever in any position other than R (reverse)	Battery voltage
45 (B)	Ground	Camera ground	_	ON	_	0 V
51 (W)	Ground	Microphone power supply	Output	ON	_	5.0 V

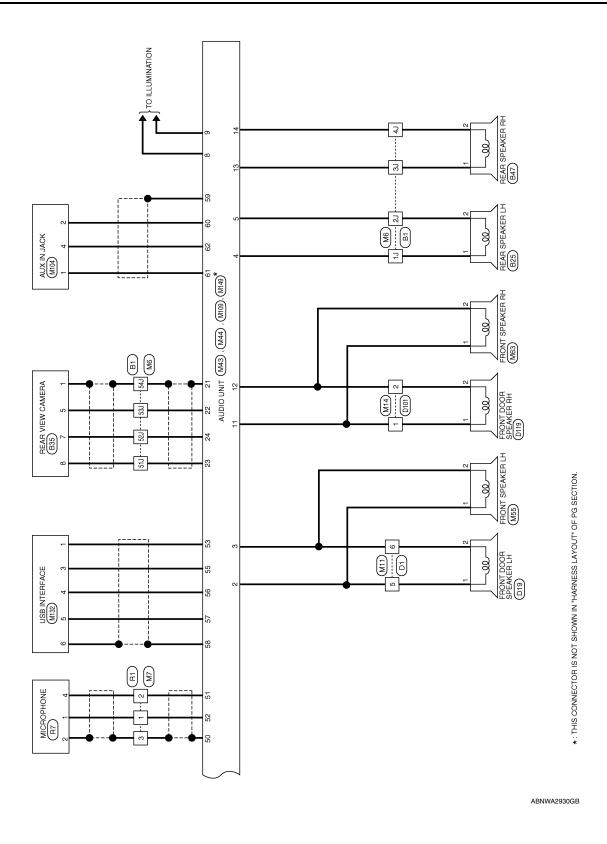
[DISPLAY AUDIO WITHOUT BOSE]

Terminal (Wire color)		Description		Condition		Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
52 (B)	50 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	(V) 1 0 -1 + 2ms 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	(V) 1 0 -1 + 2ms SKIB3609E
62 (R)	Ground	AUX audio signal LH	Input	ON	AUX audio signal received	(V) 1 0 -1 + 2ms 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	_	_	_	_

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WIRING DIAGRAM





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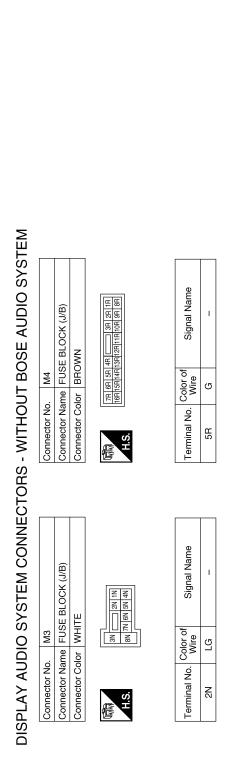
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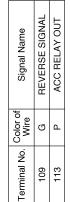
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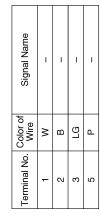
14 BR	13 14 15 15 15 15 15 15 15	
2.0 Y — 3.1 LG — 4.1 V — 4.1 V — 4.2 Y — 4.3 LG — (a) 10 12 31 41 51 61 72 13 42 51 61 72 73 73 73 73 73 73 73	2.0 Y —— 3.1 LG —— 4.1 V —— 4.2 V —— 4.3 Kl = 6 6.2 kl = 10 6.2 kl	or WHITE
11	33 LG — — H.S. 11 21 31 41 53 41 51 52 41 51 51 52 41 51 51 52 42 51 51 51 51 52 52 52 5	
11 21 31 41 52 41 52 42 54 54 54 54 54 54	1.0 21 31 41 52 32 41 52 32 42 52 32 32 32 32 32 32 3	
11 12 13 14 15 15 15 15 15 15 15	11 12 13 14 15 15 15 15 15 15 15	3 4 5 6 7
52J	52J	10 11 12 13 14 15
53J	53J B	
S4J SHIELD	S4J SHIELD	
1 B 2 W 61J 881J 81J 81J	81) 81)	
81) SHIELD 3 SHIELD 81)	817	
8:7 SHIELD 8:1	8:7	
622 633 644 653 650 677 681 650 770 751 752	822 833 644 654 654 654 654 754	
77.1 77.2 77.4 77.2 77.4 77.2 77.2 77.2 77.2 77.3 77.2 77.3 77.2 77.3 77	77.1 72.2 73.2	
822 833 944 835 944 935 944 955 957 958 957 958 957 958 957 958 957 958 957 958 957 958	Sez	
1.0 1.0	1.0 1.0	
170 186 187 188 182 188	1,00 t Log	

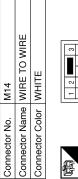














f Signal Name	- (WITHOUT BOSE AUDIO SYSTEM)	- (WITHOUT BOSE AUDIO SYSTEM)
Color of Wire	>	BR
Terminal No. Wire	1	2

M24	Connector Name COMBINATION METER	WHITE	
Connector No.	Connector Name	Connector Color WHITE	

Connector Name DATA LINK CONNECTOR

M22

Connector No.

Connector Color WHITE

Signal Name	STRG SW INPUT1	STRG SW INPUT2	STRG SW GND	SPEED 8P/R	M-CAN-L	M-CAN-H
Color of Wire	۵	В	Μ	ŋ	ГG	SB
Terminal No.	3	4	24	34	36	37

Connector No.	Σ	M11						
Connector Name WIRE TO WIRE	>	II.	Е	0	₹	Æ		
Connector Color WHITE	>	₹	끧					
	2	6		Ė	1	5 6	7	
8	9	10	8 9 10 11 12 13 14 15 16	2 1	3 1	4 15	16	
	ı	ı		ı	ı	ı	ı	



Signal Name	- (WITHOUT BOSE AUDIO SYSTEM)	- (WITHOUT BOSE AUDIO SYSTEM)
Color of Wire	>	SB
Terminal No. Color of Wire	2	9

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Signal Name	-	ı
Color of Wire	ГС	SB
Terminal No.	3	11

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DISPLAY AUDIO WITHOUT BOSE

[DISPLAY AUDIO WITHOUT BOSE]

< WIRING DIAGRAM >

Signal Name	ACC	(-)	ILL (+), LIGHT SW	ı	FR SP RH (+)	FR SP RH (-)	RR SP RH (+)	RR SP RH (-)	ı	ı	ı	SPEED SIGNAL	4P	GND
Color of Wire	۵	GR	Œ	ı	>	BR	LG	>	ı	ı	ı	ŋ	ŋ	GR
Terminal No.	7	8	6	10	11	12	13	14	15	16	17	18	19	20

AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITHOUT BOSE AUDIO SYSTEM)	r WHITE	1 2 3 4 5 6 7 8 9 7 10 11 12 13 14 15 16 17 18 20	olor of Signal Name	1	V FR SP LH (+)	SB FR SP LH (-)		BR RR SP LH (+)	
		10 10 11 2	Color of Wire	ı	^	SB	BB		>
	ctor Color		al No.						

_							
	Connector Name COMBINATION SWITCH (SPIRAL CABLE)	АУ	25 24 31 32 33 27 21 22 33	Signal Name	1	I	-
	me CO	lor GR	[2]	Color of Wire	Ь	Œ	Α
	Connector Na	Connector Color GRAY	赋到 H.S.	Terminal No.	24	31	33

Signal Name	REV	I	-	ı	-	_	CAM DET	-	ı	-	_	MIC GND	MIC V+	MIC +
Color of Wire	ŋ	ı	_	1	_	_	В	-	-	-	_	SHIELD	M	В
Terminal No.	39	40	41	42	43	44	45	46	47	48	49	50	51	52

Signal Name	CAMERA GND	M-CAN1-L	M-CAN1-H	1	M-CAN2-L	M-CAN2-H	ı	I	ı	ı	ı	1	ı	I	ı
Color of Wire	œ	LG	SB	1	ГG	SB	1	1	1	1	_	1	-	_	1
Terminal No.	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38

Connector No.	. M44	1
Connector Name	me AUI BO	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITHOUT BOSE AUDIO SYSTEM)
Connector Color WHITE	lor WH	ITE
H.S. 21	22 23 24 25 38 39 40 41	22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 36 38 38 40 41 42 43 44 45 46 47 48 49 50 51 52
Terminal No.	Color of Wire	Signal Name
21	SHIELD	COMPOSITE -
22	ď	COMPOSITE +

H.S.	Terminal No	21	22

AANIA3063GB

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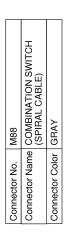
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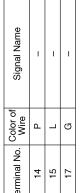
M

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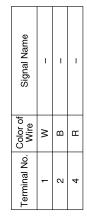




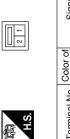


Sić			
Color of Wire	Ь	٦	В
Terminal No.	14	15	41

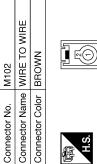




9	ONT SPEAKER RH	OWN	
Connector No. M63	Connector Name FRONT SPEAKER RH	Connector Color BROWN	



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



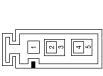


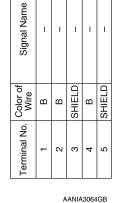
	SPEAKER LH		
M55	FRONT	BROWN	
Connector No.	Connector Name FRONT SPEAKER LH	Connector Color BROWN	



Signal Name	- (WITHOUT BOSE AUDIO SYSTEM)	- (WITHOUT BOSE AUDIO SYSTEM)
Color of Wire	^	SB
Terminal No.	-	2







AANIA3065GB

																					,	Α
	Signal Name	1	1 1	1	ı				Connector Name AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM)					Signal Name	USB GND	1	USB D+	USB D-	VBUS	SHIELD		В
INTERFAC								6.	OIO UNIT (W	Š		1	8 8				SN	Sn Sn	\		(С
lame USB II	Color of Wire	1 0	5 ≥	Œ	SHIELD			lo. M149	lame AUE	color BLACK			/c	Color of Wire	В	1	g	>	œ	SHIELD		D
Connector No. M132 Connector Name USB INTERFACE Connector Color BLACK M13 F F F F F F F F F F F F F F F F F F F	Terminal No.	O O	ω 4	2	9			Connector No.	Connector N	Connector Color	[E	.S.	Terminal No.	53	54	25	56	22	28		Е
			1										\neg									F
M110 AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM) PINK	Signal Name	SAT ANT SAT SHIELD						Signal Name	ANT +B	MAIN ANT	MAIN GND	ANT SUB	SUB GIND								(G
O O O O O O O O O O O O O O O O O O O										MA												Н
	ც>	SHIELD						Color of	B	В	SHIELD	а <u>г</u>	SHIELD									
Connector No. Connector Name Connector Color H.S.	Terminal No.	72						Terminal No.	29	89	69	20 7										J
											1											K
M109 AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM WITHOUT BOSE AUDIO SYSTEM) WHITE E		AUX SHIELD AUX GND	AUX R	AUX L	1 1		1		Connector Name AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM)													L
M109 AUDIO UNIT (AUDIO SYSTI BOSE AUDIO WHITE E		⋖						48	DIO UNIT (ΑΥ			-U- [6]	88	71						ı	M
		SHIELD	>	œ	1 1		ı	No. M148	lame AUI	Solor GRAY		— [<u>L</u>				1					A	١V
Connector No. Connector Name Connector Color	Terminal No.	90	61	62	8 8	65	99	Connector No.	Connector N	Connector Color	 	E	S. S.									0

Connector No. M502 Connector Name ANTENNA AMP. Connector Color GRAY H.S.	Terminal No. Color of Signal Name 1 B		
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 - - - 5 SHIELD - - -	Connector No. M504 Connector Name GLASS ANTENNA Connector Color BLACK H.S.	Terminal No. Color of Wire -
Connector No. M500 Connector Name WIRE TO WIRE Connector Color BROWN H.S.	Terminal No. Color of Signal Name 1 B	Connector No. M503 Connector Name ANTENNA AMP. Connector Color BLACK A.S.	Terminal No. Color of Wire 4 B -

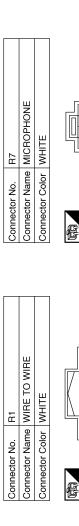
AANIA3066GB

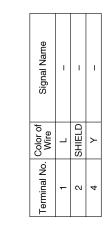
DISPLAY AUDIO WITHOUT BOSE

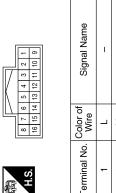
[DISPLAY AUDIO WITHOUT BOSE]

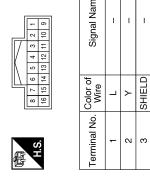
< WIRING DIAGRAM >

Signal Name	A B C D	Wire Wire Color of Wire LG Color of LG LG LG LG LG LG LG LG	H.S. Color of Signal Name	Connector Color WHITE	HEAK SPEAKEH LH Connector Name (WITHOUT BOSE AUDIO SYSTEM)	Connector No. B25
Terminal No. Color of Terminal No. Color of 1.0	G	Name		1 1	1	al Name
Terminal No. Te	Н	Sign				Signa
22 31 11 12 12 12 12 12 12 12 12 12 12 12 12	I		W W B B SHELD	PC FC	>	
32 11 70 61 10 151 141 131 121 110 10 151 141 131 131 131 131 10 151 141 131 131 131 131 131 10 151 141 131 131 131 131 131 131 131 131 13	J	Terminal No.	51J 52J 53J 53J 54J	22	7	Terminal No
21 1.1 77 6.1 10 55.1 24.1 (23) 22.1 10 55.2 24.2 (23) 22.1 10 55.1 54.1 (23) 22.1 10 55.1 (24) 22.1 10 55.1 (24) 22.1 10 55.1 (24) 22.1 10 55.1 (24) 22.1 10 55	K			ſ		
	L	84.] 38.] 32.] 31.] 44.] 43.3 32.] 31.] 44.] 43.3 42.] 64.] 63.] 62.] 61.] 64.] 63.] 62.] 64.] 63.] 62.] Name	60 [44] [53] [22] [11] [24] [23] [22]			
E TO WIII 100 90 90 90	M	11 40 39 38 37 36 35 34 33 38 37 36 35 34 33 38 37 36 35 34 33 38 37 36 35 34 33 32 34 33 34 34	54 44 34 23 13 13 14 14 15 14 15 14 15 14 15 14 15 14 15 15 14 15 15 15 15 15 15 15 15 15 15 15 15 15		= TO WIRE	L C F
100 100	AV	141/40/38 141/	21.1 200 19.		Vame WIRE	Jo. B1
Connector No. B1 Connector Name WIRE TO WIRE Connector Color GRAY 10 31 31 31 31 31 31 31	0	Connector N Connector N Connector C C C C C C C C C C C C C C C C C C C	H.S.		Connector Donnector C	Connector
ABNIA8208GB				_ =	<u>- 10</u>	









	SATELLITE RADIO ANTENNA	BROWN		Signal Name	ı	ı
. B59		-		Color of Wire	В	SHIFLD
Connector No.	Connector Name	Connector Color	原动 H.S.	Terminal No.	1	٥

Connector No. D101 Connector Name WIRE TO WIRE Connector Color WHITE	101 RE TO WIRE
8 7	8 7 6 5 4

E IO WIRE	TE	7 6 5 4	Signal Name	_	- (EXCEPT NAVI OR BOSE AUDIO SYSTEM)
me wir	lor WHI	8 8	Color of Wire	В	В
Connector Name WIRE TO WIRE	Connector Color WHITE	原面 H.S.	Terminal No.	ŀ	2

Connector No.	. D19	
Connector Name		FRONT DOOR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color WHITE	lor WHI	TE
原 H.S.		
Terminal No. Wire	Color of Wire	Signal Name
-	ŋ	ı
2	<u>د</u>	- (WITHOUT NAVI)

. D1	Connector Name WIRE TO WIRE	lor WHITE	7 6 5 4 3 2 1 16 15 14 13 12 11 10 9 8
Connector No.	Connector Na	Connector Color WHITE	管

Signal Name	I	- (EXCEPT NAVI OR BOSE AUDIO SYSTEM)
Color of Wire	В	В
Terminal No. Wire	5	9

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[DISPLAY AUDIO WITHOUT BOSE]

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onnector No.	D119
onnector Name	onnector Name (WITHOUT BOSE AUDIO SYSTEM)
onnector Color WHITE	WHITE



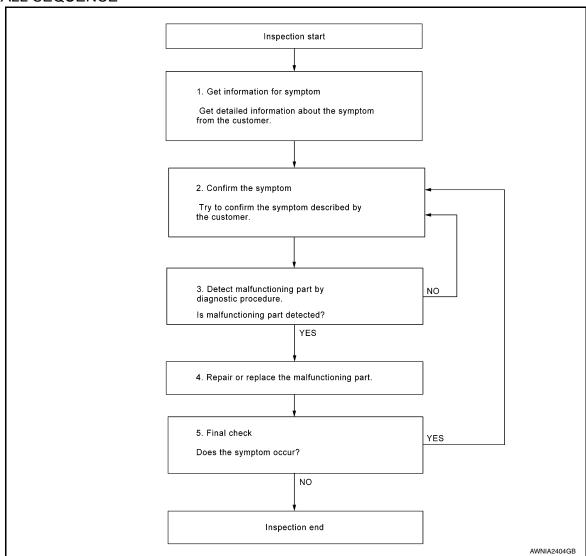
Signal Name	1	- (WITHOUT NA
Color of Wire	G	Я
Terminal No.	ŀ	2

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

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.

DIAGNOSIS AND REPAIR WORKFLOW [DISPLAY AUDIO WITHOUT BOSE] < BASIC INSPECTION > Is malfunctioning part detected? Α YES >> GO TO 4. NO >> GO TO 2. 4. REPAIR OR REPLACE THE MALFUNCTIONING PART Repair or replace the malfunctioning part. Reconnect parts or connectors disconnected during Diagnostic Procedure. C >> GO TO 5. 5. FINAL CHECK D Refer to confirmed symptom in step 2, and make sure that the symptom is not detected. Was the repair confirmed? YES >> Inspection End. Е >> GO TO 2. NO Н

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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:

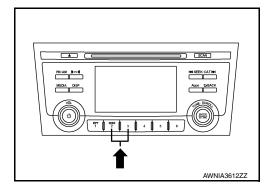
If the new audio unit Bluetooth D/C(serial #) is not registered, the "APPS" mode will not function.

REGISTRATION (AUDIO UNIT): Work Procedure

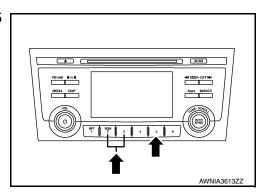
INFOID:0000000012591079

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

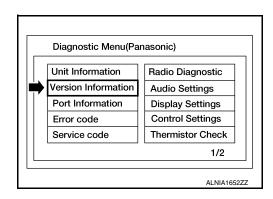
- 1. Turn ignition switch ON.
- 2. Turn audio unit OFF.
- 3. Access the diagnostic menu as follows:
- Press and hold preset buttons 2 and 3.



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



4. Select Version Information from the Diagnostic Menu.

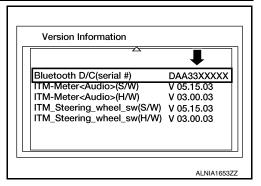


INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[DISPLAY AUDIO WITHOUT BOSE]

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.

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT: Diagnosis Procedure

INFOID: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.
- Disconnect audio unit connector M43.
- 3. Check voltage between audio unit connector M43 and ground.

Audi	o unit	Ground	Ground Condition	Condition	Voltage
Connector	Terminal	Ground	Condition	(Approx.)	
M43	7		Ignition switch: ON	Battery voltage	
IVI43	19		Ignition switch: OFF	Dattery 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 audio unit connector M44.
- 3. Check continuity between audio unit connectors and ground.

Audio unit		Ground	Continuity	
Connector	Terminal	Orbana	Continuity	
M43	20		Yes	
M44	45	_	165	

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

FRONT DOOR SPEAKER

[DISPLAY AUDIO WITHOUT BOSE]

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000012591081

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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.

Aud	io unit	Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2	D19 (LH) 1	1	Yes
M43	3		2	
IVI43	11	D110 (DU)	1	res
	12	D119 (RH)	2	

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

Auc	lio unit	Ground	Continuity	
Connector	Terminal	Ground		
	2			
M43	3	_	No	
	11	_	NU	
	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		

Revision: November 2015 AV-87 2016 Altima Sedan

AV

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FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

2	3		
11	12	Audio signal output	1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

>> Replace front door speaker. Refer to <u>AV-110, "Removal and Installation"</u>. >> Replace audio unit. Refer to <u>AV-106, "Removal and Installation"</u>. YES

NO

FRONT SPEAKER

[DISPLAY AUDIO WITHOUT BOSE]

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000012591082

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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

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

Aud	io unit	Front speaker		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
	2	M55 (LH)	MEE (LLI)	1	
M43	3		2	Yes	
IVI 4 3	11	Mea (DH)	1	165	
	12	M63 (RH)	2		

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

Auc	Audio unit		Continuity
Connector	Terminal	- Ground	Continuity
	2		No
M43	3		
	11	_	NU
	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.
- Check signal between audio unit connector M43 and ground.

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

Revision: November 2015 AV-89 2016 Altima Sedan

AV

FRONT SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

2	3		4.0
11	12	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

>> Replace front speaker. Refer to <u>AV-109, "Removal and Installation"</u>. >> Replace audio unit. Refer to <u>AV-106, "Removal and Installation"</u>. YES

NO

REAR SPEAKER

[DISPLAY AUDIO WITHOUT BOSE]

REAR SPEAKER

Diagnosis Procedure

INFOID:0000000012591083

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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.

Aud	io unit	Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	4	P25 (LU)	1	
M43	5	B25 (LH)	2	Yes
IVI43	13	D47 (DU)	1	res
	14	B47 (RH)	2	

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

Audio unit		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
	4			
M43	5		No	
	13	_	NO	
	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.
- Check signal between audio unit connector M43 and ground.

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

Revision: November 2015 AV-91 2016 Altima Sedan

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REAR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

4	5		(\(\)
13	14	Audio signal output	1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

>> Replace rear speaker. Refer to <u>AV-111, "Removal and Installation"</u>. >> Replace audio unit. Refer to <u>AV-106, "Removal and Installation"</u>. YES

NO

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591084

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

1. CHECK REVERSE INPUT SIGNAL

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

Aud	io unit	Ground		V 16
	(+)	(-)		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

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

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

Check continuity between audio unit connector M44 and ground.

Audio unit			Continuity
Connector Terminal		Ground	Continuity
M44	23		No

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK CAMERA POWER SUPPLY VOLTAGE

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

Aud	io unit	Ground		
	(+)	(_)	Condition	Voltage (Approx.)
Connector	Terminal	(-)		(FF - 7
M44	23	_	Selector lever is in "R".	6.0 V

Is inspection result normal?

YFS >> GO TO 4.

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

AV-93 Revision: November 2015 2016 Altima Sedan

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REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS > [DISPLAY AUDIO WITHOUT BOSE]

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.

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

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

Audio unit			Continuity
Connector	Terminal	Ground	Continuity
M44	22		No

Is inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

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		Continuity	
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 dis- played.	(V) 0. 4 0 -0. 4 → 40µs 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

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591085

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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.

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

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

Audio unit		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
	50			
M44	51	_	No	
	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 co		
(+) (–)		Voltage (Approx.)
Terminal	Terminal	(
51	50	5.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace audio unit. Refer to <u>AV-106. "Removal and Installation"</u>.

3.CHECK MICROPHONE SIGNAL

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

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MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

Audio unit co	Audio unit connector M44		
(+)	(-)	Condition	Reference value
Terminal	Terminal		
52	50	Speak into microphone.	(V) 1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

YES

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

[DISPLAY AUDIO WITHOUT BOSE]

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000012591086

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

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

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

Combination swit	ch connector M88	Condition	Resistance Ω
Terminal	Terminal	Condition	(Approx.)
		Depress SOURCE switch.	1
		Depress △ switch.	121
14		Depress ∇ switch.	321
		Depress ♥ ½ switch.	723
		Depress ENTER switch.	2023
	17	Depress ◀ - switch.	1
		Depress ₵+ switch.	121
15		Depress 🗪 switch.	321
		Depress 5 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.
- Check continuity between combination meter connector M24 and combination switch connector M30.

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

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

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

Is the inspection result normal?

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

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	Continuity
	24		14	
M30	31	M88	15	Yes
	33		17	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace spiral cable. Refer to <u>SR-15, "Removal and Installation"</u>.

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.

Combina	tion meter	Audio unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M24	37	M44	26	Yes
10124	36	IVI 44	25	165

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

Combina	Combination meter		Continuity
Connector	Terminal	Ground	Continuity
M24	37		No
IVIZ 4	36	-	INO

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

[DISPLAY AUDIO WITHOUT BOSE]

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000012591087

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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	Continuity
	53		1	
	55		3	
M149	56	M132	4	Yes
	57		5	\
	58		6	\

Check continuity between audio unit connector M149 and ground.

Aud	Audio unit		Continuity	
Connector	Terminal	_	Continuity	
M149	55	Ground	No	
	57	Sibulia	140	

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-107, "Removal and Installation".

NO >> Repair or replace harness or connectors.

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AUXILIARY INPUT JACK

[DISPLAY AUDIO WITHOUT BOSE]

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.

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

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

Audi	Audio unit		Continuity
Connector	Terminal	_	Continuity
M109	61	Ground	No
WITO9	62	Ground	INO

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.

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000012591089

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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 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".
No sound comes out or the level of the sound is low.	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".

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[DISPLAY AUDIO WITHOUT BOSE]

Symptoms	Check items	Probable malfunction location
	Noise comes out from all speakers.	Malfunction in audio unit. Refer to AV-62, "On Board Diagnosis Function".
Noise is mixed with audio.	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, 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 <u>AV-68</u>, "<u>Reference Value</u>". Poor connector connection of antenna or antenna feeder. Refer to <u>AV-114</u>, "<u>Location of Antenna</u>".
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 <u>AV-114</u>, "<u>Location of Antenna</u>".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

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

NOTE:

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

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

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AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

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

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

Symptoms	Check items	Probable malfunction location	
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.		
Hands-free phone cannot be established.	 Hands-free phone operation can be made, but the communication cannot be established. Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation. 	Malfunction in audio unit. Replace audio unit. Refer to AV-106, "Removal and Installation".	
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.		
Originating sound is not heard by the other	Sound operation function is normal.		
party with hands-free phone communication.	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-95, "Diagnosis Procedure".	
	 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".	
The system cannot be operated.	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".

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NORMAL OPERATING CONDITION

Description INFOID:000000012591090

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 malfunctionOpen circuit in printed heaterPoor ground of antenna feeder line
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		 Ground wire of body parts Ground due to improper part installation Wiring connections or a short circuit

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 <u>AV-101</u> . "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.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITHOUT BOSE]

< SYMPTOM DIAGNOSIS >	[DISPLAT AUDIO WITHOUT BUSE]
Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

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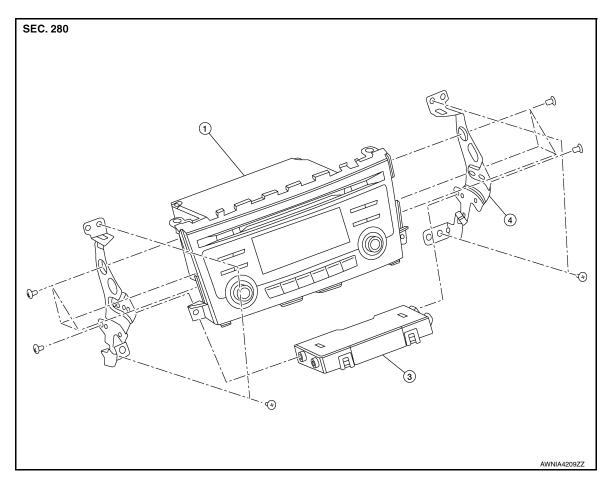
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REMOVAL AND INSTALLATION

AUDIO UNIT

Exploded View



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 <u>AV-158, "REGISTRATION (AUDIO UNIT)</u>: <u>Description"</u>.

USB INTERFACE

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT BOSE]

USB INTERFACE

Removal and Installation

INFOID:0000000012591093

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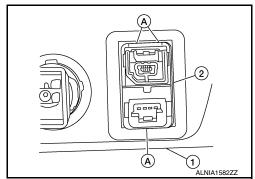
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REMOVAL

- 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.

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[DISPLAY AUDIO WITHOUT BOSE]

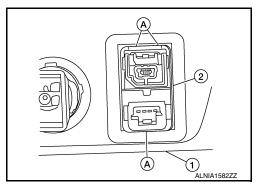
AUX IN JACK

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 >

[DISPLAY AUDIO WITHOUT BOSE]

FRONT SPEAKER

Removal and Installation

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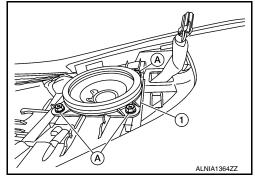
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REMOVAL

- 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.

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FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

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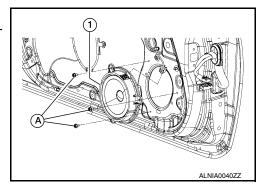
FRONT DOOR SPEAKER

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 >

[DISPLAY AUDIO WITHOUT BOSE]

REAR SPEAKER

Removal and Installation

INFOID:0000000012591097

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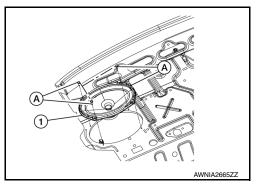
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REMOVAL

- 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.

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SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

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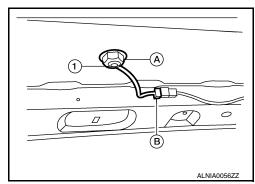
SATELLITE RADIO ANTENNA

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)

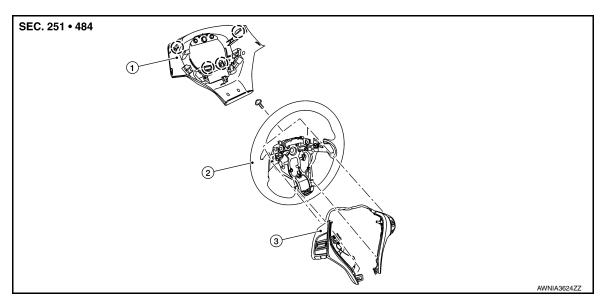
CAUTION:

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.

[DISPLAY AUDIO WITHOUT BOSE]

STEERING SWITCH

Exploded View



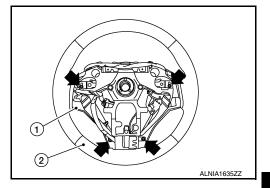
- 1. Steering wheel rear finisher
- 2. Steering wheel
- 3. Steering switches

(Pawl

Removal and Installation

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.

