

SECTION **AV**

AUDIO, VISUAL & NAVIGATION SYSTEM

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PRECAUTION

PRECAUTIONS

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

INFOID:000000007642146

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution for Work

INFOID:000000007642147

- 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 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, and wring the water out of the cloth to wipe the dirty area.
Then rub with a soft and 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, and wring the water out of the cloth to wipe the detergent off. Then rub with a soft and 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

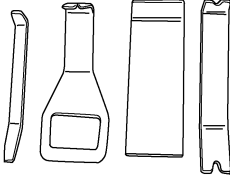
PREPARATION

Special Service Tools

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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

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

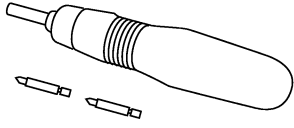


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Commercial Service Tools

INFOID:000000007642149

Tool name	Description
Power tool	Loosening bolts and nuts



PBIC0191E

COMPONENT PARTS

< SYSTEM DESCRIPTION >

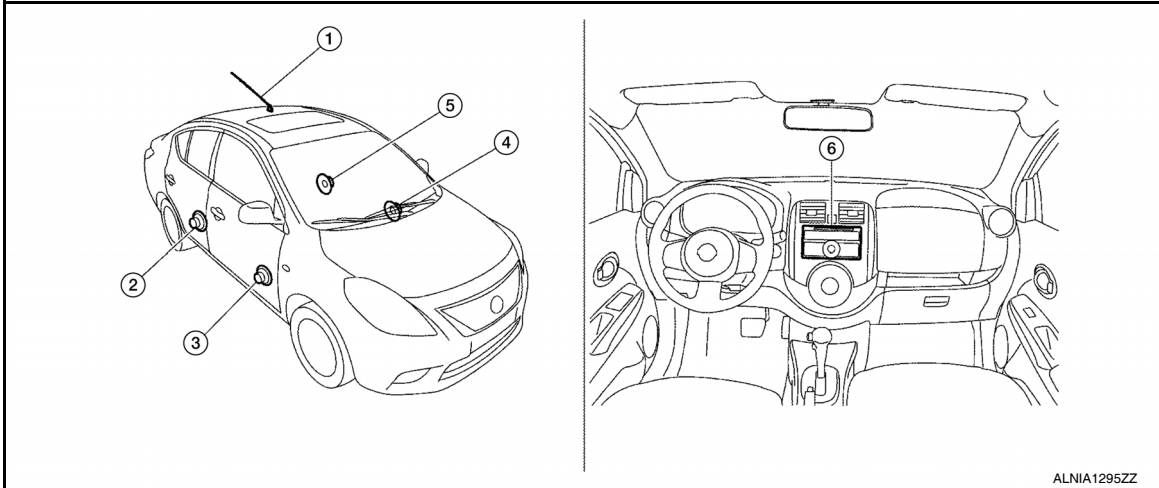
[BASE AUDIO]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000007642150



- | | | |
|--------------------------|---------------------------------------|--------------------------|
| 1. Rod antenna | 2. Rear door speaker RH (if equipped) | 3. Front door speaker RH |
| 4. Front door speaker LH | 5. Rear door speaker LH (if equipped) | 6. Audio unit |

Component Description

INFOID:000000007642151

Part name	Description
Audio unit	<ul style="list-style-type: none"> Controls audio system functions It inputs AM/FM radio wave signals from rod antenna Outputs sound signal to front door speakers Outputs sound signal to rear door speakers (if equipped)
Front door speakers	<ul style="list-style-type: none"> Outputs sound signal from audio unit Outputs high, mid and low range sounds
Rear door speakers (if equipped)	<ul style="list-style-type: none"> Outputs sound signal from audio unit Outputs high, mid and low range sounds
Rod antenna	Receives AM/FM radio wave signals and outputs signals to audio unit

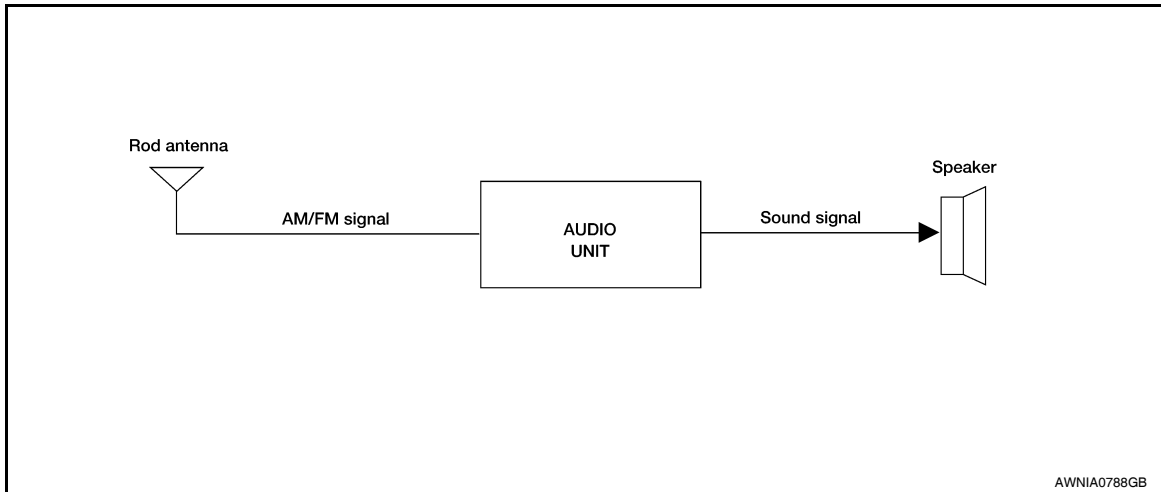
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SYSTEM

AUDIO SYSTEM

AUDIO SYSTEM : System Diagram

INFOID:000000007642152



AUDIO SYSTEM : System Description

INFOID:000000007642153

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Rod antenna
- Front door speakers
- Rear door speakers (if equipped)

When the audio system is ON, radio signals are received by the rod antenna. The audio unit then sends sound signals to the front door speakers and rear door speakers (if equipped).

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

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO]

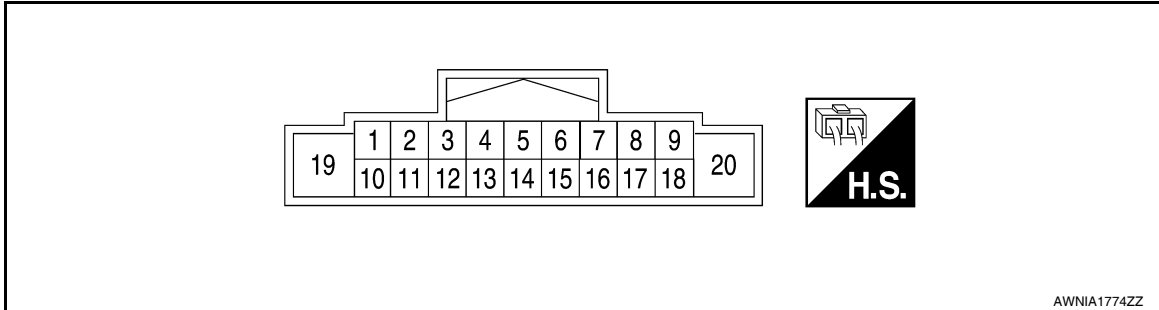
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

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TERMINAL LAYOUT



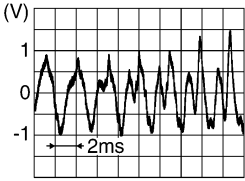
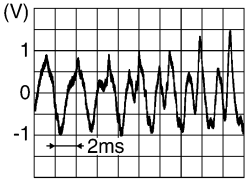
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
2 (GR)	3 (P)	Sound signal front door speaker LH	Output	Ignition switch ON	Audio output	
4 (W) *1	5 (R) *1	Sound signal rear door speaker LH	Output	Ignition switch ON	Audio output	
7 (L)	Ground	ACC power supply	Input	Ignition switch ACC or ON	—	Battery voltage
8 (B)	Ground	ILL control	Input	Ignition switch ACC or ON	—	0 V
9 (LG)	Ground	Light switch	Input	Ignition switch ACC or ON	—	Battery voltage

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
11 (O)	12 (V)	Sound signal front door speaker RH	Output	Ignition switch ON	Audio output	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
13 (L) *1	14 (Y) *1	Sound signal rear door speaker RH	Output	Ignition switch ON	Audio output	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage

*1: With rear door speakers

BASE AUDIO SYSTEM

< WIRING DIAGRAM >

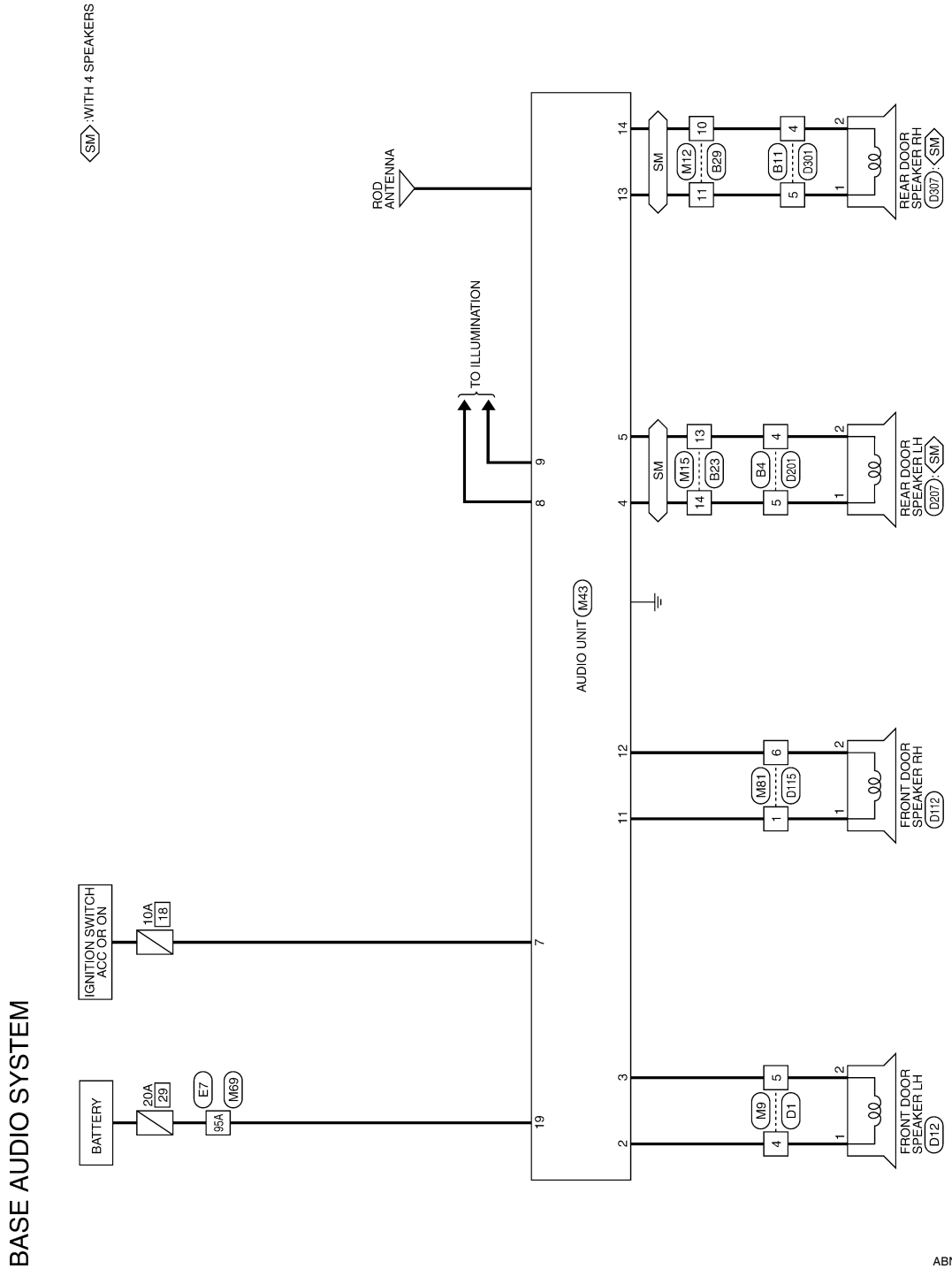
[BASE AUDIO]

WIRING DIAGRAM

BASE AUDIO SYSTEM

Wiring Diagram

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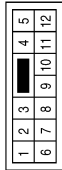
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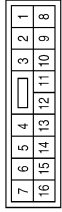
BASE AUDIO SYSTEM CONNECTORS

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



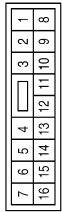
Terminal No.	Color of Wire	Signal Name
4	GR	-
5	P	-

Connector No.	M12
Connector Name	WIRE TO WIRE
Connector Color	WHITE



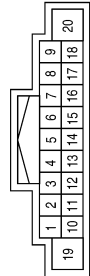
Terminal No.	Color of Wire	Signal Name
10	Y	-
11	L	-

Connector No.	M15
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
13	R	-
14	W	-

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



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

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

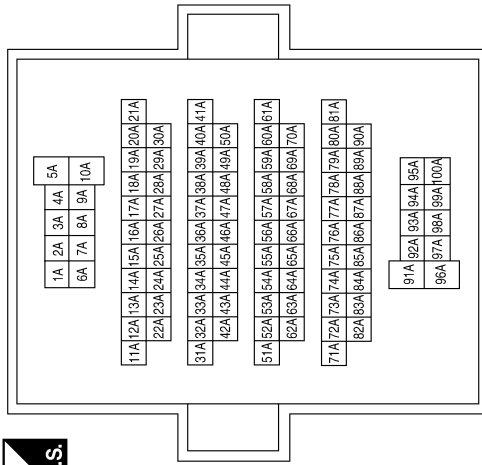
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BASE AUDIO SYSTEM

< WIRING DIAGRAM >

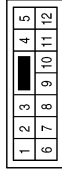
[BASE AUDIO]

Connector No.	E7
Connector Name	WIRE TO WIRE
Connector Color	WHITE



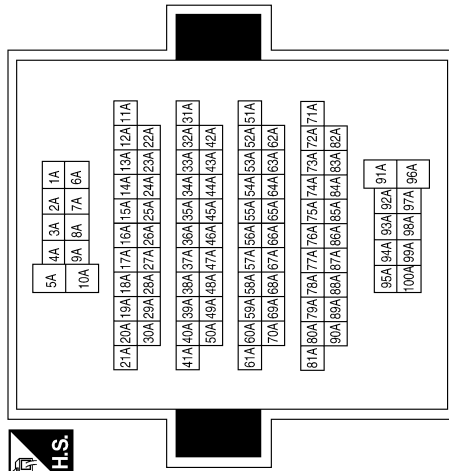
Terminal No.	Color of Wire	Signal Name
95A	LG	-

Connector No.	M81
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	O	-
6	V	-

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
95A	Y	-

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BASE AUDIO SYSTEM

< WIRING DIAGRAM >

[BASE AUDIO]

Connector No.	B23
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
13	R	-
14	W	-

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Color	WHITE



3	2	1
8	7	6
5	4	

Terminal No.	Color of Wire	Signal Name
4	GR	-
5	LG	-

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



3	2	1
8	7	6
5	4	

Terminal No.	Color of Wire	Signal Name
4	R	-
5	W	-

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



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

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



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

Terminal No.	Color of Wire	Signal Name
4	GR	-
5	P	-

Connector No.	B29
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

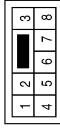
Terminal No.	Color of Wire	Signal Name
10	GR	-
11	LG	-

BASE AUDIO SYSTEM

< WIRING DIAGRAM >

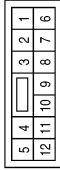
[BASE AUDIO]

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



Terminal No.	Color of Wire	Signal Name
4	R	-
5	W	-

Connector No.	D115
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	GR	-
6	P	-

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



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

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



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

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



Terminal No.	Color of Wire	Signal Name
4	R	-
5	W	-

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



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

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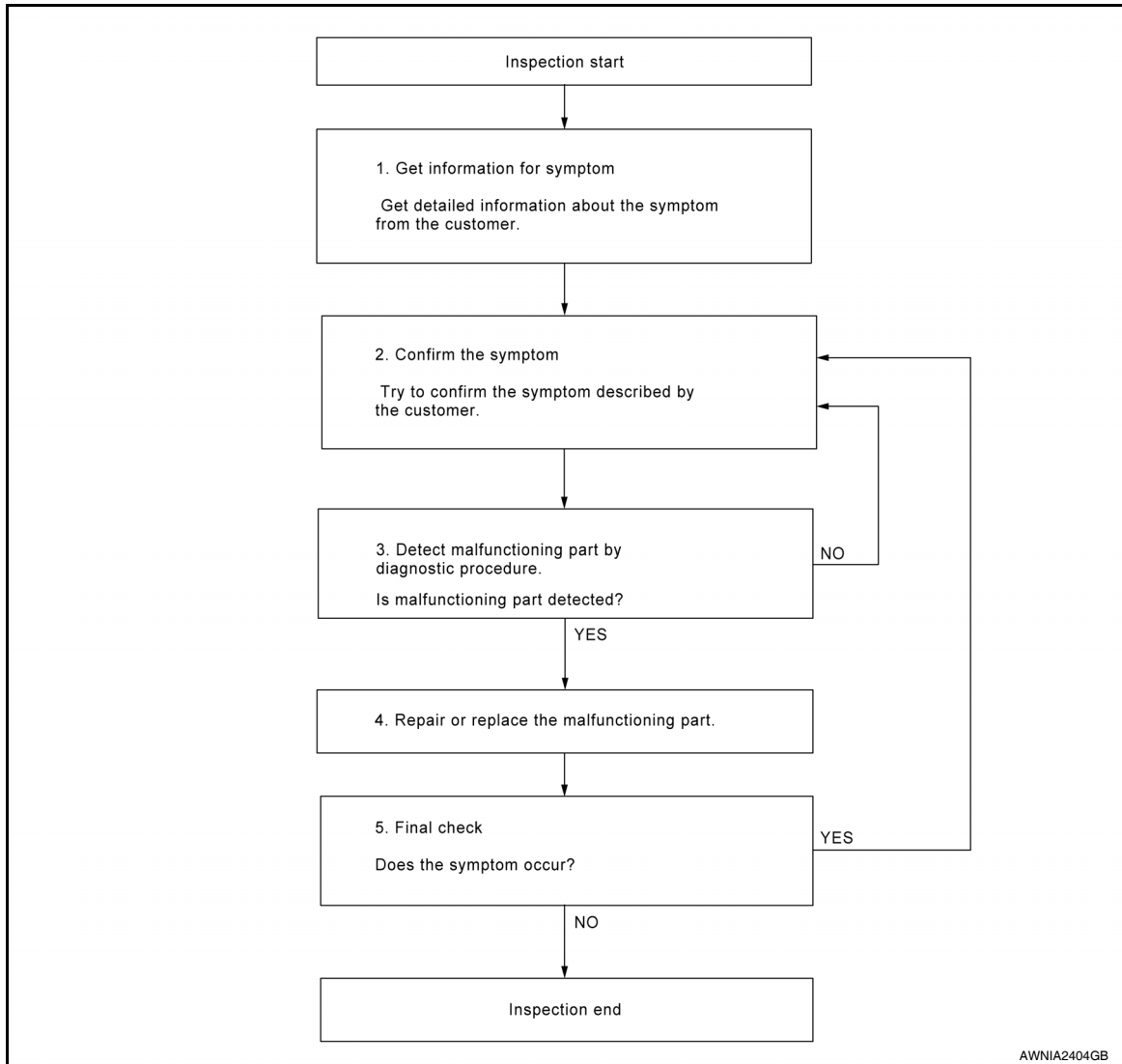
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000007642140

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-23. "Symptom Table"](#).