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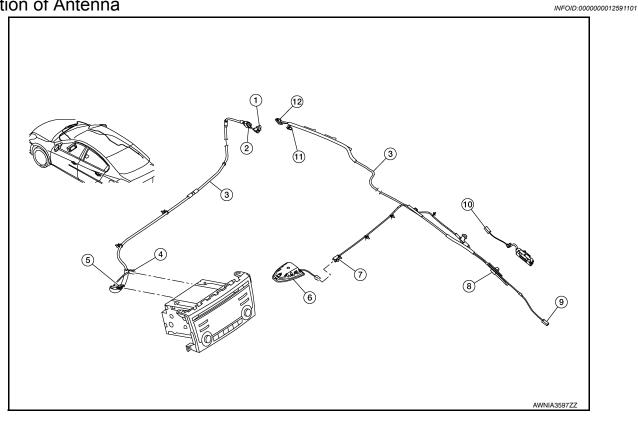
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ANTENNA FEEDER

Location of Antenna



- 1. M102
- 4. M110
- 7. B59
- 10. M503

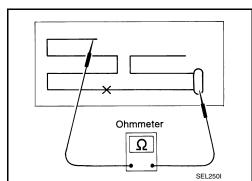
- 2. M101
- 5. M148
- 8. M502
- 11. M500

- 3. Antenna feeder
- Satellite antenna
- 9. M504
- 12. M501

Window Antenna Repair

ELEMENT CHECK

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



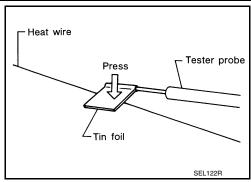
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ANTENNA FEEDER

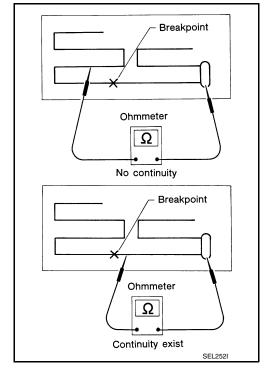
< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT BOSE]

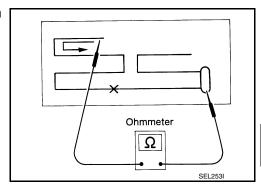
• When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



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



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



REPAIR EQUIPMENT

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

REPAIRING PROCEDURE

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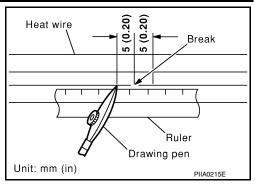
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ANTENNA FEEDER

< REMOVAL AND INSTALLATION >

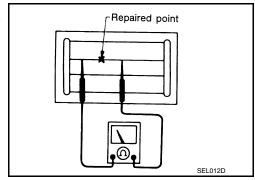
[DISPLAY AUDIO WITHOUT BOSE]

- 1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
- Apply a small amount of conductive silver composition to tip of drawing pen.
 - Shake silver composition container before use.
- 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.



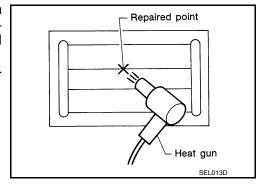
 After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.

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 >

[DISPLAY AUDIO WITHOUT BOSE]

ANTENNA AMP.

Removal and Installation

INFOID:0000000012591103

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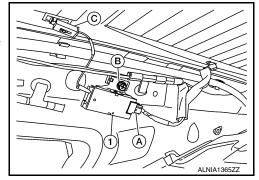
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REMOVAL

- 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.

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MICROPHONE

[DISPLAY AUDIO WITHOUT BOSE]

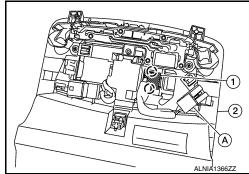
MICROPHONE

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 >

[DISPLAY AUDIO WITHOUT BOSE]

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.

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PRECAUTION

PRECAUTIONS

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. 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

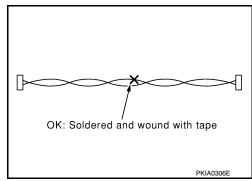
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

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).]

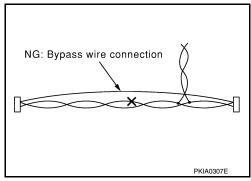


PRECAUTIONS

< PRECAUTION >

[DISPLAY AUDIO WITH BOSE]

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



Precaution for Work

IFOID: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.

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PREPARATION

< PREPARATION >

[DISPLAY AUDIO WITH BOSE]

PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000012591110

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

Commercial Service Tools

INFOID:0000000012591111

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

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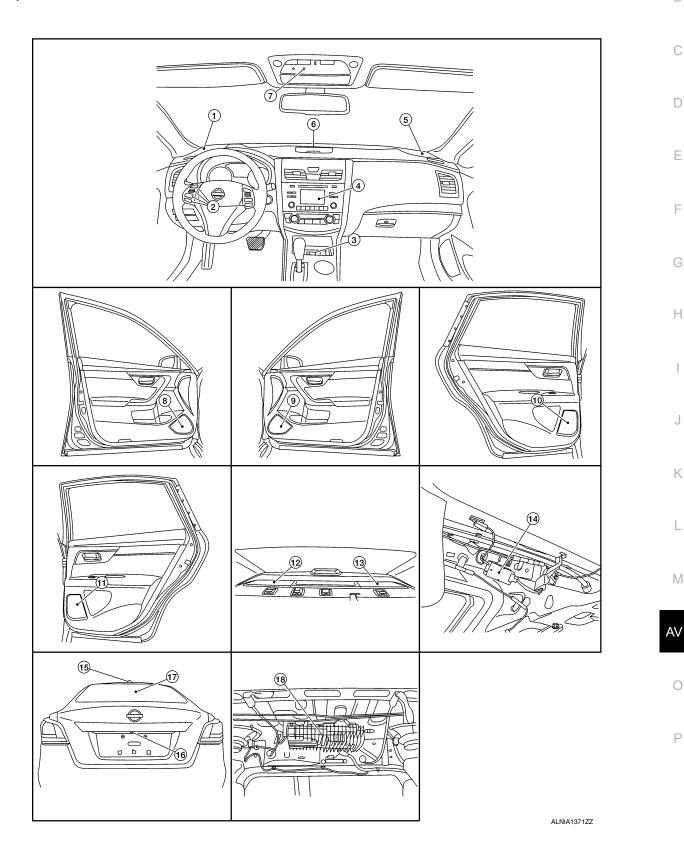
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INFOID:0000000012591112

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location



COMPONENT PARTS

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITH BOSE]

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			
Center speaker			
Front door speakers	Outputs high, mid and low range audio signals from Bose speaker amp.		
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.		

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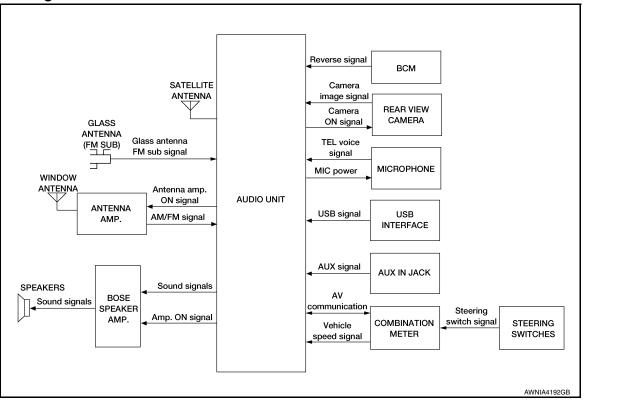
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SYSTEM

System Diagram



System Description

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.

AV-125

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[DISPLAY AUDIO WITH BOSE]

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.

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DIAGNOSIS SYSTEM (AUDIO UNIT)

Description INFOID:0000000012591116

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

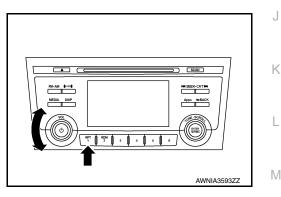
	Mode	Description		
	Self Diagnosis	Audio unit diagnosis.Diagnoses the connections across system components.		
	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.		
	Vehicle Signals	Diagnosis 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.		
Confirmation/ Adjustment	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

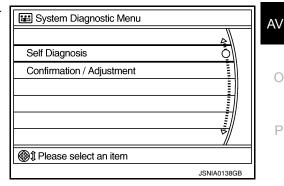
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METHOD OF STARTING

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



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



SELF DIAGNOSIS MODE

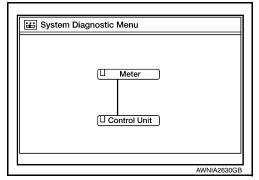
Audio Unit Self Diagnosis

1. Select Self Diagnosis.

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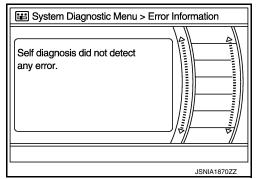
[DISPLAY AUDIO WITH BOSE]

- 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 <u>AV-160</u>, "<u>AUDIO UNIT</u>: <u>Diagnosis Procedure</u>". If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to <u>AV-192</u>, "<u>Removal and Installation</u>". 	
A Cor	nnecting 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.	

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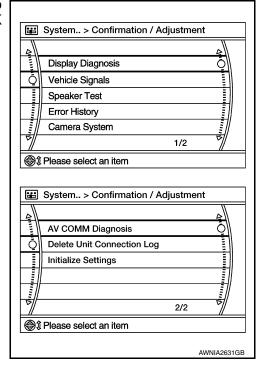
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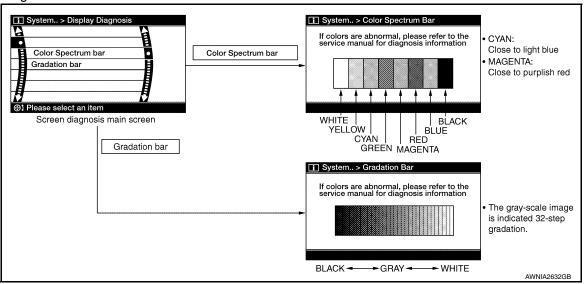
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Audio Unit Confirmation/Adjustment

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



Display Diagnosis



Vehicle Signals

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

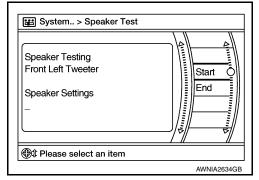
Vehicle speed	I OFF	
Lights	OFF	
Reverse	OFF	
EQ Pin	1	
Destination	2	
Camera Type	1	

Speaker Test

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[DISPLAY AUDIO WITH BOSE]

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.

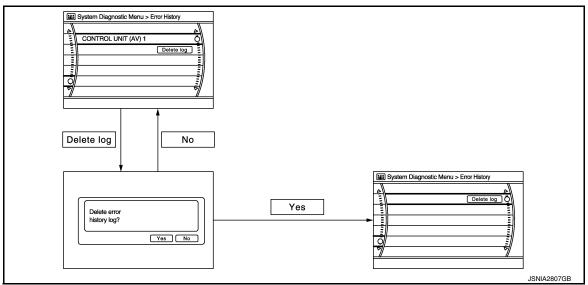
Count up method A

- 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

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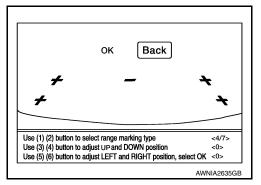
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Error item	Description	Possible cause		
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	Replace the audio unit if the malfunction occurs constantly. Refer to AV-192, "Removal and Installation".		
AV COMM CIRCUIT	 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 au dio unit and combination meter.		

Camera System

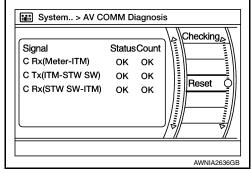
This mode is used to adjust the guide line display position of the rear view camera.



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

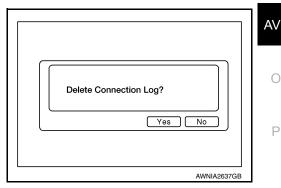


NOTE:

"???" 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).

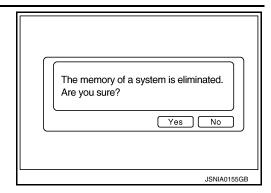


Initialize Settings

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITH BOSE]

Deletes data stored from the audio unit.



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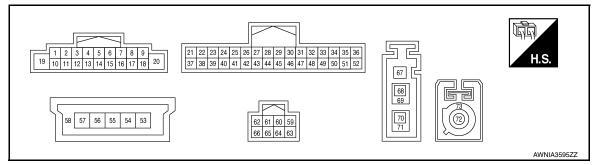
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ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
1 (W)	Ground	BOSE amp. ON signal	Output	ACC	_	Battery voltage
2 (B)	3 (W)	Sound signal front speaker LH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
4 (G)	5 (R)	Sound signal rear speaker LH	Output	ON	Sound output	(V) 1 0 -1 + 2ms 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	(V) 1 0 -1 + 2ms SKIB3609E

	ninal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
13 (G)	14 (R)	Sound signal rear speaker RH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	0 SNIA0012GB
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	(V) 0. 4 0 -0. 4 -40μs SKIB2251J
23 (W)	Ground	Camera power supply	Output	ON	When camera image is displayed Except for above	6.0 V 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) Selector lever in any position other than R (reverse)	Battery voltage
44 (B)	Ground	Ground	_	ON	_	0 V
45 (B)	Ground	Camera ground	_	ON		0 V

AUDIO UNIT

	minal color)	Description			Condition	Reference value	
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)	
51 (W)	Ground	Microphone power supply	Output	ON	_	5.0 V	
52 (B)	50 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	(V) 1 0 -1 ** 2ms 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	(V) 1 0 -1 **2ms SKIB3609E	
62 (R)	Ground	AUX audio signal LH	JX audio signal LH Input ON AUX audio signal received				
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	_	_	_		

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

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

BOSE SPEAKER AMP

[DISPLAY AUDIO WITH BOSE]

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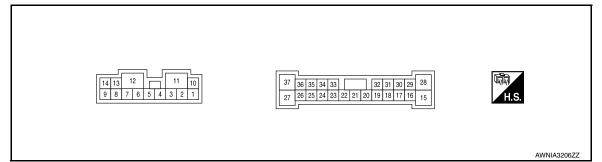
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BOSE SPEAKER AMP

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
1 (W)	10 (G)	Rear speaker signal LH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
2 (W)	3 (G)	Rear speaker signal RH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
4 (P)	5 (R)	Front door speaker and front speaker signal LH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
6 (G)	7 (R)	Center speaker signal	Output	ON	Sound output	(V) 1 0 -1 + + 2ms SKIB3609E

BOSE SPEAKER AMP

	minal color)	Description	Description		Condition	Reference value (Approx.)	
+	_	Signal name	Input/ Output	Ignition Operation			
8 (P)	13 (BG)	Front door speaker and front speaker signal RH	Output	ON	Sound output	(V) 1 0 -1 + 2ms 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	(V) 1 0 -1 + • 2ms SKIB3609E	
18 (G)	32 (R)	Sound signal front speaker LH	Input	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E	
19 (G)	20 (R)	Sound signal front speaker RH	Input	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E	
21 (B)	22 (W)	Sound signal rear speaker LH	Input	ON	Sound output	(V) 1 0 -1 +→ 2ms SKIB3609E	
23 (B)	33 (W)	Sound signal rear speaker RH	Input	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E	

BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITH BOSE]

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
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	(V) 1 0 -1 + 2ms SKIB3609E

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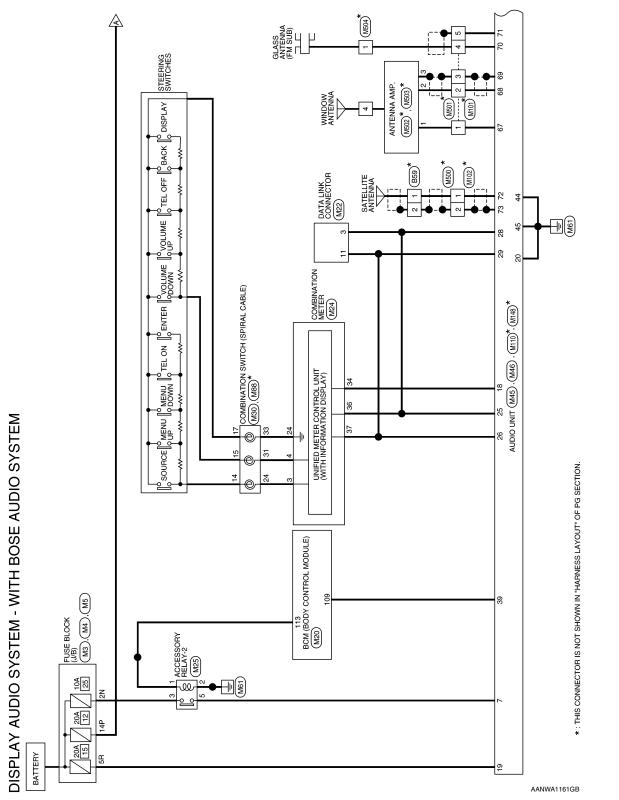
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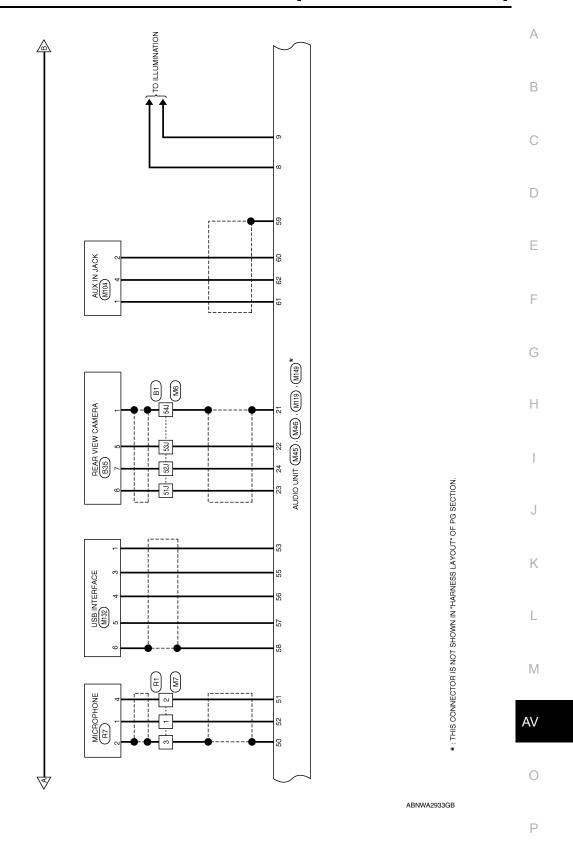
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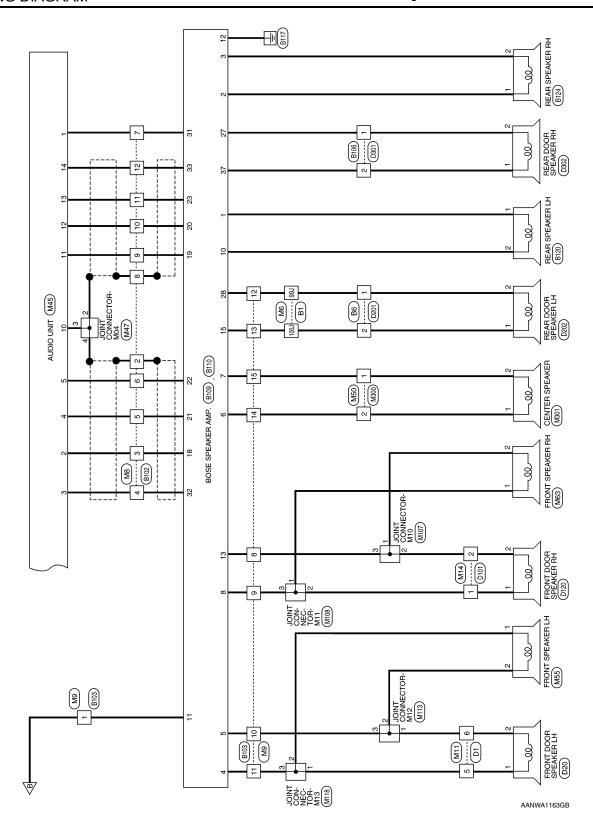
WIRING DIAGRAM

DISPLAY AUDIO WITH BOSE

Wiring Diagram







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		Connector Name	o. M4 ame FUSE BL	Connector No. M4 Connector Name FUSE BLOCK (J/B) Connector Color BROWN	Connector Name	Vo. M5 Vame FUSE E	Connector No. M5 Connector Name FUSE BLOCK (J/B) Connector Color WHITE
							1
3N		原即 H.S.	7R 6R 5R 4R 16R 15R 14R 13R	7R 6R 5R 4R 3R 2R 1R 16R 15R 14R 13R 12R 17R 10R 9R 8R	H.S.	7P 6P 5P 4P C	7P 6P 5P 4P 3P 12P 1P
Terminal No. Color of Signal Name		Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
2N LG –		5R	U	I	14P	O	1
		Terminal No.	Color of	Signal Name	Connector No.		
			Mire		Connector Name		WIRE TO WIRE
Connector Color GRAY		51)	>	1	Connector Color	Color WHITE	Е
		52J	œ	ı			
	F	53J	В	ı	6		
1. 2. 3. 4. 5. 3. 4. 5. 3. 4. 5. 3. 4. 5. 3. 4. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.		54)	SHIELD	1	SH	1 2 3 4	5 6 7
2 3		Г66	œ	ı		9 10 11 12	2 13 14 15 16
		1007	ŋ	ı			
11.0 12.0 13.0 14.0 15.0 16.0 17.0 18.0 19.0 20.0 21.0 22.0 22.0 22.0 22.0 22.0 22	<u> </u>				JA Logicano T	Color of	omely leaving
	<u>]</u>				l erminai No.	>	Signal Name
310 320 330 340 350 360 370 388 390 400 410	=======================================				-	m ;	1
					N	8	I
					က	SHIELD	ı
62.1 63.1 63.1 63.1 65.1 66.1 67.1 68.1 69.1 70.1							
71.1 72.1 73.1 74.1 75.1 76.1 77.1 78.1 79.1 80.0 81.1 82.1 85.1 85.1 85.1 86.1 87.1 88.1 89.1 90.1							
917 921 931 941 951							
96. 97.1 98. 99.1 100.							
	7						

REVERSE SIGNAL ACC RELAY OUT

Signal Name

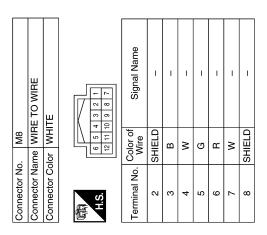
Color of Wire മ ╽┻

Terminal No.

109

Connector No.		6W	
Connector Name	_	MR	WIRE TO WIRE
Connector Color		WHITE	TE
E SH	7 6 15	5 4 14 13	12 11 10 9 8
Terminal No.	Color of Wire	re of	Signal Name
1	g	_	I
8	BG	(D	I
6	Δ.		1
10	Œ		1
11	□		1
12	Œ		ı
13	២		I
14	_		I
15	Œ		I
	ı		
Connector No.		M20	
Connector Name		BCN MOI	BCM (BODY CONTROL MODULE)
Connector Color	-	BLACK	CK
Œ			

Signal Name	1	ı	1	1
Color of Wire	В	W	В	œ
Terminal No. Wire	6	10	11	12



nector No.	M14
nector Name	nector Name WIRE TO WIRE
nector Color WHITE	WHITE
	1 2

	E TO WIRE	11	5 6 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Signal Name	- (WITH BOSE AUDIO SYSTEM)	- (WITH BOSE AUDIO SYSTEM)
. M14	me WIF	lor WHITE	- 4	Color of Wire	۵	BG
Connector No.	Connector Name WIRE TO WIRE	Connector Color	赋 H.S.	Terminal No.	-	2

	2 3 4 5 6 7 9 10 11 12 13 14 15 16
	3 4 5
	2 11 4
쁘	=
₹	e €
>	
5	- ∞
Connector Color WHITE	H.S.

Connector Name | WIRE TO WIRE

M11

Connector No.



Signal Name	(WITH BOSE AUDIO SYSTEM	- (WITH BOSE AUDIO SYSTEM)
Color of Wire	V) – A	В ,
Ferminal No.	2	9

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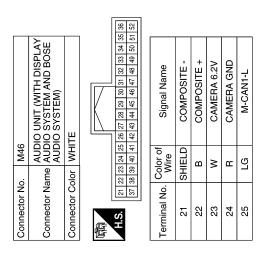
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1 2 3 4 5 6 7 8	TT Terminal No.	Color of Wire P LG	Signal Name
Signal Name	23 22 23 23 24 24 24 24 24 24 24 24 24 24 24 24 24		
Signal Name - 3 W W W W W W W W W			
19 24 19 24 10 24 10 24 10 24 10 24 10 24 10 24 10 24 10 24 10 24 10 24 10 24 10 24 10 24 10 24 10 24 24 24 24 24 24 24 2		N B S A	
190 24 190 34 6 36 190 37 58 190 37 58 190 37 59 59 59 59 59 59 59 5		B F C	_
130 130 130 130 130 130 130 130 130 130		LG P	_
130 130 130 130 130 137 130 138 130 138 138 138 138 138	2	<u>a</u>	1
36 L			1
SPIRAL CABLE) Connector No. Connector Name SPIRAL Connector Color Connector Color As 31 22 33 H.S. H.S.	T		
130 Connector No. SPIRAL CABLE) SPIRAL CABLE) SPIRAL CABLE SPIRAL CABLE SPIRAL CABLE THAY Connector Name Connector Color A 11 22 33 THAY To a 12 23	7		
SPIRAL CABLE) SPIRAL CABLE) SPIRAY Connector Name Connector Color A 31 32 A 31			
SPIKAL CABLE) SPIKAL CABLE) SPIKAY Connector Name Connector Color Mai 22 33 H.S. H.S.	lerm) -	Sig
Service Servic		GB GB	(-)
21 22 33 H.S. (19 10 11 12 13 14 15 16 17 18		œ	ILL (+), LIGHT SW
21 22 33 H.S. (19 10 11 12 13 14 15 16 17 18	10	В	PREAMP SHIELD
21 22 33 4 5 6 7 8 H.S. (19 10 11 12 13 14 15 16 17 16 17 18 14 15 18 14 15 18 18 18 18 18 18 18 18 18 18 18 18 18	11	В	(+) HB GS HH
H.S. 19 10 11 12 13 14 15 16 17	12	Μ	FR SP RH (-)
	13	9	(+) HB
	4	۳	RR SP RH (-)
Color of Signal Name Terminal No. Color of Signal Name	15	I	I
	16	ı	1
2 B	17	1	-
8	18	g	SPEED SIGNAL
4 G RR SP LH (+)	19	<u></u>	Ψ
5 R RRSPLH(-)	50	GR	GND
1 9			
7 P ACC			

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Signal Name	REV	1	1	ı	I	GND	CAM DET	ı	I	1	1	MIC GND	MIC V+	MIC +
Color of Wire	ŋ	ı	ı	1	-	В	В	ı	1	1	ı	SHIELD	W	В
Terminal No.	39	40	41	42	43	44	45	46	47	48	49	20	51	52

Signal Name	M-CAN1-H	ı	M-CAN2-L	M-CAN2-H	1	1	ı	ı	1	ı	1	1	1
Color of Wire	SB	ı	P	SB	1	1	ı	1	1	ı	ı	ı	ı
Terminal No.	26	27	28	29	30	31	32	33	34	35	36	37	38



Connector No.	. M55	
Connector Name		FRONT SPEAKER LH
Connector Color	lor BROWN	NWO
是 H.S.	ق ا	2 1
Terminal No. Wire	Color of Wire	Signal Name
-	Ь	- (WITH BOSE AUDIO SYSTEM)
2	Œ	- (WITH BOSE AUDIO SYSTEM)

Connector No.). M50	
Connector Name WIRE TO WIRE	ıme WIR	E TO WIRE
Connector Color WHITE	lor WH	TE
原列 H.S.		
Terminal No.	Color of Wire	Signal Name
1	В	1
2	Ь	1

	Connector Name JOINT CONNECTOR-M04	<u> </u>		Signal Name	-	-	I
. M47	me JOII	lor WH	4	Color of Wire	SHIELD	В	SHIELD
Connector No.	Connector Na	Connector Color WHITE	H.S.	Terminal No.	2	3	4

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TO WIRE	Signal Name	1	1	ı	1	1
M101 M101 MIRE WIRE	Color of Wire	В	В	SHIELD	В	SHIELD
Connector No. M101 Connector Name WIRE TO WIRE Connector Color GRAY H.S. T.	Terminal No. Wire	-	2	3	4	5
		ı	I		1	
Connector No. M88 Connector Name COMBINATION SWITCH (SPIRAL CABLE) Connector Color GRAY Lorial 18 17 16 15 14 13 H.S.	Signal Name	1	ı	ı		
. M88 COMBINATION (SPIRAL CABI	Color of Wire	۵	_	σ		
Connector No. M88 Connector Name COMB (SPIR) Connector Color GRAY H.S.	Terminal No.	14	15	17		
Connector No. M63 Connector Color BROWN M4.S.	Signal Name	- (WITH BOSE AUDIO	SYSTEM)	- (WITH BOSE AUDIO	SYSTEM)	
M63 John BRO John BRO	Color of Wire	٥	r	Ü	5	
Connector No. M63 Connector Name FRONT & Connector Color BROWN A.S. H.S.	Terminal No. Color of Wire	,	-	c	N	

gnal Name Terminal No. Color of Signal Name
2 BG -
3 BB

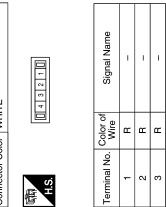
4	AUX IN JACK	11	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Signal Name	ı	ı	
M104		- WH		Color of Wire	>	В	
Connector No.	Connector Name	Connector Color WHITE		Terminal No.	_	2	
Conne	Conne	Conne	是 H.S.	Termi			

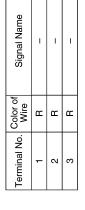
2	E TO WIRE	NMC		Signal Name	ı	İ
. M102	me WIR	lor BRC		Color of Wire	В	SHIELD
Connector No.	Connector Name WIRE TO WIRE	Connector Color BROWN	H.S.	Terminal No.	-	2

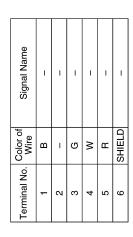
Sig			
Color of Wire	В	SHIELD	
Terminal No.	1	7	

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	M12		
M113	Sonnector Name JOINT CONNECTOR-M12	VHITE	
Connector No.	Connector Name	Connector Color WHITE	
	(WITH	DIO SYSTEM)	







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



Signal Name	SAT ANT	SAT SHIELD	
Color of Wire	В	SHIELD	
Terminal No.	72	23	

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



		Color of Wire SHIELD B B W	o N
8	1		3
	ı	1	64
64	ı	ı	63
64	AUXL	Œ	62
ш 1 1		Μ	61
№ 8 1 1	AUX GNE	В	09
B W R I I		SHIEL	59
SHELD A B B W W W C C C C C C C C C C C C C C C		Color	

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



	Signal Name	ı	1	
	Color of Wire	۵	Ь	۵
Ą Ľ	erminal No. Wire	-	2	C

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

Signal Name	I	-	1
Color of Wire	۵	Ь	۵
Terminal No. Color of Wire	1	2	3

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61	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM)	BLACK	55 54 53	Signal Name	USB GND	1	USB D+	USB D-	VBUS	SHIELD
M149			8 57 56	Color of Wire	Ф	1	G	>	Œ	SHIELD
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	53	54	55	56	25	58

Signal Name	ANT +B	MAIN ANT	MAIN GND	ANT SUB	SUB GND
Color of Wire	В	В	SHIELD	В	SHIELD
Terminal No. Wire	29	89	69	20	71

H.S. For the second sec	

M500 WIRE TO WIRE BROWN		Signal Name	-	ı
9 5		Color of Wire	В	SHIELD
Connector No. Connector Name Connector Color	画 H.S.	Terminal No.	1	2

8	2
В	1
o. Color of Signal Name Wire	Terminal No.
<u> </u>	Ë.S.
Color BROWN	Connector Color
Connector Name CENTER SPEAKER	nector N
Vo. M301	Connector No.