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[BASE AUDIO]

Is malfunctioning part detected?

YES >> GO TO 4.

NO >> GO TO 2.

4.REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5.FINAL CHECK

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

Has the symptom been repaired?

YES >> Inspection End.

NO >> GO TO 2.

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DTC/CIRCUIT DIAGNOSIS

**POWER SUPPLY AND GROUND CIRCUIT
AUDIO UNIT**

AUDIO UNIT : Diagnosis Procedure

INFOID:000000007642141

Regarding Wiring Diagram information, refer to [AV-11, "Wiring Diagram"](#).

1.CHECK FUSES

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

Unit	Terminals	Signal name	Fuse No.
Audio unit	19	Battery power	29
	7	Ignition switch ACC or ON	18

Are the fuses OK?

YES >> GO TO 2

NO >> Replace the fuse after repairing the affected circuit.

2.POWER SUPPLY CIRCUIT CHECK

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

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

Are the voltage results as specified?

YES >> GO TO 3

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

3.GROUND CIRCUIT CHECK

Inspect audio unit case ground.

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair audio unit case ground.

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

FRONT DOOR SPEAKER

Description

INFOID:000000007687129

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

Diagnosis Procedure

INFOID:000000007687130

Regarding Wiring Diagram information, refer to [AV-11, "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 terminal and connector.

2.HARNES CHECK

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

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

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

Connector	Terminal	—	Continuity
M43	2	Ground	No
	3		
	11		
	12		

Are continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3.FRONT SPEAKER SIGNAL CHECK

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

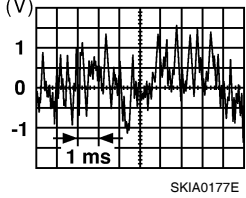
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AV

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

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

Are voltage readings as specified?

- YES >> Replace speaker. Refer to [AV-26. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-25. "Removal and Installation"](#).

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

REAR DOOR SPEAKER

Description

INFOID:000000007642142

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

Diagnosis Procedure

INFOID:000000007642143

Regarding Wiring Diagram information, refer to [AV-11, "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 terminal and connector.

2.HARNES CHECK

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

Connector	Terminal	Connector	Terminal	Continuity
M43	4	D207	1	Yes
	5		2	
	13	D307	1	
	14		2	

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

Connector	Terminal	—	Continuity
M43	4	Ground	No
	5		
	13		
	14		

Are continuity results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

3.REAR SPEAKER SIGNAL CHECK

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

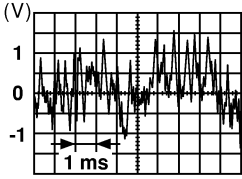
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AV

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

Con- nector	(+) Terminal		(-) Terminal	Condition	Reference signal (Approx.)
	4	5	13		
M43				Receive audio signal	 <p style="text-align: center;">SKIA0177E</p>

Is the audio signal voltage as specified?

- YES >> Replace speaker. Refer to [AV-27. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-25. "Removal and Installation"](#).

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:000000007642144

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> Audio unit power supply and ground circuit Audio unit 	<ul style="list-style-type: none"> AV-18 AV-25
All speakers do not sound	<ul style="list-style-type: none"> Speaker circuit shorted to ground Audio unit power supply and ground circuit Audio unit 	<ul style="list-style-type: none"> AV-11 AV-18 AV-25
One or several speakers do not sound	<ul style="list-style-type: none"> Front door speaker Rear door speaker (if equipped) 	<ul style="list-style-type: none"> AV-26 AV-21
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.

CD

Symptom	Possible cause	Reference page
CD cannot be inserted	Audio unit	AV-25
CD cannot be ejected		
The CD cannot be played		
The sound skips, stops suddenly, or is distorted		

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NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BASE AUDIO]

NORMAL OPERATING CONDITION

Description

INFOID:000000007642145

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

NOISE

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

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

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

NOTE:

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

Type of Noise and Possible Cause

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

REMOVAL AND INSTALLATION

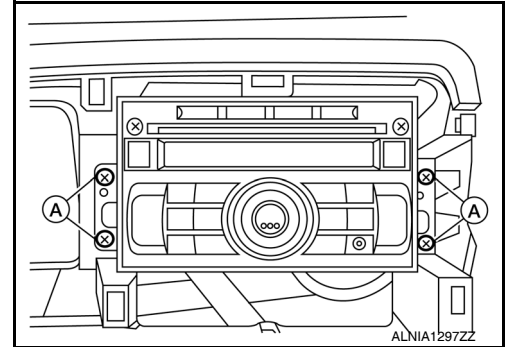
AUDIO UNIT

Removal and Installation

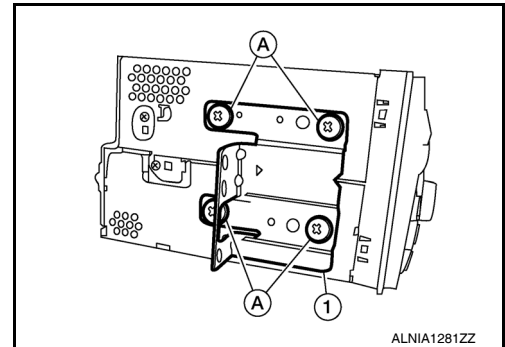
INFOID:000000007206228

REMOVAL

1. Remove the cluster lid C. Refer to [IP-21. "Removal and Installation"](#).
2. Remove the audio unit screws (A).



3. Pull the audio unit outward and disconnect the electrical connectors.
4. Remove the audio unit.
5. If necessary, remove the audio unit bracket screws (A) and brackets (1).



INSTALLATION

Installation is in the reverse order of removal.

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AV

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

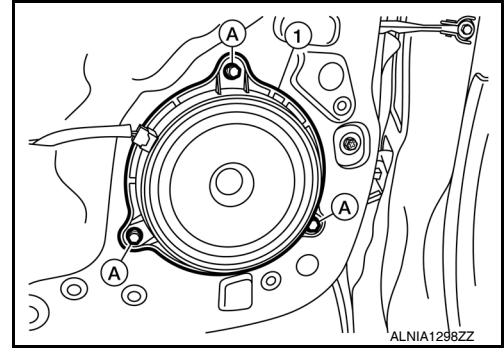
FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000007206229

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 front door electrical connector.
4. Remove the front door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

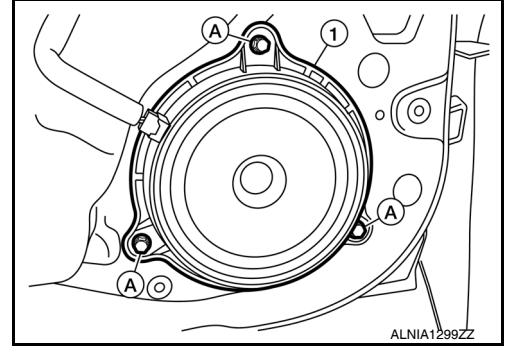
REAR DOOR SPEAKER

Removal and Installation

INFOID:000000007206230

REMOVAL

1. Remove the rear door finisher. Refer to [INT-17. "Removal and Installation"](#).
2. Remove the rear door speaker screws (A).
3. Disconnect the rear door speaker electrical connector.
4. Remove the rear door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

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ROOF ANTENNA

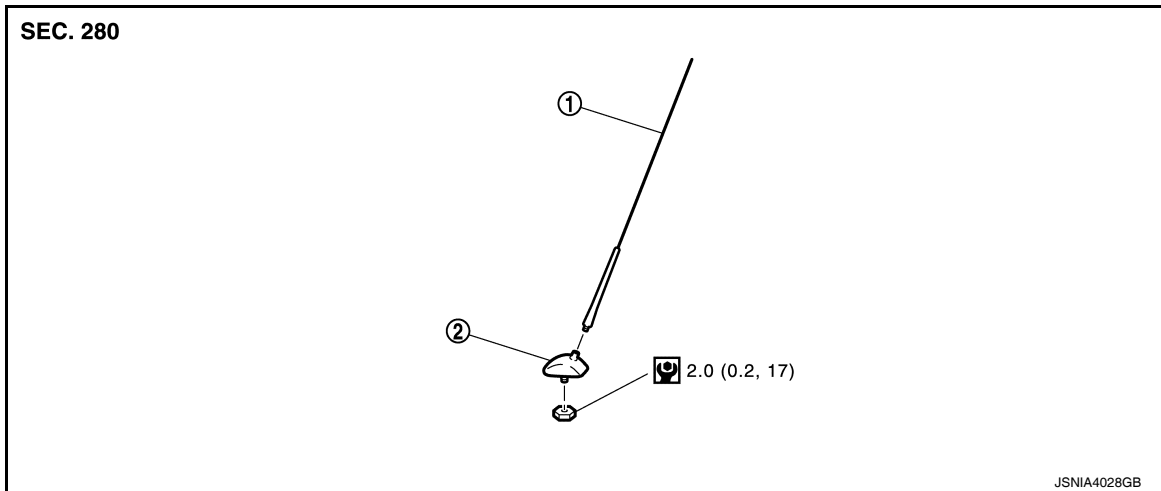
< REMOVAL AND INSTALLATION >

[BASE AUDIO]

ROOF ANTENNA

Exploded View

INFOID:000000007206231



1. Antenna mast

2. Antenna base

Removal and Installation

INFOID:000000007206232

REMOVAL

1. Remove the headliner. Refer to [INT-29, "Removal and Installation"](#).
2. Disconnect the antenna cable.
3. Remove the antenna base nut.
4. Remove the antenna base from the roof panel.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Tighten the antenna base nut to specifications.

- If the antenna base nut is less than the specified torque, it will affect the function of the antenna.
- If the antenna base nut is greater than the specified torque, it will damage the roof panel.

ANTENNA FEEDER

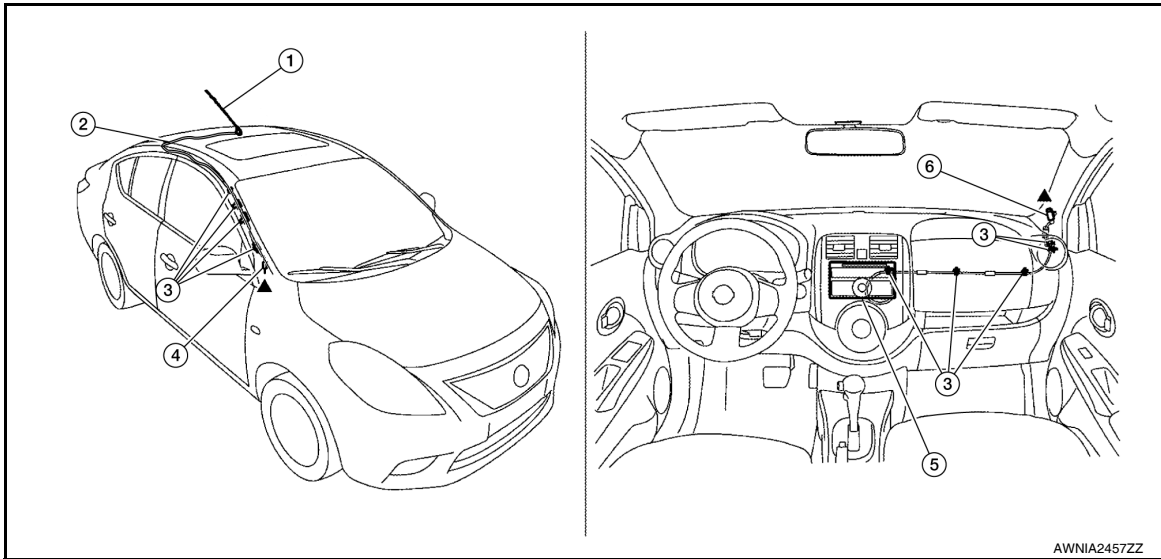
< REMOVAL AND INSTALLATION >

[BASE AUDIO]

ANTENNA FEEDER

Feeder Layout

INFOID:000000007206233



- 1. Antenna mast
- 4. Connector

- 2. Antenna feed
- 5. Audio unit

- 3. Clip
- 6. Connector

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PRECAUTION

PRECAUTIONS

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

INFOID:000000007642053

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution for Work

INFOID:000000007642054

- 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 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, and wring the water out of the cloth to wipe the dirty area.
Then rub with a soft and 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, and wring the water out of the cloth to wipe the detergent off. Then rub with a soft and 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 >

[MID AUDIO]

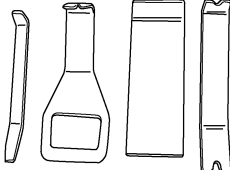
PREPARATION

PREPARATION

Special Service Tools

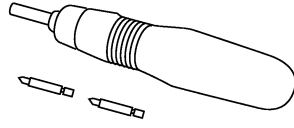
INFOID:000000007642055

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
<p>— (J-46534) Trim Tool Set</p>  <p>AWJIA0483ZZ</p>	Removing trim components

Commercial Service Tools

INFOID:000000007642056

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

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COMPONENT PARTS

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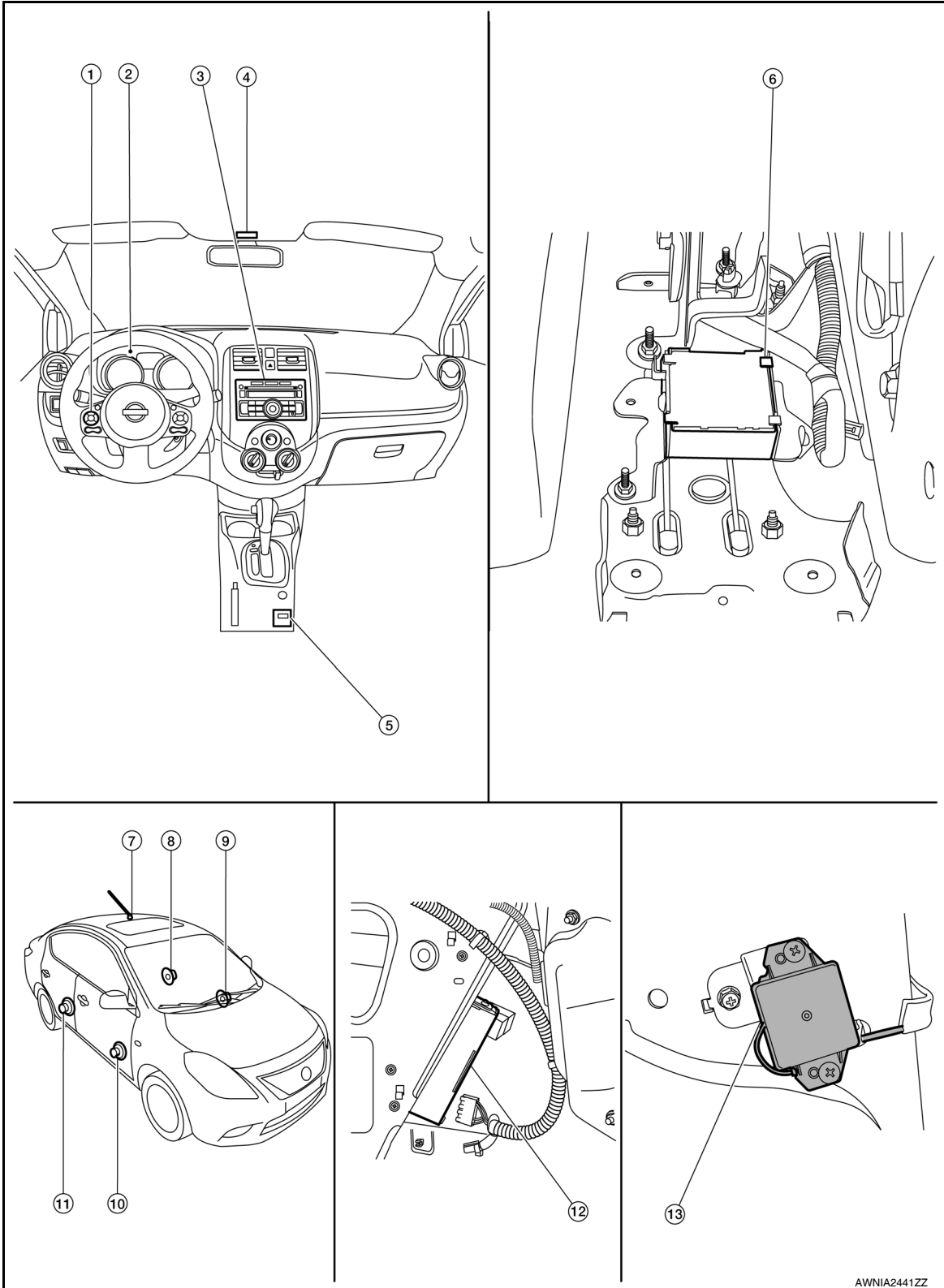
[MID AUDIO]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000007642057