M300 NURE TO WHITE Solor of Wire		3E			Signal Name	ı	
ector No. ector Color ector Color inal No. Col	M300	WIRE TO WII	WHITE	2		>	ď
	Connector No.	ector Name	ector Color	H.S.	Terminal No.	-	,

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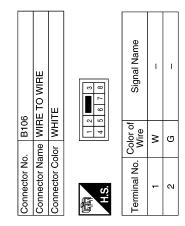
Revision: November 2015 AV-149 2016 Altima Sedan

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NNA AMP. K		Signal Name	1					
M503	4	Solor of Wire	В					
Connector Name ANTENNA AMP. Connector Color BLACK	所 H.S.	Terminal No. Wire	4					
NNA AMP.		Signal Name	1	I	I			
M502 ne ANTEI or GRAY		Color of Wire	Ф	В	SHIELD			
Connector No. M502 Connector Name ANTENNA AMP. Connector Color GRAY	H.S.	Terminal No.	-	2	3			
TO WIRE		Signal Name	1	ı	ı	ı	ı	
me WIRE or GRAY	- 20 40	Color of Wire	Ф	В	SHIELD	Ф	SHIELD	
Connector No. M501 Connector Name WIRE TO WIRE Connector Color GRAY	R. A.	Terminal No.	-	2	8	4	2	

4	Connector Name GLASS ANTENNA	CK		Signal Name	ı
. M504	me GLA	lor BLACK	-	Color of Wire	В
Connector No.	Connector Na	Connector Color	赋 H.S.	Terminal No.	Ļ

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E TO WIBE		!		8 2 8		i	Signal Name	1	1																	
Jame Wiki	Jolor WHI		Ŀ	4 - 2			. Wire	В	۵																	
Connector Name WIBE TO WIBE	Connector Color WHITE				Ċ		l erminal No.	-	7																	
							1										Г		1	_				7		
	1	ı	ı	ı	ı	ı											SATELLITE RADIO ANTENNA	7			Signal Name	ı	I			
D = >	>	В	œ	SHIELD	œ	<u>a</u>). B59		olor BROWN			Color of Wire	В	SHIELD	-		
5	51J	52J	53J	540	P66	1001										Connector No.	Connector Name	Connector Color	H.S.		Terminal No.	1	2			
_			ſг																							
WIBE				[2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			30J 29J 28J 27J 26J 25J 24J 23J 22J		500 493 483 473 463 453 443 433 423	60. 58.0 58.1 57.1 56.1 55.4 53.0 57.1 51.1 70.1 68.1 68.2 66.2 66.4 63.1 62.1 62.1	800 780 780 772 760 7550 744 733 723 771	7. 860 830 840 831 82.	951 941 931 921 911	980 940 980		:W CAMERA				Signal Name	ı	ı	1	ı	
Connector Name WIBE TO WIBE	r GRAY			; ;	3 5	3	21.) 20.) 19.) 18.) 17.) 16.) 15.) 14.)	300 290 280 2	41.] 40.] 39.] 38.] 37.] 36.] 35.] 34.]	50 49 48 4	61.3 60.3 58.3 57.3 56.3 55.3 54.3 70.3 69.3 68.3 67.3 66.3 65.3 64.3	81.1 80.1 79.1 78.1 77.1 76.1 75.1 74.1	80 880 880 8	95J 94J	mort	B35	e REAR VIE		4 8 7 8 9 4		Color of Wire	SHIELD	<u>«</u>	В	8	-
unnector Nam	Connector Color GBAY				Ć.		_									Connector No.	Connector Name REAR VIEW CAMERA		S. E.S.		Terminal No. $^{\mid \text{C}}$	1 S	2	7	8	
Con			•					l								Conn	Conn		優 H		Term			ABNIA		



Terminal No. Color of Wire 7 G B SHIELD 9 G G 110 R 111 R	Color of Wire G	Signal Name
: 2) >	1

Signal Name	_	_	-	-	_
Color of Wire	Ь	Μ	ŋ	5	æ
Terminal No.	11	12	13	14	15

Connector No.	B102
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE
所S.H	1 2 3 4 5 6 10 11 11 12
Col	Color of

Signal Name	1	1	ı	I	1	
Color of Wire	SHIELD	9	Œ	В	Μ	
Terminal No. Color of Wire	2	3	4	5	9	

3	WIRE TO WIRE	ТЕ		3	Signal Name	-	_	=	1
. B103	_	lor WHITE		8 9 10 1	Color of Wire	_o	BG	Ь	æ
Connector No.	Connector Name	Connector Color		H.S.	Terminal No.	-	8	6	10
			_						

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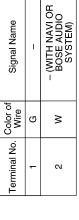
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REAR SPEAKER LH (WITH BOSE AUDIO SYSTEM)	olor WHITE		<u>5</u> ′		- B). R7	Ime MICROPHONE	lor WHITE		1 2 3 4	Color of Signal Name Wire	-	SHIELD -	
Connector Name	Connector Color	H.S.	Terminal No.	-	2												Connector No.	Connector Name	Connector Color		H.S.	Terminal No.	-	2	4
Connector Name BOSE SPEAKER AMP. Connector Color BROWN	12 11 10 10 10 10 10 10 10 10 10 10 10 10		Signal Name	I	ı	ı	ı	ı	ı	I	ı	I	ı	1	ı			WIRE TO WIRE			110 8 1 1 1 0 8 1 1 1 1 0 8 1 1 1 1 0 8 1 1 1 1	Signal Name	1	1	1
Connector Name BOSE SI	14 13 1 7 8 8		Color of Wire	M	*	ŋ	۵	<u>د</u>	g	н	۵	g	ŋ	GR	BG		<u>R</u>		or WHITE		8 7 6 5 14 13	Color of Wire		>	SHIELD
Connector Name Connector Color	H.S.		Terminal No.	1	2	8	4	5	9	7	8	10	11	12	13		Connector No.	Connector Name	Connector Color	4	H.S.	Terminal No.	-	2	8
	15	a []
Connector Name BOSE SPEAKER AMP. Connector Color BROWN	22 21 20 19 18 17 16		Signal Name	-	ı	1	ı	1	ı	-	ı	I	1	-	ı	1		SPEAKER RH	(WITH BOSE AUDIO SYSTEM)	ш		Signal Name	1	1	
me BOSE SI	36 35 34 33 26 25 24 23		Color of Wire	9	ŋ	ŋ	Œ	В	>	В	8	M	ŋ	В	8	ŋ	B124	REAR	SYST	or WHITE	2	Color of Wire	>	g	
Connector Name Connector Color	37		Terminal No.	15	18	19	20	21	22	23	27	28	31	32	33	37	Connector No.	Connector Name	מכונון ואמ	Connector Color	H.S.	Terminal No.	_	2	

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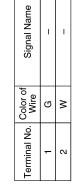
Signal Name	ı	– (WITH NAVI OR BOSE AUDIO SYSTEM)
Color of Wire	თ	Μ
Terminal No. Wire	-	2



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

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

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



D201	WIRE TO WIRE
Connector No.	Connector Name WIRE TO WIRE

	ТЕ	7 6 5 4	Signal Name	_	
	lor WH	<u> </u>	Color of Wire	\	
Connector Name WINE 10 WINE	Connector Color WHITE	原 H.S.	Terminal No.	-	

or No.	Ц	5						
or Name WIRE TO WIRE	^	₹	Щ	2	>	H	Щ	
or Color WHITE	_	₹	ΙË	l				
								[
7	9	5	4	Ш	П	က	2	-
16	15	16 15 14 13 12 11 10	13	12	Ŧ	10	6	ω
]

ЭС		VI OR DIO A)
Signal Name	-	- (WITH NAVI OR BOSE AUDIO SYSTEM)
Color of Wire	g	>
Terminal No. Wire	5	9

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

Signal Name	I	1	
Color of Wire	g	W	
Terminal No.	1	2	

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Connector No. D302 Connector Name REAR DOOR SPEAKER RH	WN		Signal Name	1	1
. D302 ime REAR	lor BROWN		Color of Wire	re	>
Connector No.	Connector Color		Terminal No.	-	2

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





Signal Nam	_	=
Color of Wire	Υ	ГG
Terminal No.	-	2

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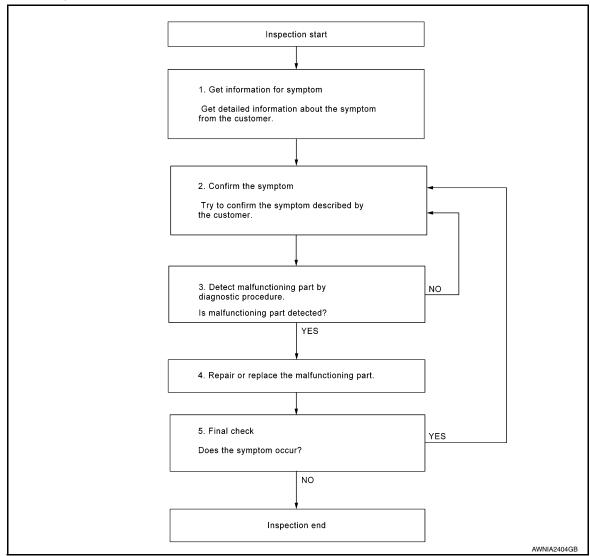
C

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

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.

< BASIC INSPECTION > [DISPLAY AUDIO W	ITH BOSE]
Is malfunctioning part detected?	
YES >> GO TO 4. NO >> GO TO 2.	
4.REPAIR OR REPLACE THE MALFUNCTIONING PART	
 Repair or replace the malfunctioning part. Reconnect parts or connectors disconnected during Diagnostic Procedure. 	
>> GO TO 5.	
5. FINAL CHECK	
Refer to confirmed symptom in step 2, and make sure that the symptom is not detected.	
Was the repair confirmed? YES >> Inspection End.	
NO >> GO TO 2.	

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INSPECTION AND ADJUSTMENT 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:

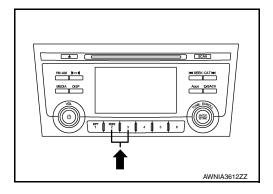
If the new audio unit Bluetooth D/C(serial #) is not registered, the "APPS" mode will not function.

REGISTRATION (AUDIO UNIT): Work Procedure

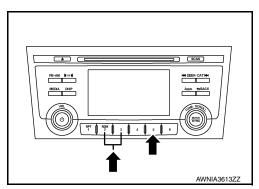
INFOID:0000000012591123

 $1.\mathsf{RECORD}$ BLUETOOTH D/C(SERIAL #) FOR REPLACEMENT AUDIO UNIT

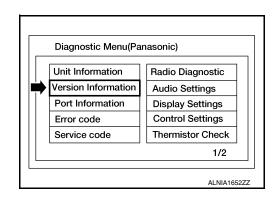
- 1. Turn ignition switch ON.
- 2. Turn audio unit OFF.
- 3. Access the diagnostic menu as follows:
- Press and hold preset buttons 2 and 3.



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



4. Select Version Information from the Diagnostic Menu.

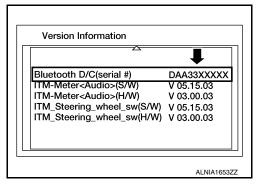


INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[DISPLAY AUDIO WITH BOSE]

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.

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT: Diagnosis Procedure

INFOID: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

- Turn ignition switch OFF.
- Disconnect audio unit connector M45.
- 3. Check voltage between audio unit connector M45 and ground.

Audi	o unit	Ground	Condition	Voltage	
Connector	Terminal	Ground	Condition	(Approx.)	
M45	7		Ignition switch: ON	Battery voltage	
IVI43	19	_	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 audio unit connector M46.
- 3. Check continuity between audio unit connectors and ground.

Audi	o unit	Ground	Continuity	
Connector	Terminal	Ground		
M45	20			
M46	44	_	Yes	
IVI40	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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

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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 spe	aker amp.	Ground	Condition	Voltage	
Connector	Connector Terminal		Condition	(Approx.)	
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 spe	aker amp.	Ground	Continuity
Connector	Terminal	Ground	
B110	12	_	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

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Revision: November 2015 AV-161 2016 Altima Sedan

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.)

- Disconnect Bose speaker amp. connector B110 and suspect front door speaker connector.
- Check continuity between Bose speaker amp. connector B110 and suspect front door speaker connector.

Bose spe	eaker amp.	Front doc	Continuity	
Connector	Connector Terminal			Terminal
	4	D20 (LH)	1	Yes
B110	5		2	
БПО	8		1	
	13	D120 (RH)	2	

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

Bose sp	eaker amp.	Ground	Continuity	
Connector	Terminal	Ground		
	4			
B110	5		No	
БПО	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.)

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

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

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

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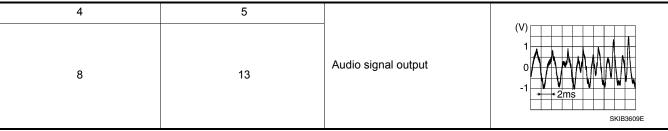
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Is the inspection result normal?

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 spe	eaker amp.	Audio unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	32	3		
B109	18	M45	2	Yes
	20		12	res
	19		11	

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

Bose speaker amp.		- Ground	Continuity
Connector	Terminal	Ground	Continuity
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)

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

Audio unit co	onnector M45			
(+)	(-)	Condition	Reference value	
Terminal	Terminal			
2	3			
11	12	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E	F

Is the inspection result normal?

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

>> Replace Bose speaker amp. Refer to <u>AV-200, "Removal and Installation"</u>. >> Replace audio unit. Refer to <u>AV-192, "Removal and Installation"</u>. YES

NO

FRONT SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000012591127

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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.)

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

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

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

Bose speaker amp.		Ground	Continuity
Connector	Terminal	Ground	Continuity
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.)

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

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

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< DTC/CIRCUIT DIAGNOSIS >

4	5		(V)
8	13	Audio signal output	1 0 -1 + 2ms SKIB3609E

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 spe	eaker amp.	Audio unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	32		3	
B109	18	M45	2	Yes
	20		12	165
	19		11	

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

Bose speaker amp.		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
	32		No	
B109	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)

- Connect Bose speaker amp. connector B109 and audio unit connector M45.
- 2. Turn ignition switch to ACC.
- 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		
11	12	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E

FRONT SPEAKER

[DISPLAY AUDIO WITH BOSE] < DTC/CIRCUIT DIAGNOSIS > >> Replace Bose speaker amp. Refer to AV-200, "Removal and Installation". YES NO >> Replace audio unit. Refer to AV-192, "Removal and Installation". Α В C D Е F G Н J K L M

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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 spe	eaker amp.	Center speaker		Continuity
Connector	Terminal	Connector Terminal		Continuity
B110	6	M301	1	Yes
БПО	7	IVISO I	2	165

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

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

${\it 3.}$ 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.
- 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	(V) 1 0 -1 → +2ms SKIB3609E	

Is the inspection result normal?

CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

YES >> Replace center speaker. Refer to <u>AV-196, "Removal and Installation"</u>.

NO >> GO TO 4.

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

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

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

Bose sp	Bose speaker amp.		Continuity	
Connector	Terminal	- Ground	Continuity	
	32			
B109	18		No	
	20	_	INO	
	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		
11	12	Audio signal output	(V) 1 0 -1 2ms 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".

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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.)

- Disconnect Bose speaker amp. connectors B109 and suspect rear door speaker connector.
- Check continuity between Bose speaker amp. connectors B109 and suspect rear door speaker connector.

Bose spe	eaker amp.	Rear door speaker		Continuity		
Connector	Terminal	Connector	Terminal	Continuity		
	15	D202 (LH)	D202 (LLI)	D202 (LH)	1	
B109	28		2	Yes		
	37	D302 (RH)	1	165		
	27		2			

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

Bose sp	Bose speaker amp.		Continuity	
Connector	Terminal	Ground	Continuity	
	15		No	
B109	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.)

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

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

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

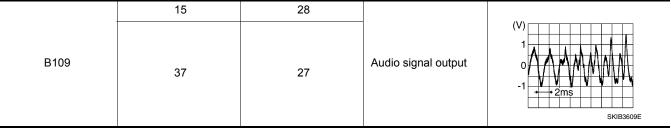
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Is the inspection result normal?

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 spe	eaker amp.	Audio unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	21	M45	4	
B109	22		5	Yes
	23		13	165
	33		14	

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

Bose speaker amp.		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
	21	_	No	
B109	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.
- Turn ignition switch to ACC.
- Push audio unit POWER switch.
- 4. Check signal between audio unit connector M45 and ground.

Audio unit co	onnector M45			
(+)	(–)	Condition	Reference value	
Terminal	Terminal			
4	5			•
13	14	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E	F

Is the inspection result normal?

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

>> Replace Bose speaker amp. Refer to <u>AV-200, "Removal and Installation"</u>. >> Replace audio unit. Refer to <u>AV-192, "Removal and Installation"</u>. YES

NO

REAR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

REAR SPEAKER

Diagnosis Procedure

INFOID:0000000012591130

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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.)

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

Bose spe	eaker amp.	Rear speaker		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
	1	B120 (LH)	1		
B110	10		2	Yes	
БПО	2	D404 (DLI)	1	165	
	3	B124 (RH)	2		

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

Bose speaker amp.		Ground	Continuity
Connector	Terminal	Ground	Continuity
	1		No
B110	10		
	2	_	INO
	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.)

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

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

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< DTC/CIRCUIT DIAGNOSIS >

1	10		
2	3	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E

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)

- 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 spe	eaker amp.	Audi	o unit	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	21		4	
B109	22	M45	5	Yes
B109	23		13	
	33		14	

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

Bose speaker amp.		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
	21		No	
B109	22			
P 108	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)

- 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		
13	14	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E

REAR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

YES >> Replace Bose speaker amp. Refer to <u>AV-200, "Removal and Installation"</u>.

NO >> Replace audio unit. Refer to <u>AV-192, "Removal and Installation"</u>.

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AMP ON SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

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.
- 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.

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

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

Audio unit		Ground	Continuity
Connector	Terminal	Giodila	Continuity
M45	1	_	No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK AUDIO UNIT VOLTAGE

- Connect audio unit connector M45.
- 2. Turn ignition switch ON.
- 3. Check voltage between audio unit connector M45 and ground.

Audio unit		Ground	V 11
(+)		(_)	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

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591132

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

1. CHECK REVERSE INPUT SIGNAL

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

Aud	Audio unit Ground) / H
	(+)	(-)	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

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

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

Check continuity between audio unit connector M46 and ground.

Audio unit			Continuity
Connector	Terminal	Ground	Continuity
M46	23		No

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK CAMERA POWER SUPPLY VOLTAGE

- Connect audio unit connector M46 and rear view camera connector.
- Turn ignition switch ON.
- Shift the selector lever to R (reverse).
- 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?

YFS >> GO TO 4.

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

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REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

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.

Audi	io unit	Rear vie	w camera	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M46	22	B35	5	Yes

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

Audi	o unit		Continuity	
Connector Terminal		Ground	Continuity	
M46	22		No	

Is inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

CHECK CAMERA GROUND CIRCUIT CONTINUITY

Check continuity between audio unit connector M46 and rear view camera connector B35.

Audio unit		Rear vie	w camera	Continuity
Connector	Terminal	Connector	Terminal	Continuity
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

- 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 dis- played.	(V) 0. 4 0 -0. 4 → 40µs 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

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591133

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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	Continuity
	50		2	
M46	51	R7	4	Yes
	52		1	

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

Audio unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
	50		
M46	51	_	No
	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 co			
(+) (-)		Voltage (Approx.)	
Terminal Terminal		(, , , , , , , , , , , , , , , , , , ,	
51	50	5.0 V	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace audio unit. Refer to <u>AV-192. "Removal and Installation"</u>.

3.CHECK MICROPHONE SIGNAL

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

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MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

Audio unit connector M46			
(+)	(-)	Condition	Reference value
Terminal	Terminal		
52	50	Speak into microphone.	(V) 1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

YES

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

[DISPLAY AUDIO WITH BOSE]

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000012591134

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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 swit	Combination switch connector M88		Resistance Ω
Terminal	Terminal	Condition	(Approx.)
		Depress SOURCE switch.	1
		Depress △ switch.	121
14		Depress ∇ switch.	321
	17	Depress € ¼ switch.	723
		Depress ENTER switch.	2023
		Depress ₵ - switch.	1
		Depress ♥ + switch.	121
15		Depress A switch.	321
		Depress 5 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.
- Check continuity between combination meter connector M24 and combination switch connector M30.

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

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

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

Is the inspection result normal?

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

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

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace spiral cable. Refer to <u>SR-15, "Removal and Installation"</u>.

4. CHECK HARNESS BETWEEN COMBINATION METER AND AUDIO UNIT

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

Combina	tion meter	Audio unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M24	37	M46	26	Yes
IVIZ4	36	10140	25	165

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

Combina	Combination meter		Continuity
Connector	Terminal	Ground	Continuity
M24	37		No
IVIZ 4	36	_	INO

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

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000012591135

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

1. CHECK USB INTERFACE HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 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	Continuity
	53	M132	1	
	55		3	Yes
M149	56		4	
	57		5	
	58		6	

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

Audio unit		_	Continuity	
Connector	Terminal	_	Continuity	
M149	55 Ground		No	
WITT	57	Sibulia	110	

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-193, "Removal and Installation".

NO >> Repair or replace harness or connectors.

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AUXILIARY INPUT JACK

[DISPLAY AUDIO WITH BOSE]

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.
- 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.

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

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

Audio unit			Continuity	
Connector	Terminal	_	Continuity	
M119	61	Ground	No	
WITT	62	Ground	INO	

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 >

[DISPLAY AUDIO WITH BOSE]

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".

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[DISPLAY AUDIO WITH BOSE]

Symptoms	Check items	Probable malfunction location
	No sound from all speakers.	 Speaker circuit shorted to ground. Refer to <u>AV-140</u>, "Wiring <u>Diagram</u>". Bose amp. ON signal circuit malfunction. Refer to <u>AV-176</u>, "<u>Diagnosis Procedure</u>". Bose speaker amp. power supply and ground circuits malfunction. Refer to <u>AV-160</u>, "<u>BOSE SPEAKER AMP</u>: <u>Diagnosis Procedure</u>".
No sound comes out or the level of the sound is low.	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 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" (rear door speaker). AV-170, "Diagnosis Procedure" (rear speaker). AV-173, "Diagnosis Procedure" (rear speaker). AV-179, "Removal and Installation" (front door speaker). AV-195, "Removal and Installation" (front speaker). AV-196, "Removal and Installation" (rear speaker). AV-196, "Removal and Installation" (rear door speaker). AV-198, "Removal and Installation" (rear speaker). AV-199, "Removal and Installation" (rear speaker). Malfunction in Bose speaker amp. Refer to AV-190, "Removal and Installation". Malfunction in Bose speaker amp. Refer to AV-200, "Removal and Installation".

[DISPLAY AUDIO WITH BOSE]

Symptoms	Check items	Probable malfunction location
	Noise comes out from all speakers.	 Malfunction in audio unit. Refer to <u>AV-127</u>, "On <u>Board Diagnosis Function"</u>. Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to <u>AV-200</u>, "Removal and Installation".
		 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
Materials and Albertain	Noise comes out only from a certain speak-	- AV-TOS DISONOSIS PROCEDURE CENTER
Noise is mixed with audio.	er (front door speaker LH, front door speaker RH, front speaker RH, front speaker RH, center speaker, rear speaker door LH, rear door speaker RH, rear speaker LH, rear speaker RH).	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 <u>AV-133</u>, "<u>Reference Value</u>". Poor connector connection of antenna or antenna feeder. Refer to <u>AV-203</u>, "<u>Location of Antenna</u>".

[DISPLAY AUDIO WITH BOSE]

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 <u>AV-203</u>. "<u>Location of Antenna</u>".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

- Make sure the customer's Bluetooth[®] related concern is understood.
- 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.

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

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	
Hands-free phone cannot be established.	 Hands-free phone operation can be made, but the communication cannot be established. Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation. 	Malfunction in audio unit. Replace audio unit. Refer to AV-192, "Removal and Installation".
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other	Sound operation function is normal.	
party with hands-free phone communication.	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-179, "Diagnosis Procedure".

Check items

< SYMPTOM DIAGNOSIS >

Symptoms

[DISPLAY AUDIO WITH BOSE]

Probable malfunction location

Symptoms	Check items	Probable manufiction location
	 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".
The system cannot be operated.	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 C	AMERA	
RELATED TO REAR VIEW C	AMERA Check items	Probable malfunction location
		Probable malfunction location Reverse signal circuit malfunction between BCM and audio unit. Refer to AV-177, "Diagnosis Procedure".
	Check items	Reverse signal circuit malfunction between BCM and audio unit.

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NORMAL OPERATING CONDITION

Description INFOID:000000012591138

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 A cracking or snapping sound occurs with the operation of various switches.		Relay malfunction, audio unit malfunction
electrical components are operating.	The noise occurs when various motors are operating.	Motor case ground Motor
The noise occurs constantly, not just under certain conditions.		 Rear defogger coil 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 <u>AV-185</u> , "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.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITH BOSE]

STIVIF TOWI DIAGNOSIS >	[5:0: 2::: 7:05:0 ::::: 5:05]
Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

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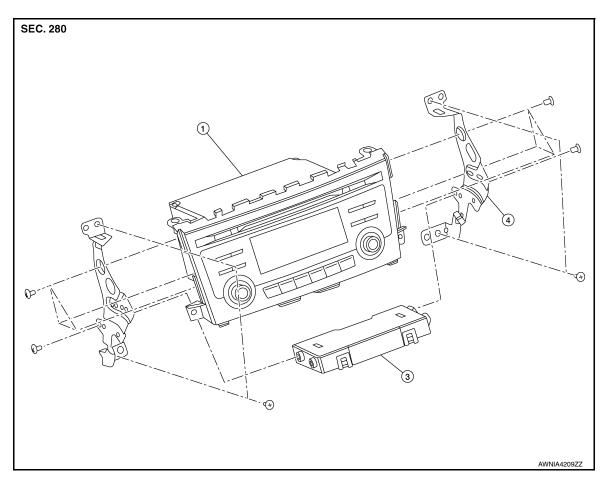
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REMOVAL AND INSTALLATION

AUDIO UNIT

Exploded View



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 <u>AV-158, "REGISTRATION (AUDIO UNIT): Description"</u>.

USB INTERFACE

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

USB INTERFACE

Removal and Installation

INFOID:0000000012591141

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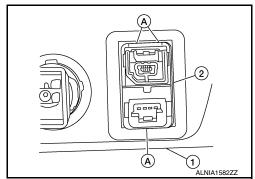
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REMOVAL

- 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.

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[DISPLAY AUDIO WITH BOSE]

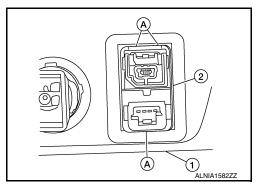
AUX IN JACK

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 >

[DISPLAY AUDIO WITH BOSE]

FRONT SPEAKER

Removal and Installation

INFOID:0000000012591143

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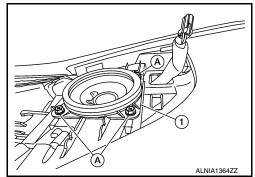
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REMOVAL

- 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.

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[DISPLAY AUDIO WITH BOSE]

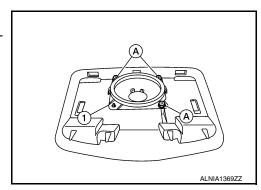
CENTER SPEAKER

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 >

[DISPLAY AUDIO WITH BOSE]

FRONT DOOR SPEAKER

Removal and Installation

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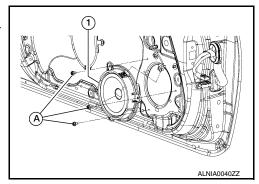
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REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

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REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

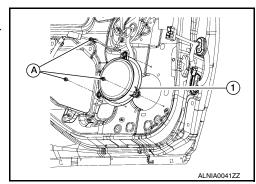
REAR DOOR SPEAKER

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 >

[DISPLAY AUDIO WITH BOSE]

REAR SPEAKER

Removal and Installation

INFOID:0000000012591147

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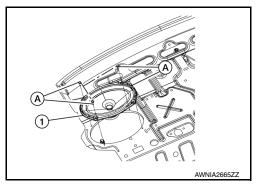
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REMOVAL

- 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.

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BOSE SPEAKER AMP

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

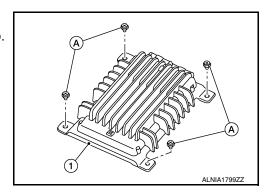
BOSE SPEAKER AMP

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 >

[DISPLAY AUDIO WITH BOSE]

SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:0000000012591149

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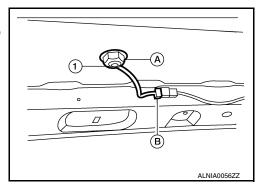
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REMOVAL

- 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.

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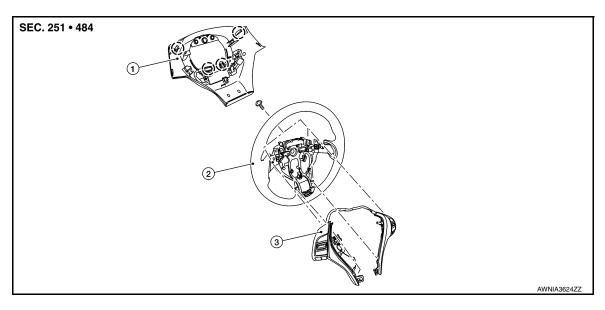
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STEERING SWITCH

Exploded View



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

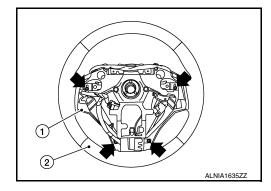
(Pawl

Removal and Installation

INFOID:0000000012591151

REMOVAL

- Remove the steering wheel. Refer to <u>ST-32, "Removal and Installation"</u>
- 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).

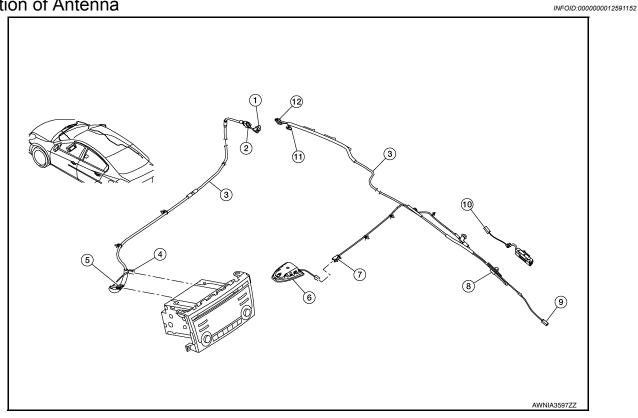


INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

Location of Antenna



- 1. M102
- 4. M110
- 7. B59
- 10. M503

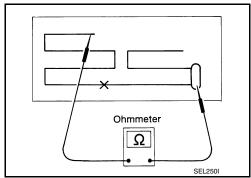
- 2. M101
- 5. M148
- 8. M502
- 11. M500

- 3. Antenna feeder
- 6. Satellite antenna
- 9. M504
- 12. M501

Window Antenna Repair

ELEMENT CHECK

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



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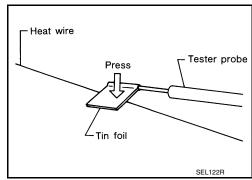
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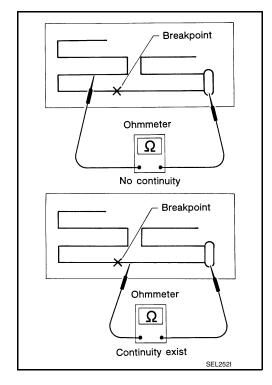
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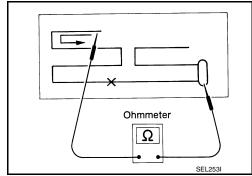
• When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



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



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



REPAIR EQUIPMENT

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

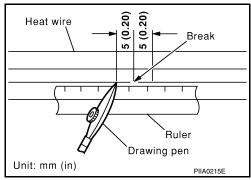
REPAIRING PROCEDURE

ANTENNA FEEDER

< REMOVAL AND INSTALLATION >

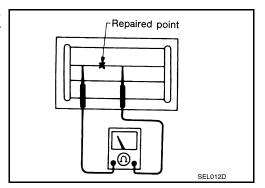
[DISPLAY AUDIO WITH BOSE]

- 1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
- Apply a small amount of conductive silver composition to tip of drawing pen.
 - Shake silver composition container before use.
- 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.



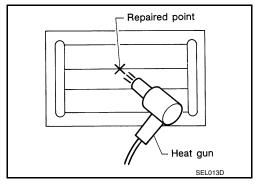
After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.

Do not touch repaired area while test is being conducted.



 Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet.

If a heat gun is not available, let the repaired area dry for 24 hours.



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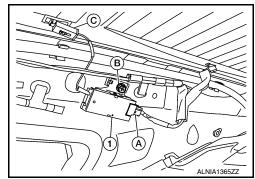
ANTENNA AMP.

Removal and Installation

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 >

[DISPLAY AUDIO WITH BOSE]

MICROPHONE

Removal and Installation

INFOID:0000000012591155

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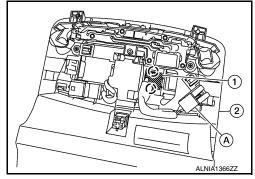
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REMOVAL

- 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.