AWNIA2441ZZ

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[MID AUDIO]

- | | | | |
|--|--------------------------|---|---|
| 1. Steering wheel audio control switches | 2. Combination meter | 3. Audio unit | A |
| 4. Microphone | 5. iPod connector | 6. iPod adapter | |
| 7. Rod antenna | 8. Rear door speaker LH | 9. Front door speaker LH | |
| 10. Front door speaker RH | 11. Rear door speaker RH | 12. Bluetooth control unit (view with trunk side finisher RH removed) | B |
| 13. Bluetooth antenna (view with rear seat back assembly RH removed) | | | C |

Component Description

INFOID:000000007642058

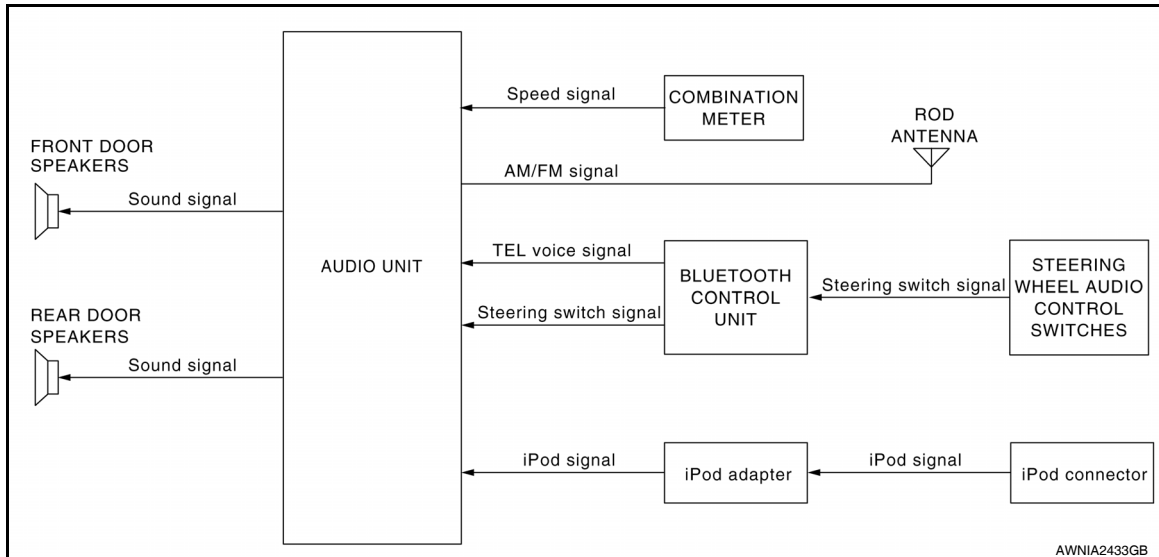
Part name	Description	
Audio unit	<ul style="list-style-type: none"> Controls audio system functions Inputs AM/FM radio wave signal from rod antenna Inputs vehicle speed signal from combination meter Inputs steering switch signal Inputs hands-free phone functions from Bluetooth control unit Outputs sound signal to front door speakers 	E
Bluetooth control unit	<ul style="list-style-type: none"> Controls hands-free phone and audio system functions Inputs steering switch signal Inputs microphone voice signal Outputs steering switch signal to audio unit Outputs hands-free phone functions to audio unit 	G
Microphone	<ul style="list-style-type: none"> Used for hands-free phone operation Microphone voice signal is output to Bluetooth control unit Inputs microphone voice signal 	H
Steering wheel audio control switches	<ul style="list-style-type: none"> Operation for audio and hands-free phone are possible Outputs steering switch signal to Bluetooth control unit 	I
Front door speakers	<ul style="list-style-type: none"> Outputs sound signal from audio unit Outputs high, mid and low-range sounds 	J
Rear door speakers	<ul style="list-style-type: none"> Outputs sound signal from audio unit Outputs high, mid and low-range sounds 	J
iPod adapter	<ul style="list-style-type: none"> Receives audio signals from iPod connector Outputs audio signals to audio unit 	K
Combination meter	Outputs vehicle speed signal to audio unit	
Rod antenna	Receives AM/FM radio wave signals and outputs signals to audio unit	
Bluetooth antenna	Receives telephone wave signals and outputs signals to Bluetooth control unit	L

AV

SYSTEM
AUDIO SYSTEM

AUDIO SYSTEM : System Diagram

INFOID:000000007642059



AWNIA2433GB

AUDIO SYSTEM : System Description

INFOID:000000007642060

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Rod antenna
- Steering wheel audio control switches
- Combination meter
- iPod adapter
- iPod connector
- Front door speakers
- Rear door speakers

When the audio system is ON, radio signals are received by the rod antenna. The audio unit then sends sound signals to the front door speakers and rear door speakers.

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

STEERING WHEEL AUDIO CONTROL SWITCHES

When buttons on the steering wheel audio control switches are pushed, the resistance in the steering wheel audio control switches circuit changes depending on which button is pushed. The audio unit uses this signal to perform various functions.

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

- Initiate Self Diagnosis of the Bluetooth[®] telephone system
- Adjust the volume up and down
- Seek up and down

SPEED SENSITIVE VOLUME SYSTEM

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

HANDS-FREE PHONE SYSTEM

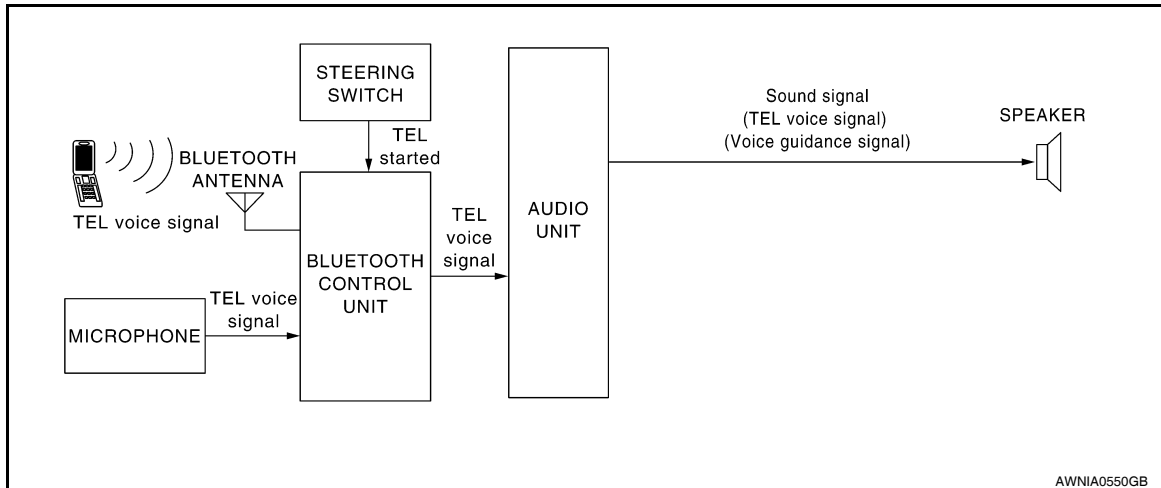
SYSTEM

< SYSTEM DESCRIPTION >

[MID AUDIO]

HANDS-FREE PHONE SYSTEM : System Diagram

INFOID:000000007642061



HANDS-FREE PHONE SYSTEM : System Description

INFOID:000000007642062

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

NOTE:

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

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

STEERING WHEEL AUDIO CONTROL SWITCHES

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

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

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

MICROPHONE

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

AUDIO UNIT

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

DIAGNOSIS SYSTEM (AUDIO UNIT)

On Board Diagnosis Function

INFOID:000000007642063

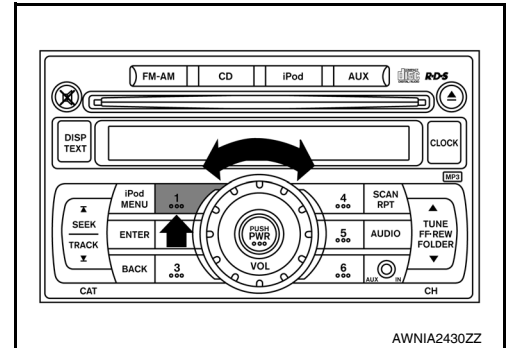
ON BOARD DIAGNOSIS ITEM

Self-diagnosis mode can check the following items.

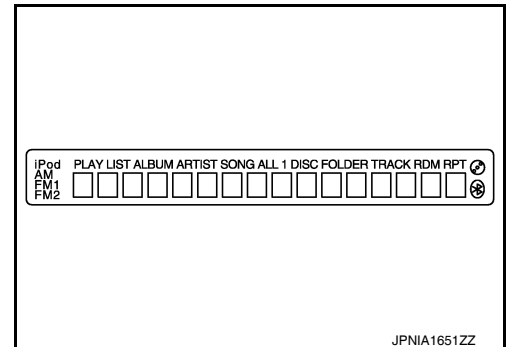
- Display all icons and segments
- Audio unit hardware/software/CD mechanism/EEPROM versions
- Audio CD changer version

METHOD OF STARTING

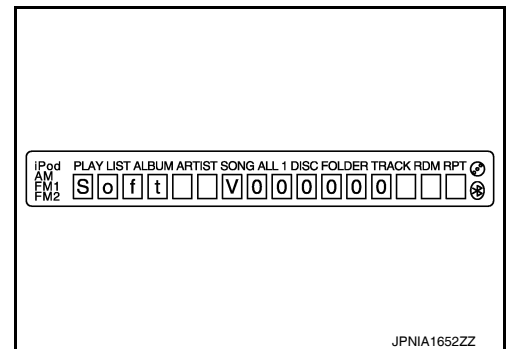
1. Turn ignition switch to the ON position.
2. Turn the audio unit OFF.
3. While pressing the “1” button, turn the volume control dial clockwise or counterclockwise 30 clicks or more. When the self-diagnosis mode is started, a short beep will be heard.



4. Initially, all display segments will be illuminated.



5. Press the “DISP TEXT” switch to enter version diagnostics. “Soft” (audio software version) is displayed.

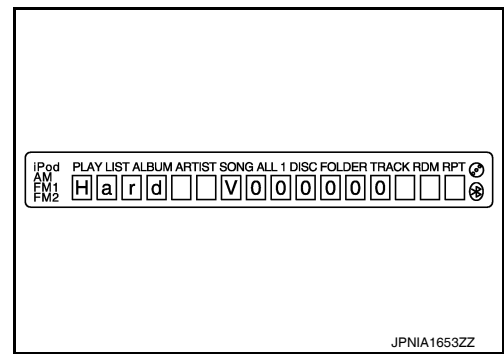


DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

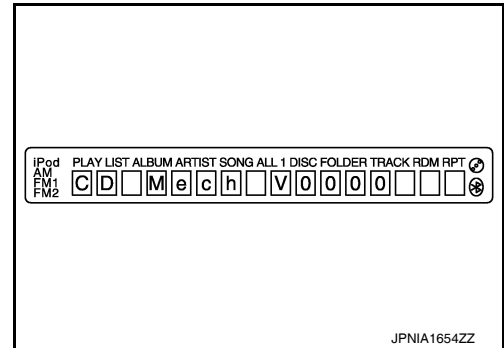
[MID AUDIO]

- Press the “DISP TEXT” switch again to display the “Hard” (audio hardware version).



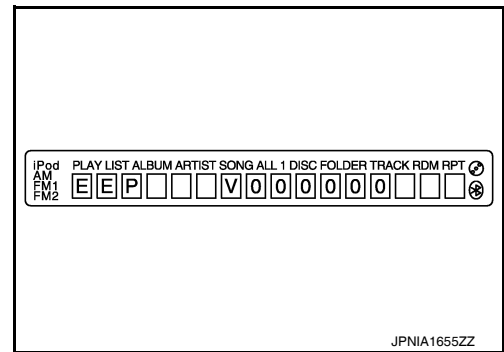
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- Press the “DISP TEXT” switch again to display the “CD Mech” (CD mechanism version).



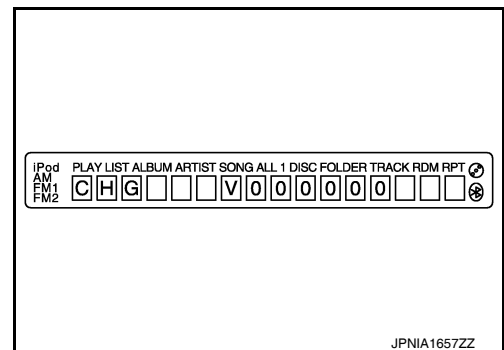
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- Press the “DISP TEXT” switch again to display the “EEP” (audio unit EEPROM version).



G
H
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- Press the “DISP TEXT” switch again to display the “CHG” (audio CD changer version). If audio CD changer is not connected, “FFFFFF” is displayed.



J
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AV

Finishing Self-diagnosis Mode
Self-diagnosis Mode is canceled when the ignition switch is turned OFF.

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DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

< SYSTEM DESCRIPTION >

[MID AUDIO]



DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description


INFOID:000000007642064

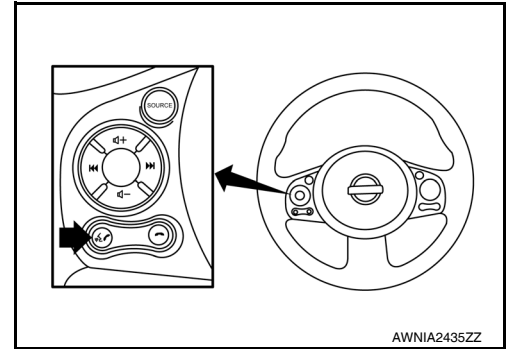
The Bluetooth control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.



BLUETOOTH CONTROL UNIT (AUTOMATIC INITIALIZATION) CHECK

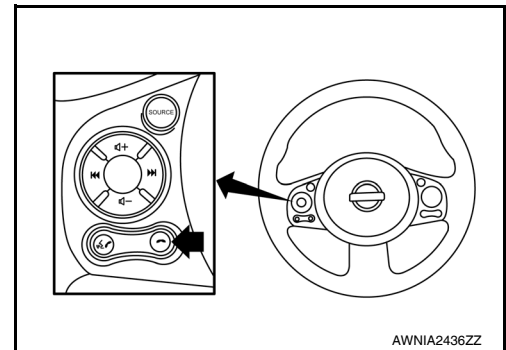
- Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switches  (PHONE/SEND)/  (PHONE/END) stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth inquiry check

BLUETOOTH CONTROL UNIT (STEERING WHEEL AUDIO CONTROL SWITCHES) CHECK

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



4. While the prompt is playing, press and hold the steering wheel audio control switches  (PHONE/END) switch until you hear the “Diagnostics mode” prompt. The Bluetooth system will sound a 5 second beep.
5. While the beep is sounding, press and hold the steering wheel audio control switch  (PHONE/END) switch again until you hear prompts.
6. The Bluetooth system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician. Refer to [AV-38, "Work Flow"](#).
7. After the failure records are reported, an interactive microphone test will be performed. Follow the voice prompt. If the microphone test fails refer to [AV-38, "Work Flow"](#).
8. Self-diagnosis mode is complete when the voice prompt says “All diagnostic functions completed”.



Work Flow

INFOID:000000007642065

Failure Message	Action
“Internal failure”	Replace Bluetooth control unit. Refer to AV-82, "Removal and Installation" .
“Bluetooth antenna open”	1. Inspect harness connection.
“Bluetooth antenna shorted”	2. Replace Bluetooth antenna. Refer to AV-82, "Removal and Installation" .
“Phone/Send for hands-free system is stuck”	Check steering wheel audio control switches. Refer to AV-68, "Diagnosis Procedure" .
“Phone/End for the hands-free system is stuck”	
“Microphone test” (failed interactive test)	1. Inspect harness between Bluetooth control unit and microphone. 2. Replace microphone. Refer to AV-83, "Removal and Installation" .

AUDIO SYSTEM

< ECU DIAGNOSIS INFORMATION >

[MID AUDIO]

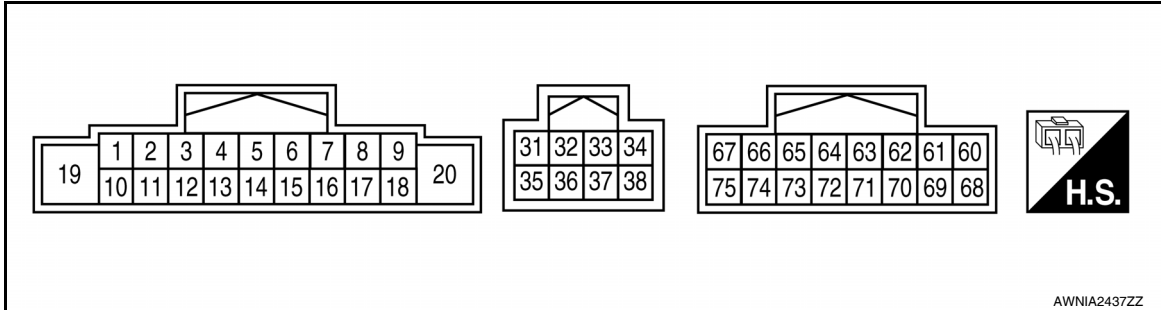
ECU DIAGNOSIS INFORMATION

AUDIO SYSTEM

Reference Value

INFOID:000000007642066

TERMINAL LAYOUT



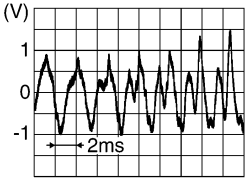
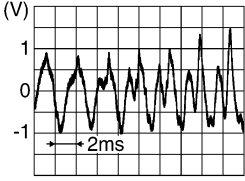

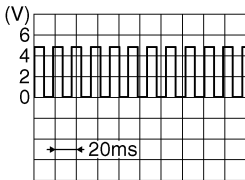
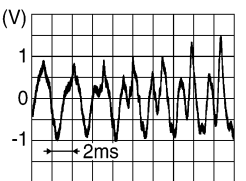
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output			
2 (GR)	3 (P)	Sound signal front door speaker LH	Output	Ignition switch ON	Audio output	<p style="text-align: right; font-size: small;">SKIB3609E</p>
4 (W)	5 (R)	Sound signal rear door speaker LH	Output	Ignition switch ON	Audio output	<p style="text-align: right; font-size: small;">SKIB3609E</p>
6 (BR)	Ground	Steering switch signal A	Input	Ignition switch ON	Press SOURCE switch	0 V
					Press Δ switch	0.7 V
					Press ∇ switch	1.3 V
					Press ⤵ switch	2.0 V
					Except for above	3.3 V
7 (L)	Ground	ACC power supply	Input	Ignition switch ACC or ON	—	Battery voltage
8 (B)	Ground	ILL control	Input	Ignition switch ACC or ON	—	0 V

AUDIO SYSTEM

< ECU DIAGNOSIS INFORMATION >

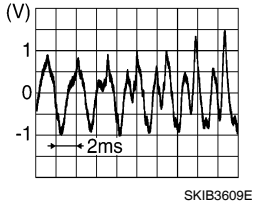
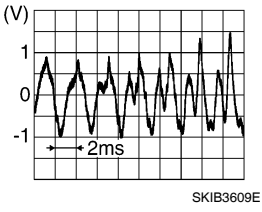
[MID AUDIO]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
9 (LG)	Ground	Light switch	Input	Ignition switch ACC or ON	—	Battery voltage
11 (O)	12 (V)	Sound signal front door speaker RH	Output	Ignition switch ON	Voice output	 <small>SKIB3609E</small>
13 (L)	14 (Y)	Sound signal rear door speaker RH	Output	Ignition switch ON	Voice output	 <small>SKIB3609E</small>
15 (GR)	—	Steering switch ground	—	—	—	—
16 (V)	Ground	Steering switch signal B	Input	Ignition switch ON	Press volume DOWN switch	0 V
					Press volume UP switch	0.7 V
					Press  switch	1.3 V
					Except for above	3.3 V
18 (P)	Ground	Speed signal	Input	Ignition switch ON	When vehicle speed is ap- prox 25 mph (40 km/hr)	 <small>SKIA6649J</small>
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
31 (R)	35 (G)	iPod audio signal LH	Input	Ignition switch ON	Audio input	 <small>SKIB3609E</small>

AUDIO SYSTEM

< ECU DIAGNOSIS INFORMATION >

[MID AUDIO]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
33 (W)	37 (B)	iPod audio signal RH	Input	Ignition switch ON	Audio input	
38	-	Shield	-	-	-	-
65 (SB)	-	M CAN - H	-	-	-	-
66 (LG)	-	M CAN - L	-	-	-	-
71 (P)	Ground	Telephone ON	Output	Ignition switch ON	-	-
73 (G)	74 (R)	Tel Voice signal	Input	Ignition switch ON	With Bluetooth transmitting tel-voice signals to the au- dio unit	
75	-	Shield	-	-	-	-

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BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

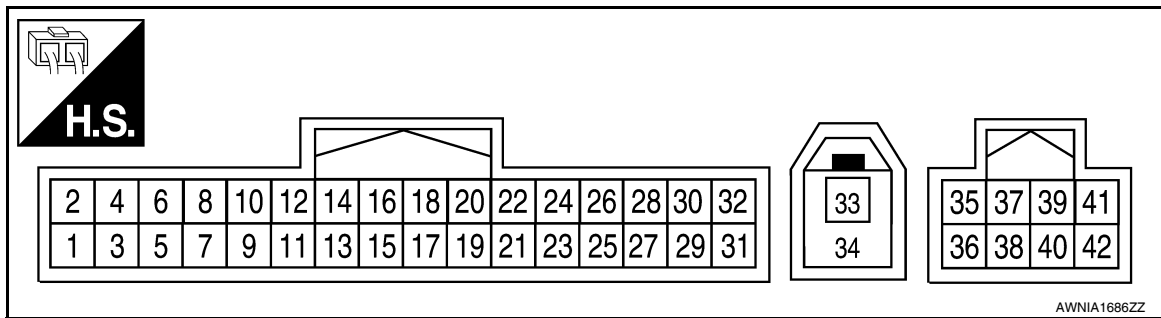
[MID AUDIO]

BLUETOOTH CONTROL UNIT

Reference Value

INFOID:000000007678394

TERMINAL LAYOUT



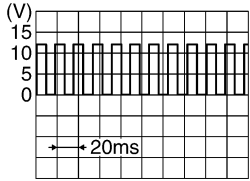
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
1 (Y)	Ground	Battery power	Input	-	-	Battery voltage
2 (L)	Ground	ACC power	Input	Ignition switch ACC or ON	-	Battery voltage
3 (O)	Ground	IGN power	Input	Ignition switch ON or START	-	Battery voltage
4 (B)	Ground	Ground	-	-	-	0.2 V
7 (BR)	8 (B)	Mic-in signal	Input	Ignition switch ACC or ON	While speaking into microphone	
9 (R)	10 (L)	Audio out	Output	Ignition switch ACC or ON	Bluetooth control unit sends audio sig- nal	
11 (SB)	-	Mute	Output	-	-	-

BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[MID AUDIO]

Terminal (Wire color)		Description		Condition	Reference value (Approx.)	
+	-	Signal name	Input/ Output			
12 (W)	Ground	Ladder input 1	Input	Ignition switch ACC or ON	Press SOURCE switch	0 V
					Press SEEK UP switch	0.7 V
					Press SEEK DOWN switch	1.3 V
					Press switch	2.0 V
					Except for above	3.3 V
13 (P)	Ground	Ladder input 2	Input	Ignition switch ACC or ON	Press VOL DOWN switch	0.7 V
					Press VOL UP switch	1.3 V
					Press switch	2.0 V
					Except for above	3.3 V
14 (G)	-	Ladder ground	Input	-	-	
17 (BR)	Ground	Steering switch signal A	Output	Ignition switch ACC or ON	Press SOURCE switch	0 V
					Press switch	0.7 V
					Press switch	1.3 V
					Press switch	2.0 V
					Except for above	3.3 V
18 (V)	Ground	Steering switch signal B	Output	Ignition switch ACC or ON	Press volume DOWN switch	0.7 V
					Press volume UP switch	1.3 V
					Press switch	2.0 V
					Except for above	3.3 V
19 (GR)	-	Steering switch ground	Output	-	-	
27 (B)	-	Ground	-	-	-	
28 (LG)	-	Vehicle speed signal (8- pulse)	Input	Ignition switch ON	When vehicle speed is approx. 25 MPH (40 km/h)	 <p style="text-align: right; font-size: small;">PKIA1935E</p>
29 (Y)	Ground	Microphone power	Output	Ignition switch ACC or ON	-	5 V
33 (B)	-	Bluetooth an- tenna	-	-	-	-
34	-	Shield	-	-	-	-

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BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[MID AUDIO]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
35 (SB)	-	CAN H1	-	-	-	-
36 (LG)	-	CAN L1	-	-	-	-
39 (LG)	-	CAN jumper 1	-	-	-	-
40 (LG)	-	CAN H2	-	-	-	-
41 (SB)	-	CAN jumper 2	-	-	-	-
42 (SB)	-	CAN L2	-	-	-	-

IPOD ADAPTER

< ECU DIAGNOSIS INFORMATION >

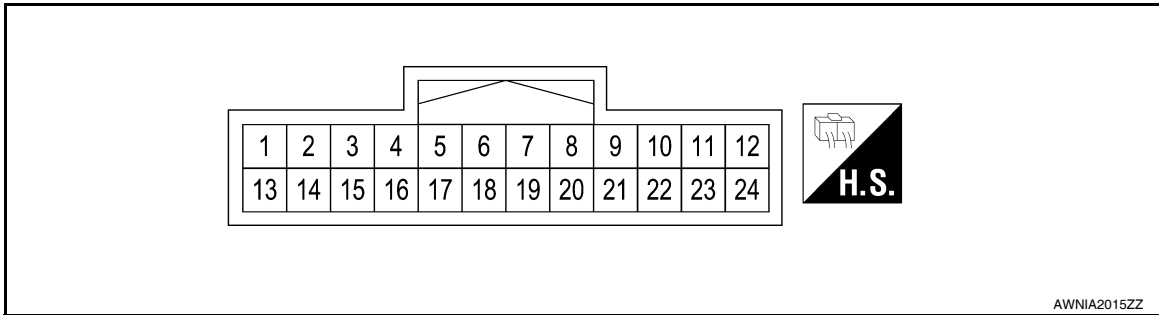
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IPOD ADAPTER

Reference Value

INFOID:000000007642067

TERMINAL LAYOUT



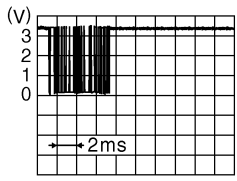
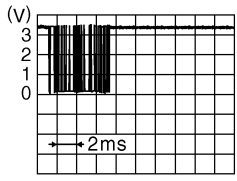
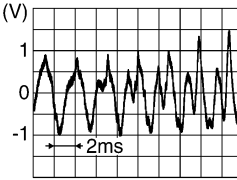
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
1 (R)	13 (G)	iPod® sound signal LH	Output	Ignition switch ON	When iPod® mode is selected.	 SKIB3609E
2 (W)	14 (B)	iPod® sound signal RH	Output	Ignition switch ON	When iPod® mode is selected.	 SKIB3609E
3 (O)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
4 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
5 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
6 (SB)	7 (L)	iPod® USD signal	—	Ignition switch ON	—	—
8 (W)	Ground	iPod® battery charge	Output	Ignition switch ON	Connected to iPod®.	Battery voltage

IPOD ADAPTER

< ECU DIAGNOSIS INFORMATION >

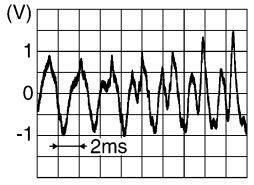
[MID AUDIO]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch ON		
9 (P)	Ground	Communication signal (iPod® adapter→iPod®)	Output	Ignition switch ON	The wave pattern is displayed just after iPod® connection.	 <p style="text-align: right; font-size: small;">JPNIA0462GB</p> <p>NOTE: After the wave pattern display, the value continues Approx 3.3V</p>
10 (L)	Ground	Communication signal (iPod®→iPod® adapter)	Input	Ignition switch ON	Connected to iPod®.	 <p style="text-align: right; font-size: small;">JPNIA0462GB</p>
11 (Y)	Ground	ACCESSORY-IDENTIFY	—	Ignition switch ON	Connected to iPod®.	0V
12 (R)	Ground	iPod® sound signal RH	Input	Ignition switch ON	When iPod® mode is selected.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
15	—	Shield	—	—	—	—
16 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
17 (B)	Ground	Ground	—	Ignition switch ON	—	0V
19	—	Shield	—	—	—	—
20 (GR)	Ground	iPod® battery charge	Output	Ignition switch ON	Connected to iPod®.	5.0V
21 (V)	Ground	iPod® connection recognition signal	Input	Ignition switch ON	Not connected to iPod®.	4.0V
					Connected to iPod®.	0V
22 (LG)	Ground	ACCESSORY-DETECT	—	Ignition switch ON	Connected to iPod®.	0V

IPOD ADAPTER

< ECU DIAGNOSIS INFORMATION >

[MID AUDIO]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
23 (W)	—	Shield	—	—	—	—
24 (B)	Ground	iPod® sound signal LH	Input	Ignition switch ON	When iPod® mode is se- lected.	

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MID AUDIO SYSTEM

< WIRING DIAGRAM >

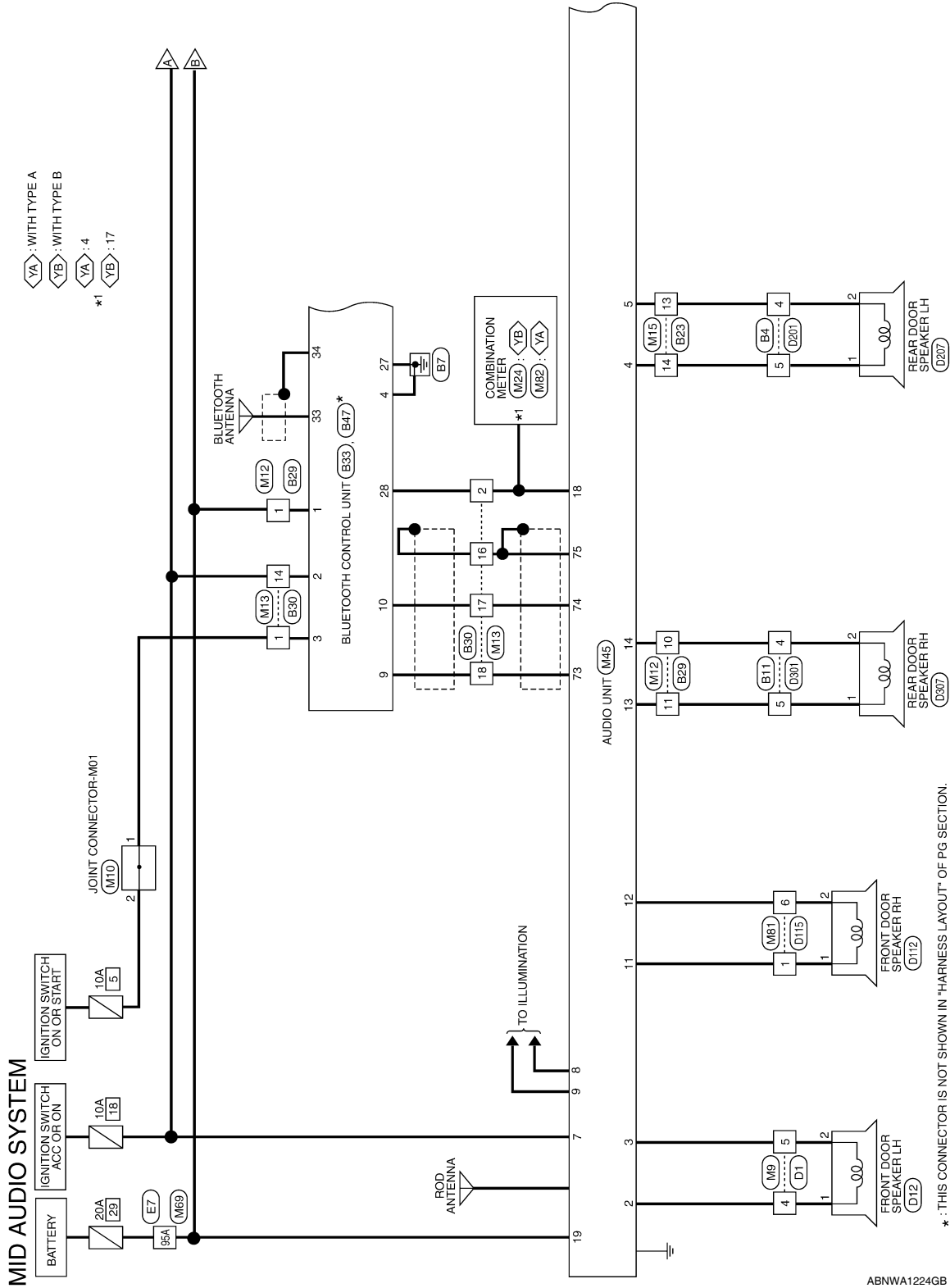
[MID AUDIO]

WIRING DIAGRAM

MID AUDIO SYSTEM

Wiring Diagram

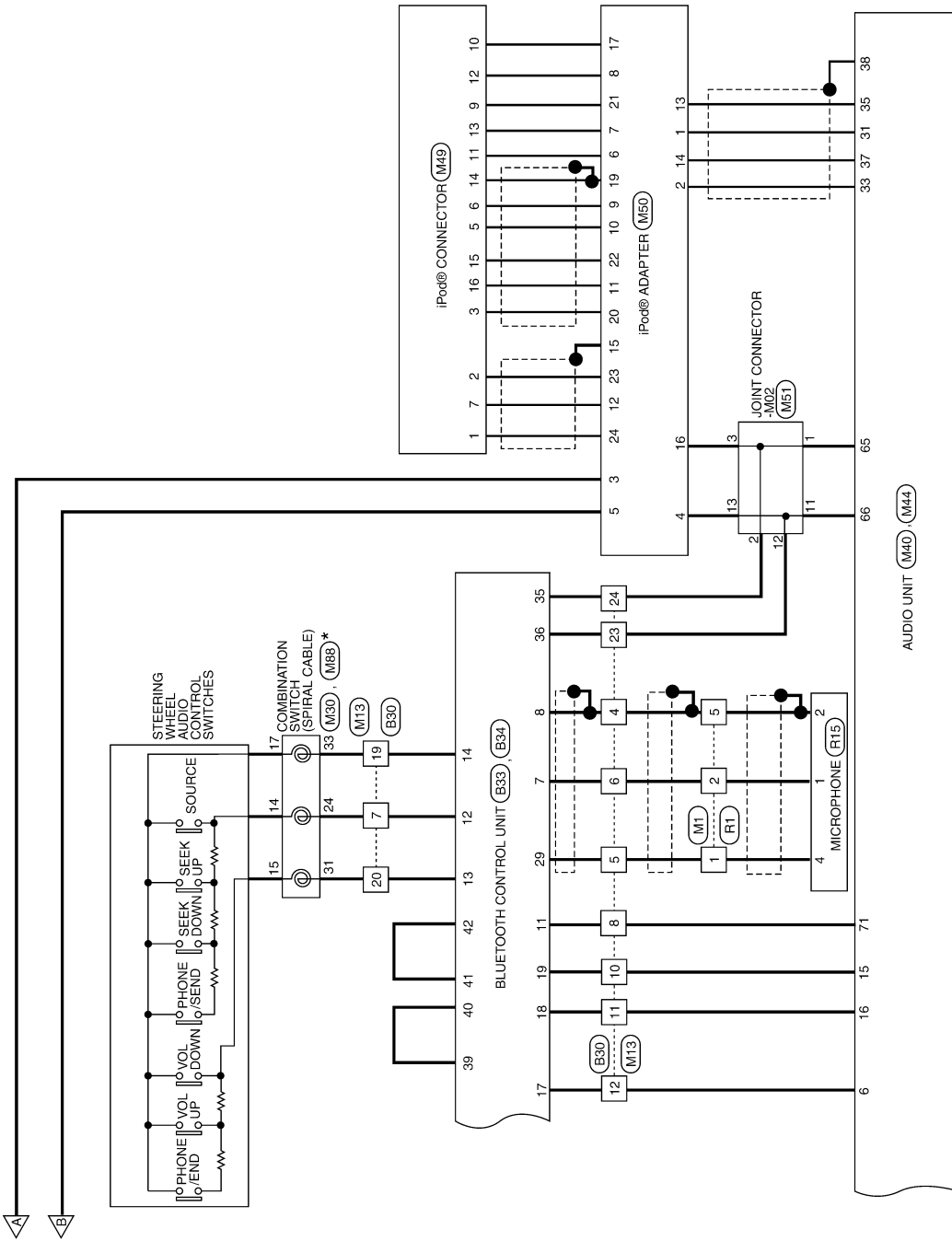
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MID AUDIO SYSTEM