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REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH BOSE]

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 PRF-TFNSIONER"

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain

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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

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

AV COMMUNICATION SYSTEM

INFOID:0000000012591162

INFOID:0000000012591161

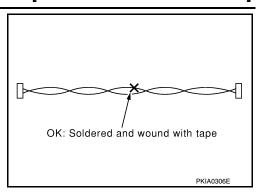
AV-209 Revision: November 2015 2016 Altima Sedan

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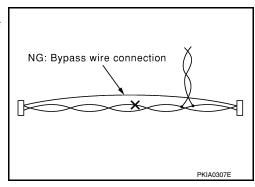
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AV

 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 >

[NAVIGATION WITHOUT BOSE]

PREPARATION

PREPARATION

Special Service Tools

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The actual s	hape of the tool:	s may differ from	those illustrated here.

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

AWJIA0483ZZ

Commercial Service Tools

INFOID:0000000012591165

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

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INFOID:0000000012591166

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

<u></u>

- 1. Front speaker LH
- 4. AV control unit
- 7. Microphone
- 10. Rear speaker RH
- 13. Satellite antenna

- 2. Steering switches
- 5. GPS antenna
- 8. Front door speaker LH
- 11. Rear speaker LH
- 14. Rear view camera

3. USB interface and AUX in jack

AWNIA4185ZZ

- 6. Front speaker RH
- 9. Front door speaker RH
- 12. Antenna amp.
- 15. Window antenna

Component Description

INFOID:0000000012591167

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

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		
Front speakers	Outputs high, mid and low range audio signals from AV control unit.	
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.	

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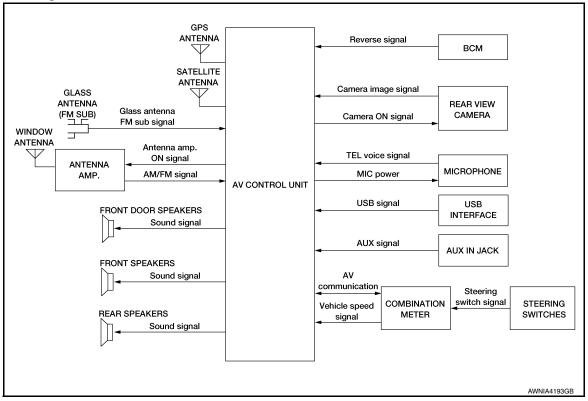
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SYSTEM

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)

[NAVIGATION WITHOUT BOSE]

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.

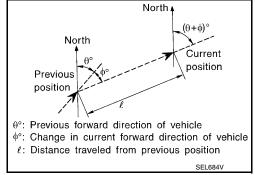
The current vehicle position will be calculated by detecting the distance the vehicle moved from the previous calculation point and its direction.

· 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.



Туре	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.

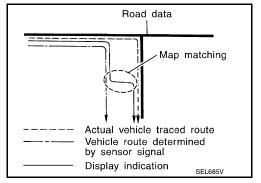
More accurate traveling direction is detected because priorities are set for the signals from these two devices according to the situation.

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.

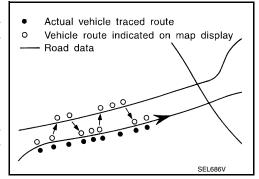


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

 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.



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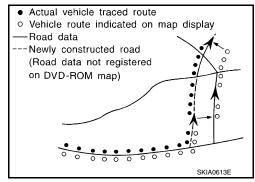
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[NAVIGATION WITHOUT BOSE]

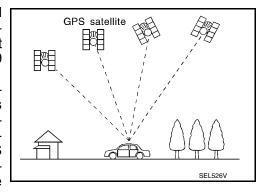
- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair.
- The map-matching function may find another road and position the vehicle mark on it when driving on a road not present in the map. Then, the vehicle mark may change to it when the correct road is detected.
- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data read from the map SD-card is limited. Therefore, correction by map-matching is not possible when there is an excessive gap between current vehicle position and the position on the map.



GPS (Global Positioning System)

GPS (Global Positioning System) is developed for and is controlled by the US Department of Defense. The system utilizes GPS satellites (NAVSTAR), transmitting out radio waves while flying on an orbit around the earth at an altitude of approximately 21,000 km (13,049 mile).

The receiver calculates the travel position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves that four or more GPS satellites transmit (three-dimensional positioning). The GPS receiver calculates the travel position in two dimensions (latitude/longitude) with the previous altitude data if the GPS receiver receives only three radio waves (two-dimensional positioning). GPS position correction is not performed while stopping the vehicle.



Accuracy of the GPS will deteriorate under the following conditions:

- In two-dimensional positioning, GPS accuracy will deteriorate when altitude of the vehicle position changes.
- The position of GPS satellite affects GPS detection precision. The position detection may not be precisely performed.
- The position detection is not performed if GPS receiver does not receive radio waves from GPS satellites. (Inside a tunnel, parking in a building, under an elevated highway etc.) GPS receiver may not receive radio waves from GPS satellites if any object is placed on the GPS antenna.

NOTE:

- The detection result has an error of approximately 10 m (32.81 ft) even with a high-precision three dimensional positioning.
- There may be cases when the accuracy is lowered and radio waves are stopped intentionally because the GPS satellite signal is controlled by the US trace control center.

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

SYSTEM

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

- · 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.

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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.
	Touch Display Calibration	_	Calibration of the touch panel display can be performed.
User Configuration	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 cur-
- 10000	AM monitor	_	rent tuner
	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.	The current system status is displayed.
	Speaker Test 4kHz Speaker Test 100Hz	_	This activates a sequence of test tone outputs to the audio circuits one after the other for 1 second.
	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.
5	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

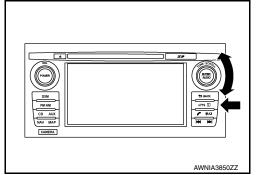
1. Turn the ignition ON.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

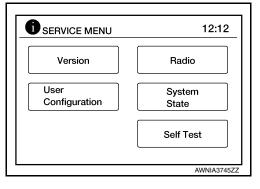
< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

- Turn the audio system OFF.
- 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

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CAUTION:

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF \rightarrow ON (for at least 5 seconds) \rightarrow 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.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

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".

[NAVIGATION WITHOUT BOSE]

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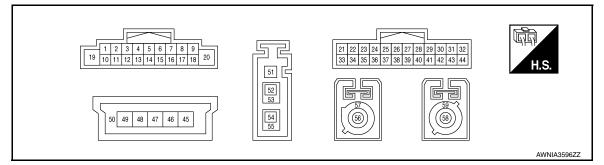
SKIB3609E

ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
2 (V)	3 (SB)	Sound signal front speaker LH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
4 (BR)	5 (Y)	Sound signal rear speaker LH	Output	ON	Sound output	(V) 1 0 -1 * +2ms 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	(V) 1 0 -1 + 2ms

AV CONTROL UNIT

[NAVIGATION WITHOUT BOSE]

	minal color)	Description			Condition	Reference value		
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)		
13 (LG)	14 (V)	Sound signal rear speaker RH	Output	ON	Sound output	(V) 1 0 -1 + 2ms 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)	0 ZO ms 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	(V) 1 0 -1 + 2ms SKIB3609E		
22 (B)	_	AUX ground	_	ON	_	0V		
23 (R)	Ground	AUX audio signal LH	Input	ON	AUX audio signal received	(V) 1 0 -1 + 2ms SKIB3609E		
24 (BR)	_	BF mic	Input	_	_	_		
25 (G)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse) Selector lever in any position other than R (reverse)	Battery voltage		
30 (P)	_	MR output	Output	_	_	_		
31 (SB)	_	AV communication (H)	Input/ Output	_	_	_		
32 (LG)	_	AV communication (L)	Input/ Output		_			

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

Terminal (Wire color)		Description			Condition	Reference value	
+	- Signal name		Signal name Input/ Ignition Output switch Operation		(Approx.)		
34 (B)	36 (Shield)			ON	While speaking into microphone.	(V) 1 0 -1 → 2ms 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	0. 4 0 -0. 4 -0. 4 -40μs	
42 (Shield)	_	Camera shield	_	_	_	_	
43 (W)	Ground	Camera power supply	Output	ON	When camera image is displayed Except for above	6.0 V 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	

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

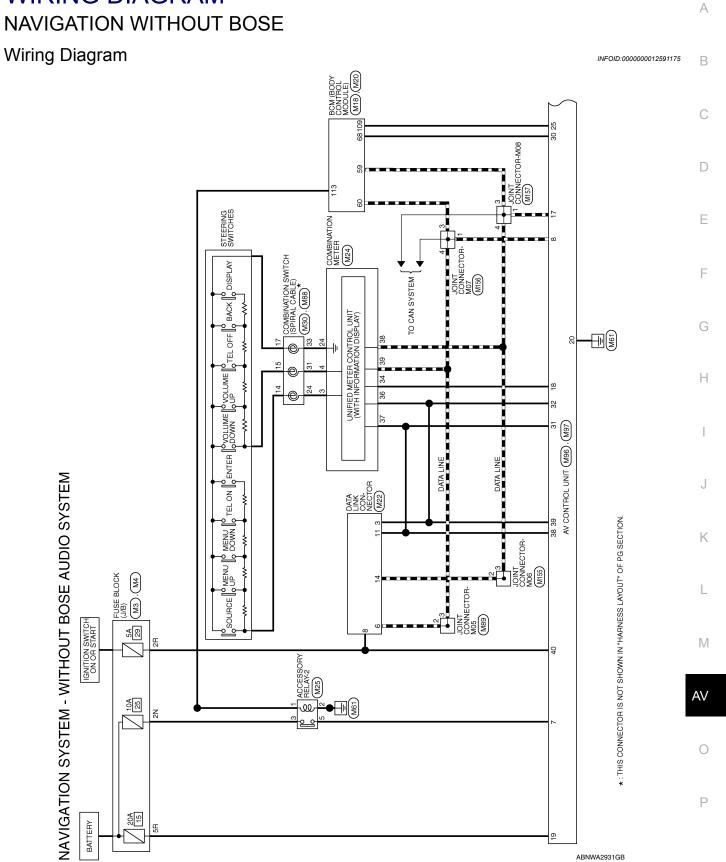
[NAVIGATION WITHOUT BOSE]

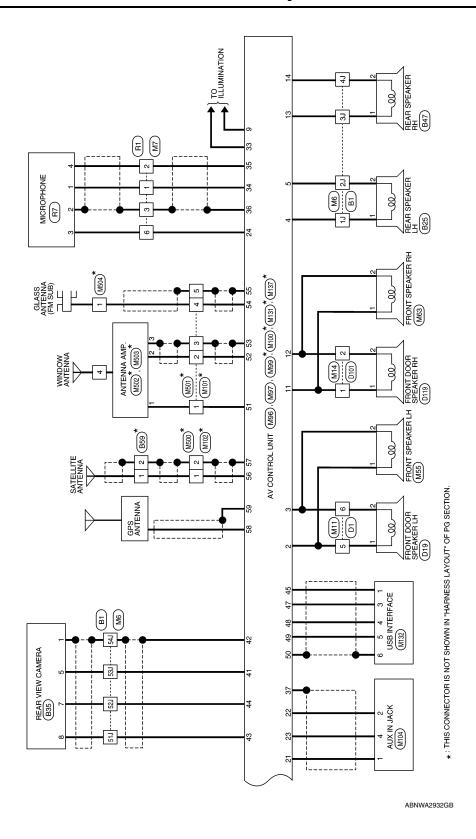
	ninal color)	Description			Condition	Reference value	
+	-	Signal name	Ignal name Input/ Ignition Operation		(Approx.)		
55 (Shield)		Glass antenna shield	Glass antenna shield — — — — —		_		
56 (B)	Ground	Satellite antenna signal	Input	ON	_	5.0 V	
57 (Shield)	_	Satellite antenna shield	_	_	_	_	
58 (B)	Ground	d GPS antenna signal Input ON —		_	5.0 V		
59 (Shield)		GPS antenna shield	_	_	_	_	

DTC Index

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





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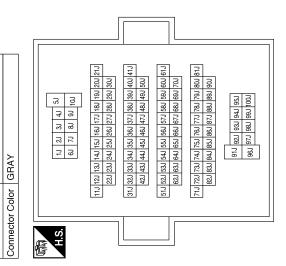
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NAVIGATION SYSTEM CONNECTORS - WITHOUT BOSE AUDIO SYSTEM

SE BLOCK (J/B)	NMC	48 (Signal Nam	-	ı
me FUS	lor BR(7R 6R 5R 16R 15R 14R	Color of Wire	BG	ច
Connector Na	Connector Co	E S.H	Terminal No.	2R	5R
SE BLOCK (J/B)	ПЕ	ZN 1N N 4N 4N 4N 4N 4N 4N	Signal Name	_	
me FUS	or WH	NE N8	Color of Wire	LG	
nnector Na	nnector Col	H.S.	rminal No.	2N	
	nnector Name FUSE BLOCK (J/B) Connector Name FUSE BLOCK (J/B)	SLOCK (J/B)	Connector Name FUSE BLOC FUSE BLOC FUSE BLOC FUSE BLOC PROWN PRO	Signal Name Connector Name FUSE BLC Connector Color BROWN This is is 48 This is 18 This is 18	TE Connector Name FUSE BLC Connector Color BROWN Connector Color BROWN TRI 68 58 48 68 68 68 68 68 68 68 68 68 68 68 68 68

			1					
	E TO WIRE		12 13 14 15 16 15 16 7 8	Signal Name	1	-	_	1
M7	me WIR	lor WHI	1 2 3	Color of Wire	В	>	SHIELD	BR
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	赋 H.S.	Terminal No.	1	2	ε	9

Signal Name	ı	ı	ı	I	ı	ı	I	ı
Color of Wire	BR	>	LG	^	Α	Œ	В	SHIELD
Terminal No.	11	23	33	4.1	51J	52J	53J	54J



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Connector Name WIRE TO WIRE

Connector No.

Connector No. M18 Connector Name BCM (BODY CONTROL MODULE) Connector Color BLACK H.S. (a) 59 58 57 58 55 54 53 52 51 50 49 48 47 46 44 43 42 41 80 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. 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 13 22 11 [40] 39 38 37 38 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21	Mo. Color of Wire	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 I CAN-H
Connector No. M14 Connector Name WIRE TO WIRE Connector Color WHITE To a series of the series of th	Terminal No. Color of Signal Name 1 Y - (WITHOUT BOSE AUDIO SYSTEM) 2 BR - (WITHOUT BOSE AUDIO SYSTEM)	Connector No. M22	No.	11 SB
Connector No. M11	Terminal No. Color of Signal Name 5 V -(WITHOUT BOSE AUDIO SYSTEM) 6 SB -(WITHOUT BOSE AUDIO SYSTEM)	Connector No. M20 Connector Name BCM (BODY CONTROL MODULE) Connector Color BLACK Elack Ela	Terminal No. Color of Wire 109 G REVERSE SIGNAL 113 P ACC RELAY OUT	AANIA3102GB

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	Connector Name FRONT SPEAKER LH	N100		Signal Name	- (WITHOUT BOSE	AUDIO SYSTEM)	- (WITHOUT BOSE	AUDIO SYSTEM)
M55	me FRO	סבים וה		Color of Wire	>	>	a	25
Connector No.	Connector Name FRONT		刷 H.S.	Terminal No. Color of Wire		-	c	N
	Connector Name COMBINATION SWITCH (SPIRAL CABLE)		22 33 32 32 32 33 32 32 32 32 32 32 32 3	Signal Name	ı	ı	ı	
M30	e COMB (SPIR,	r GRAY	25 24 31 32 27 21 22 33	color of Wire	۵	œ	8	
Connector No.	Connector Nan	Connector Color GRAY	南南 H.S.	Terminal No. Wire	24	31	33	
	or Name ACCESSORY RELAY-2			Signal Name	ı	ı	ı	ı
. M25	me ACCE	IOI BEOE	2 2 3	al No. Color of Wire	*	В	LG	<u>a</u>
tor No.	tor Na	0000		al No.				

M89 Connector Name JOINT CONNECTOR-M05 Connector Color WHITE
Connector No. Connector Color Connector Color H.S. H.S. Terminal No. Color 3

Connector No.		M88	
Connector Na	ame	CON (SPI	Connector Name COMBINATION SWITCH (SPIRAL CABLE)
Connector Color GRAY	olo	GR∕	۱۸
H.S.	20 1	9 18	20 19 18 17 16 15 14 13
Terminal No.	Color of Wire	or of re	Signal Name
14	<u>а</u>		ı
15	7		_
17	В	.5	I

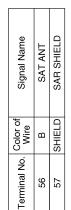
	FRONT SPEAKER RH	BROWN		Signal Name	- (WITHOUT BOSE AUDIO SYSTEM)	- (WITHOUT BOSE AUDIO SYSTEM)
. M63	me FRC			Color of Wire	>	BB
Connector No.	Connector Name	Connector Color	(A.S.	Terminal No.	-	2

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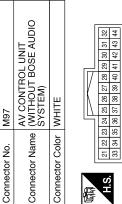
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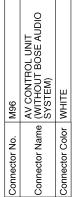


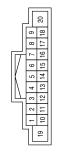






Signal Name	AUX R	AUX GND	AUX L	BF MIC	REVERSE	ı	1	I	I	MR OUTPUT	M-CAN-H	M-CAN-L	(-)	MIC SIGNAL	MIC VCC	MIC GND	AUX SHIELD	M-CAN-H	M-CAN-L	IGNITION	CAMERA +	CAMERA - (SHIELD)	CAMERA ON	CAMERA GND
Color of Wire	>	В	Œ	BR	5	ı	ı	-	ı	۵	SB	ГG	GR	В	>	SHIELD	SHIELD	SB	LG	BG	В	SHIELD	>	<u>~</u>
Terminal No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44





Signal Name	1	FR SP LH (+)	FR SP LH (-)	RR SP LH (+)	RR SP LH (-)	I	ACC	CAN-H	ILL (+), LIGHT SW	ı	FR SP RH (+)	FR SP RH (-)	RR SP RH (+)	RR SP RH (-)	ı	I	CAN-L	SPEED SIGNAL	BAT	GND
Color of Wire	ı	>	SB	BB	>	ı	Д	_	ш	ı	>	BR	ГG	>	ı	ı	۵	ŋ	ß	GR
Terminal No.	-	2	ო	4	S	9	7	80	6	10	=	12	13	14	15	16	17	18	19	20

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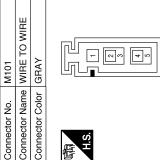
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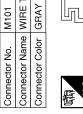
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	_	_	_	_	_
Signal Name	ı	_	_	1	_
Color of Wire	В	В	SHIELD	В	SHIELD
Terminal No. Wire	-	2	3	4	2





00	AV CONTROL UNIT	ш		Signal Name	GPS ANT	GPS SHIELD
M100		lor BLUE		Color of Wire	В	SHIELD
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	58	29

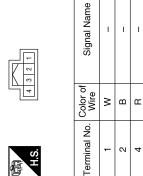


Connector Name AV CONTROL UNIT	CK		48 47 46 45	Signal Name	USB GND	I	USB D+	USB D-	VBUS	SHIELD
me AV (lor BLACK		20 49	Color of Wire	В	_	G	Μ	ш	SHIELD
Connector Na	Connector Color	F F	H.S.	Terminal No.	45	46	47	48	49	50



Connector No. M104

Connector No. M102





	_	
Connector Name WIRE TO WIRE	me WIR	IE TO WIRE
Connector Color BROWN	lor BRC	NMC
原 H.S.		
Terminal No. Wire	Color of Wire	Signal Name



	0)		
	Color of Wire	В	SHIELD
H.S.	Terminal No.	1	2

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Connector No. M155 Connector Name JONIT CONNECTOR-M06 Connector Color WHITE	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Terminal No. Color of Signal Name Wire	2 P	٦ ۵					Connector No M500	COLLINCTON MODERATION OF THE PROPERTY OF THE P	-	Connector Color BHOWIN	H.S.	Terminal No. Color of Wire Signal Name
Connector No. M137 Connector Name AV CONTROL UNIT Connector Color GRAY		Color of Signal Name	B ANT B+	B MAIN ANT	SHIELD MAIN GND	B ANT SUB	SHIELD SUB GND		M157			or while		Color of Signal Name
Connector No. Connector Name Connector Color	H.S.	Terminal No.	51	52	53	54	25		oly rotoeddo	Collifector No.	Connector Name	CONTRECTOR COIOR	H.S.	Terminal No.
M132 USB INTERFACE BLACK	4 6 7	of Signal Name	1	ı	1	ı	ı	Q	M156	CHOLINIA COLOTINA	MINI CONNECTOR-MU	WHILE	3 2 1 1	of Signal Name
Connector No. M1: Connector Name US Connector Color BL/	SH SH	Terminal No. Wire	т В	2 -	9 8	4 W	5 R	6 SHIELD	Coppositor No	COILLIGATION INC.		Connector Color WF	las.	Terminal No. Wire

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	Signal Name	
COK ACK	Signa	
Vame ANTENI	Color of Mire	
Connector Name ANTENNA AMP. Connector Color BLACK H.S.	Terminal No.	
	Signal Name	
Y Y	Signal	
lame ANTEN	Color of Wire B B B SHELD	
Connector Name ANTENNA AMP. Connector Color GRAY H.S.	Terminal No.	
	Name Name	
TO WIRE	Signal Name	
MINE WIRE.	Color of Wire B B B B B B B B B B B B B B B B B B B	
Connector Name WIRE TO WIRE Connector Color GRAY H.S.	Connector No. Color of Signal No. Sign	
	ABNIA8215GE	3

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1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
3 3 - > \\ \\ \\ \\ \ \ \ \ \ \ \ \ \ \ \ \
2J L 3J L 4J 51J 52J 53J 53J SH 54J SH Connector No Connector Color H.S.

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ir No. Di	Connector Name WIRE TO WIRE	Connector Color WHITE	7 6 5 4	Terminal No. Color of Signal Name	J		W BOSÈ AUDIO SYSTEM)	
Connector No.	Connecto	Connecto	原 所 A.S.	Terminal	2		0	
	ROPHONE		2 3 4	Signal Name	1	1	1	ı
). R7	ame MIC	olor WH		Color of Wire	٦	SHIELD	BR	\
Connector No.	Connector Name MICROPHONE	Connector Color WHITE	H.S.	Terminal No. Wire	-	2	က	4
	Connector Name WIRE TO WIRE	里	12 11 10 9	Signal Name	ı	I	I	I
E	ıme WIF	Connector Color WHITE	8 7 6 5 14 13	Terminal No. Color of Wire	_	\	SHIELD	BR
Connector No.	tor Na	ctor Co		lal No.		2	က	9

E TO WIRE	<u> </u>	2 6 4 1	Signal Name	I	– (WITH NAVI OR BOSE ALIDIO SYSTEN
me WIR	lor WHITE	© 80 7 L	Color of Wire	G	W
Connector Name WIRE TO WIRE	Connector Color	所 H.S.	Terminal No.	1	2

D101

Connector No.

	Connector Name (WITHOUT BOSE AUDIO SYSTEM)	ITE	2 1	Signal Name	1	– (WITH NAVI)
. D19	me FR(lor WH		Color of Wire	В	×
Connector No.	Connector Na	Connector Color WHITE	H.S.	Terminal No.	-	2

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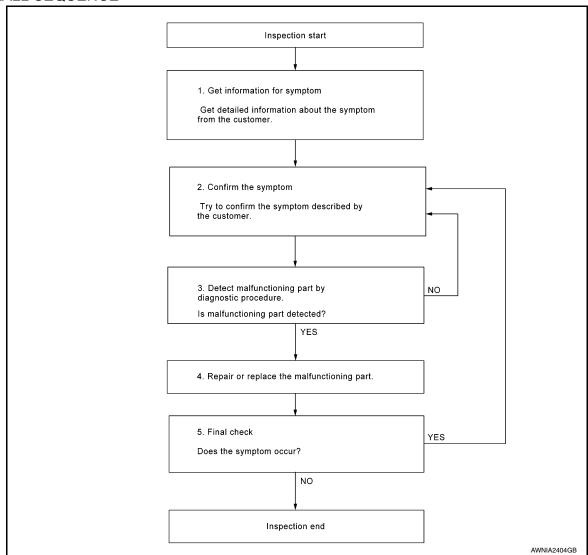
Revision: November 2015 AV-235 2016 Altima Sedan

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

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 <u>AV-277</u>, "Symptom Table".

>> GO TO 3.

3. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

< BASIC INSPECTION > [NAVIGATION WITHO	OUT BOSE]
Is malfunctioning part detected?	
YES >> GO TO 4. NO >> GO TO 2.	
4. REPAIR OR REPLACE THE MALFUNCTIONING PART	
 Repair or replace the malfunctioning part. Reconnect parts or connectors disconnected during Diagnostic Procedure. 	
>> GO TO 5.	
5. FINAL CHECK	
Refer to confirmed symptom in step 2, and make sure that the symptom is not detected.	
Was the repair confirmed?	
YES >> Inspection End. NO >> GO TO 2.	

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INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

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

NFOID:0000000012591178

1. SAVING VEHICLE SPECIFICATION

P-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

(P)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 <u>AV-240, "REGISTRATION (AV CONTROL UNIT)</u>: <u>Work Procedure"</u>.

>> 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

Vehicle specification needs to be written with CONSULT because it is not written after replacing AV control

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

 ${f 1}$.WRITING MODE SELECTION

(P)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"

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"

(P)CONSULT

- Select "After Replace ECU" or "Manual Configuration".
- Identify the correct model and configuration list. Refer to AV-240, "CONFIGURATION (AV CONTROL **UNIT)**: Configuration List".
- 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.

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.

AV-239 Revision: November 2015 2016 Altima Sedan

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INFOID:0000000012591179

INFOID:0000000012591180

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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.

SE	ETTING ITEM	NOTE
Items	Setting value	NOTE
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:

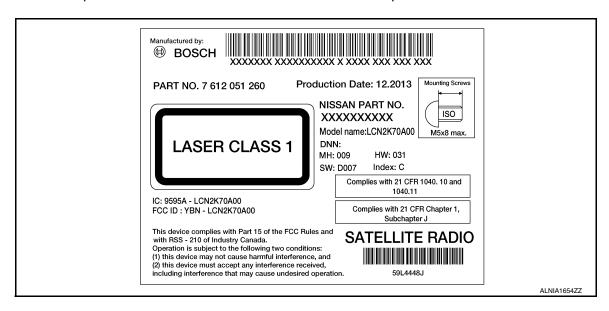
If the new AV control unit registration code is not registered, the "APPS" mode will not function.

REGISTRATION (AV CONTROL UNIT): Work Procedure

INFOID:0000000012591183

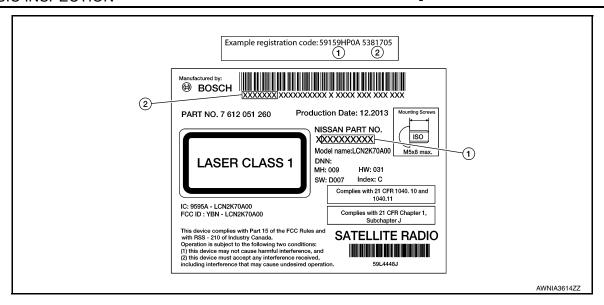
1. RECORD REGISTRATION CODE FOR REPLACEMENT AV CONTROL UNIT

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).

INSPECTION AND ADJUSTMENT



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.

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U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Logic

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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1010 CONTROL UNIT (CAN)

DTC Logic

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".	

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U1217 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1217 AV CONTROL UNIT

DTC Logic

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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1229 AV CONTROL UNIT

DTC Logic

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".	

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U122F AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U122F AV CONTROL UNIT

DTC Logic

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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1244 GPS ANTENNA

DTC Logic

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

Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram".

1.GPS ANTENNA INSPECTION

Visually inspect the GPS antenna and antenna feeder. Refer to <u>AV-297, "Removal and Installation"</u>. <u>Is inspection result normal?</u>

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".

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U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1258 SATELLITE RADIO ANTENNA

DTC Logic

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 <u>AV-299, "Location of Antenna"</u>. <u>Is inspection result normal?</u>

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 cor	ntrol unit	Satellite radio antenna		Continuity	
Connector	Terminal	Connector Terminal		Gontinuity	
M99	56	B59	1	Yes	

Check continuity between AV control unit connector M99 and ground.

AV co	ntrol unit	Ground	Continuity	
Connector	Terminal	Ground		
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	
(+)	(–)	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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

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DTC Logic

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.
- 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

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".

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[NAVIGATION WITHOUT BOSE]

U1264 ANTENNA AMP.

DTC Logic

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 <u>AV-299, "Location of Antenna"</u>. <u>Is inspection result normal?</u>

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	Continuity
M137	51	M502	1	Yes

4. Check continuity between AV control unit connector M137 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
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

- Connect AV control unit connector M137.
- Turn ignition switch ON.
- Check voltage between AV control unit connector M137 and ground.

AV control unit		Ground	N/ 11
(+)		()	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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AA CONFIGURATION ERROR

DTC Logic

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 <u>AV-239</u>, "CONFIGURATION (AV CONTROL <u>UNIT</u>): Work <u>Procedure</u>".

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[NAVIGATION WITHOUT BOSE]

U12AB ANTENNA

DTC Logic

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 <u>AV-299, "Location of Antenna"</u>. <u>Is inspection result normal?</u>

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 cor	ntrol unit	Inline		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M137	54	M504	1	Yes

Check continuity between AV control unit connector M137 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
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

- Disconnect AV control unit connector M137.
- 2. Turn ignition switch ON.
- 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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AC AV CONTROL UNIT

DTC Logic

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".

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U12AD AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AD AV CONTROL UNIT

DTC Logic

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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AE AV CONTROL UNIT

DTC Logic

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".

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U12AF AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AF AV CONTROL UNIT

DTC Logic

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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12B0 POWER SUPPLY VOLTAGE

DTC Logic

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

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 <u>AV-262, "AV CONTROL UNIT : Diagnosis Procedure"</u>.

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.

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U12B1 POWER SUPPLY VOLTAGE

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12B1 POWER SUPPLY VOLTAGE

DTC Logic

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

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

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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.
- 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 cor	ntrol unit	Combination meter		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M97	32	M24		36	Yes
IVI <i>91</i>	39		30	165	

4. Check continuity between AV control unit connector M97 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
M97	32		No
IVI97	39	_	INO

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	Continuity	
M97	31	M24	M24 37	37	Yes
IVI97	38	10124	37	168	

2. Check continuity between AV control unit connector M97 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
M97	31		No
19137	38	_	140

U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1310 AV CONTROL UNIT

DTC Logic

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".

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

POWER SUPPLY AND GROUND CIRCUIT AV CONTROL UNIT

AV CONTROL UNIT: Diagnosis Procedure

INFOID: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 cor	ntrol unit	Ground Condition		Voltage
Connector	Terminal			(Approx.)
M96	19		Ignition switch: OFF	
Meo	7	— Ignition switch: ON		Battery voltage
M97	40		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.
- Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Orbana	Continuity
M96	20	_	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000012591214

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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 cor	ntrol unit	Front door speaker		Continuity					
Connector	Terminal	Connector	Terminal	Continuity					
	2	D19 (LH) D119 (RH)	D40 (LLI)	D40 (LLI)	D40 (LLI)	D40 (LLI)	D40 (LLI)	1	
M96	3		2	Yes					
	11		1	165					
	12		2						

3. Check continuity between AV control unit connector M96 and ground.

AV control unit		- Ground	Continuity	
Connector	Terminal	Ground	Continuity	
M96	2	-	No	
	3			
	11	_	INO	
	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.
- 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		

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FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

2	3		
11	12	Audio signal output	1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

>> Replace front door speaker. Refer to <u>AV-294, "Removal and Installation"</u>. >> Replace AV control unit. Refer to <u>AV-290, "Removal and Installation"</u>. YES

NO

FRONT SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000012591215

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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 cor	ntrol unit	Front speaker		Continuity		
Connector	Terminal	Connector Terminal		Continuity		
	2	M55 (LH)	MEE (LLI)	MEE (LLI)	1	
M96	3		2	Voo		
IVI90	11		1	Yes		
	12	M63 (RH)	2			

3. Check continuity between AV control unit connector M96 and ground.

AV control unit		- Ground	Continuity	
Connector	Terminal	Ground	Continuity	
M96	2			
	3		No	
	11	_	INU	
	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		

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FRONT SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

2	3		
11	12	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

YES

>> Replace front speaker. Refer to <u>AV-293, "Removal and Installation"</u>. >> Replace AV control unit. Refer to <u>AV-290, "Removal and Installation"</u>. NO

REAR SPEAKER

[NAVIGATION WITHOUT BOSE]

REAR SPEAKER

Diagnosis Procedure

INFOID:0000000012591216

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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 cor	ntrol unit	Rear speaker		Continuity				
Connector	Terminal	Connector	Terminal	Continuity				
	4	B25 (LH) B47 (RH)	DOF (LLI)	D05 (LLI)	D05 (LLI)	D05 (LLI)	1	
M96	5		2	Yes				
IVI9O	13		1	165				
	14		2					

Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
	4			
M96	5		No	
	13	_	NO	
	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		

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REAR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

4	5		(V)
13	14	Audio signal output	1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

YES

>> Replace rear speaker. Refer to <u>AV-295, "Removal and Installation"</u>. >> Replace AV control unit. Refer to <u>AV-290, "Removal and Installation"</u>. NO

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591217

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Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram".

1. CHECK REVERSE INPUT SIGNAL

- 1. Turn ignition switch ON.
- Shift the selector lever to R (reverse).
- 3. Check voltage between AV control unit connector M97 and ground.

AV cor	AV control unit			V-11
	(+)		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

- 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 cor	AV control unit Rear view camera		Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M97	43	B35	8	Yes

Check continuity between AV control unit connector M97 and ground.

AV control unit			Continuity
Connector	Terminal	Ground	Continuity
M97	43		No

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK CAMERA POWER SUPPLY VOLTAGE

- 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.

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

NO >> Replace AV control unit. Refer to AV-290, "Removal and Installation".

4. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

- 1. Turn ignition switch OFF.
- 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 cor	AV control unit		Rear view camera		
Connector	Terminal	Connector Terminal		Continuity	
M97	41	B35	5	Yes	

4. Check continuity between AV control unit connector M97 terminal 41 and ground.

AV control unit			Continuity	
Connector	Connector Terminal		Continuity	
M97	41		No	

Is inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

${f 5}.$ CHECK CAMERA GROUND CIRCUIT CONTINUITY

Check continuity between AV control unit connector M97 and rear view camera connector B35.

AV cor	AV control unit		w camera	Continuity
Connector	Terminal	Connector Terminal		Continuity
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 cor	AV control unit			
((+)		Condition	Reference value
Connector	Terminal	(–)		
M97	41	_	Camera image dis- played.	(V) 0. 4 0 -0. 4 → 40μs SKIB2251J

Is inspection result normal?

YES >> Replace AV control unit. Refer to AV-290, "Removal and Installation".

NO >> Replace rear view camera. Refer to <u>AV-304, "Removal and Installation"</u>.

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591218

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Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram".

1. CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

- 1. Turn ignition switch OFF.
- Disconnect AV control unit connector M97 and microphone connector R7.
- 3. Check continuity between AV control unit connector M97 and microphone connector R7.

AV cor	ntrol unit	Microphone		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	36		2	
M97	35	R7	4	Yes
	34		1	

4. Check continuity between AV control unit connector M97 and ground.

AV control unit		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
	36			
M97	35 —		No	
	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	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

- Connect microphone connector.
- 2. Check signal between terminals of AV control unit connector M97.

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MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

AV control unit	AV control unit connector M97		
(+)	(-)	Condition	Reference value
Terminal	Terminal		
34	36	Speak into microphone.	(V) 1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

>> Replace AV control unit. Refer to <u>AV-290, "Removal and Installation"</u>. >> Replace microphone. Refer to <u>AV-303, "Removal and Installation"</u>. YES

NO

[NAVIGATION WITHOUT BOSE]

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000012591219

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Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram".

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

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

Combination swit	ch connector M88	Condition	Resistance Ω	
Terminal	Terminal	Condition	(Approx.)	
		Depress SOURCE switch.	1	
		Depress △ switch.	121	
14		Depress ∇ switch.	321	
	17	Depress € ½ switch.	723	
		Depress ENTER switch.	2023	
		Depress 乓 - switch.	1	
		Depress ♥ + switch.	121	
15		Depress 🗪 switch.	321	
		Depress 5 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.
- Check continuity between combination meter connector M24 and combination switch connector M30.

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

Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal	Ground	Continuity
	3		
M24	24	24 —	
	4		

Is the inspection result normal?

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

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				
Connector	Connector Terminal Connector Terminal				
	24		14		
M30	31	M88	15	Yes	
	33		17		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace spiral cable. Refer to <u>SR-15, "Removal and Installation"</u>.

4. CHECK HARNESS BETWEEN COMBINATION METER AND AV CONTROL UNIT

- Disconnect AV control unit connector M97.
- 2. Check continuity between combination meter connector M24 and AV control unit connector M97.

Combina	tion meter	AV control unit		Continuity
Connector	Terminal	Connector Terminal		Continuity
M24	37	M97	31	Yes
IVIZ4	36	IVI97	32	165

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

Combination meter		Ground	Continuity	
Connector	Terminal	Giodila	Continuity	
M24	37		No	
IVIZ 4	36	_	INO	

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

[NAVIGATION WITHOUT BOSE]

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000012591220

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Regarding Wiring Diagram information, refer to AV-225, "Wiring Diagram".

1. CHECK USB INTERFACE HARNESS CONTINUITY

- 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 cont	rol unit	USB interface		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	45		1	
	47		3	
M131	48	M132	4	Yes
	49		5	
	50		6	

4. Check continuity between AV control unit connector M131 and ground.

AV control unit			Continuity	
Connector	Terminal	_	Continuity	
M131	47	Ground	No	
	49	Ground	NO	

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-291, "Removal and Installation".

NO >> Repair or replace harness or connectors.

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AUXILIARY INPUT JACK

[NAVIGATION WITHOUT BOSE]

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 con	trol unit	AUX in jack		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	21		1	
M97	22	M104	2	Yes
	23		4	

4. Check continuity between AV control unit connector M97 and ground.

AV cor	ntrol unit		Continuity
Connector	Terminal	_	Continuity
M97	21	Ground	No
IVI97	23	Ground	INU

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 >

[NAVIGATION WITHOUT BOSE]

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:0000000012591222

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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 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".
No sound comes out or the level of the sound is low.	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".

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[NAVIGATION WITHOUT BOSE]

Symptoms	Check items	Probable malfunction location
	Noise comes out from all speakers.	Malfunction in AV control unit. Refer to AV-218, "On Board Diagnosis Function".
Noise is mixed with audio.	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, 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-295, "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".
	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 <u>AV-250</u>, "<u>Diagnosis Procedure</u>". Poor connector connection of antenna or antenna feeder. Refer to <u>AV-299</u>, "<u>Location of Antenna</u>".
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 <u>AV-248</u>, "<u>Diagnosis Procedure</u>". Poor continuity in antenna feeder. Poor connector connection of antenna or antenna feeder. Refer to <u>AV-299</u>, "<u>Location of Antenna</u>".
	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 <u>AV-299</u>, "<u>Location of Antenna</u>".
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.

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Check Compatibility

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

NOTE:

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

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

NOTE:

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

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

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	
Hands-free phone cannot be established.	 Hands-free phone operation can be made, but the communication cannot be established. Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation. 	Malfunction in AV control unit. Replace AV control unit. Refer to AV-290. "Removal and Installation".
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other	Sound operation function is normal.	
party with hands-free phone communication.	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-271. "Diagnosis Procedure".
	 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-298. "Removal and Installation".
The system cannot be operated.	Steering switch's √√2, √√1+, √√1-, and ⇒ 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

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< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Symptoms	Check items	Probable malfunction location
	Navigation malfunction.	Malfunction in SD card. Malfunction in AV control unit. Refer to AV-218, "On Board Diagnosis Function".
Navigation system is inoperative.	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".

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NORMAL OPERATING CONDITION

Description INFOID:000000012591223

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

C	Occurrence condition	Possible cause
Occurs only when engine is ON.	A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed.	Ignition components
The occurrence of the noise is lin	ked with the operation of the fuel pump.	Fuel pump condenser
Noise only occurs when various electrical components are 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 malfunctionOpen circuit in printed heaterPoor ground of antenna feeder line
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		 Ground wire of body parts Ground due to improper part installation Wiring connections or a short circuit

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 DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

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

RELATED TO NAVIGATION

Basic Operation

Symptom	Cause	Remedy
No image is shown.	Display brightness adjustment is set fully to DARK side.	Adjust the display brightness.
No guide sound is heard.	Volume control is set to OFF, MIN or MAX.	Adjust the audio guide volume.
Audio guide volume is too low or too high.	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 DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Symptom	Cause	Remedy
Vehicle location accuracy is low.	Accuracy indicator (GPS satellite mark) on the map screen stays gray.	Current location is not determined.
	Vehicle speed setting by the vehicle speed pulse has been deviated (advanced or retarded) from the actual vehicle speed because tire chain is fitted or the system has been used on another vehicle.	Drive the vehicle for a while [for approx. 30 minutes at approx. 30 km/h (19 MPH)] and the deviation will be automatically adjusted. If advancement or retard still occur, perform the distance adjustment by CONFIRMATION/ADJUSTMENT mode of diagnosis function.
	Map data has error or omission. (Vehicle mark is always deviated to the same position.)	As a rule, an updated map DVD–ROM will be released once a year.
Destination, Passing Points an	d 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

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[NAVIGATION WITHOUT BOSE]

Symptom	Cause	Remedy
Voice guide will not operate.	Note: Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction.	System is not malfunctioning.
	The vehicle is not on the recommended route.	Return to the recommended route or research 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) near- by and reset the destination and passing points onto it. Take care of the traveling direc- tion 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:

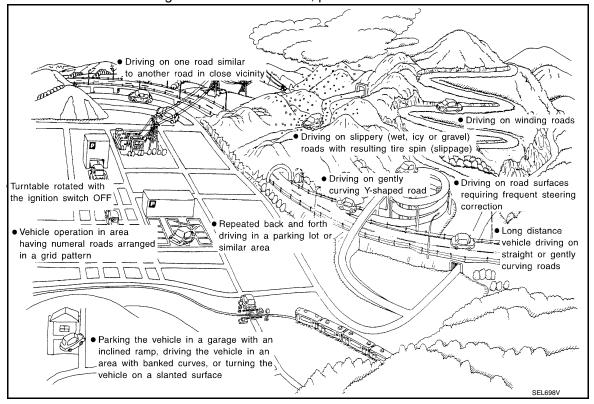
Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

Examples of Current-Location Mark Displacement

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Vehicle's travel amount is calculated by reading its travel distance and turning angle. Therefore, if the vehicle is driven in the following manner, an error will occur in the vehicle's current location display. If correct location has not been restored after driving the vehicle for a while, perform location correction.



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[NAVIGATION WITHOUT BOSE]

Cause (con	dition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
	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		
Road configuration	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	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.	

[NAVIGATION WITHOUT BOSE]

Cause (co	ndition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
	In a parking lot 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.	
Place	Turntable 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.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	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.	
New	Road not displayed on the map screen New road	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.	
	SEL699V	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)	If the road pattern stored in the map data and the actual road pattern are different, map matching does not function correctly	
	ELK0201D	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.)

[NAVIGATION WITHOUT BOSE]

Cause (condition) -: While driving ooo: Display		Driving condition	Remarks (correction, etc.)
Precautions for driving	Just after the engine is started	If the vehicle is driven just after the engine is started when the gyroscope (angular speed sensor) correction is not completed, the vehicle can lose its direction and may have deviated from the correct location.	Wait for a short while before driving after starting the engine.
	Continuous driving without stopping	When driving long distances without stopping, direction errors may accumulate, and the current-location mark may deviate from the correct road.	Stop and adjust the orientation.
	Abusive driving	Spinning the wheels or engaging in other kinds of abusive driving may result in the system being unable 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 Within 1 mm (0.04 in) 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 correc- tion.
	Direction when location is corrected Direction calibration adjustment 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

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

- Because calculation of the current location cannot be done when traveling with the ignition off, for example when traveling by ferry or when being towed, the location before travel is displayed. If the precise location can be detected with GPS, the location will be corrected.

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.

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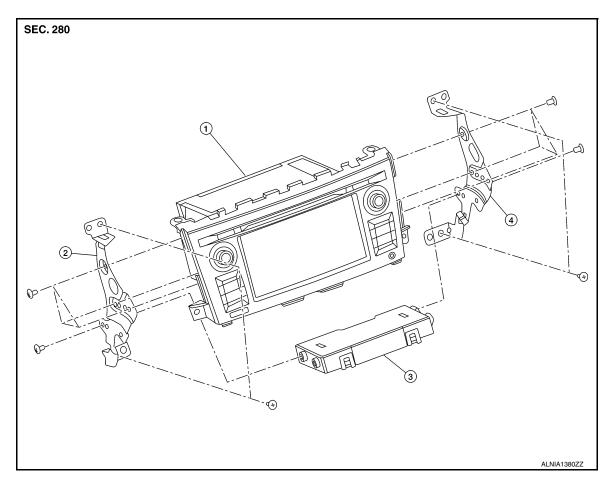
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REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View



1. AV control unit

- 2. AV control unit bracket (LH)
- 3. A/C auto amp.

INFOID:0000000012591225

4. AV control unit bracket (RH)

Removal and Installation

REMOVAL

CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to AV-239, "CONFIGURATION (AV CONTROL UNIT): Description".

- Disconnect the negative battery terminal. Refer to <u>PG-78</u>. "Removal and Installation".
- 2. Remove cluster lid C. Refer to IP-20, "Cluster Lid C".
- Remove the A/C switch assembly. Refer to <u>HAC-100, "Removal and Installation"</u>.
- 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 <u>AV-239, "CONFIGURA-TION (AV CONTROL UNIT): Description"</u>.
- When replacing AV control unit, the AV control unit must be registered. Refer to <u>AV-240, "REGISTRA-TION (AV CONTROL UNIT): Description"</u>.

USB INTERFACE

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

USB INTERFACE

Removal and Installation

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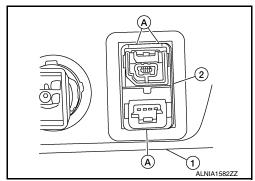
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REMOVAL

- 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.

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[NAVIGATION WITHOUT BOSE]

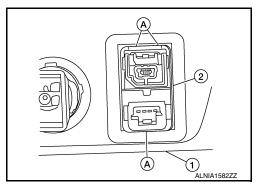
AUX IN JACK

Removal and Installation

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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 >

[NAVIGATION WITHOUT BOSE]

FRONT SPEAKER

Removal and Installation

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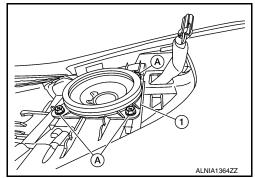
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REMOVAL

- 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.

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FRONT DOOR SPEAKER

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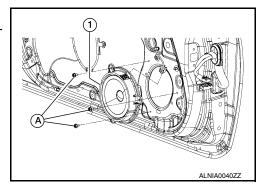
FRONT DOOR SPEAKER

Removal and Installation

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REMOVAL

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

[NAVIGATION WITHOUT BOSE]

REAR SPEAKER

Removal and Installation

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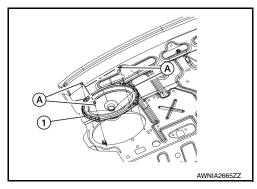
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REMOVAL

- 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.

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SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

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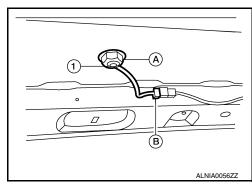
SATELLITE RADIO ANTENNA

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 >

[NAVIGATION WITHOUT BOSE]

GPS ANTENNA

Removal and Installation

INFOID:0000000012591232

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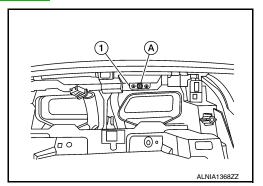
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REMOVAL

- 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.

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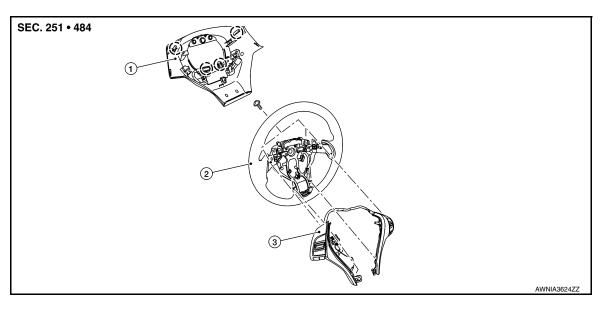
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STEERING SWITCH

Exploded View



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

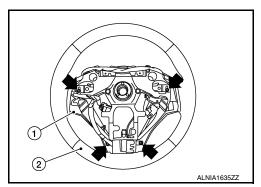
(Pawl

Removal and Installation

INFOID:0000000012591234

REMOVAL

- Remove the steering wheel. Refer to <u>ST-32, "Removal and Installation"</u>
- 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).

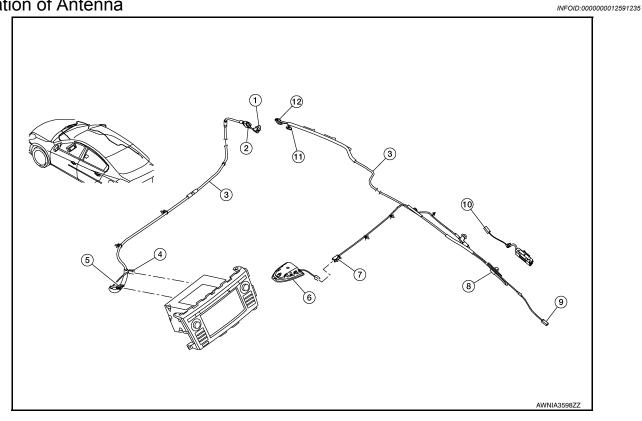


INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

Location of Antenna



- 1. M102
- 4. M99
- 7. B59
- 10. M503

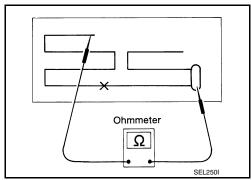
- 2. M101
- 5. M137
- 8. M502
- 11. M500

- 3. Antenna feeder
- 6. Satellite antenna
- 9. M504
- 12. M501

Window Antenna Repair

ELEMENT CHECK

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



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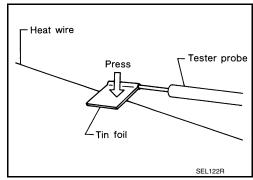
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AV

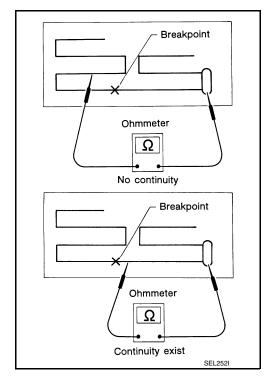
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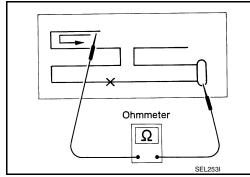
• When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



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



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



REPAIR EQUIPMENT

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

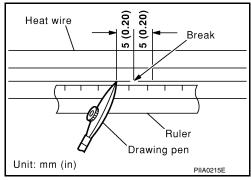
REPAIRING PROCEDURE

ANTENNA FEEDER

< REMOVAL AND INSTALLATION >

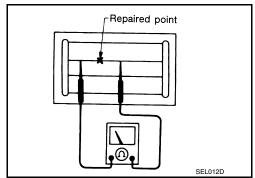
[NAVIGATION WITHOUT BOSE]

- 1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
- 2. Apply a small amount of conductive silver composition to tip of drawing pen.
 - Shake silver composition container before use.
- 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.



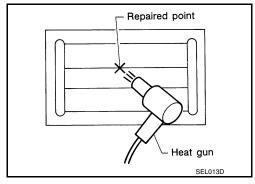
After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.

Do not touch repaired area while test is being conducted.



 Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet.

If a heat gun is not available, let the repaired area dry for 24 hours.



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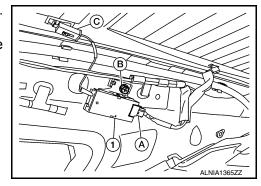
ANTENNA AMP.

Removal and Installation

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 >

[NAVIGATION WITHOUT BOSE]

MICROPHONE

Removal and Installation

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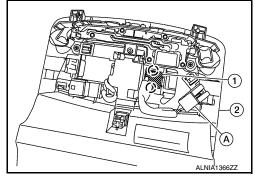
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REMOVAL

- 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

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REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

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 PRF-TFNSIONER"

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. 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

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

AV COMMUNICATION SYSTEM

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INFOID:0000000012591244

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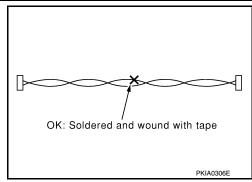
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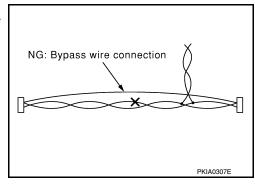
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• Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



 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 >

[NAVIGATION WITH BOSE]

PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000012591246

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The actual shap	e of the tools ma	y differ from those	illustrated here.

	(TechMate No.) Tool name		Description
_	 (J-46534) Trim Tool Set	AMUROS 277	Removing trim components

Commercial Service Tools

INFOID:0000000012591247

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

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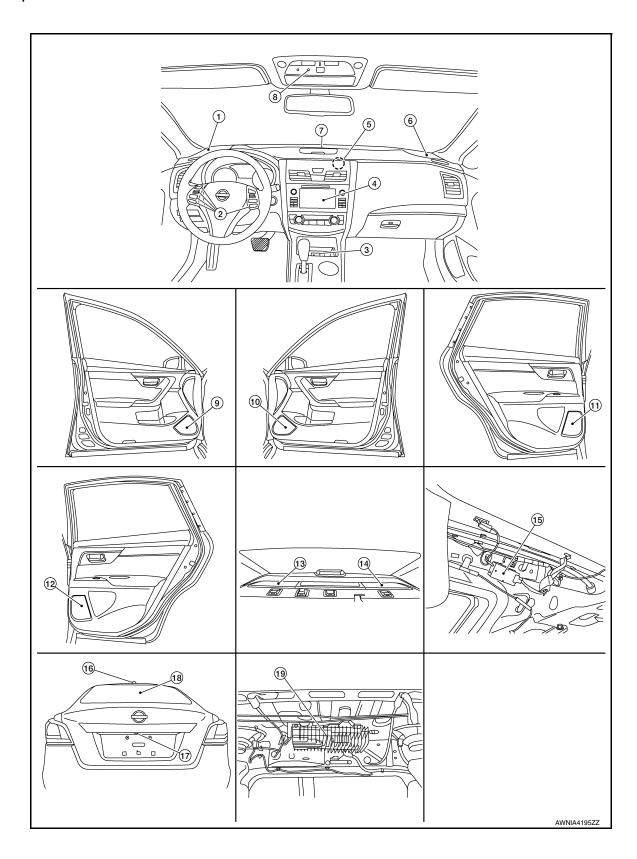
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SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012591248



COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

1.	Front speaker LH	2.	Steering switches	3.	USB interface and AUX in jack	Α
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	В
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.					С

Component Description

INFOID:0000000012591249

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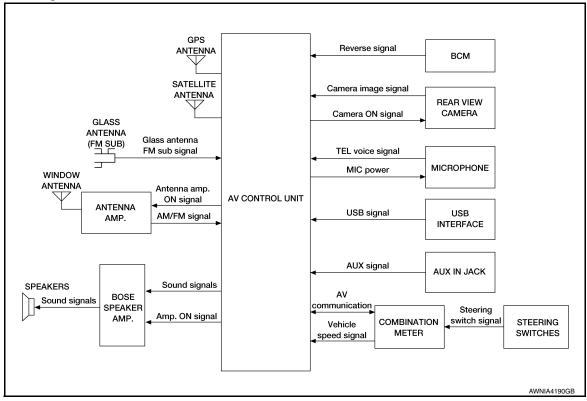
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Part name	Description
AV control unit	 Operation of navigation and audio systems are integrated. Includes the audio, hands-free phone, navigation, satellite radio, rear view monitor, USB interface and AUX in jack connection functions. Map data can 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	
Center speaker	
Front door speakers	Outputs high, mid and low range audio signals from Bose speaker amp.
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)

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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.

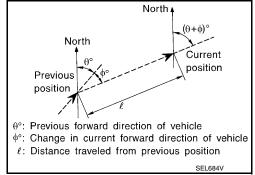
The current vehicle position will be calculated by detecting the distance the vehicle moved from the previous calculation point and its direction.

· 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.



Туре	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.	

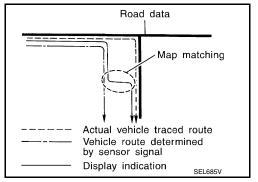
More accurate traveling direction is detected because priorities are set for the signals from these two devices according to the situation.

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.

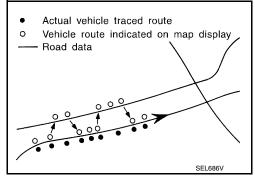


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

 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.

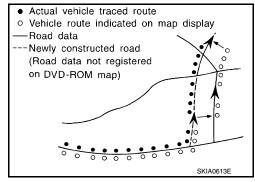
Routes are of the same priority if two roads are running in parallel. Therefore, the vehicle mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.



Revision: November 2015 AV-311 2016 Altima Sedan

< SYSTEM DESCRIPTION >

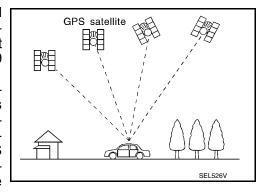
- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair.
- The map-matching function may find another road and position the vehicle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

SYSTEM

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

- · 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.

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DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description INFOID:000000012591252

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.
	Touch Display Calibration	_	Calibration of the touch panel display can be performed.
User Configuration	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 cur-
- 10000	AM monitor	_	rent tuner
	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.	The current system status is displayed.
	Speaker Test 4kHz Speaker Test 100Hz	_	This activates a sequence of test tone outputs to the audio circuits one after the other for 1 second.
	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.
5	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

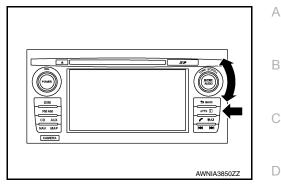
1. Turn the ignition ON.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

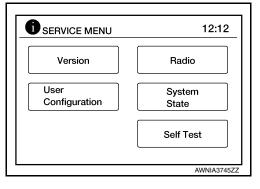
< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

- Turn the audio system OFF.
- 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

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CAUTION:

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF \rightarrow ON (for at least 5 seconds) \rightarrow 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.		

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

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".

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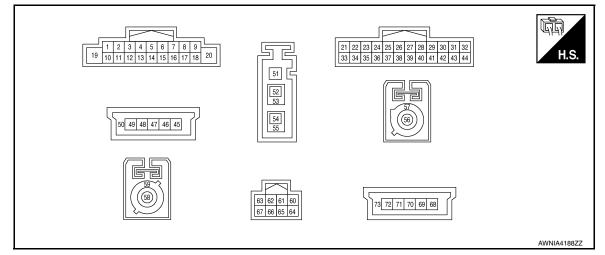
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ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal color)	Description		Condition		Reference value
+ –		Signal name Input/ Output		Ignition switch	Operation	(Approx.)
1 (W)	Ground	BOSE amp. ON signal	Output	ACC	_	Battery voltage
2 (B)	3 (W)	Sound signal front speaker LH	Output	ON	Sound output	(V) 1 0 -1 + +2ms SKiB3609E
4 (G)	5 (R)	Sound signal rear speaker LH	Output	ON	Sound output	(V) 1 0 -1 + +2ms 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	_	_		_

[NAVIGATION WITH BOSE]

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
11 (B)	12 (W)	Sound signal front speaker RH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
13 (G)	14 (R)	Sound signal rear speaker RH	Output	ON	Sound output	(V) 1 0 -1 + 2ms 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)	0 20 ms 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	(V) 1 0 -1 + 2ms SKIB3609E
22 (B)	_	AUX ground	_	ON	_	0V
23 (R)	Ground	AUX audio signal LH	Input	ON	AUX audio signal received	(V) 1 0 -1 * 2ms SKIB3609E
24 (BR)	_	BF mic	Input	_	_	_
25	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
(G)			F =		Selector lever in any position other than R (reverse)	0 V

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

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Terminal (Wire color)		Description			Condition	Reference value	
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)	
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.	(V) 1 0 -1 ** 2ms 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	0. 4 0 -0. 4 -0. 4 + 40μs 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	

[NAVIGATION WITH BOSE]

	ninal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
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	(V) 1 0 -1 2ms 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

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"

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

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"		

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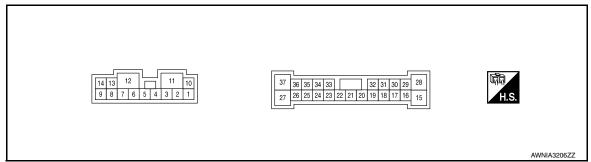
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BOSE SPEAKER AMP

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	minal color)	Description		Condition		Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
1 (W)	10 (G)	Rear speaker signal LH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
2 (W)	3 (G)	Rear speaker signal RH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
4 (P)	5 (R)	Front door speaker and front speaker signal LH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
6 (G)	7 (R)	Center speaker signal	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E

BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

Terminal (wire color)		Description			Condition	Reference value	
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)	
8 (P)	13 (BG)	Front door speaker and front speaker signal RH	Output	ON	Sound output	(V) 1 0 -1 *** 2ms 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	(V) 1 0 -1 *** 2ms SKIB3609E	
18 (G)	32 (R)	Sound signal front speaker LH	Input	ON	Sound output	(V) 1 0 -1 *** 2ms SKIB3609E	
19 (G)	20 (R)	Sound signal front speaker RH	Input	ON	Sound output	(V) 1 0 -1 ** 2ms SKIB3609E	
21 (B)	22 (W)	Sound signal rear speaker LH	Input	ON	Sound output	(V) 1 0 -1 ** 2ms SKIB3609E	
23 (B)	33 (W)	Sound signal rear speaker RH	Input	ON	Sound output	(V) 1 0 -1 ** 2ms SKIB3609E	