< WIRING DIAGRAM >

[MID AUDIO]



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

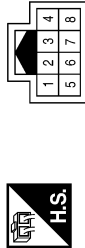
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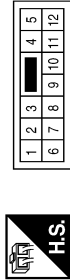
MID AUDIO SYSTEM CONNECTORS

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



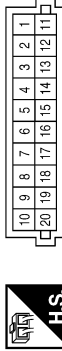
Terminal No.	Color of Wire	Signal Name
1	L	-
2	P	-
5	SHIELD	-

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



Terminal No.	Color of Wire	Signal Name
4	GR	-
5	P	-

Connector No.	M10
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY



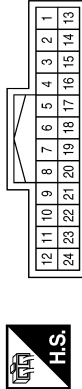
Terminal No.	Color of Wire	Signal Name
1	O	-
2	O	-

Connector No.	M12
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

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



Terminal No.	Color of Wire	Signal Name
1	O	-
2	SB	-
4	SHIELD	-
5	L	-
6	P	-
7	LG	-
8	P	-
10	GR	-
11	V	-
12	BR	-
14	L	-

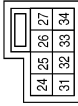
Terminal No.	Color of Wire	Signal Name
16	SHIELD	-
17	R	-
18	G	-
19	L	-
20	R	-
23	LG	-
24	SB	-

MID AUDIO SYSTEM

< WIRING DIAGRAM >

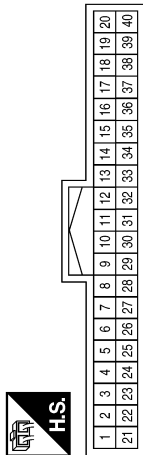
[MID AUDIO]

Connector No.	M30
Connector Name	COMBINATION SWITCH
Connector Color	GRAY



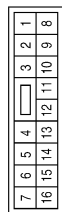
Terminal No.	Color of Wire	Signal Name
24	LG	STRG SW A
31	R	STRG SW B
33	L	STRG SW GND

Connector No.	M24
Connector Name	COMBINATION METER (WITH TYPE B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
17	P	8P/R

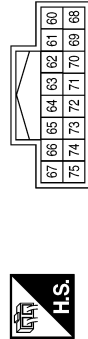
Connector No.	M15
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
13	R	-
14	W	-

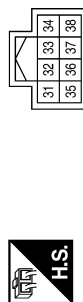
Terminal No.	Color of Wire	Signal Name
65	SB	M CAN-H
66	LG	M CAN-L
67	-	-
68	-	-
69	-	-
70	-	-
71	P	TEL ON
72	-	-
73	G	TEL I/F+
74	R	TEL I/F-
75	SHIELD	TEL SHIELD

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



Terminal No.	Color of Wire	Signal Name
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-

Connector No.	M40
Connector Name	AUDIO UNIT (WITH MID AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
31	R	AUDIO BUS LH (+)
32	-	-
33	W	AUDIO BUS RH (+)
34	-	-
35	G	AUDIO BUS LH (-)
36	-	-
37	B	AUDIO BUS RH (-)
38	SHIELD	AUDIO GND

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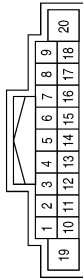
AV

MID AUDIO SYSTEM

< WIRING DIAGRAM >

[MID AUDIO]

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



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

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

Connector No.	M49
Connector Name	iPod® CONNECTOR
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	B	AUDIO L+
2	W	AUDIO R+
3	GR	CHARGE POWER 5V
4	-	-
5	L	RX (iPod OUT)
6	P	TX (iPod IN)
7	R	AUDIO RETURN

Terminal No.	Color of Wire	Signal Name
8	-	-
9	V	iPod SENSOR/DETECT
10	B	CHARGE GND
11	SB	USB D+
12	W	CHARGE POWER
13	L	USB D-
14	SHIELD	DIGITAL GND
15	LG	ACCESSORY DETECT
16	Y	ACCESSORY IDENTIFY

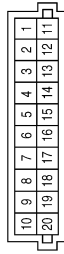
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MID AUDIO SYSTEM

< WIRING DIAGRAM >

[MID AUDIO]

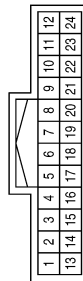
Connector No.	M51
Connector Name	JOINT CONNECTOR-M02
Connector Color	ORANGE



Terminal No.	Color of Wire	Signal Name
1	SB	-
2	SB	-
3	SB	-
11	LG	-
12	LG	-
13	LG	-

Terminal No.	Color of Wire	Signal Name
9	P	TX
10	L	RX
11	Y	ACCESSORY IDENTIFY
12	R	AUDIO-R
13	G	L-CH (-)
14	B	R-CH (-)
15	SHIELD	AUDIO-R
16	SB	CAN+H
17	B	CHARGE GROUND
18	-	-
19	SHIELD	DIGITAL GND
20	GR	CHARGE POWER (5V)
21	V	iPod SENSOR/DETECT
22	LG	ACCESSORY DETECT
23	W	AUDIO RETURN
24	B	AUDIO-L

Connector No.	M50
Connector Name	iPod® ADAPTOR
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R	L-CH (+)
2	W	R-CH (+)
3	O	ACC
4	LG	CAN-L
5	Y	BATT
6	SB	USB D+
7	L	USB D-
8	W	CHARGER POWER (12V)

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ABNIA3116GB

MID AUDIO SYSTEM

< WIRING DIAGRAM >

[MID AUDIO]

Connector No.	M81
Connector Name	WIRE TO WIRE
Connector Color	WHITE

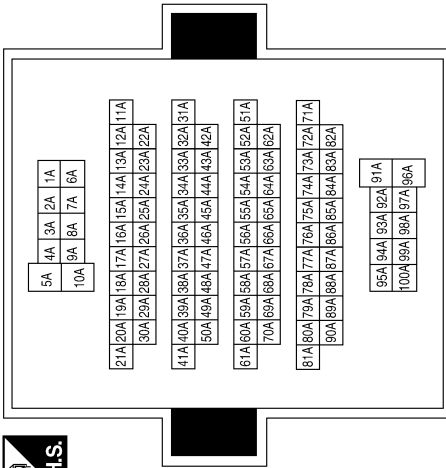


1	2	3	4	5
6	7	8	9	10
11	12			

Terminal No.	Color of Wire	Signal Name
1	O	-
6	V	-

Terminal No.	95A	Color of Wire	Y	Signal Name	-
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Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	M88
Connector Name	COMBINATION SWITCH
Connector Color	GRAY



20	19	18	17	16	15	14	13
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Terminal No.	Color of Wire	Signal Name
14	W	REMOTE A
15	L	REMOTE B
17	BR	GND

Connector No.	M82
Connector Name	COMBINATION METER (WITH TYPE-A)
Connector Color	WHITE



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

Terminal No.	4	Color of Wire	P	Signal Name	8P/R
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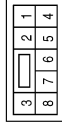
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MID AUDIO SYSTEM

< WIRING DIAGRAM >

[MID AUDIO]

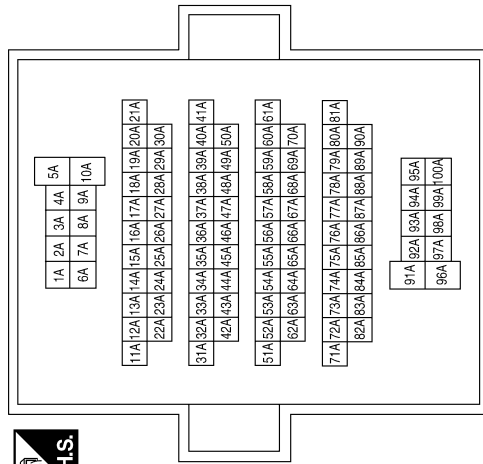
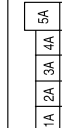
Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Color	WHITE



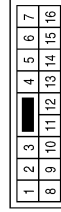
Terminal No.	Color of Wire	Signal Name
4	R	-
5	W	-

Terminal No.	95A	Color of Wire	LG	Signal Name	-
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Connector No.	E7
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	B29
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	-
10	GR	-
11	LG	-

Connector No.	B23
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
13	R	-
14	W	-

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
4	GR	-
5	LG	-

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MID AUDIO SYSTEM

< WIRING DIAGRAM >

[MID AUDIO]

Connector No.	B30
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
11	V	-
12	BR	-
14	L	-
16	SHIELD	-
17	L	-
18	R	-
19	G	-
20	P	-
23	LG	-
24	SB	-

Terminal No.	Color of Wire	Signal Name
1	O	-
2	LG	-
4	SHIELD	-
5	Y	-
6	BR	-
7	W	-
8	SB	-
10	GR	-

Connector No.	B33
Connector Name	BLUETOOTH CONTROL UNIT
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
1	Y	+B
2	L	ACC
3	O	IGN
4	B	GND
5	-	-
6	-	-

Terminal No.	Color of Wire	Signal Name
7	BR	MIC IN+
8	SHIELD	MIC IN- (GND)
9	R	AUDIO OUT +
10	L	AUDIO OUT -
11	SB	MUTE CONTROL
12	W	LADDER IN 1
13	P	LADDER IN 2
14	G	LADDER IN 3
15	-	-
16	-	-
17	BR	LADDER OUT 1
18	V	LADDER OUT 2
19	GR	LADDER OUT 3 (GND)
20	-	-

Terminal No.	Color of Wire	Signal Name
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	B	CONT 6
28	LG	SPEED
29	Y	MIC POWER
30	-	-
31	-	-
32	-	-

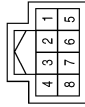
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MID AUDIO SYSTEM

< WIRING DIAGRAM >

[MID AUDIO]

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



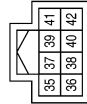
Terminal No.	Color of Wire	Signal Name
1	L	-
2	P	-
5	SHIELD	-

Connector No.	B47
Connector Name	BLUETOOTH CONTROL UNIT
Connector Color	GRAY



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

Connector No.	B34
Connector Name	BLUETOOTH CONTROL UNIT
Connector Color	WHITE



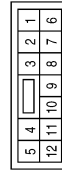
Terminal No.	Color of Wire	Signal Name
35	SB	CAN H1
36	LG	CAN L1
37	-	-
38	-	-
39	LG	CAN JUMPER 1
40	LG	CAN H2
41	SB	CAN JUMPER 2
42	SB	CAN L2

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



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

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



Terminal No.	Color of Wire	Signal Name
4	GR	-
5	P	-

Connector No.	R15
Connector Name	MICROPHONE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	P	-
2	SHIELD	-
4	L	-

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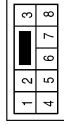
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MID AUDIO SYSTEM

< WIRING DIAGRAM >

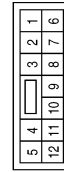
[MID AUDIO]

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



Terminal No.	Color of Wire	Signal Name
4	R	-
5	W	-

Connector No.	D115
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	GR	-
6	P	-

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



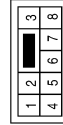
Terminal No.	Color of Wire	Signal Name
1	GR	-
2	P	-

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



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

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



Terminal No.	Color of Wire	Signal Name
4	R	-
5	W	-

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



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

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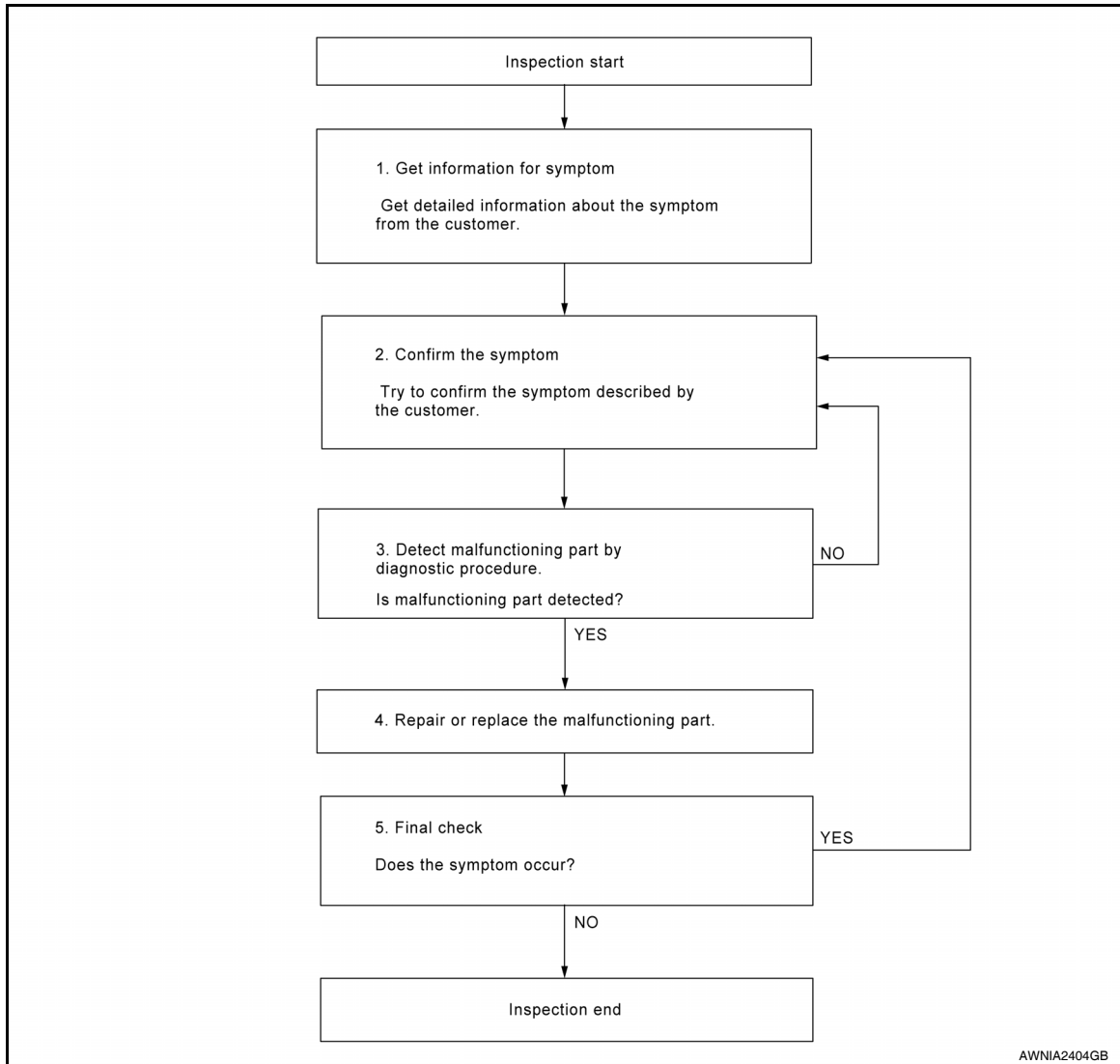
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000007642069

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-72. "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

[MID AUDIO]

< BASIC INSPECTION >

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.

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:000000007642070

Regarding Wiring Diagram information, refer to [AV-48, "Wiring Diagram"](#).

1. CHECK FUSES

Check that the following fuses are not blown.

Unit	Terminals	Signal name	Fuse No.
Audio unit	19	Battery power	29
	7	Ignition switch ACC or ON	18

Is there a blown fuse?

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

2. POWER SUPPLY CIRCUIT CHECK

1. Disconnect audio unit connector M45.
2. Check voltage between the audio unit connector M45 and ground.

(+)		(-)	Ignition switch position		
Connector	Terminal		OFF	ACC	ON
M45	19	Ground	Battery voltage	Battery voltage	Battery voltage
	7	Ground	0 V	Battery voltage	Battery voltage

Are voltage readings as specified?

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

3. GROUND CIRCUIT CHECK

Inspect audio unit case ground.

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Repair audio unit case ground.

BLUETOOTH CONTROL UNIT

BLUETOOTH CONTROL UNIT : Diagnosis Procedure

INFOID:000000007642071

Regarding Wiring Diagram information, refer to [AV-48, "Wiring Diagram"](#).

1. CHECK FUSE

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

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

Unit	Terminals	Signal name	Fuse No.
Bluetooth control unit	1	Battery power	28
	2	Ignition switch ACC or ON	18
	3	Ignition switch ON or START	5

Is the inspection result normal?

YES >> GO TO 2

NO >> Replace the fuse after repairing the affected circuit.

2. CHECK POWER SUPPLY CIRCUIT

Check voltage between Bluetooth control unit harness connector B33 and ground.

(+) Connector		Terminal	(-)	Ignition switch position	Value (Approx.)
B33		1	Ground	OFF	Battery voltage
		2		ACC	
		3		ON	

Are the voltage results as specified?

YES >> GO TO 3

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

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth control unit connector B33.
3. Check continuity between Bluetooth control unit harness connector B33 and ground.

(+) Connector		Terminal	(-)	Continuity
B33		4	Ground	Yes
		27		

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

MICROPHONE

MICROPHONE : Diagnosis Procedure

INFOID:000000007642072

Regarding Wiring Diagram information, refer to [AV-48. "Wiring Diagram"](#).

1. CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

1. Turn ignition switch ON.
2. Check voltage between microphone harness connector R15 terminal 4 and ground.

Connector	Terminal	—	Ignition switch position	Value (Approx.)
R15	4	Ground	ON	5V

Is voltage reading as specified?

YES >> GO TO 3

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

POWER SUPPLY AND GROUND CIRCUIT

[MID AUDIO]

< DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect microphone and Bluetooth control unit harness connectors.
3. Check continuity between microphone harness connector R15 terminal 4 and Bluetooth control unit harness connector B33 terminal 29.

Connector	Terminal	Connector	Terminal	Continuity
R15	4	B33	29	Yes

4. Check continuity between microphone harness connector R15 terminal 4 and ground.

Connector	Terminal	—	Continuity
R15	4	Ground	No

Are the continuity results as specified?

YES >> Replace the Bluetooth control unit. Refer to [AV-82. "Removal and Installation"](#).

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect microphone harness connector R15 and Bluetooth control unit harness connector B33.
3. Check continuity between microphone harness connector R15 terminal 2 and Bluetooth control unit harness connector B33 terminal 8.

Connector	Terminal	Connector	Terminal	Continuity
R15	2	B33	8	Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

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FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

FRONT DOOR SPEAKER

Description

INFOID:000000007642073

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

Diagnosis Procedure

INFOID:000000007642074

Regarding Wiring Diagram information, refer to [AV-48, "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 terminal and connector.

2. HARNESS CHECK

1. Disconnect audio unit connector M45 and suspect speaker connector.
2. Check continuity between audio unit harness connector M45 terminal and suspect speaker harness connector terminal.

Connector	Terminal	Connector	Terminal	Continuity
M45	2	D12	1	Yes
	3		2	
	11	D112	1	
	12		2	

3. Check continuity between audio unit harness connector M45 terminal and ground.

Connector	Terminal	—	Continuity
M45	2	Ground	No
	3		
	11		
	12		

Are continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

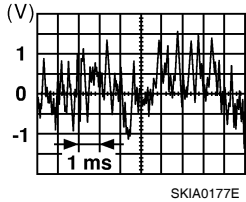
3. FRONT SPEAKER SIGNAL CHECK

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

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

(+)		(-)	Condition	Reference signal (Approx.)
Connector	Terminal	Terminal		
M45	2	3	Receive audio sig- nal	
	11	12		

Are voltage readings as specified?

- YES >> Replace speaker. Refer to [AV-77, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-74, "Removal and Installation"](#).

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REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

REAR DOOR SPEAKER

Description

INFOID:000000007642075

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

Diagnosis Procedure

INFOID:000000007642076

Regarding Wiring Diagram information, refer to [AV-48, "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 terminal and connector.

2. HARNESS CHECK

1. Disconnect audio unit connector M45 and suspect speaker connector.
2. Check continuity between audio unit harness connector M45 terminal and suspect speaker harness connector terminal.

Connector	Terminal	Connector	Terminal	Continuity
M45	4	D207	1	Yes
	5		2	
	13	D307	1	
	14		2	

3. Check continuity between audio unit harness connector M45 terminal and ground.

Connector	Terminal	—	Continuity
M45	4	Ground	No
	5		
	13		
	14		

Are continuity results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

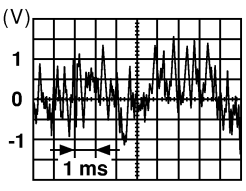
3. REAR SPEAKER SIGNAL CHECK

1. Connect audio unit connector M45 and rear speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check the signal between audio unit harness connector M45 terminals with CONSULT or oscilloscope.

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

(+)		(-)		Condition	Reference signal (Approx.)
Con- nector	Terminal	Terminal	Terminal		
M45	4	5	Receive audio sig- nal		
	13	14			

Is the audio signal voltage as specified?

- YES >> Replace speaker. Refer to [AV-78, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-74, "Removal and Installation"](#).

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STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

STEERING SWITCH

Description

INFOID:000000007642077

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



Diagnosis Procedure

INFOID:000000007642078

Regarding Wiring Diagram information, refer to [AV-48, "Wiring Diagram"](#).

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect steering wheel audio control switch connector M88.
3. Check resistance between steering switch connector terminals.

Terminal	Signal name	Condition	Resistance (Ω) (Approx.)
14	Source	Depress SOURCE switch.	1
	Seek (up)	Depress Δ switch.	121
	Seek (down)	Depress ∇ switch.	321
17	Phone/Send	Depress  switch.	723
15	Volume (down)	Depress VOL DOWN switch.	1
	Volume (up)	Depress VOL UP switch.	121
	Phone/End	Depress  switch.	321

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering wheel audio control switch. Refer to [AV-80, "Removal and Installation"](#).

2. CHECK HARNESS (SPIRAL CABLE TO BLUETOOTH CONTROL UNIT)

1. Disconnect Bluetooth control unit connector B33 and spiral cable connector M30.
2. Check continuity between Bluetooth control unit harness connector B33 and spiral cable harness connector M30.

Connector	Terminal	Connector	Terminal	Continuity
B33	12	M30	24	Yes
	13		31	
	14		33	

3. Check continuity between Bluetooth control unit connector B33 and ground.

Connector	Terminal	—	Continuity
B33	12	Ground	No
	13		
	14		

Are the continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

3. CHECK HARNESS (BLUETOOTH CONTROL UNIT TO AUDIO UNIT)

1. Disconnect audio unit connector M45.
2. Check continuity between audio unit connector M45 and Bluetooth control unit connector B33.

Connector	Terminal	Connector	Terminal	Continuity
M45	6	B33	17	Yes
	15		19	
	16		18	

Are the continuity test results as specified?

YES >> GO TO 4

NO >> Repair harness or connector.

4. SPIRAL CABLE CHECK

Check continuity between spiral cable harness connector M30 and M88.

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

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace spiral cable. Refer to [SR-7, "Removal and Installation"](#).

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MICROPHONE SIGNAL CIRCUIT

[MID AUDIO]

< DTC/CIRCUIT DIAGNOSIS >

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:000000007642079

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

Diagnosis Procedure

INFOID:000000007642080

Regarding Wiring Diagram information, refer to [AV-48, "Wiring Diagram"](#).

1. CHECK HARNESS BETWEEN BLUETOOTH CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth control unit connector B33 and microphone connector R15.
3. Check continuity between Bluetooth control unit harness connector B33 and microphone harness connector R15.

Connector	Terminal	Connector	Terminal	Continuity
B33	7	R15	1	Yes
	8		2	
	29		4	

4. Check continuity between Bluetooth control unit harness connector B33 and ground.

Connector	Terminal	—	Continuity
B33	7	Ground	No
	8		
	29		

Are continuity results as specified?

YES >> GO TO 2

NO >> Repair harness or connector.

2. CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth control unit connector B33 and microphone connector R15.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector R15 terminal 4 and ground.

(+)		(-)	Voltage (Approx.)
Connector	Terminal		
R15	4	Ground	5V

Is the voltage reading as specified?

YES >> GO TO 3

NO >> Replace Bluetooth control unit. Refer to [AV-82, "Removal and Installation"](#).

3. CHECK MICROPHONE SIGNAL

Check signal between Bluetooth control unit harness connector B33 terminals 7 and 8.

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

(+)		(-)	Condition	Value (approx.)
Connector	Terminal			
B33	7	8	While speaking into MIC	

Were voltage readings as specified?

YES >> Replace Bluetooth control unit. Refer to [AV-82, "Removal and Installation"](#).

NO >> Replace microphone. Refer to [AV-83, "Removal and Installation"](#).

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AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[MID AUDIO]

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:000000007642081

Audio Unit

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none">• Audio unit power and ground circuit• Audio unit	<ul style="list-style-type: none">• AV-61• AV-74
Steering wheel audio control switches do not operate	<ul style="list-style-type: none">• Steering wheel audio control switches• Audio unit• Bluetooth control unit (if equipped)	<ul style="list-style-type: none">• AV-68• AV-74• AV-82
All speakers do not sound	<ul style="list-style-type: none">• Speaker circuit shorted to ground• Audio unit power and ground circuit• Audio unit	<ul style="list-style-type: none">• AV-48• AV-61• AV-74
One or several speakers do not sound	<ul style="list-style-type: none">• Front door speaker• Rear door speaker	<ul style="list-style-type: none">• AV-64• AV-66
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.

CD

Symptom	Possible cause	Reference page
CD cannot be inserted	Audio unit	AV-74
CD cannot be ejected		
The CD cannot be played		
The sound skips, stops suddenly, or is distorted		

HANDS-FREE PHONE

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none">• Bluetooth control unit power and ground circuit• Bluetooth control unit	<ul style="list-style-type: none">• AV-61• AV-82
Steering wheel audio control switches do not operate	<ul style="list-style-type: none">• Steering wheel audio control switches• Bluetooth control unit	<ul style="list-style-type: none">• AV-68• AV-82
Voice activated control does not operate	<ul style="list-style-type: none">• Microphone• Steering wheel audio control switches• Bluetooth control unit	<ul style="list-style-type: none">• AV-62• AV-68• AV-82

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[MID AUDIO]

NORMAL OPERATING CONDITION

Description

INFOID:000000007642082

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

NOISE

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

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

The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment to 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
	A whistling noise occurs while the engine speed is high. A booming noise occurs while the engine is running and the lighting switch is ON.	• Generator
The occurrence of the noise is linked with the operation of the fuel pump.		• Fuel pump condenser
Noise only occurs when various electrical components are operating.	A cracking or snapping sound occurs with the operation of various switches.	• Relay malfunction, audio unit malfunction
	The noise occurs when various motors are operating.	• Motor case ground • Motor
The noise occurs constantly, not just under certain conditions.		Poor ground of antenna feeder line
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		• Ground wire of body parts • Ground due to improper part installation • Wiring connections or a short circuit

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AV

REMOVAL AND INSTALLATION

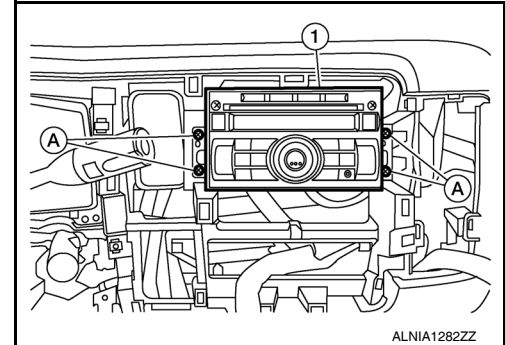
AUDIO UNIT

Removal and Installation

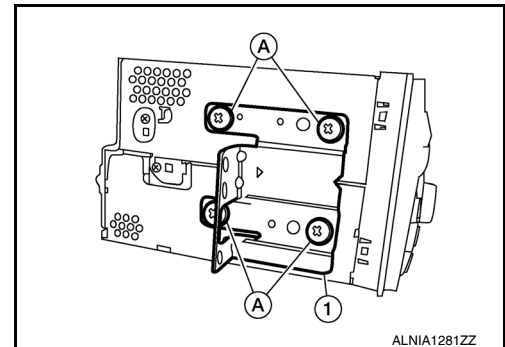
INFOID:000000007642083

REMOVAL

1. Remove cluster lid C. Refer to [JP-21, "Removal and Installation"](#).
2. Remove the audio unit screws (A).
3. Pull the audio unit (1) out from the instrument panel and disconnect the audio unit connectors.
4. Remove the audio unit (1) from the instrument panel.



5. If necessary, remove the audio unit bracket screws (A) and the audio unit bracket (1) from each side of the audio unit.



INSTALLATION

Installation is in the reverse order of removal.

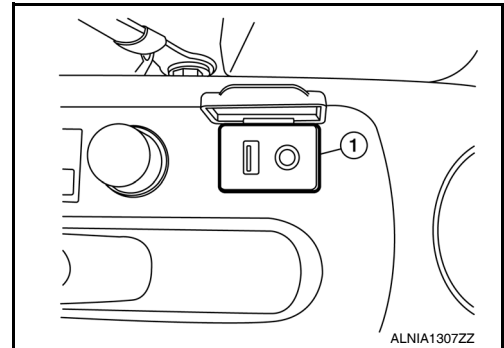
USB CONNECTOR

Removal and Installation

INFOID:000000007698334

REMOVAL

1. Push the pawl from the back of the center console to remove the USB connector (1) using a suitable tool.



2. Disconnect the USB connector electrical connector and remove the USB connector.

INSTALLATION

Installation is in the reverse order of removal.

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AV

IPOD® ADAPTER

Removal and Installation

INFOID:000000007759398

REMOVAL

1. Remove the center console assembly. Refer to [IP-23. "Removal and Installation"](#).
2. Disconnect the iPod® adapter electrical connector.
3. Remove the iPod® adapter.

INSTALLATION

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[MID AUDIO]

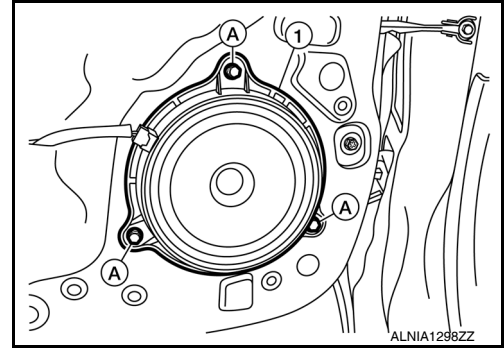
FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000007642085

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 front door speaker connector.
4. Remove the front door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

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AV

REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[MID AUDIO]

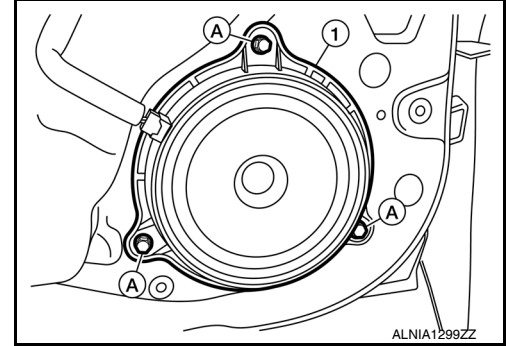
REAR DOOR SPEAKER

Removal and Installation

INFOID:000000007689742

REMOVAL

1. Remove the rear door finisher. Refer to [INT-17. "Removal and Installation"](#).
2. Remove the rear door speaker screws (A).
3. Disconnect the rear door speaker electrical connector.
4. Remove the rear door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

ROOF ANTENNA

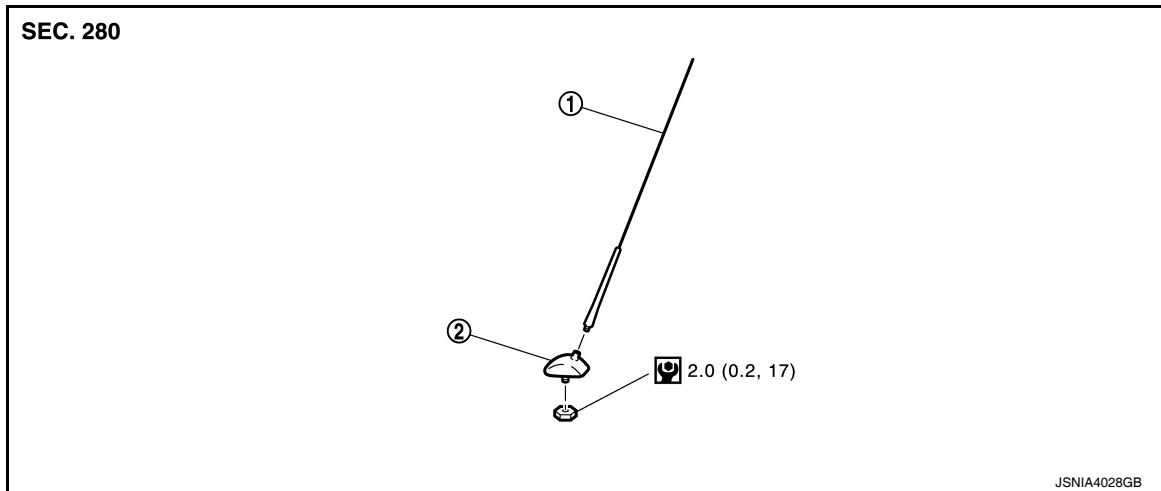
< REMOVAL AND INSTALLATION >

[MID AUDIO]

ROOF ANTENNA

Exploded View

INFOID:000000007705987



1. Antenna mast

2. Antenna base

Removal and Installation

INFOID:000000007705988

REMOVAL

1. Remove the headliner. Refer to [INT-29, "Removal and Installation"](#).
2. Disconnect the antenna cable.
3. Remove the antenna base nut.
4. Remove the antenna base from the roof panel.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Tighten the antenna base nut to specifications.

- If the antenna base nut is less than the specified torque, it will affect the function of the antenna.
- If the antenna base nut is greater than the specified torque, it will damage the roof panel.