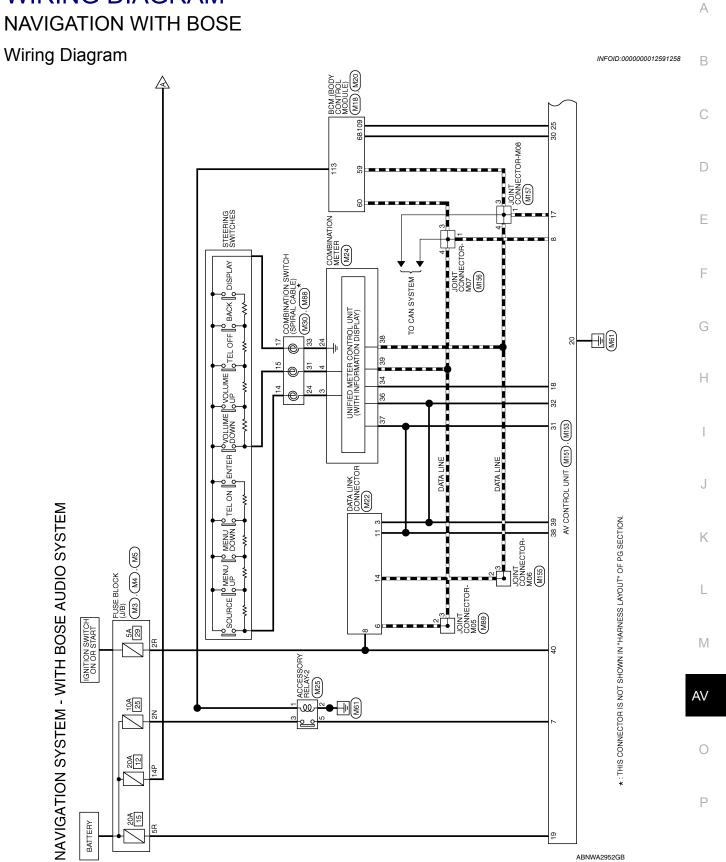
BOSE SPEAKER AMP

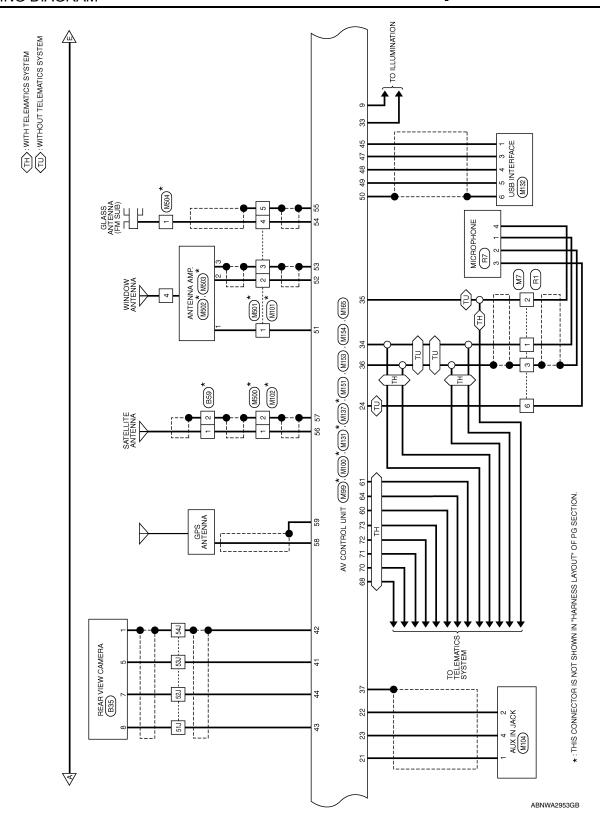
< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

	minal color)	Description			Condition	Reference value	
+	_	Signal name	Input/ Output	lgnition switch	Operation	(Approx.)	
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	(V) 1 0 -1 *** 2ms SKIB3609E	

WIRING DIAGRAM





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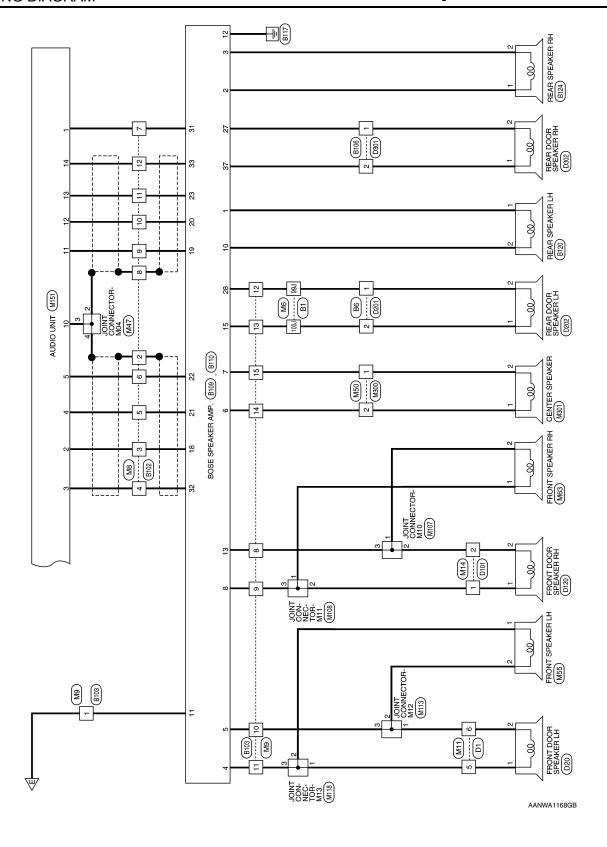
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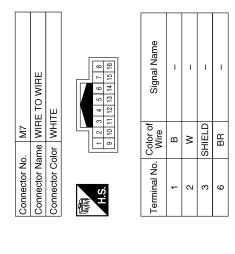
NAVIGATION SYSTEM CONNECTORS - WITH BOSE AUDIO SYSTEM

44	See See	Terminal No. Color of Wire BG	 SN TN EN SN 4N SN AN SN SN AN SN SN AN SN SN AN	SN 77	H.S. BN/M Terminal No. Color of Wire 2N LG
	7R 6R 5R 16R 15R 14F	E	NI NS	NS S	
OWN	lor BR	Connector Color BROWN	TE	lor WHI	Connector Color WHITE
Connector Name FUSE BLOCK (J/B)	me FU	Connector Na	Connector Name FUSE BLOCK (J/B)	me FUS	Connector Na
	4	Connector No.		, M3	Connector No.

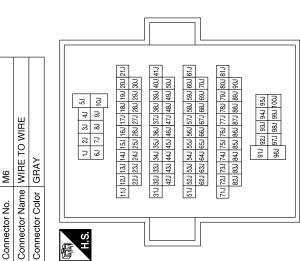
COLLINGUINO.	2	
connector Nar	ne FUS	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	or WHI	TE
H.S.	7P 6P 5P 4P [0P 13P]	12 62 42 42 13 12 14 14 13 13 14 14 13 13
Terminal No.	Color of Wire	Signal Name
14P	ŋ	1

Signal Name

5R



Signal Name	1	1	I	1	1	ı
Color of Wire	W	н	В	SHIELD	н	g
Terminal No.	51J	52J	53J	54J	166	1001



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Connector No. Connector Name Connector Color	lo. M8 lame WIRE T	Connector No. M8 Connector Name WIRE TO WIRE Connector Color WHITE	Conne	Connector No. Connector Name Connector Color	M9 wire T	Connector No. M9 Connector Name WIRE TO WIRE Connector Color WHITE		Connector No. Connector Name Connector Color	. M11 me WIRE T	Connector No. M11 Connector Name WIRE TO WIRE Connector Color WHITE	
原 H.S.	6 5 1 1 1 1 1 1	9 8 7	₽ H.S.		6 5 4 13 4	12 11 10 9 8		S. E.S.	8 10 10 10 10 10 10 10 10 10 10 10 10 10	2 3	
Terminal No.	Color of Wire	Signal Name	Termir	Terminal No.	Color of Wire	Signal Name	Ter	Terminal No.	Color of Wire	Signal Name	
2	SHIELD	ı		_	g	ı		5	۵	- (WITH BOSE AUDIO	
ო -	В	ı		8 (BG -	1				– (WITH BOSE AUDIO	_
4 4	S	1	o" •	6 Ç	<u> </u>	ı		و	r	SYSTEM)	_
ဂ	5 Œ	1 1		2 =	د م	1 1					
7	×	ı		12	œ	1					
8	SHIELD	-	_	13	σ	1					
6	В	ı	_	14	۵	ı					
10	W	ı	_	15	ش	1					
Ξ	ŋ	1									
12	В	ı									
Connector No.	lo. M14	4	Conne	Connector No.	M18		Col	Connector No.	. M20		
Connector N	lame WIF	Connector Name WIRE TO WIRE	Conne	Connector Name		BCM (BODY CONTROL	Ö	Connector Name		BCM (BODY CONTROL MODULE)	
Connector Color	olor WHILE		Conne	Connector Color	_	() () () () () () () () () ()	Ö	Connector Color		X	
H.S.	1 4 2 2	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	原 H.S.					\(\oldsymbol{i}\)	16115114113 28127126125		1
			80 29 8	58 57 56 55 78 77 76 75	54 53 52 74 73 72	51 50 49 48 47 46 45 44 43 42 71 70 69 68 67 66 65 64 63 62	61				
Terminal No.	Color of Wire	Signal Name	Termir	Terminal No.	Color of Wire	Signal Name	Ter	Terminal No.	Color of Wire	Signal Name	
-	Ь	- (WITH BOSE AUDIO	2	59	۵	CAN-L		109	5	REVERSE SIGNAL	
c	ď	– (WITH BOSE AUDIO	9	09	_	CAN-H		113	۵	ACC RELAY OUT	_
V	20	SYSTEM)	9	89	<u> </u>	MR OUTPUT					

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Connector No. M25 Connector Name ACCESSORY RELAY-2 Connector Color BLUE	H.S.	Terminal No. Color of Wire Signal Name 1 W -		Connector No. M50 Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No. Color of Wire Signal Name 1 R - 2 P - 1
Connector No. M24 Connector Name COMBINATION METER Connector Color WHITE	H.S. 20 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 40 39 38 37 36 36 38 38 38 31 38 31 38 37 38 39 39 39 39 39 39 39	Terminal No. Color of Signal Name Mire SIRG SW INPUT1 4 R STRG SW INPUT2	M A B B A A B B A B A B A B A B A B A B	Connector No. M47 Connector Name JOINT CONNECTOR-M04 Connector Color WHITE CANADA MATE Terminal No. Color of Signal Name T	
Connector No. M22 Connector Name DATA LINK CONNECTOR Connector Color WHITE	H.S. H.S.	Terminal No. Color of Signal Name 3 LG – 6 L –		Connector No. M30 Connector Name COMBINATION SWITCH (SPIRAL CABLE) Connector Color GRAY A.S. ES & SE & SE & SE & SE & SE & SE & S	Terminal No. Color of Signal Name Te 24 P – 23 N – 33 W –

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Connector No. M63	M63	Connector No. M88	M88
Connector Name	Connector Name FRONT SPEAKER RH	Connector Name	Connector Name COMBINATION SWITCH
Connector Color BROWN	BROWN		(SPIRAL CABLE)
		Connector Color GHAY	GHAY

Connector Name | FRONT SPEAKER LH

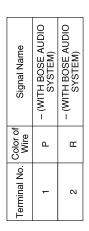
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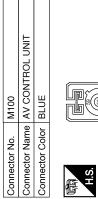
Connector No.

Connector Color BROWN

20 19 18 17 16 15 14 13	Signal Name	ı	ı	ı
20 19 18	Color of Wire	۵	Т	В
H.S.	Terminal No. Wire	14	15	17

Termin	71	1		 -	
Signal Name	- (WITH BOSE AUDIO	SYSIEM)	OIGH BOSE ALIDIO	SYSTEM)	(::::::::::::::::::::::::::::::::::::::
Color of Wire	۵	-		BG	
Terminal No. Color of Wire	,			2	
ame	E AUDIO	M)	= ALIDIO		·:.





	E		Signal Name	GPS ANT	GPS SHIELD
i	lor BLU		Color of Wire	В	SHIELD
	Connector Color BLUE	原司 H.S.	Terminal No.	58	29
1,				<u> </u>	

	AV CONTROL UNIT			Signal Name	SAT ANT	SAT SHIELD
66W		lor PINK		Color of Wire	В	SHIELD
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	56	57

	PINK		Solor of Wire		
2			Color o Wire	В	SHIELD
	Connector Color	H.S.	Terminal No.	26	57

Name	Connector Name JOINT CONNECTOR-M05
ō	Connector Color WHITE
	3 2 1
Color of Wire	of Signal Name
_	ı
	-

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Connector No.

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Connector Name WIRE TO WIRE Connector Color GRAY	WIRE	Connector Name Connector Color	ne WIRE TO WIRE or BROWN	O WIRE	Conne	Connector Name Connector Color		M104 AUX IN JACK WHITE	
H.S. 4.8.		S'H			H.S.		4		
Terminal No. Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	Termir	Terminal No.	Color of Wire	Signal Name	
- B	1	-	В	1	<u> </u>	-	>	1	
2 B	1	2	SHIELD	1		2	В	1	
3 SHIELD	1					4	Œ	ı	
4 B	1								1
5 SHIELD	1								
Connector No. M107		Connector No.	M108		Conne	Connector No.	M113		
Connector Name JOINT CC	JOINT CONNECTOR-M10 WHITE	Connector Name Connector Color	-	JOINT CONNECTOR-M11 WHITE	Conne	Connector Name		JOINT CONNECTOR-M12 WHITE	
4 3	2 1 0	配 H.S.	┥	2 1 0	原 用.S.H	6		3 2 1 0	٦
Terminal No. Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	Termir	Terminal No.	Color of Wire	Signal Name	
1 BG	1	-	۵	1		-	Œ	1	_
2 BG	1	2	<u>م</u>	1		2	Œ	1	
3 BG	1	က	۵	ı		3	æ	ı	

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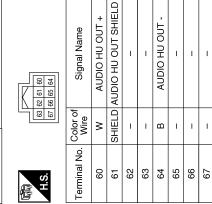
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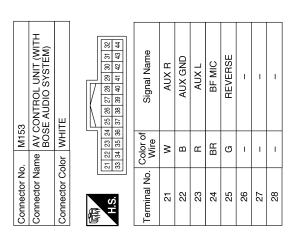
Connector No. M132 Connector Name USB INTERFACE Connector Color BLACK	H.S.	Terminal No. Color of Signal Name Wire	В П	2	3 G	- W	5 I	5 SHIELD –
ITROL UNIT	47 46 45	Signal Name	USB GND	ı	USB D+	USB D-	VBUS	SHIELD
Connector No. M131 Connector Name AV CONTROL UNIT Connector Color BLACK	50 49 48	Color of Wire	В	ı	IJ	×	æ	SHIELD
Connector No. Connector Color	用.S.	Terminal No.	45	46	47	48	49	20

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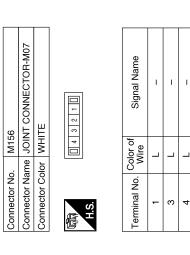
Connector No.	M154
Connector Name	Connector Name AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color WHITE	WHITE
啦	

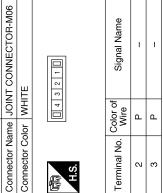


					_											
Signal Name	_	MR OUTPUT	M-CAN-H	M-CAN-L	(-)	MIC SIGNAL	MIC VCC	MIC GND	AUX SHIELD	M-CAN-H	M-CAN-L	IGNITION	CAMERA +	CAMERA - (SHIELD)	CAMERA ON	CAMERA GND
Color of Wire	_	Ь	SB	ГG	GR	В	Μ	SHIELD	SHIELD	SB	LG	BG	В	SHIELD	M	В
Terminal No.	58	90	31	35	33	34	38	36	37	38	39	40	41	42	43	44



,	Connector Name JOINT CONNECTOR-M08	ПЕ	8 2 1	Signal Name	-	ı	-
. M15/	me JOI	lor WH	4 3	Color of Wire	Ь	۵	۵
connector No.	Connector Na	Sonnector Color WHITE	南 H.S.	Terminal No. Wire	1	က	4





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Connector No.

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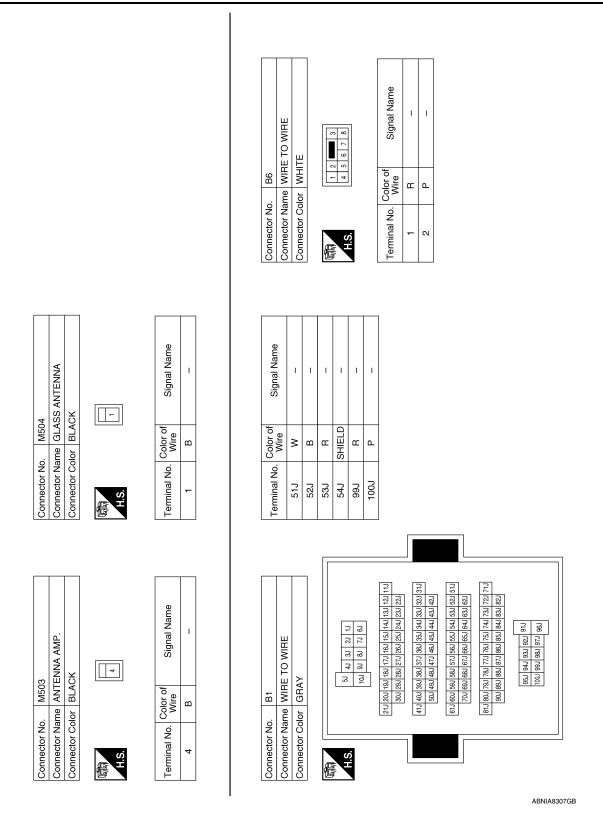
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Revision: November 2015 AV-335 2016 Altima Sedan



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Connector No.	No. B35		Connector No.	o. B59	6	
Connector Name REAR \	Name RE/	Connector Name REAR VIEW CAMERA	Connector Name		SATELLITE RADIO ANTENNA	
	1000		Connector Color	-	BROWN	
H.S.	4 8	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	是 H.S.			
Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	
-	SHIELD	ı	-	В	ı	
5	Ж	ı	2	SHIELD	-	
7	В	ı				
80	*	ı				
Connector No.	No. B102)2	Connector No.	o. B103)3	Connector No. B106
Connector	lame WIF	Connector Name WIRE TO WIRE	Connector N	ame WIF	Connector Name WIRE TO WIRE	Connector Name WIRE TO WIRE
Connector Color WHITE	Solor WH	IITE	Connector Color		WHITE	Connector Color WHITE
哥 H.S.	- L C/ 80	2 3 4 6 5 6 8 9 10 1 12 12 12 12 12 12 12 12 12 12 12 12 1	原 R.S.	8 9 10	2 3 mm 4 5 6 7 9 10 11 12 13 14 15 16	斯 (1 2
Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No. Color of Wire Signal Name
2	SHIELD	ı	-	ŋ	ı	
က	9	ı	∞	BG	ı	2 G –
4	ш	ı	თ	₾	ı	
2	В	ı	10	Œ	ı	
9	×	1	11	۵	ı	
7	G	-	12	Μ	ı	
8	SHIELD	-	13	g	ı	
6	g	ı	14	g	ı	
10	Ж	-	15	ш	ı	
Ξ	В	ı				
12	*	ı				

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connector No.		9	Connector No.			Connector No.			
connector Name		BROWN	Connector Name		BROWN	Connector Name Connector Color		HEAR SPEAKER LH (WITH BOSE AUDIO SYSTEM) WHITE	
H.S.	36 35 34 26 25 24	23 22 21 21 20 19 18 17 16 15	優 H.S.	14 13 1	12 11 10	南部 H.S.	-	2 1	_
erminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	
15	ŋ	ı	-	>	1	-	>	ı	
18	ŋ	ı	2	>	ı	2	ŋ	1	
19	ŋ	I	က	g	I				,
20	Œ	ı	4	۵	ı				
21	В	I	2	ж	ı				
22	8	ı	9	g	ı				
23	В	I	7	æ	ı				
27	8	I	8	۵	ı				
28	8	ı	10	g	ı				
31	ŋ	ı	=	g	I				
32	ш	I	12	GR	I				
33	8	ı	13	BG	ı				
37	G	ı							
onnector No.	o. B124	4:	Connector No.	lo. R1		Connector No.	o. R7		
onnector Name	_	REAR SPEAKER RH (WITH BOSE AUDIO SYSTEM)	Connector Name	-	WIRE TO WIRE	Connector Name	-	MICROPHONE	
onnector Color	_	, LIE	Connector Color	olor WHILE	<u> </u>	Connector Color	olor WHIIE	ш	
						6	٦		
H.S.	السل		H.S.	8 7 6 16 15 14	5 4 4 3 2 1 1 1 2 1 2 1 1 0 9	H.S.		2 3 4	
erminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	
-	M	I	-	_	ı	-	_	I	
2	G	ı	2	Υ	1	2	SHIELD	I	
			က	SHIELD	1	က	BR	I	
			9	BB	1	4	>	ı	

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	RE TO WIRE	2 0 7		Signal Name	ı	- (WITH NAVI OR BOSE AUDIO SYSTEM)
Connector No. D101	Connector Name WIRE TO WIRE	3 [8 8 R.S.		Terminal No. Color of Wire	- G	2 W
	FRONT DOOR SPEAKER LH (WITH BOSE AUDIO	www.		Signal Name	ı	ı
Connector No. D20	Connector Name LH (WITH BOSE AUDIO	Connector Color BROWN	H.S.	Terminal No. Wire	1 G	2 W
		4 4 1 2 1 1 10 9 8		Signal Name	ı	- (WITH NAVI OR BOSE AUDIO SYSTEM)
Connector No. D1	Connector Name WIRE TO WIRE Connector Color WHITE	H.S.		Terminal No. Wire	5	M 9

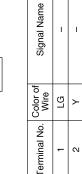
	згн					
2	Connector Name REAR DOOR SPEAKER LI Connector Color BROWN			Signal Name	ı	ı
. D202	me REA	L		Color of Wire	LG	>
Connector No.	Connector Name REAR D		H.S.	Terminal No. Wire	-	2
					I	
	E TO WIRE TE		5 2 4	Signal Name	ı	1
D201	ne WIRE or WHIT	L	© 80	Color of Wire	>	LG
Connector No.	Connector Name WIRE TO WIRE Connector Color WHITE	9	H.S.	Terminal No. Color of Wire	-	2
0	Connector Name RH (WITH BOSE AUDIO SYSTEM)	NWN		Signal Name	ı	ı
. D12(me RH (or BRO		Color of Wire	ŋ	>
Connector No. D120	Connector Na	Connector Color BROWN	H.S.	Terminal No. Wire	-	2

Terminal No. N

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







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





Signal Name	ı	-
Color of Wire	>	ГG
erminal No.	-	2

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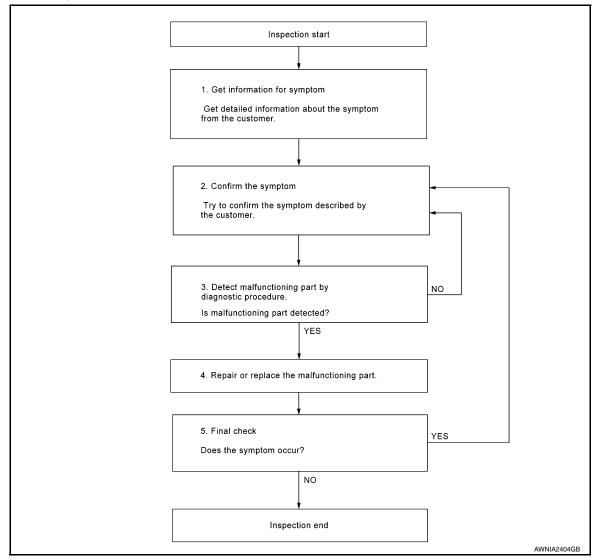
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BASIC INSPECTION

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.

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[NAVIGATION WITH BOSE]

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5. FINAL CHECK

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

Was the repair confirmed?

YES >> Inspection End.

NO >> GO TO 2.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITH BOSE]

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.

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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

1. SAVING VEHICLE SPECIFICATION

P-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

(P)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".

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>> 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.

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>> 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"

(P)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.

${f 3.}$ PERFORM "AFTER REPLACE ECU" OR "MANUAL CONFIGURATION"

(P)CONSULT

- 1. Select "After Replace ECU" or "Manual Configuration".
- Identify the correct model and configuration list. Refer to <u>AV-345, "CONFIGURATION (AV CONTROL UNIT)</u>: 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.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITH BOSE]

4. OPERATION CHECK

Confirm that each function controlled by AV control unit operates normally.

>> Work End.

CONFIGURATION (AV CONTROL UNIT): Configuration List

INFOID:0000000012591264

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CAUTION:

Thoroughly read and understand the vehicle specification. Incorrect settings may result in abnormal control of ECU.

SETTING ITEM		NOTE	
Items	Setting value	NOTE	
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:

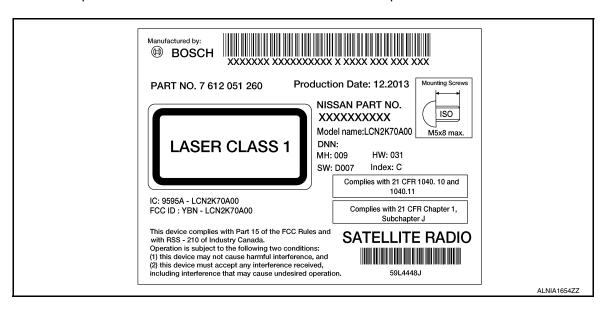
If the new AV control unit registration code is not registered, the "APPS" mode will not function.

REGISTRATION (AV CONTROL UNIT): Work Procedure

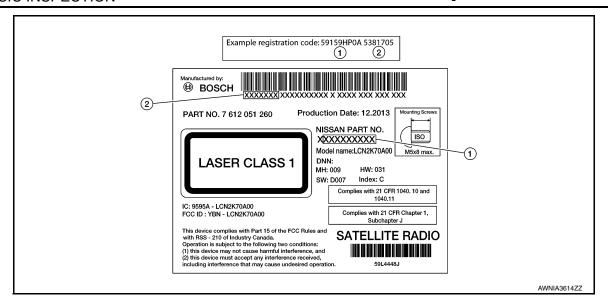
INFOID:0000000012591266

 $1.\mathtt{RECORD}$ 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.

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Logic

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".

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U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1010 CONTROL UNIT (CAN)

DTC Logic

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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1217 AV CONTROL UNIT

DTC Logic

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".

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U1229 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1229 AV CONTROL UNIT

DTC Logic

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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U122F AV CONTROL UNIT

DTC Logic

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".

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U1244 GPS ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1244 GPS ANTENNA

DTC Logic

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 <u>AV-417, "Removal and Installation"</u>. <u>Is inspection result normal?</u>

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	
(+)	(–)	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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

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INFOID:0000000012591276

U1258 SATELLITE RADIO ANTENNA

DTC Logic

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

Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1. SATELLITE ANTENNA INSPECTION

Visually inspect the satellite antenna and antenna feeder. Refer to <u>AV-419, "Location of Antenna"</u>. <u>Is inspection result normal?</u>

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	Continuity	
M99	56	B59	1	Yes	

3. Check continuity between AV control unit connector M99 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
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.
- Check voltage between AV control unit terminal 56 and ground.

AV control unit terminal	Ground	Voltage
(+)	(-)	Voltage
56	_	5.0 V

AV-353

Is inspection result normal?

Revision: November 2015

YES >> Replace satellite radio antenna. Refer to AV-416, "Removal and Installation".

NO >> Replace AV control unit. Refer to <u>AV-407</u>, "Removal and Installation".

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[NAVIGATION WITH BOSE]

U1263 USB

DTC Logic

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.
- 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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

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INFOID:0000000012591280

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

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.

Turn ignition switch OFF.

- Disconnect AV control unit connector M137 and antenna amp. connector M502.
- Check continuity between AV control unit connector M137 and antenna amp. connector M502.

AV cor	ntrol unit	Antenr	na amp.	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M137	51	M502	1	Yes

Check continuity between AV control unit connector M137 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
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

- Connect AV control unit connector M137.
- Turn ignition switch ON.
- Check voltage between AV control unit connector M137 and ground.

AV control unit		Ground	V 11
(+)		(-)	Voltage (Approx.)
Connector	Terminal	(-)	() ; ; ; ;
M137	51	_	Battery voltage

Is the inspection result normal?

>> Replace antenna amp. Refer to AV-422, "Removal and Installation". YES

>> Replace AV control unit. Refer to AV-407, "Removal and Installation". NO

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U1265 BOSE AMP.

DTC Logic

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.

- 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 cor	ntrol unit	Bose spe	eaker amp.	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M151	1	B109	31	Yes

4. Check continuity between AV control unit connector M151 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Ordana	Continuity
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.
- Check voltage between AV control unit connector M151 and ground.

AV control unit		Ground	N/ II
(+)		()	Voltage (Approx.)
Connector	Terminal	(-)	(FF - 7
M151	1	_	Battery voltage

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to <u>AV-415, "Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

U12AA CONFIGURATION ERROR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AA CONFIGURATION ERROR

DTC Logic

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 <u>AV-344, "CONFIGURATION (AV CONTROL UNIT): Work Procedure"</u>.

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U12AB ANTENNA

DTC Logic

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 <u>AV-419, "Location of Antenna"</u>. <u>Is inspection result normal?</u>

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 cor	ntrol unit	Inline		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M137	54	M504	1	Yes

Check continuity between AV control unit connector M137 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
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

- 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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AC AV CONTROL UNIT

DTC Logic

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".

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U12AD AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AD AV CONTROL UNIT

DTC Logic

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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AE AV CONTROL UNIT

DTC Logic

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".

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U12AF AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AF AV CONTROL UNIT

DTC Logic

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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

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:000000012591292

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 CON-TROL 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.

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U12B1 POWER SUPPLY VOLTAGE

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12B1 POWER SUPPLY VOLTAGE

DTC Logic

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

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

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1. PERFORM SELF DIAGNOSTIC RESULT FOR METER M&A

- 1. Turn ignition switch ON and wait for 2 seconds or more.
- 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.
- 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 cor	AV control unit Combination meter		Continuity		
Connector	Terminal	Connector Terminal		Continuity	
M153	32	M24		36	Yes
WIISS	39	IVIZ4	30	163	

4. Check continuity between AV control unit connector M153 and ground.

AV control unit		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
M153	32		No	
IVI 133	39	_	INO	

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		Continuity
M153	31	M24	M24 37	Yes
IVI 153	38	IVIZ4	37	ies

2. Check continuity between AV control unit connector M153 and ground.

AV control unit		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
M153	31		No	
Wi 133	38	- -	140	

U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

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/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1310 AV CONTROL UNIT

DTC Logic

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".

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

POWER SUPPLY AND GROUND CIRCUIT AV CONTROL UNIT

AV CONTROL UNIT: Diagnosis Procedure

INFOID: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.
- Check voltage between AV control unit connectors M151 and M153 and ground.

AV control unit		Ground	Condition	Voltage
Connector	Terminal	Giodila		(Approx.)
M151	19		Ignition switch: OFF	
WITST	7 —		Ignition quitab: ON	Battery voltage
M153	40		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.
- Check continuity between AV control unit connector M151 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

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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.

Disconnect Bose speaker amp. connector B110.

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

Bose spe	aker amp.	Ground	Ground Condition	
Connector	Terminal	Ground	Condition	(Approx.)
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.

Disconnect Bose speaker amp. connector B110.

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

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

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

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Revision: November 2015 AV-369 2016 Altima Sedan

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 spe	Bose speaker amp.		Front door speaker		
Connector	Terminal	Connector	Terminal	Continuity	
	4	D20 (LH)	D20 (LLI)	1	
B110	5		2	Yes	
B110 -	8	D400 (DLI)	1	res	
	13	D120 (RH)	2		

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

Bose sp	Bose speaker amp.		Continuity	
Connector	Terminal	- Ground	Continuity	
	4		No	
B110	5			
БПО	8	_	INO	
	13			

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

$3. {\sf CHECK}$ 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		

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

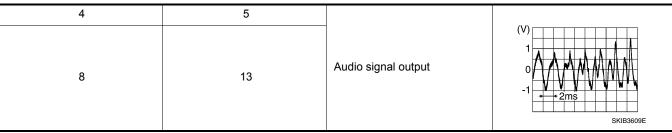
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Is the inspection result normal?

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 spe	Bose speaker amp. AV c		ntrol unit	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	32	M151	3	
B109	18		2	Yes
	20		12	res
	19		11	

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

Bose speaker amp.		Ground	Continuity
Connector	Terminal	Ground	Continuity
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)

- Connect Bose speaker amp. connector B109 and AV control unit connector M151.
- Turn ignition switch to ACC.
- 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			
11	12	Audio signal output	(V) 1 0 -1 → 2ms SKIB3609E	

Is the inspection result normal?

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

>> Replace Bose speaker amp. Refer to <u>AV-415, "Removal and Installation"</u>. >> Replace AV control unit. Refer to <u>AV-407, "Removal and Installation"</u>. YES

NO

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000012591301

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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 spe	eaker amp.	Front speaker		Continuity		
Connector	Terminal	Connector	Terminal	Continuity		
	4	M55 (LH)	MEE (LLI)	MEE (LLI)	MEE (LL)	_
B110	5		2	Yes		
5110	8	M63 (RH)	1	165		
	13		2			

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

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

Is the inspection result normal?

YES >> GO TO 3.

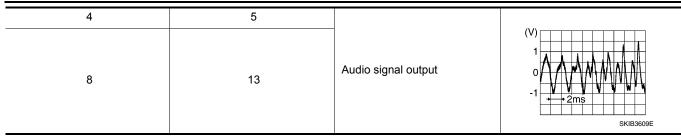
NO >> Repair or replace harness or connectors.

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
- Push AV control unit POWER switch.
- Check signal between Bose speaker amp. connector B110 and ground.

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

< DTC/CIRCUIT DIAGNOSIS >



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 spe	eaker amp.	AV control unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	32	M151	3	
B109	18		2	Yes
	20		12	165
	19		11	

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

Bose speaker amp.		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
	32		No	
B109	18			
P.10A	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)

- Connect Bose speaker amp. connector B109 and AV control unit connector M151.
- Turn ignition switch to ACC.
- 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		
11	12	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

FRONT SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

YES >> Replace Bose speaker amp. Refer to <u>AV-415, "Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to <u>AV-407</u>, "<u>Removal and Installation</u>".

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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 spe	eaker amp.	Center speaker		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B110	6	M301	1	Yes
БПО	7	IVISO I	2	165

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

Bose speaker amp.		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
B110	6		No	
BIIO	7	_	INO 	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

${\it 3.}$ 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	(V) 1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

YES >> Replace center speaker. Refer to <u>AV-411, "Removal and Installation"</u>.

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 spe	eaker amp.	AV control unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	32	- M151	3	
B109	18		2	Yes
B109	20		12	res
	19		11	

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

Bose sp	Bose speaker amp.		Continuity	
Connector	Terminal	- Ground	Continuity	
	32	_	No	
B109	18			
B109	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			
11	12	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E	

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to <u>AV-415, "Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

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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 spe	eaker amp.	Rear door speaker		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	15	D202 (LH)	D202 (LLI)	Yes
B109	28		2	
P.109	37	D202 (DLI)	1	165
	27	D302 (RH)	2	

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

Bose sp	Bose speaker amp.		Continuity	
Connector	Terminal	- Ground	Continuity	
	15		No	
B109	28			
B109	37	_		
	27			

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

$3. \mathsf{CHECK}$ 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.				
Connector	(+)	(-)	Condition	Reference value
Connector	Terminal	Terminal		

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

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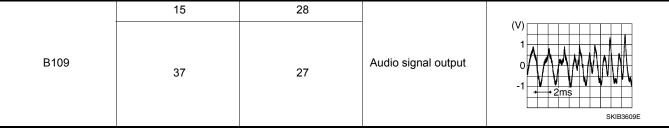
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Is the inspection result normal?

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 spe	eaker amp.	AV control unit		Continuity
Connector	Terminal	Connector Terminal		Continuity
	21	M151	4	
B109	22		5	Yes
	23		13	165
	33		14	

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

Bose speaker amp.		Ground	Continuity
Connector	Terminal	- Glound	Continuity
	21		
B109	22		No
P 108	23	_	INO
	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)

- Connect Bose speaker amp. connector B109 and AV control unit connector M151.
- Turn ignition switch to ACC.
- 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		
13	14	Audio signal output	(V) 1 0 -1 *** 2ms SKIB3609E
			SKIB3009E

Is the inspection result normal?

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

>> Replace Bose speaker amp. Refer to <u>AV-415, "Removal and Installation"</u>. >> Replace AV control unit. Refer to <u>AV-407, "Removal and Installation"</u>. YES

NO

[NAVIGATION WITH BOSE]

REAR SPEAKER

Diagnosis Procedure

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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.)

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

Bose spe	eaker amp.	Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	1	1 10 B120 (LH)	D400 (LI)	Yes
B110	10		2	
	2	D404 (DU)	1	res
	3	B124 (RH)	2	

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

Bose speaker amp.		Ground	Continuity
Connector	Terminal	Orodria	Continuity
	1	-	No
B110	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.)

- Connect Bose speaker amp. connector B110 and suspect rear door speaker connector.
- Turn ignition switch to ACC 2.
- Push AV control unit POWER switch.
- Check signal between Bose speaker amp. connector B110 and ground.

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

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< DTC/CIRCUIT DIAGNOSIS >

1	10		
2	3	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E

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 spe	eaker amp.	AV control unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	21		4	
B109	22	M151	5	Yes
	23		13	165
	33		14	

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

Bose speaker amp.		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
	21			
B109	22		No	
P.10A	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)

- Connect Bose speaker amp. connector B109 and AV control unit connector M151.
- Turn ignition switch to ACC.
- 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		
13	14	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

REAR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

YES >> Replace Bose speaker amp. Refer to <u>AV-415</u>, "<u>Removal and Installation</u>".

NO >> Replace AV control unit. Refer to <u>AV-407</u>, "<u>Removal and Installation</u>".

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AMP ON SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

AMP ON SIGNAL CIRCUIT

Diagnosis Procedure

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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.
- 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 cor	AV control unit		Bose speaker amp.	
Connector	Terminal	Connector Terminal		Continuity
M151	1	B109	31	Yes

Check continuity between AV control unit connector M151 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Orodina	Continuity
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

- 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	V 6
(+)		()	Voltage (Approx.)
Connector	Terminal	(-)	()
M151	1	_	Battery voltage

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to <u>AV-415, "Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to AV-407, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

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Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1. CHECK REVERSE INPUT SIGNAL

- Turn ignition switch ON.
- Shift the selector lever to R (reverse).
- Check voltage between AV control unit connector M153 and ground.

AV cor	ntrol 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

- Turn ignition switch OFF.
- 2. Disconnect AV control unit connector M153 and rear view camera connector.
- Check continuity between AV control unit connector M153 and rear view camera connector B35.

AV con	trol unit	Rear vie	w camera	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M153	43	B35	8	Yes

Check continuity between AV control unit connector M153 and ground.

AV control unit			Continuity
Connector	Terminal	Ground	Continuity
M153	43		No

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK CAMERA POWER SUPPLY VOLTAGE

- Connect AV control unit connector M153 and rear view camera connector.
- Turn ignition switch ON.
- Shift the selector lever to R (reverse).
- Check voltage between AV control unit connector M153 and ground.

AV control unit		Ground		
	(+)	(_)	Condition	Voltage (Approx.)
Connector	Terminal	(-)		(44)
M153	43	_	Selector lever is in "R".	6.0 V

Is inspection result normal?

YFS >> GO TO 4.

>> Replace AV control unit. Refer to AV-407, "Removal and Installation". NO

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REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

f 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 cor	ntrol unit	Rear vie	w camera	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M153	41	B35	5	Yes

4. Check continuity between AV control unit connector M153 terminal 41 and ground.

AV cor	trol unit		Continuity
Connector	Terminal	Ground	Continuity
M153	41		No

Is inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

CHECK CAMERA GROUND CIRCUIT CONTINUITY

Check continuity between AV control unit connector M153 and rear view camera connector B35.

AV cor	ntrol unit	Rear vie	w camera	Continuity
Connector	Terminal	Connector	Terminal	Continuity
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

- 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 cor	AV control unit				
((+)		Condition	Reference value	
Connector	Terminal	(–)			
M153	41	_	Camera image dis- played.	(V) 0. 4 0 -0. 4 → 40μs SKIB2251J	

Is inspection result normal?

YES >> Replace AV control unit. Refer to <u>AV-407</u>, "Removal and Installation".

NO >> Replace rear view camera. Refer to AV-423, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012591307

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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 cor	ntrol unit	Micro	phone	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	36		2	
M153	35	R7	4	Yes
	34		1	

4. Check continuity between AV control unit connector M153 and ground.

AV control unit		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
	36		No	
M153	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		
(+) (-)		Voltage (Approx.)
Terminal	Terminal Terminal	
35	36	5.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace AV control unit. Refer to <u>AV-407, "Removal and Installation"</u>.

3.CHECK MICROPHONE SIGNAL

- Connect microphone connector.
- 2. Check signal between terminals of AV control unit connector M153.

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MICROPHONE SIGNAL CIRCUIT

AV control unit	AV control unit connector M153		
(+)	(–)	Condition	Reference value
Terminal	Terminal		
34	36	Speak into microphone.	(V) 1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

YES

>> Replace AV control unit. Refer to <u>AV-407</u>, "<u>Removal and Installation</u>". >> Replace microphone. Refer to <u>AV-479</u>, "<u>Removal and Installation</u>". NO

[NAVIGATION WITH BOSE]

STEERING SWITCH

Diagnosis Procedure

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Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

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

Combination swit	ch connector M88	Condition	Resistance Ω
Terminal	Terminal	Condition	(Approx.)
		Depress SOURCE switch.	1
		Depress △ switch.	121
14		Depress ∇ switch.	321
		Depress € ½ switch.	723
		Depress ENTER switch.	2023
	17	Depress ₵ - switch.	1
		Depress ♥ + switch.	121
15		Depress 🗪 switch.	321
	Depress 5 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.
- Check continuity between combination meter connector M24 and combination switch connector M30.

Combinat	tion meter	Combina	ation switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	3		24	
M24	24	M30	33	Yes
	4		31	

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

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

Is the inspection result normal?

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

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	Connector Terminal Connector Terminal			
	24		14	
M30	31	M88	15	Yes
	33		17	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace spiral cable. Refer to <u>SR-15, "Removal and Installation"</u>.

4. CHECK HARNESS BETWEEN COMBINATION METER AND AV CONTROL UNIT

- Disconnect AV control unit connector M153.
- 2. Check continuity between combination meter connector M24 and AV control unit connector M153.

Combinat	tion meter	AV control unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M24	37	M153	31	Yes
10124	36	WITOO	32	165

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

Combina	Combination meter		Continuity
Connector	Terminal	- Ground	Continuity
M24	37		No
IVI24	36	_	INU

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

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000012591309

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Regarding Wiring Diagram information, refer to AV-325, "Wiring Diagram".

1. CHECK USB INTERFACE HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 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 con	trol unit	USB interface		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	45		1	
	47		3	
M131	48	M132	4	Yes
	49		5	
	50		6	

Check continuity between AV control unit connector M131 and ground.

AV control unit			Continuity	
Connector	Connector Terminal		Continuity	
M131	47	Ground	No	
101101	49	Ground	INO	

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-408, "Removal and Installation".

NO >> Repair or replace harness or connectors.

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AUXILIARY INPUT JACK

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

AUXILIARY INPUT JACK

Diagnosis Procedure

INFOID: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 con	trol unit	AUX	in jack	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	21		1	
M153	22	M104	2	Yes
	23		4	

4. Check continuity between AV control unit connector M153 and ground.

AV control unit			Continuity	
Connector Terminal		_	Continuity	
M153	21	Ground	No	
WITOS	22	Ground	INU	

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.

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

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".

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MULTI AV SYSTEM

[NAVIGATION WITH BOSE]

Symptoms	Check items	Probable malfunction location
	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".
No sound comes out or the level of the sound is low.	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-378. "Diagnosis Procedure" (rear speaker). AV-381. "Diagnosis Procedure" (rear speaker). AV-412. "Removal and Installation" (front door speaker). AV-410, "Removal and Installation" (front speaker). AV-411, "Removal and Installation" (rear door speaker). AV-413, "Removal and Installation" (rear speaker). AV-414, "Removal and Installation" (rear speaker). AV-415, "Removal and Installation".

MULTI AV SYSTEM

[NAVIGATION WITH BOSE]

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in AV control unit. Refer to AV-314, "On Board Diagnosis Function". Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker RH, center speaker, rear door speaker LH, rear door speaker RH, rear speaker RH).	 415. "Removal and Installation". Poor connector connection of speaker. Sound signal circuit malfunction between AV control unit and Bose speaker amp.
		Refer to: - <u>AV-370. "Diagnosis Procedure"</u> (front door speaker). - <u>AV-373. "Diagnosis Procedure"</u> (front
		 speaker). AV-376, "Diagnosis Procedure" (center speaker). AV-378, "Diagnosis Procedure" (rear
		door speaker) <u>AV-381, "Diagnosis Procedure"</u> (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 lacenage).
		lash 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 <u>AV-314</u>, "On Board Diagnosis <u>Function</u>". 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)	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 <u>AV-355, "Diagnosis Procedure"</u>. Poor connector connection of antenna or antenna feeder. Refer to <u>AV-419, "Location of Antenna"</u>.

[NAVIGATION WITH BOSE]

Symptoms	Check items	Probable malfunction location
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result. Refer to AV-315, "CONSULT Function".	 Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis. Refer to <u>AV-353</u>, "<u>Diagnosis Procedure</u>". Poor continuity in antenna feeder. Poor connector connection of antenna or antenna feeder. Refer to <u>AV-419</u>, "<u>Location of Antenna</u>".
	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 <u>AV-419</u>, "Location of Antenna".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

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

NOTE:

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

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.

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	
Hands-free phone cannot be established.	 Hands-free phone operation can be made, but the communication cannot be established. Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation. 	Malfunction in AV control unit. Replace AV control unit. Refer to AV-418, "Removal and Installation".
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other	Sound operation function is normal.	
party with hands-free phone communication.	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to <u>AV-387</u> , " <u>Diagnosis Procedure</u> ".
	 The voice recognition can be controlled. Steering switch's □+ , □- , and ⇒ switch works, but observed does not work. 	Steering switch malfunction. Replace steering switch. Refer to AV-418, "Removal and Installation".
The system cannot be operated.	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 malfunction.	 Malfunction in SD card. Malfunction in AV control unit. Refer to AV-314, "On Board Diagnosis Function".
Navigation system is inoperative.	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 CAM		
RELATED TO REAR VIEW CAM Symptoms		
	ERA	Refer to AV-389, "Diagnosis Procedure". Probable malfunction location
Symptoms Rear view camera is inoperative.	ERA Check items	Probable malfunction location Reverse signal circuit malfunction between BCM and AV control unit.

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

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 <u>AV-393</u> , "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.

Wait until GPS satellites are visible by mov-

ing the vehicle.

Symptom		Cause and Counter measure	
The other party's voice cannot be h	eard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is to loud, it may be difficult to hear the other person's voice during a call.	
Poor sound quality.		far away from the ir	Ilular phone in an area surrounded by metal or n-vehicle phone module to prevent tone quality reless connection disruption.
RELATED TO NAVIGATION Basic Operation	N		
Symptom	Cause		Remedy
			-
No image is shown.	Display brightness adjustment side.	nt is set fully to DARK	Adjust the display brightness.
No guide sound is heard.	Volume control is set to OFF	, MIN or MAX.	Adjust the audio guide volume.
Audio guide volume is too low or too high.	Audio guidance is not availab driving on a dark pink route.	ole while the vehicle is	System is not malfunctioning.
Screen is too dark. Motion of the image is too slow.	Temperature inside the vehic	cle 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.
/ehicle 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		Perform screen dimming and select the nighttime screen by "SWITCH SCREENS".
	be inhibited by the automatic ment function.		
Map screen will not scroll in accordance with the vehicle travel.	Current location is not displa		Press "MAP" button to display the current lo cation.
Vehicle mark will not be shown.	Current location is not displa		Press "MAP" button to display the current lo cation.
Accuracy indicator (GPS satellite mark) on the map screen stays	GPS satellite signal is interce hicle is in or behind a buildin		Move the vehicle out to an open space.
gray.	GPS satellite signal cannot to an obstacle is placed on top el.		Do not place anything on top of the meter display (instrument panel).

GPS satellites are not visible from current location.

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Symptom	Cause	Remedy
Vehicle location accuracy is low.	Accuracy indicator (GPS satellite mark) on the map screen stays gray.	Current location is not determined.
	Vehicle speed setting by the vehicle speed pulse has been deviated (advanced or retarded) from the actual vehicle speed because tire chain is fitted or the system has been used on another vehicle.	Drive the vehicle for a while [for approx. 30 minutes at approx. 30 km/h (19 MPH)] and the deviation will be automatically adjusted. If advancement or retard still occur, perform the distance adjustment by CONFIRMATION/ADJUSTMENT mode of diagnosis function.
	Map data has error or omission. (Vehicle mark is always deviated to the same position.)	As a rule, an updated map DVD–ROM will be released once a year.

Destination, Passing Points and Menu Items Cannot be Selected/Set

Symptom	Cause	Remedy
Destination cannot be set.	Destination to be set is on an expressway.	Set the destination on an ordinary road.
Passing point is not searched when re-searching the route.	The vehicle has already passed the passing point, or the system judged so.	To include the passing points that have been passed into the route again, set the route again.
Route information will not be displayed.	Route searching has not been done.	Set the destination and perform route searching.
	Vehicle mark is not on the recommended route.	Drive on the recommended route.
	Route guide is turned OFF.	Turn route guide ON.
	Route information is not available on the dark pink route.	System is not malfunctioning.
After the route searching, no guide sign will appear as the vehicle goes near the entrance/exit to the toll road.	Vehicle mark is not on the recommended route. (On the display, only guide signs related to the recommended route will be shown.)	Drive on the recommended route.
Automatic route searching is not possible.	Vehicle is driving on a highway (gray route), or no recommended route is available.	Drive on a road to be searched. Or re–search the route manually. In this case, however, the whole route will be searched.
Performed automatic detour search (or detour search). Howev- er, 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 DIAGNOSIS >

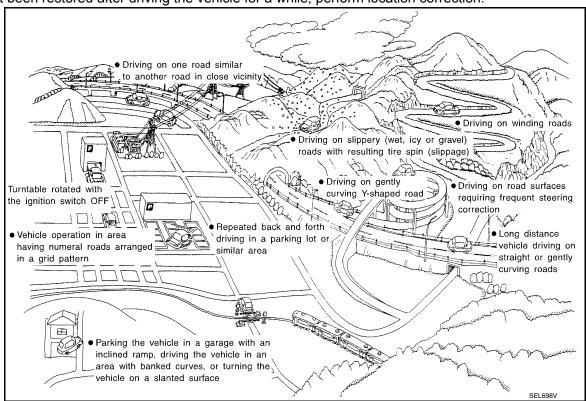
[NAVIGATION WITH BOSE]

Symptom	Cause	Remedy
Voice guide will not operate.	Note: Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction.	System is not malfunctioning.
	The vehicle is not on the recommended route.	Return to the recommended route or research 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) near- by and reset the destination and passing points onto it. Take care of the traveling direc- tion 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 cur- rent 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.

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.



[NAVIGATION WITH BOSE]

	ndition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)	
	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.		
	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	Miles and distinct and a local district to the second		
		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		
oad config-	V ELK0194D	corner.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform lo-	
ration	Zigzag roads	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.	cation correction and, if necessary, direction correction.	
	Roads laid out in a grid pattern			
		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			
	T drailer roads	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		ļ
		the correct location.		

Cause (cor	ndition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
	In a parking lot 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.	
Place	Turntable 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.	If after travelling about 10 km (6 miles) the correct location has
travelling on ba es where the ve error in the turni	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.	not been restored, perform lo- cation correction and, if neces- sary, direction correction.	
	Road not displayed on the map screen New road 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.	
Map data	Different road pattern (Changed due to repair)	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.	
	ELK0201D		Drive the vehicle for a while. If
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.	the distance still deviates, adjust it by using the distance adjustment function. (If the tire chain is removed, recover the original value.)

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Cause (con	ndition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
	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.
Precautions for driving	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 cor-	Position correction accuracy Within 1 mm (0.04 in) 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.
rect location	Direction when location is corrected Direction calibration adjustment 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

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< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

- Because calculation of the current location cannot be done when traveling with the ignition off, for example when traveling by ferry or when being towed, the location before travel is displayed. If the precise location can be detected with GPS, the location will be corrected.

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

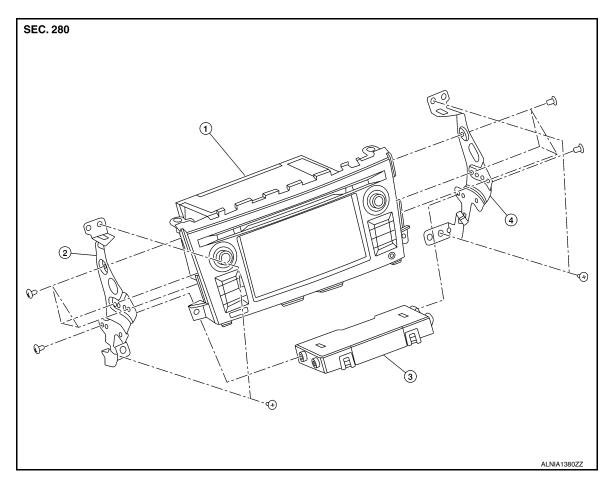
The system wrongly memorizes the rotating status as stopping when the ignition switch is turned ON with the turntable rotating. That causes the vehicle mark to rotate when the vehicle is stopped.

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



1. AV control unit

- AV control unit bracket (LH)
- 3. A/C auto amp.

Removal and Installation

AV control unit bracket (RH)

REMOVAL

CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to AV-344, "CONFIGURATION (AV CONTROL UNIT): Description".

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

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to AV-239, "CONFIGURA-TION (AV CONTROL UNIT) : Description".
- When replacing AV control unit, the AV control unit must be registered. Refer to AV-343. "ADDI-TIONAL SERVICE WHEN REPLACING AV CONTROL UNIT: Description".

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[NAVIGATION WITH BOSE]

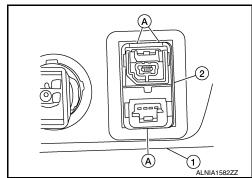
USB INTERFACE

Removal and Installation

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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 >

[NAVIGATION WITH BOSE]

AUX IN JACK

Removal and Installation

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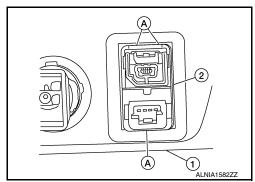
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REMOVAL

- 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.

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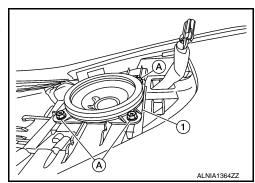
FRONT SPEAKER

Removal and Installation

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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 >

[NAVIGATION WITH BOSE]

CENTER SPEAKER

Removal and Installation

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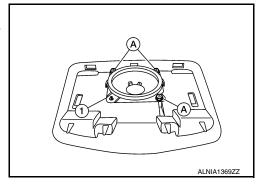
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REMOVAL

- 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.

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FRONT DOOR SPEAKER

[NAVIGATION WITH BOSE]

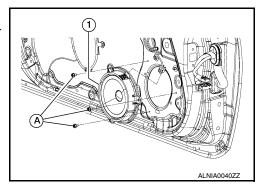
FRONT DOOR SPEAKER

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 >

[NAVIGATION WITH BOSE]

REAR DOOR SPEAKER

Removal and Installation

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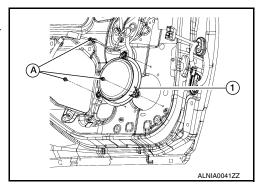
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REMOVAL

- 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.

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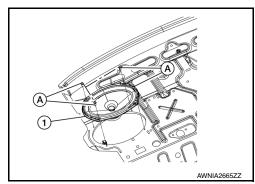
REAR SPEAKER

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 >

[NAVIGATION WITH BOSE]

BOSE SPEAKER AMP

Removal and Installation

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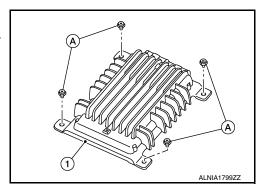
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REMOVAL

- 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.

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SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

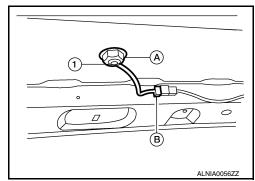
SATELLITE RADIO ANTENNA

Removal and Installation

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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 >

[NAVIGATION WITH BOSE]

GPS ANTENNA

Removal and Installation

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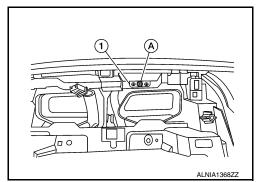
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REMOVAL

- 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.

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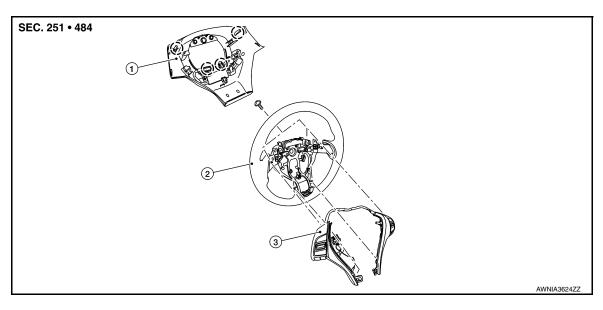
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STEERING SWITCH

Exploded View



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

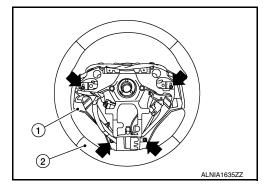
(Pawl

Removal and Installation

INFOID:0000000012591326

REMOVAL

- Remove the steering wheel. Refer to <u>ST-32, "Removal and Installation"</u>
- 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).

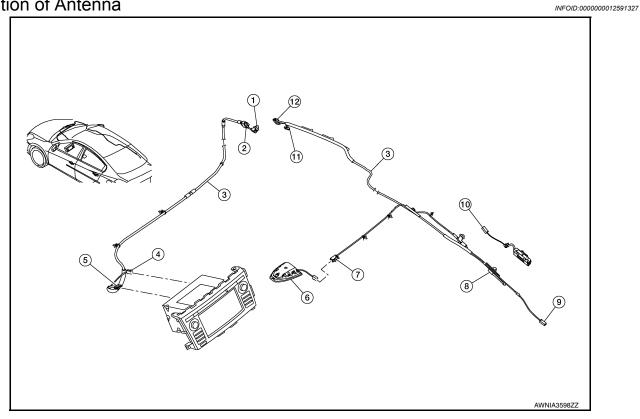


INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

Location of Antenna



- 1. M102
- 4. M99
- 7. B59
- 10. M503

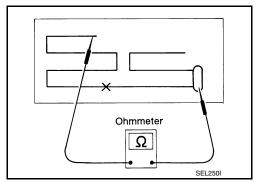
- 2. M101
- 5. M137
- 8. M502
- 11. M500

- 3. Antenna feeder
- 6. Satellite antenna
- 9. M504
- 12. M501

Window Antenna Repair

ELEMENT CHECK

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



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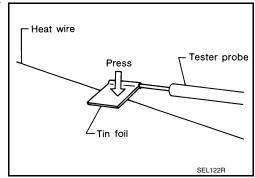
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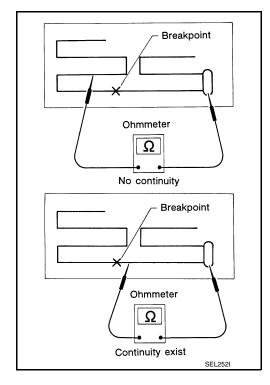
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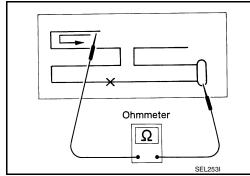
 When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.



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



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



REPAIR EQUIPMENT

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

REPAIRING PROCEDURE

ANTENNA FEEDER

< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

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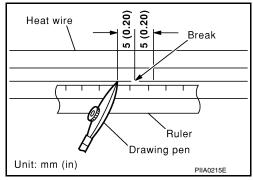
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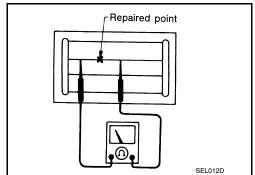
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- 1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
- Apply a small amount of conductive silver composition to tip of drawing pen.
 - Shake silver composition container before use.
- Place ruler on glass along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



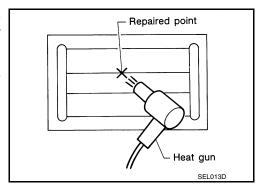
After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.

Do not touch repaired area while test is being conducted.



 Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet.

If a heat gun is not available, let the repaired area dry for 24 hours.



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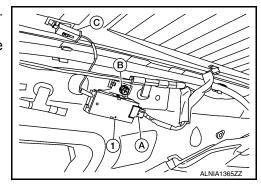
ANTENNA AMP.

Removal and Installation

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 >

[NAVIGATION WITH BOSE]

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 <u>AV-344, "CONFIGURATION (AV CONTROL UNIT)</u>: <u>Description".</u>

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PRECAUTION

PRECAUTIONS

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. 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)

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

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

AV COMMUNICATION SYSTEM

PRECAUTIONS

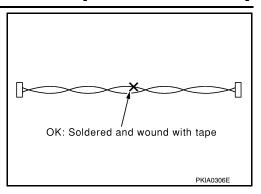
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[TELEMATICS SYSTEM]

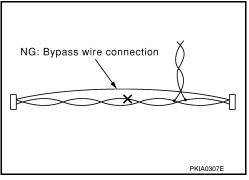
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 Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



 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

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

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

Protect the removed parts with a shop cloth and prevent them from being dropped.

- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

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PREPARATION

< PREPARATION >

[TELEMATICS SYSTEM]

PREPARATION

PREPARATION

Special Service Tool

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The actual shape of the tools ma	ay differ from those illustrated here.	
Tool number		Description
(TechMate No.)		
Tool name		
		Removing trim components
(J-46534)		
Trim Tool Set		
	AW.IIA048377	

Commercial Service Tools

INFOID:0000000012921989

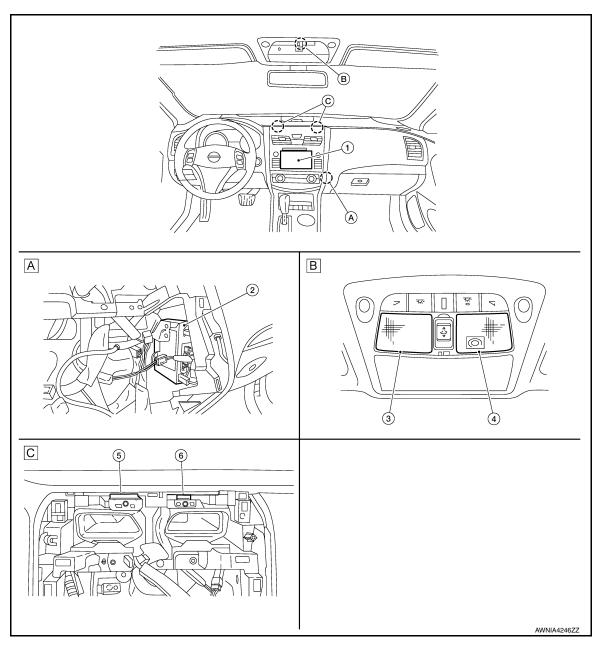
Tool name		Description
Power tool		Loosening nuts, screws and bolts
	PIIB1407E	

INFOID:0000000012921990

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location



- 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".

Revision: November 2015 AV-427 2016 Altima Sedan

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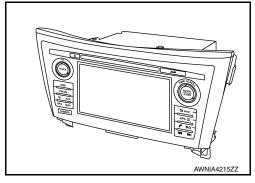
< SYSTEM DESCRIPTION >

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

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 NISSANCON-NECTSM function are sent and received.



TCU

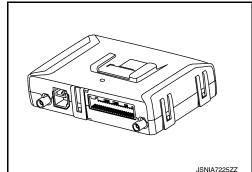
- TCU is abbreviation of Telematics Communication Unit.
- · It is installed at the back of the glove box cover assembly.
- A radio communication terminal and SIM card are built into the unit and data is sent and received in SMS*, DTMF tone signal with the NISSANCONNECTSM center through the TEL antenna.

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 NISSANCONNECTSM center, TCU transmits a TEL ON signal to the AV control unit to prohibit the use of Bluetooth[®] hands-free phone.



• The telematics antenna consists of TEL antenna and GPS antenna.



COMPONENT PARTS

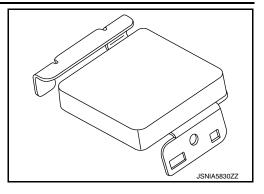
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[TELEMATICS SYSTEM]

• It is installed in the instrument panel.

NOTE:

The placement of an object on the instrument panel may cause desensitization in the receiver sensitivity.