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AV

STEERING SWITCH

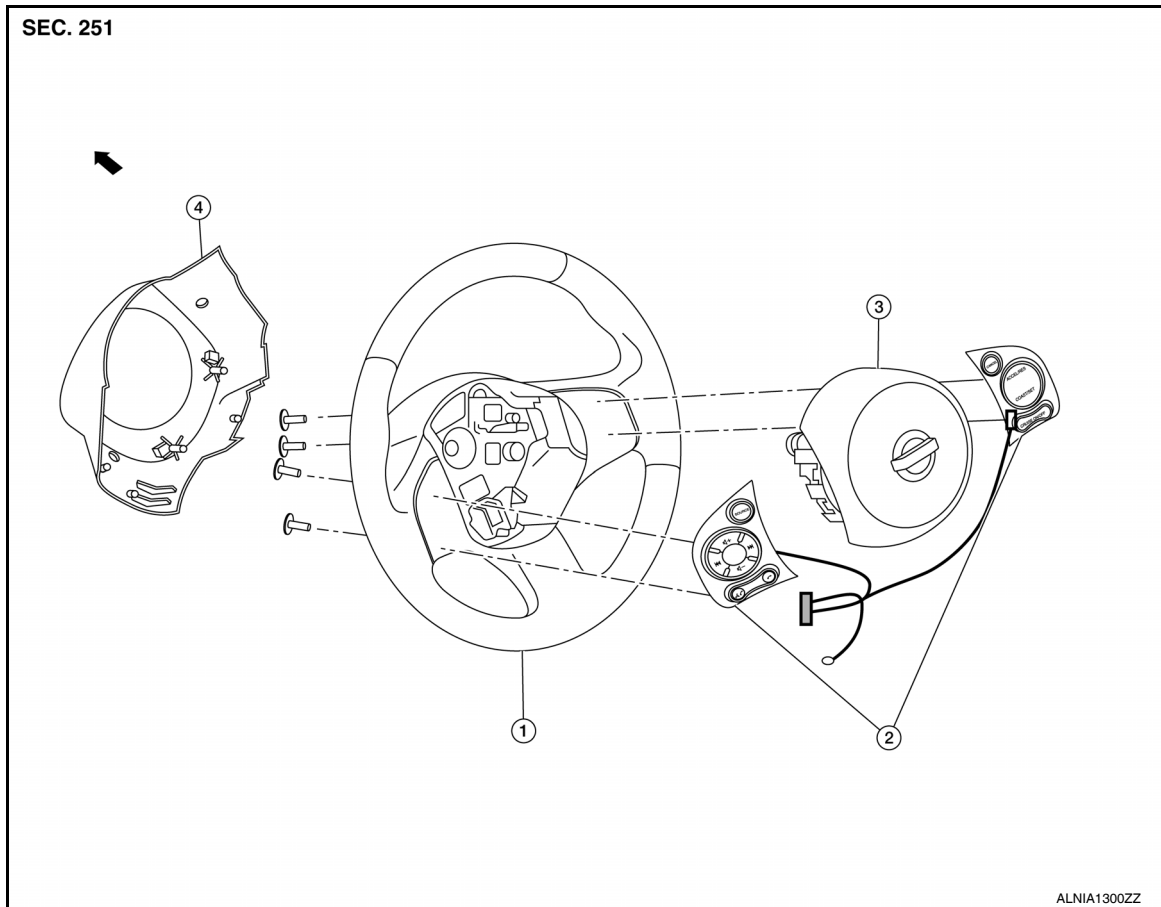
< REMOVAL AND INSTALLATION >

[MID AUDIO]

STEERING SWITCH

Removal and Installation

INFOID:000000007642087



1. Steering wheel
2. Steering wheel audio control switches
3. Steering wheel front cover
4. Steering wheel rear cover

REMOVAL

1. Remove the steering wheel. Refer to [ST-7, "Removal and Installation"](#).
2. Remove the steering wheel rear cover.
3. Remove the steering wheel audio control switches screws.
4. Remove the steering wheel audio control switches from the steering wheel.

INSTALLATION

Installation is in the reverse order of removal.

TEL ANTENNA

< REMOVAL AND INSTALLATION >

[MID AUDIO]

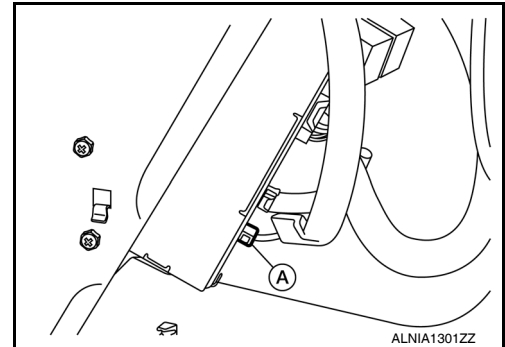
TEL ANTENNA

Removal and Installation

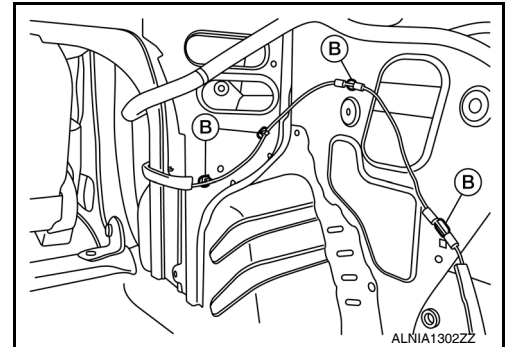
INFOID:000000007689743

REMOVAL

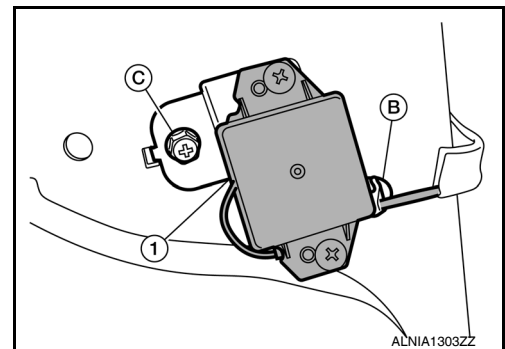
1. Remove the rear seat cushion assembly. Refer to [SE-19. "Exploded View"](#).
2. Remove the rear step plate (RH).
3. Remove the rear seatback side assembly (RH).
4. Remove the rear seatback assembly (RH).
5. Remove the trunk floor finisher.
6. Remove the trunk rear finisher.
7. Remove the trunk side finisher (RH).
8. Disconnect the bluetooth antenna from the bluetooth control unit (A).



9. Detach the four Bluetooth antenna harness clips (B).



10. Detach the remaining Bluetooth antenna harness clip (B) and remove the Bluetooth antenna screw (C).



11. Remove the Bluetooth antenna assembly (1).

INSTALLATION

Installation is in the reverse order of removal.

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BLUETOOTH CONTROL UNIT

< REMOVAL AND INSTALLATION >

[MID AUDIO]

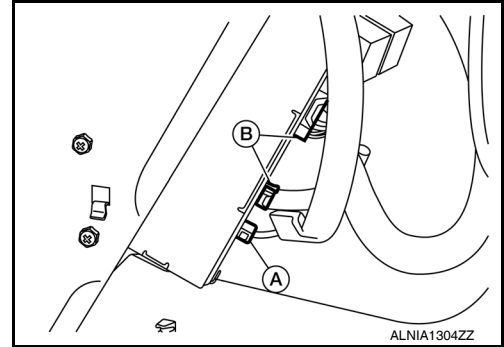
BLUETOOTH CONTROL UNIT

Removal and Installation

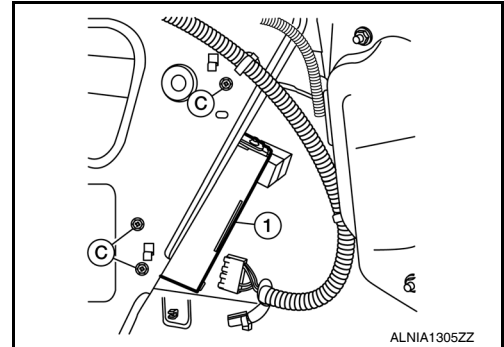
INFOID:000000007642088

REMOVAL

1. Remove the trunk floor finisher.
2. Remove the trunk rear finisher.
3. Remove the trunk side finisher RH
4. Disconnect the Bluetooth antenna connector (A) and the Bluetooth control unit electrical connectors (B).



5. Remove the Bluetooth control unit screws (C) and the Bluetooth control unit (1).



INSTALLATION

Installation is in the reverse order of removal.


MICROPHONE

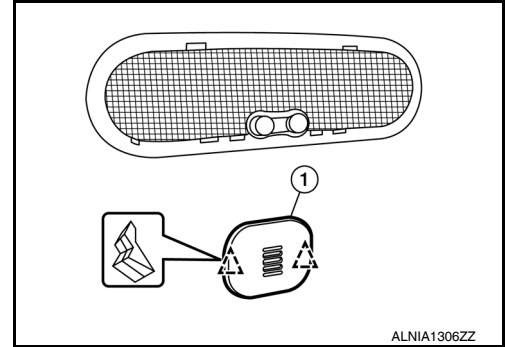
Removal and Installation

INFOID:000000007642089

REMOVAL

1. Remove the microphone (1) from the headline using a suitable tool.

 Clip



2. Disconnect the Bluetooth microphone electrical connector and remove the Bluetooth microphone.

INSTALLATION

Installation is in the reverse order of removal.

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AV

ANTENNA FEEDER

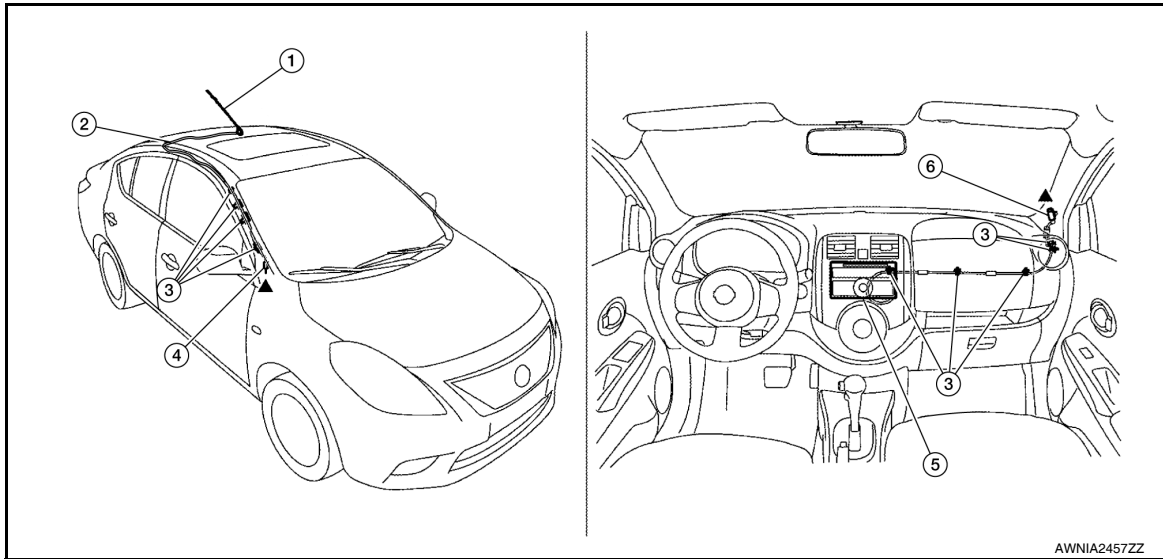
< REMOVAL AND INSTALLATION >

[MID AUDIO]

ANTENNA FEEDER

Feeder Layout

INFOID:000000007705986



- 1. Antenna mast
- 4. Connector

- 2. Antenna feed
- 5. Audio unit

- 3. Clip
- 6. Connector

PRECAUTION

PRECAUTIONS

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

INFOID:000000007642092

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution for Trouble Diagnosis

INFOID:000000007642093

AV COMMUNICATION SYSTEM

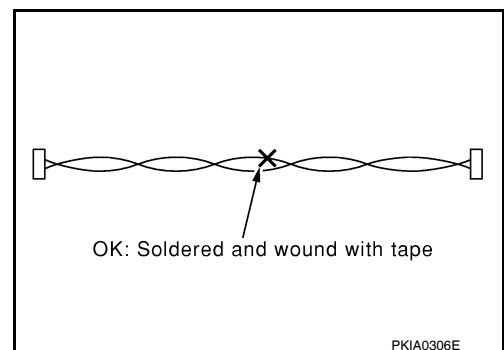
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

INFOID:000000007642094

AV COMMUNICATION SYSTEM

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

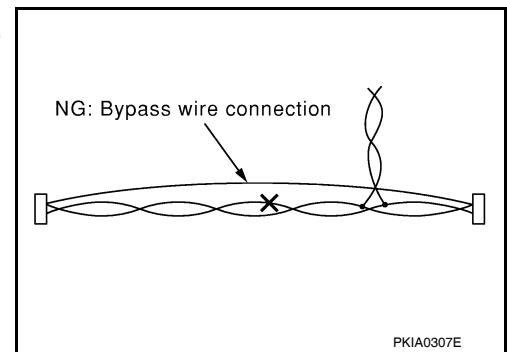


PRECAUTIONS

[PREMIUM AUDIO]

< PRECAUTION >

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



Precaution for Work

INFOID:000000007642095

- 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 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, and wring the water out of the cloth to wipe the dirty area.
Then rub with a soft and 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, and wring the water out of the cloth to wipe the detergent off. Then rub with a soft and 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 >

[PREMIUM AUDIO]

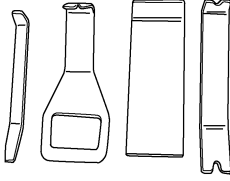
PREPARATION

PREPARATION

Special Service Tools

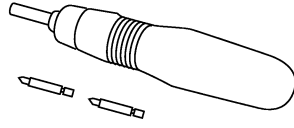
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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

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

Commercial Service Tools

INFOID:000000007642097

Tool name	Description
Power tool  PBIC0191E	Loosening bolts and nuts

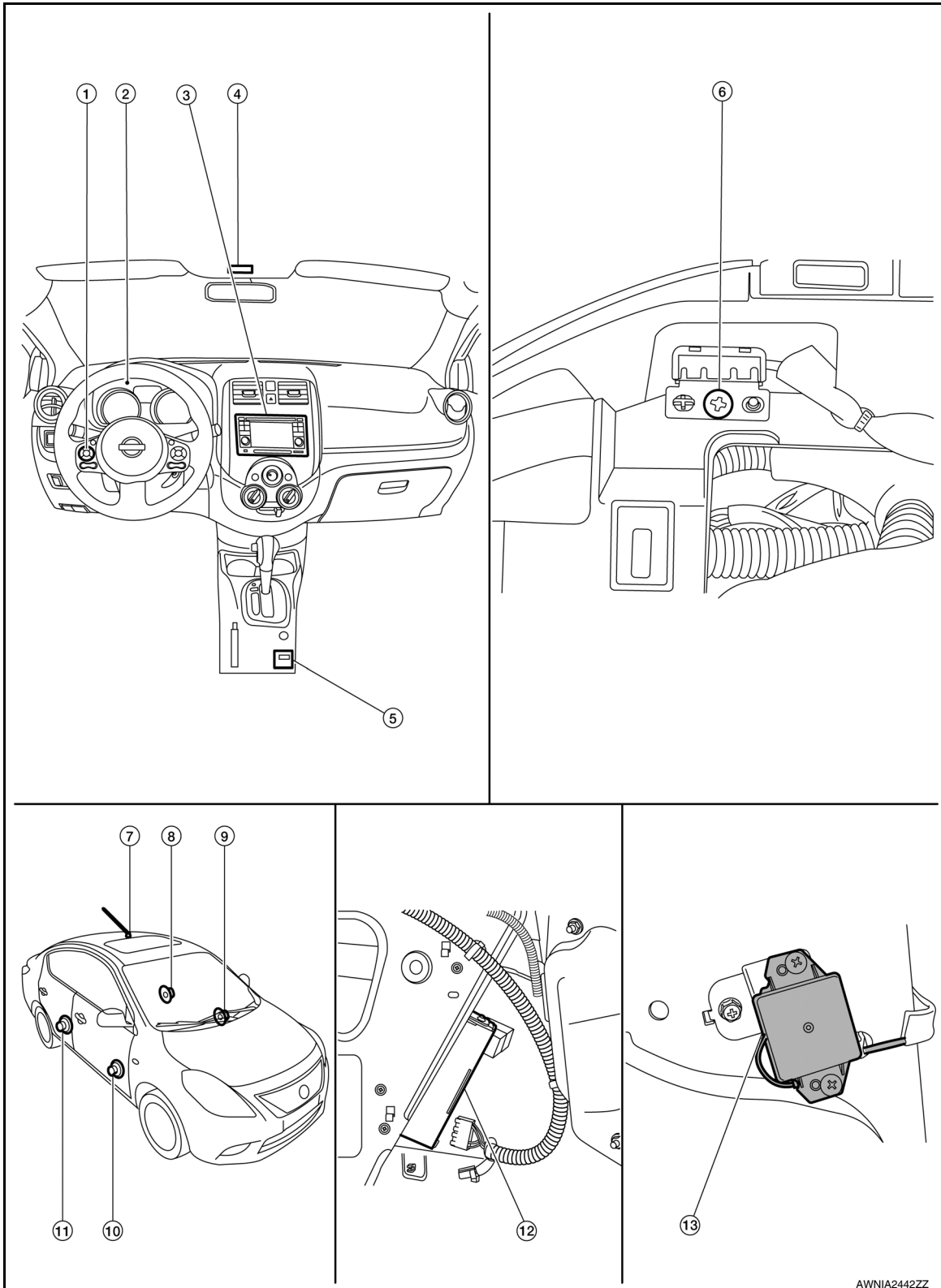
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SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000007642098



COMPONENT PARTS

< SYSTEM DESCRIPTION >

[PREMIUM AUDIO]

- | | | | |
|--|-------------------------------|---|---|
| 1. Steering wheel audio control switches | 2. Combination meter | 3. AV control unit | A |
| 4. Microphone | 5. USB interface and AUX jack | 6. GPS antenna (view with combination meter removed) | |
| 7. Rod antenna/ Satellite antenna | 8. Rear door speaker LH | 9. Front door speaker LH | B |
| 10. Front door speaker RH | 11. Rear door speaker RH | 12. Bluetooth control unit (view with trunk side finisher RH removed) | |
| 13. Bluetooth antenna (view with rear seat back assembly RH removed) | | | C |