Telematics Switch

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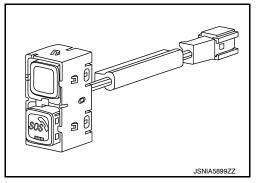
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- The Telematics switch is located on the map lamp assembly.
- The Telematics switch is connected to TCU and transmits an operation signal.
- The state of LED (ON/Blink/OFF) shows the status of SOS call.

LED ON :SOS Call available

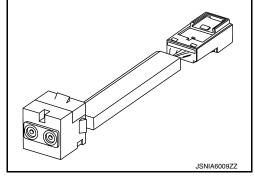
LED Blink :SOS Call in communication

LED OFF :Out of service area or system error



Microphone INFOID:000000012921995

- · Microphone is installed on the map lamp assembly.
- The microphone is used for the operation of the NISSANCON-NECTSM, 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 NIS-SANCONNECTSM system, hands-free phone communication, and voice recognition.



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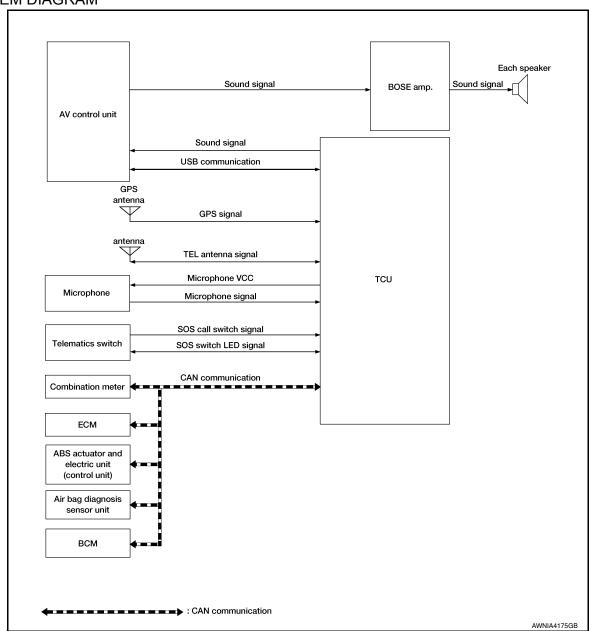
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TELEMATICS SYSTEM TELEMATICS SYSTEM

TELEMATICS SYSTEM: System Description

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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
	Engine status signal
M	Malfunction indicator lamp signal
	Engine oil pressure warning lamp signal
APS naturator and electric unit (control unit)	1 3
ABS actuator and electric unit (control unit)	VDC warning lamp signal
Combination meter	Brake warning lamp signal

TELEMATICS SYSTEM

< SYSTEM DESCRIPTION >

[TELEMATICS SYSTEM]

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Transmit unit	Signal name
Air bag diagnosis sensor unit	Car crash information signal
	Auto ACC signal
BCM	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 NISSANCONNECTSM center.
- TCU (Telematics Communication Unit) equipped with a radio communication terminal communicates with the information center (NISSANCONNECTSM center) via radio waves for receiving NISSANCONNECTSM services.
- With the equipment of the radio communication terminal, TCU communicate with NISSANCONNECTSM center by Packet communication*1 and SMS*2 via TEL antenna mounted on the Telematics antenna.
 - *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 cir-
 - *2: SMS stands for Short Message Service, also known as text messaging or short mail, and provides textbased message communication services.
- · While communicating with the operator, data (e.g. transmission of own vehicle location) are transmitted to the NISSANCONNECTSM 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".

NISSANCONNECTSM SERVICES

NISSANCONNECTSM 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 NISSANCONNECTSM center to TCU via USB.
- TCU starts up and starts data communications with NISSANCONNECTSM center via TEL antenna.
- TCU receives various information, such as Internet contents and traffic information, from NISSANCON-NECTSM 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 NISSANCONNECTSM center.
- Own vehicle location information is transmitted from the vehicle to NISSANCONNECTSM center by SMS.
- TCU starts up when SMS is received via TEL antenna.

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TELEMATICS SYSTEM

< SYSTEM DESCRIPTION >

[TELEMATICS SYSTEM]

- Own vehicle location information is obtained via GPS antenna connected to TCU and transmitted to NIS-SANCONNECTSM center by SMS.
- NISSANCONNECTSM 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

- TCU starts up when receiving a specific warning signal from each unit connected via CAN communication.
- 2. TCU transmits data to NISSANCONNECTSM center by SMS.
- 3. NISSANCONNECTSM center transmits date to user's terminal equipment.

Operator Service

- When receiving a Telematics switch signal or a shock sensor signal of the air bag diagnosis sensor unit, TCU communicates with the NISSANCONNECTSM Service Center by voice call.
- Own vehicle location information is obtained through the GPS antenna connected to TCU and the information is transmitted to NISSANCONNECTSM 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 NISSANCONNECTSM center about abnormality. 	
CAN communication	 Telematics system does not function. Inform a NISSANCONNECTSM center about abnormality. 	U1000
AV communication	 Some telematics system does not function. Inform a NISSANCONNECTSM 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 NIS-SANCONNECTSM center. 	U1A06
GPS antenna	 Telematics system cannot send correct positional information. Inform a NISSANCONNECTSM center about abnormality. 	U1A09 U1A0A
USB communication	 Telematics system does not function. Inform a NISSANCONNECTSM 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 NIS-SANCONNECTSM 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 NISSANCONNECTSM center. Inform a NISSANCONNECTSM center about abnormality. 	U1A0B U1A0C
VIN	Telematics service does not function.	U1A04

DIAGNOSIS SYSTEM (TCU)

< SYSTEM DESCRIPTION >

[TELEMATICS SYSTEM]

DIAGNOSIS SYSTEM (TCU)

CONSULT Function

INFOID:0000000012921998

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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	_	
AUDIO UNIT TYPE	AUDIO/ NAVI	_	
CALL SWITCH TYPE	SOS/OP	_	
SPEAKER TYPE	INDRCT	_	
ZONE	PRC	_	Indicates state of configuration result.
CHANNEL	NISSAN	_	NOTE:
CAN COMM	GEN.5	_	This item is displayed, but not used.
AV COMM	ENABLE/ DISABLE	_	
K-LINE	ENABLE/ DISABLE	_	
VEHICLE TYPE	ENG	_	
	TYPE 1		
ECHO CANCEL	TYPE 2		This item is displayed, but cannot be monitored.
LOTIO CANGLE	TYPE 3	_	This item is displayed, but cannot be monitored.
	TYPE 4		
	TYPE 1		
NOISE CANCEL	TYPE 2		This item is displayed, but cannot be monitored.
NOISE GANGLE	TYPE 3	_	This item is displayed, but cannot be monitored.
	TYPE 4		
	14DAYS	Set at 14 days (default)	
TCU STANDBY TIME	2DAYS	Set at 2 days	Set value for continued operation time to control
TOO STANDDT TIME	30DAYS	Set at 30 days	battery consumption
	NON	No setting	

DIAGNOSIS SYSTEM (TCU)

< SYSTEM DESCRIPTION >

[TELEMATICS SYSTEM]

Display item	Display	Condition	Note
SENSOR ANGLE X	_	_	
SENSOR ANGLE Y	_	_	
SENSOR ANGLE Z	_	_	
SVTB	_	_	Indicates state of configuration result.
REMOTE DOOR LOCK	ENABLE/ DISABLE	_	NOTE: This item is displayed, but not used.
REMOTE HORN & LAMP	ENABLE/ DISABLE	_	
REMOTE START	ENABLE/ DISABLE	_	
NAD OUTPUT STATUS	On	When TCU activation is ON	NAD: Abbreviation of Network Access Device.
NAD OUTPUT STATUS	Off	When TCU activation is OFF	ON/OFF setting of radio wave
ACN COMM SEQUENCE LOG	_	_	_
SOS COMM SEQUENCE LOG	_	_	_
SOS SW	On	SOS switch pressed	_
303 344	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

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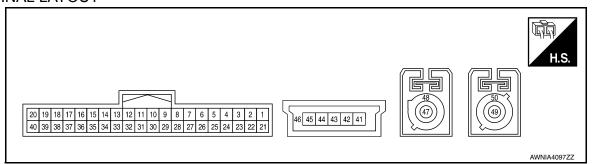
VALUES ON THE DIAGNOSIS TOOL

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
	Set at 14 days (default)	14DAYS
TOLLOTAND DV TIME	Set at 2 days	2DAYS
TCU STANDBY TIME	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 CUITDUT CTATUC	When TCU activation is ON	On
NAD OUTPUT STATUS	When TCU activation is OFF	Off
ACN COMM SEQUENCE LOG	_	_
SOS COMM SEQUENCE LOG	_	_
000 0W	SOS switch pressed	On
SOS SW	SOS switch released	Off

TERMINAL LAYOUT



PHYSICAL VALUES

	ninal color)	Description		Condition	Reference value
+	-	Signal name	Input/ Output	Condition	(Approx.)
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	28	SOS switch LED sig-	Input	[Ignition switch ACC] • When not illuminated LED lamp of SOS switch	12 V
(BG)	(B)	nal	Input	[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	(V) 1 0 -1 * 2ms SKIB3609E
16 (Shield)		Microphone shield	_	_	_
17 (B)	16 (Shield)	Microphone signal	Input	[Ignition switch ACC] • When inputting interior sound	(V) 1 0 -1 + 2ms SKIB3609E

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	ninal color)	Description		Condition	Reference value
+	_	Signal name	Input/ Output	Condition	(Approx.)
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	(V) 1 0 -1 + 2ms SKIB3609E
32 (B)		Sound signal (–)	_	<u> </u>	_
36 (B)		SOS call switch B	_	_	_
37 (P)	28 (B)	SOS call switch signal	Input	[Ignition switch ACC] • When pressing SOS switch	0 V
	(5)			[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

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 NISSANCONNECTSM center about abnormality. 	U1A10
CAN communication	 Telematics system does not function. Inform a NISSANCONNECTSM center about abnormality. 	U1000
AV communication	 Some telematics system does not function. Inform a NISSANCONNECTSM 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 NIS-SANCONNECTSM center. 	U1A06
GPS antenna	 Telematics system cannot send correct positional information. Inform a NISSANCONNECTSM center about abnormality. 	U1A09 U1A0A
USB communication	 Telematics system does not function. Inform a NISSANCONNECTSM 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 NIS-SANCONNECTSM 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 NISSANCONNECTSM center. Inform a NISSANCONNECTSM 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 U1A08: 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.000000012922002

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"

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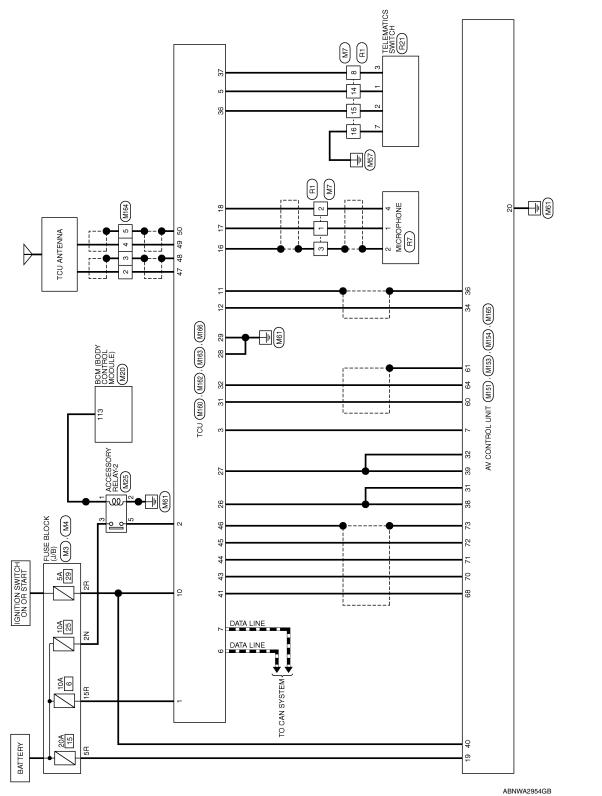
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WIRING DIAGRAM

TELEMATICS SYSTEM

Wiring Diagram



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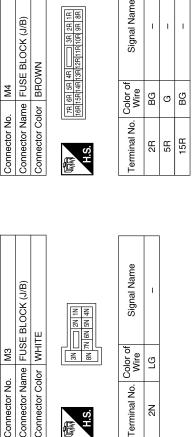
Connector Name | WIRE TO WIRE

Connector No.

Connector Color WHITE

TELEMATICS SYSTEM CONNECTORS

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



	ame							
10 11 12 13 14 15 16	Signal Name	ı	-	I	ı	-	-	I
9 10 11 1:	Color of Wire	В	Μ	SHIELD	۵	BG	В	8
	Terminal No. Wire	-	2	3	8	14	15	16

Signal Name	I	ı	-	
Color of Wire	BG	В	BG	
erminal No.	2R	5R	15R	

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	. M151	Connector Name AV CONTROL UNIT (WITH	BOSE AUDIO SYSTEM)	
	Connector No.	Connector Name		
	25	onnector Name ACCESSORY RELAY-2		
	Connector No. N	Connector Name A	Connector Color BI UF	10000000000
	M20	Name BCM (BODY CONTROL	MODULE)	
	۔ او	lame	_	

Connector No.	M20
Connector Name	Connector Name BCM (BODY CONTROL MODULE)
Connector Color BLACK	BLACK
H.S. (128/12)	118[115[114[113]12]111[10]108[108]108[107]108[105] 128[127][126[128[128[12][120][119[118[117]
Č	30,00

Connector Name AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)	<u> </u>	3 4 5 6 7 8 9 9 12 13 14 15 16 17 18 20	Signal Name	ACC	BAT	QN5
me AV BO	lor WH	10 11	Color of Wire	▄	ŋ	GR
Connector Na	Connector Color WHITE	斯 H.S.	Terminal No.	7	19	20

Signal Name	ı	1	_	1
Color of Wire	8	В	ГG	۵
nal No.	_	2	3	5

Signe				
Color of Wire	8	В	рп	Ы
Terminal No.	-	2	3	5

	_	
Signal Name	ACC RELAY OUT	
Color of Wire	۵	
Terminal No.	113	

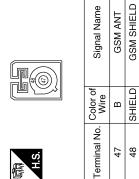
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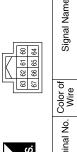
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Connector No. M163 Connector Name TCU Connector Color RED	M162 TCU RED
H.S.	



Connector No. M154 Connector Name AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM) Connector Color WHITE
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Signal Name	AUDIO HU OUT +	SHIELD AUDIO HU OUT SHII	ı	ı	AUDIO HU OUT -	ı	-	ı
Color of Wire	8	SHIELD	ı	ı	В	ı	1	1
Terminal No.	09	61	62	63	64	65	99	29

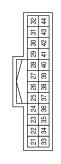
M-CAN-L IGNITION

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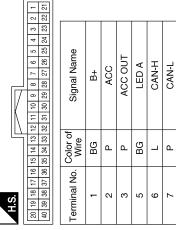
Signal Name	IGN	MIC OUT GND	MIC OUT SIG	MIC GND	MIC SIG	MIC VCC	M-CAN H	M-CAN L	GND	GND	AUDIO HU OUT+	AUDIO HU OUT-	CALL SW B	ECALL SW
Color of Wire	ГG	SHIELD	В	SHIELD	В	Α	SB	LG	В	В	8	В	В	۵
Terminal No.	10	11	12	16	17	18	26	27	28	29	31	32	36	37

Connector No.	M153
Connector Name	Connector Name AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color WHITE	WHITE



1 25 26 27 28 29 30 31 32 3 37 38 39 40 41 42 43 44	Signal Name	M-CAN-H	M-CAN-L	MIC SIGNAL	MIC GND	M-CAN-H	
21 22 23 24 33 34 35 36	Color of Wire	SB	LG	В	SHIELD	SB	
H.S.	Ferminal No.	31	32	34	36	38	

		X	
Connector No. M160	Connector Name TCU	Connector Color BLACK	



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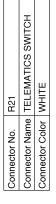
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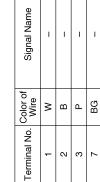
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Connector No. M165 Connector Name AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM) Connector Color BROWN H.S.	Terminal No. Color of Signal Name	68 B GND	70 G D+	71 W D-	72 R VBUS	73 SHIELD SHIELD	Connector No. R7	Connector Name MICROPHONE	Connector Color WHITE	H.S.	Terminal No. Color of Signal Name	1	2 SHIELD -	- X				
M164 ne TCU ANTENNA or GRAY	Color of Signal Name	I B	SHIELD -	П	SHIELD –		F3	Connector Name WIRE TO WIRE	or WHITE	8 7 6 5 4 3 2 1 10 9 1 10 9 1 10 9 1 10 9 1 10 9 1 10 10	Color of Signal Name Wire	1	\ \	SHIELD –	ı	- M	ı	BG –
Connector No. Connector Color H.S.	Terminal No.	2	3 8	4	5 8		Connector No.	Connector Nam	Connector Color	H.S.	Terminal No.	-	2	s e	8	14	15	16
	Signal Name	GPS ANT	GPS SHIELD						Z	43 42 41	Signal Name	GND	D+	-Ġ	VBUS	SHIELD		
No. M163 Name TCU Color BLUE	o. Color of Wire	В	SHIELD				No. M166	Name TCU	Color BROWN	46 45 44 47	o. Color of Wire	В	GW	В	<u>«</u>	SHIELD		
Connector No. Connector Color H.S.	Terminal No.	49	20				Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	41	43	44	45	45		

Revision: November 2015 AV-443 2016 Altima Sedan







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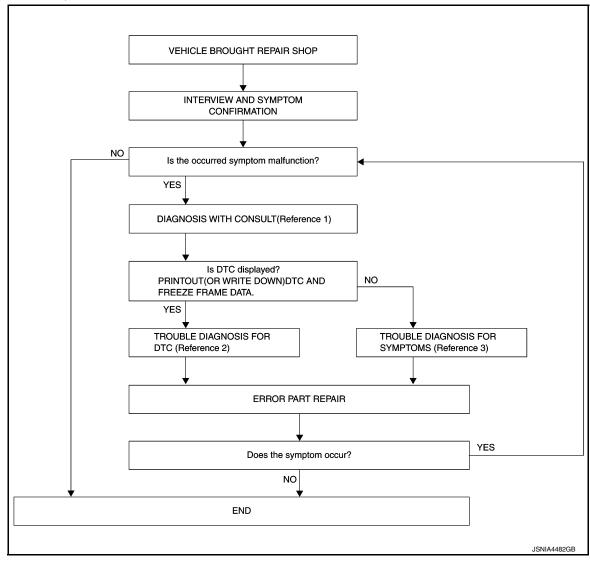
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

OVERALL SEQUENCE



- Reference 1··· Refer to <u>AV-433</u>, "CONSULT Function".
- Reference 2··· Refer to <u>AV-439</u>, "<u>DTC Index</u>".
- 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.

<u>Is the occurred symptom malfunction?</u>

YES >> GO TO 2.

NO >> Inspection End.

2.DIAGNOSIS WITH CONSULT

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[TELEMATICS SYSTEM]

- 1. Connect CONSULT and perform a self-diagnosis for "TCU". Refer to AV-433, "CONSULT Function".
- 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 <u>AV-473, "Symptom Table"</u>.

>> 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

< BASIC INSPECTION >

[TELEMATICS SYSTEM]

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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 Sub- scription (AV-447)	TCU Replace- ment (AV-448)	Cancellation (AV-450)	Re-subscrip- tion (<u>AV-447</u>)	Scrap (<u>AV-450</u>)
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

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 TOU 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

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.

AV-447 Revision: November 2015 2016 Altima Sedan

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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.

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.

$7.\mathsf{TCU}$ 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 NISSANCONNECTSM 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

(P)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

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >	[TELEMATICS SYSTEM]
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 WRITI write the VIN data saved in CONSULT into new TCU.	E SAVED VIN DATA screen to
>> GO TO 7.	
6.MANUAL WRITING OF VIN DATA TO TCU	
©CONSULT work support Select "WRITE VIN DATA" then "START" on chata saved into new TCU.	nanging screen to write the VIN
>> GO TO 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	Ľ
Operate the telematics switch to check that the connection to the operator is es	stablished.
Is communication test result normal?	
Abnormal>>GO TO 6.	
Normal >> operation end. ADDITIONAL SERVICE WHEN TCU DEACTIVATION	
ADDITIONAL SERVICE WHEN TCU DEACTIVATION : Desc	ription (NFOID:000000012922010
After canceling a contract with NISSANCONNECT SM , TCU must be deactivate	
Alter cancelling a contract with INISSAINCONINECT ***, TOO MUSE DE GEACTIVATE	u.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[TELEMATICS SYSTEM]

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

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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

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.

	CU	AV cor	ntrol unit	Continuity		
Connector	Terminals	Connector	Terminals	Continuity		
M160	31	M154	60	Yes		

4. Check continuity between TCU harness connector M160 and ground.

T	CU	Continuity	
Connector	Terminals	Ground	Continuity
M160	31		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK AUDIO SIGNAL

- Connect TCU harness connector M160 and AV control unit harness connector M154.
- Turn ignition switch ON.
- B. Check signal between TCU harness connector M160 terminals.

	TCU					
Connector	(+)	(-)	Condition	Reference value		
Connector	Terr	ninal				
M160	31	32	When inputting interior sound	(V) 1 0 -1 + + 2ms 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".

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B1310 TCU

DTC Description

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 TOU

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/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

B13D9 TCU

DTC Description

INFOID:0000000012922016

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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.

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B13E1 TCU

DTC Description

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.
- Check the continuity between AV control unit harness connector M153 and TCU harness connector M160.

AV cor	trol unit	T	CU	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M153	32	M160	27	
	39			Yes
	31		26	163
	38		20	

Is the inspection result normal?

YES >> Replace TCU. Refer to <u>AV-476</u>, "Removal and Installation".

NO >> Repair or replace malfunctioning parts.

B2E33 TELEMATICS SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

B2E33 TELEMATICS SWITCH

DTC Description

INFOID:0000000012922020

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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.

T	TCU		Voltage	
Connector	Terminal	Ground	(Approx.)	
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

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.

T	TCU Telematics switch		Telematics switch	
Connector	Terminal	Connector	Terminal	Continuity
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			Continuity
Connector	Terminal	Ground	Continuity
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

< DTC/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

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 <u>LAN-19</u>, "Trouble <u>Diagnosis Flow Chart"</u>.

NO >> Refer to GI-44, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

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".

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U1A00 TCU

DTC Description

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/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

U1A01 TCU

DTC Logic

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".

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U1A03 TCU

DTC Description

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 <u>AV-460, "DTC Description"</u>. <u>Is DTC U1A03 detected again?</u>

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".

NO >> Inspection End.

U1A04 TCU

< DTC/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

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DTC Description

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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 <u>AV-447</u>, "<u>ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM FOR THE FIRST TIME/RE-SUBSCRIPTION: Description"</u>.

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.

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U1A06 TEL ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

U1A06 TEL ANTENNA

DTC Description

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			Continuity
Connector	Terminal	Ground	Continuity
M162	47		No

Is the check result normal?

YES >> Replace telematics antenna. Refer to <u>AV-478</u>, "Removal and Installation".

NO >> Replace TCU. Refer to AV-476, "Removal and Installation".

U1A09 GPS ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

U1A09 GPS ANTENNA

DTC Description

INFOID:0000000012922034

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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.

	CU		Continuity
Connector	Terminals	Ground	Continuity
M163	49		No

Is the check result normal?

YES >> Replace telematics antenna. Refer to <u>AV-478</u>, "Removal and Installation".

NO >> Replace TCU. Refer to AV-476, "Removal and Installation".

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U1A10 TCU

DTC Description

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 <u>AV-464, "DTC Description"</u> <u>Is DTC U1A10 detected again?</u>

YES >> Replace TCU. Refer to AV-476, "Removal and Installation".

NO >> Inspection End.

U1A11 TCU

DTC Description

INFOID:0000000012922038

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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:000000012922039

Regarding Wiring Diagram information, refer to AV-440, "Wiring Diagram".

1.check continuity between tcu and av control unit circuit

- Turn ignition switch OFF.
- 2. Disconnect TCU harness connector M160 and AV control unit harness connector M154.
- Check continuity between TCU harness connector M160 and AV control unit harness connector M154.

T	TCU AV control unit		Continuity	
Connector	Terminals	Connector Terminals		Continuity
M160	31	M154	60	Yes

Check continuity between TCU harness connector M160 and ground.

T	CU		Continuity
Connector	Terminals	Ground	Continuity
M160	31		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK AUDIO SIGNAL

- Connect TCU harness connector M160 and AV control unit harness connector M154.
- 2. Turn ignition switch ON.
- Check signal between TCU harness connector M160 terminals.

	TCU			
Connector	(+)	(-)	Condition	Reference value
Connector	Terr	minal		
M160	31	32	When inputting interior sound	(V) 1 0 -1 + + 2ms 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

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/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

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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

Regarding Wiring Diagram information, refer to AV-440, "Wiring Diagram".

$1.\mathsf{check}$ mic in signal circuit and mic vcc circuit continuity

- Turn ignition switch OFF.
- Disconnect TCU connector M160 and microphone connector R7.
- Check continuity between TCU connector M160 and microphone connector R7.

T	CU	Microphone		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	16		2	
M160	17	R7	1	Yes
	18		4	

Check the continuity between TCU connector M160 and ground.

TCU		Ground	Continuity
Connector	Terminal	Ground	Continuity
M160	17		No
WITOU	18	_	NO

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2.CHECK MIC VCC VOLTAGE

- Connect TCU connector M160 and microphone connector R7.
- 2. Turn ignition switch ON.
- Check voltage between terminals of TCU connector M160.

TCU connector M160		
(+)	(-)	Voltage (Approx.)
Terminal	Terminal	(11 - /
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.

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U1A0B MICROPHONE

TCU conr	TCU connector M160		
(+)	(-)	Condition	Reference value
Terminal	Terminal		
17	16	Speak into microphone.	(V) 1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

YES

>> Replace TCU. Refer to <u>AV-476, "Removal and Installation"</u>.
>> Replace microphone. Refer to <u>AV-479, "Removal and Installation"</u>. NO

U1A0C MICROPHONE

< DTC/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

INFOID:0000000012922045

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U1A0C MICROPHONE

DTC Logic

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

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.
- Disconnect TCU connector M160 and AV control unit connector M154.
- 3. Check continuity between TCU connector M160 and AV control unit connector M154.

ī	CU	AV con	trol unit	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M160	31	M154	60	Yes
WHOO	32	WITO 4	64	165

4. Check the continuity between TCU connector M160 and ground.

	TCU		Continuity
Connector	Terminal	Ground	Continuity
M160	31		No
IVI IOU	32	_	140

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 conn		
(+) (-)		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.

U1A0C MICROPHONE

TCU co	TCU connector		
(+)	(-)	Condition	Reference value
Terminal	Terminal		
17	16	Speak into microphone.	(V) 1 0 -1 + 2ms SKIB3609E

Is the inspection result normal?

YES

>> Replace TCU. Refer to <u>AV-476, "Removal and Installation"</u>.
>> Replace microphone. Refer to <u>AV-479, "Removal and Installation"</u>. NO

U1A0E TELEMATICS SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

INFOID:0000000012922047

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U1A0E TELEMATICS SWITCH

DTC Logic

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

Regarding Wiring Diagram information, refer to AV-440, "Wiring Diagram".

1. CHECK ECALL SW CIRCUIT CONTINUITY

- 1. Turn ignition switch OFF.
- Disconnect TCU connector M160 and telematics switch connector R21.
- 3. Check the continuity between TCU connector M160 and ground.

T	TCU		Continuity
Connector	Terminal	Ground	Continuity
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	Condition	Continuity
2	7	Switch pressed	Yes
3	1	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".

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[TELEMATICS SYSTEM]

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.
- Disconnect TCU connector M160.
- 3. Check voltage between TCU connector M160 and ground.

Connector	CU Terminal	Ground	Condition	Voltage (Approx.)
	1		Ignition switch: OFF	
M160	2	_	Ignition switch: ACC	Battery voltage
	10		Ignition switch: ON	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Check continuity between TCU connector M160 and ground.

TCU		Ground	Continuity
Connector	Terminal	Ground	Continuity
M160	28		Yes
WITOU	29	_	163

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

< SYMPTOM DIAGNOSIS >

[TELEMATICS SYSTEM]

SYMPTOM DIAGNOSIS

TELEMATICS SYSTEM

Symptom Table

INFOID:0000000012922049

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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".
	X	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 NISSANCON-NECTIONSM Data Center. Check connection after a short period of time. If there is no problem at the NISSANCONNECTIONSM 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 NISSANCONNEC- TION 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

< SYMPTOM DIAGNOSIS >

[TELEMATICS SYSTEM]

NORMAL OPERATING CONDITION

Description INFOID:000000012922050

NOTE:

For Telematics system operation detail information, refer to Navigation system Owner's Manual.

Symptom	Possible cause	Possible solution
	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 system cannot connect to the NISSANCONNECT SM Data Center.	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	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	disabled.	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.

INFOID:0000000012943983

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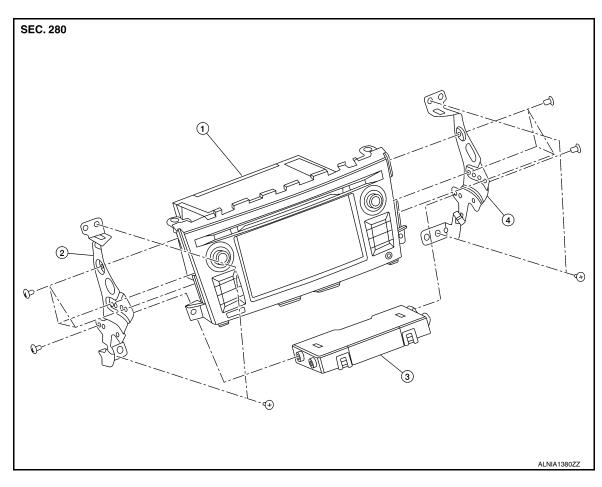
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REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View



1. AV control unit

- 2. AV control unit bracket (LH)
- 3. A/C auto amp.

Removal and Installation

AV control unit bracket (RH)

INFOID:0000000012943984

REMOVAL

CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to <u>AV-344, "CONFIGURATION (AV CONTROL UNIT)</u>: <u>Description"</u>.

- Disconnect the negative battery terminal. Refer to <u>PG-78, "Removal and Installation"</u>.
- Remove cluster lid C. Refer to <u>IP-20, "Cluster Lid C"</u>.
- Remove the A/C switch assembly. Refer to <u>HAC-100, "Removal and Installation"</u>.
- 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 <u>AV-239</u>, "CONFIGURA-TION (AV CONTROL UNIT): <u>Description</u>".
- When replacing AV control unit, the AV control unit must be registered. Refer to <u>AV-343, "ADDI-TIONAL SERVICE WHEN REPLACING AV CONTROL UNIT: Description"</u>.

Revision: November 2015 AV-475 2016 Altima Sedan

TCU

Removal and Installation

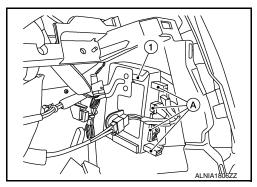
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REMOVAL

NOTE:

Before replacing TCU, perform "SAVE VIN DATA" to save current vehicle specification. For details, refer to <u>AV-448</u>, "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 <u>AV-448, "ADDITIONAL SERVICE WHEN REPLACING TCU : Description".</u>

TELEMATICS SWITCH

< REMOVAL AND INSTALLATION >

[TELEMATICS SYSTEM]

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 <a href="Installation".

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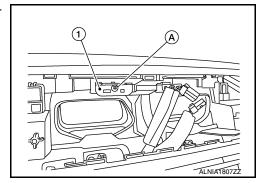
TEL ANTENNA

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 >

[TELEMATICS SYSTEM]

MICROPHONE

Removal and Installation

INFOID:0000000012943985

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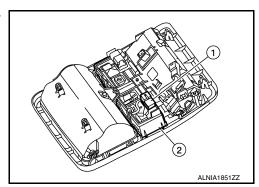
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REMOVAL

- 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.

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