Component Description

INFOID:000000007642099

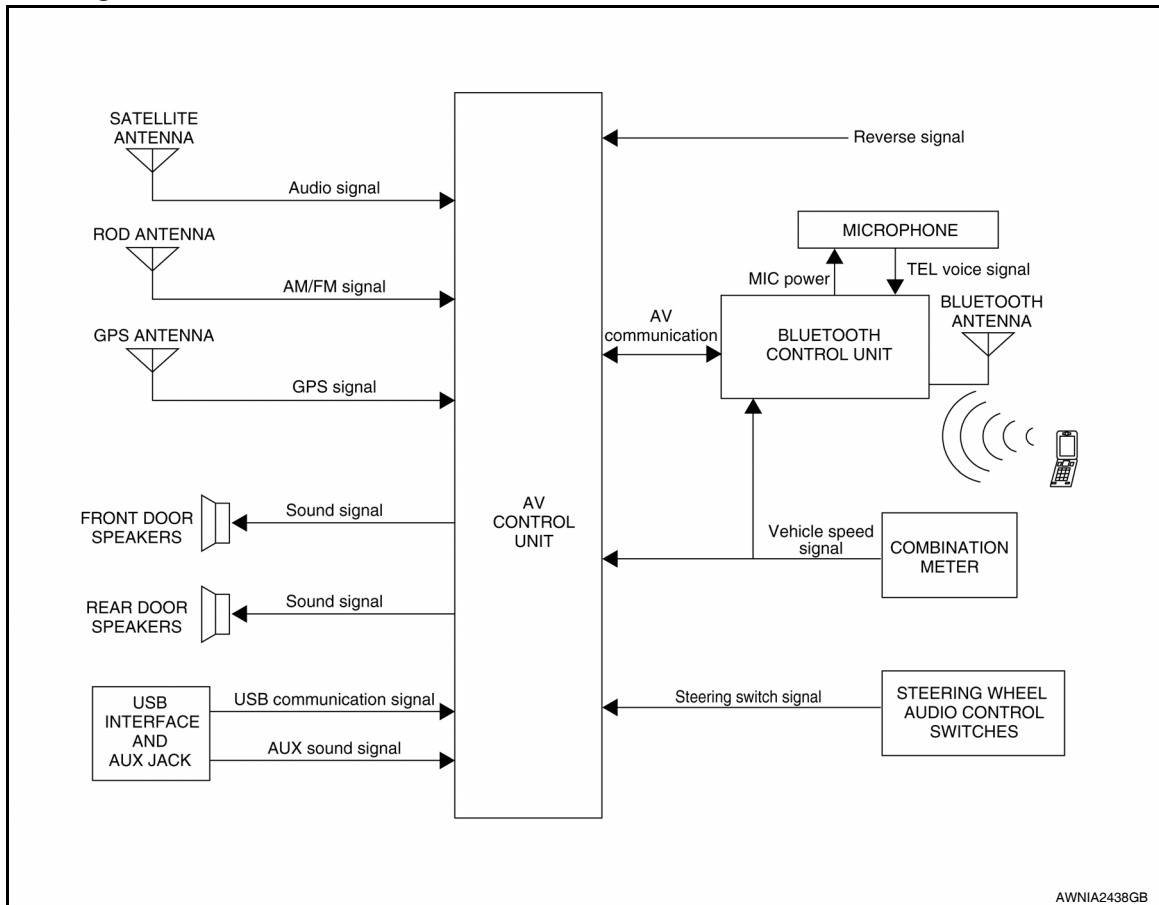
Part name	Description
AV control unit	<ul style="list-style-type: none"> Operational switch of navigation system and audio system are integrated. Includes the audio, navigation, satellite radio, USB connection and AUX connection functions. Map data can be loaded from the SD-card inserted in the built-in SD-card slot. Sound signals are output to each speaker. Inputs the illumination signals that are required for the display dimming control. Inputs the signals for driving status recognition (vehicle speed and reverse). Touch panel function can be operated for each system by touching a display directly.
Map SD-card	A collection of Map data.
Front door speaker	<ul style="list-style-type: none"> Outputs sound signal from AV control unit. Outputs mid and low range sounds.
Rear door speaker	<ul style="list-style-type: none"> Outputs sound signal from AV control unit. Outputs mid and low range sounds.
Steering wheel audio control switches	<ul style="list-style-type: none"> Operations for audio and hands-free phone are possible. Steering switch signal (operation signal) is output to AV control unit.
Bluetooth control unit	<ul style="list-style-type: none"> Inputs the TEL voice signal from Bluetooth antenna and outputs it to the AV control unit. Connected with the AV control unit via AV communication and controlled with the AV control unit.
Bluetooth antenna	<ul style="list-style-type: none"> Receives the TEL voice signal and outputs it to the Bluetooth control unit. Bluetooth antenna is unified with a Bluetooth control unit.
Microphone	<ul style="list-style-type: none"> Used for hands-free phone operation. Microphone signal is transmitted to Bluetooth control unit. Power (microphone VCC) is supplied from Bluetooth control unit.
GPS antenna	GPS signal is received and transmitted to AV control unit.
Rod antenna	Receives AM/FM radio waves and outputs it to AV control unit.
Satellite antenna	Receives satellite radio waves and outputs it to AV control unit.
USB interface and AUX jack	<ul style="list-style-type: none"> Sound signal of auxiliary input is transmitted to AV control unit. Sound signal of USB input is transmitted to AV control unit.

AV

SYSTEM

System Diagram

INFOID:000000007642100



System Description

INFOID:000000007642101

Refer to Owner's Manual for navigation and audio system operating instructions. Audio function and display are built into AV control unit.

This audio system has the following functions.

- Map data on SD-card
- Full support for playback of music from iPod® and USB device
- High resolution color 5 inch display with touch panel function
- FM/AM twin digital tuner
- USB mass storage connection
- Satellite radio
- Hands-free phone system

iPod® is a trademark of Apple inc., registered in the U.S. and other countries.

NAVIGATION SYSTEM FUNCTION

Description

- The navigation system can be operated by control panel of the AV control unit and display (touch panel) of the AV control unit.
- Guide sound during the operation of the navigation system is output from AV control unit to front speaker.
- 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

SYSTEM

< SYSTEM DESCRIPTION >

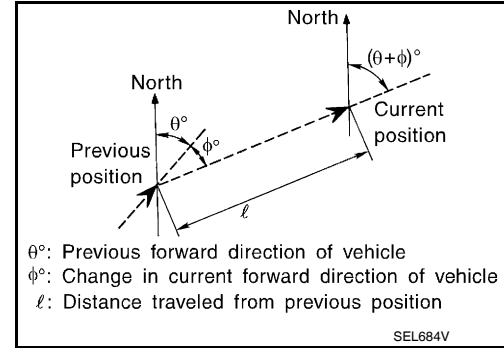
[PREMIUM AUDIO]

- Turning angle of the vehicle as determined by the gyroscope (angular velocity sensor)
- Direction of vehicle travel as determined by the GPS antenna (GPS information)

The current position of the vehicle is then identified by comparing the calculated vehicle position with map data read from the map SD-card (map-matching), and indicated on the screen as a vehicle mark. More accurate data is judged and used by comparing vehicle position detection results found by the GPS with the result by map-matching.

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

- Travel distance
Travel distance calculations are based on the vehicle speed sensor input signal. Therefore, the calculation may become incorrect as the tires wear down. To prevent this, an automatic distance correction function has been adopted.
- Travel direction
Change in the travel direction of the vehicle is calculated by a gyroscope (angular velocity sensor) and a GPS antenna (GPS information). They have both advantages and disadvantages.



Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	Can detect the vehicle's turning angle quite accurately.	Direction errors may accumulate when vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	Can detect the vehicle's travel direction (North/South/East/West).	Correct direction cannot be detected when vehicle speed is low.

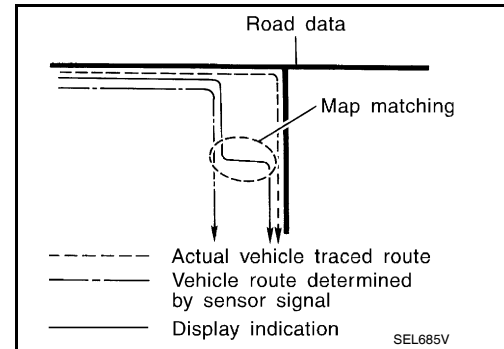
More accurate traveling direction is detected because priorities are set for the signals from these two devices according to the situation.

MAP-MATCHING

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

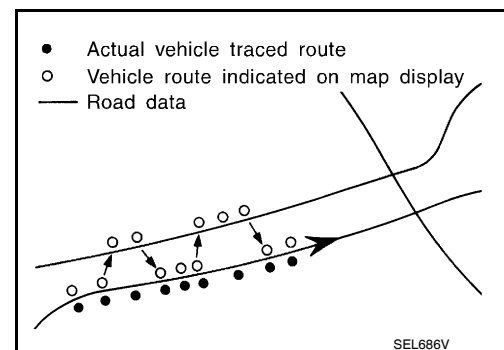
NOTE:

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



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

- In map-matching, alternative routes to reach the destination will be shown and prioritized, after the road on which the vehicle is currently driven has been judged and the vehicle mark has been repositioned. Alternative routes will be shown in different order of priority, and the incorrect road can be avoided if there is an error in distance and/or direction. Routes are of the same priority if two roads are running in parallel. Therefore, the vehicle mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.

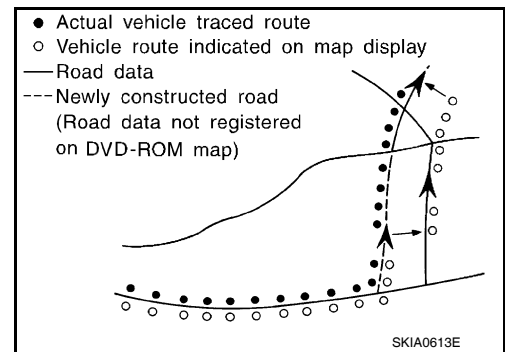


SYSTEM

< SYSTEM DESCRIPTION >

[PREMIUM AUDIO]

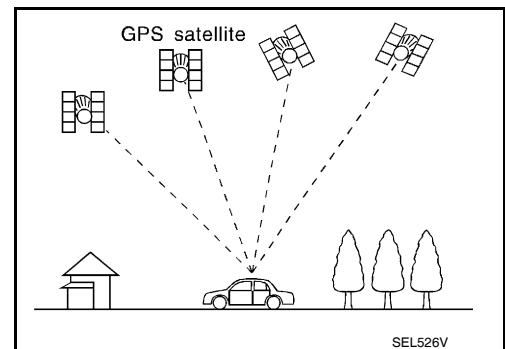
- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair. The map-matching function may find another road and position the vehicle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



GPS (Global Positioning System)

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

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



Accuracy of the GPS will deteriorate under the following conditions:

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

NOTE:

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

SATELLITE RADIO FUNCTION

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

AUXILIARY INPUT FUNCTION

- Sound can be output from an external device by connecting a device with USB connector and AUX jack.
- AUX sound signals are transmitted to each speaker and tweeter via AV control unit.

USB CONNECTION FUNCTION

- iPod® or music files in USB memory can be played.
- Sound signals are transmitted from USB connector and AUX jack to the AV control unit and output to each speaker.
- iPod® is recharged when connected to USB connector and AUX jack.

NOTE:

Use the enclosed USB harness when connecting iPod® to USB connector and AUX jack.

iPod® is a trademark of Apple inc., registered in the U.S. and other countries.

SPEED SENSITIVE VOLUME SYSTEM

- Volume level of this system goes up and down automatically in proportion to the vehicle speed.

- The control level can be selected by the customer.

HANDS-FREE PHONE SYSTEM

- Bluetooth control unit is controlled with AV communication from AV control unit.
- The connection between cellular phone and Bluetooth control unit is performed with Bluetooth® communication.
- The voice guidance signal is input from the Bluetooth control unit to the AV control unit and output to the front speaker when operating the cellular phone.
- Bluetooth control unit has the on-board self-diagnosis function. Refer to [AV-97, "Diagnosis Description"](#).

When A Call Is Originated

- Spoken voice sound output from the microphone (microphone signal) is input to Bluetooth control unit.
- Bluetooth 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 Bluetooth control unit by establishing Bluetooth communication from cellular phone, and the signal is output to front speaker.

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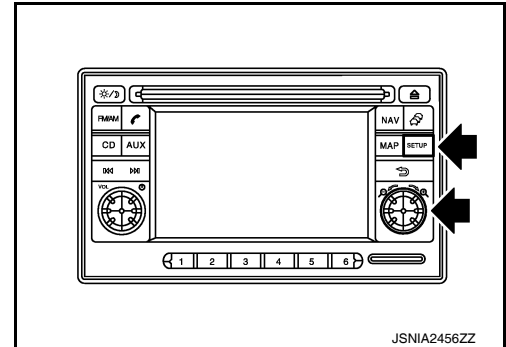
DIAGNOSIS SYSTEM (AV CONTROL UNIT)

On Board Diagnosis Function

INFOID:000000007642102

METHOD OF STARTING

1. Start the engine.
2. Turn OFF audio.
3. While pressing the SET UP switch, turn the MENU dial counter-clockwise 3 clicks or more first, then clockwise and counter-clockwise 3 clicks or more, respectively. (After the diagnosis mode starts, the initial screen of the diagnosis mode appears.)



- On-board diagnosis can be performed in the service test mode.
- On-board diagnosis checks that the system can be operated normally.

Service test mode

Mode	Item	Content
Service Version	—	The version data of the parts is shown displayed.
Radio	FM monitor	The Change Mediator monitors the dynamic values of the current tuner. If the band is switched within the radio monitor context, the active monitor is switched as well.
	AM monitor	
	XM monitor	The version data is displayed.
	XM functions	<ul style="list-style-type: none"> • Clear XM Chipset NVM • Reset all XM settings • XM CBM debug mode ON/OFF • External Diag mode ON/OFF The current status is displayed.
User Configuration	Touch Display Calibration	The function allows connection of the position detection accuracy of the touch panel.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[PREMIUM AUDIO]

Mode	Item	Content	
System State	Running system status	<ul style="list-style-type: none"> • SD card slot Access • Power Supply • Speed Signal • Direction Signal • Illumination Signal • GPS Antenna • GPS Tracking • Satellites Visible • Satellites Tracked • BTHFU Status • Radio Antenna • USB Device • iPod® firmware version • Steering wheel key 	The current system status is displayed.
	System history	<ul style="list-style-type: none"> • SD-card Slot - Sub-Unit Connection Malfunction • Programming Error • Radio-Antenna Circuit Malfunction • FM-Antenna 1 Connection Malfunction • Satellite Antenna Connection Failure • GPS Antenna Circuit Malfunction • CD-Drive Mechanical Malfunction • CD Read Malfunction • Power Supply voltage: Lower Limit Exceeded • Power Supply voltage: Upper Limit Exceeded • Reduced system Functionality due to over temperature • Display switched OFF due to over temperature • SD card removed without being de-mounted • Code plug missing 	The current system history is displayed.
	Speaker test 100Hz	—	This activates a sequence of test tone outputs to the four speaker lines one after the other for 1 second.
	Speaker test 4KHz	—	The frequency can be chosen by user selection (100Hz or 4KHz).
	Display test	—	<p>This provides a test sequence where test displays (plain colored display: e.g. white, black, red, blue, green) are shown one after the other.</p> <p>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.</p>

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DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[PREMIUM AUDIO]

Mode	Item	Content
System Configuration	<ul style="list-style-type: none">• Pulses speed 8PR• Clock ON/OFF• Camera guidelines NA• Equalizer setup X02B• RF tuning N. America• Antenna type• Sound system• Sub Out: Code• Steering wheel X02B	The device is configured by a connected hardware circuit. The parameter is influenced.
Self Test	<ul style="list-style-type: none">• SD-card Access Malfunction• Radio-Antenna Circuit Malfunction• GPS Antenna Circuit Malfunction• XM Antenna Circuit Malfunction	A system self test is executed: the result is stored into the error memory which is shown afterwards as a list of codes of the detected malfunctions.

END ON-BOARD DIAGNOSIS

Turn OFF ignition switch.

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

< SYSTEM DESCRIPTION >

[PREMIUM AUDIO]



DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description


INFOID:000000007678468

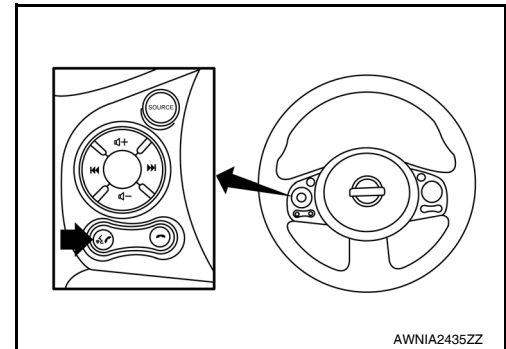
The Bluetooth control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.



BLUETOOTH CONTROL UNIT (AUTOMATIC INITIALIZATION) CHECK

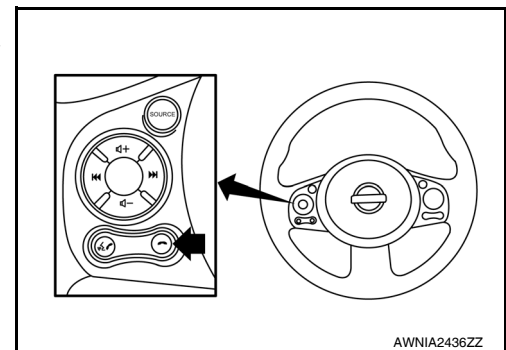
- Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switches  (PHONE/SEND)/  (PHONE/END) stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth inquiry check

BLUETOOTH CONTROL UNIT (STEERING WHEEL AUDIO CONTROL SWITCHES) CHECK

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



4. While the prompt is playing, press and hold the steering wheel audio control switches  (PHONE/END) switch until you hear the “Diagnostics mode” prompt. The Bluetooth system will sound a 5 second beep.
5. While the beep is sounding, press and hold the steering wheel audio control switch  (PHONE/END) switch again until you hear prompts.
6. The Bluetooth system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician. Refer to [AV-97, "Work Flow"](#).
7. After the failure records are reported, an interactive microphone test will be performed. Follow the voice prompt. If the microphone test fails refer to [AV-97, "Work Flow"](#).
8. Self-diagnosis mode is complete when the voice prompt says “All diagnostic functions completed”.



Work Flow

INFOID:000000007678469

Failure Message	Action
“Internal failure”	Replace Bluetooth control unit. Refer to AV-143, "Removal and Installation" .
“Bluetooth antenna open”	<ol style="list-style-type: none"> 1. Inspect harness connection. 2. Replace Bluetooth antenna. Refer to AV-142, "Removal and Installation".
“Bluetooth antenna shorted”	
“Phone/Send for hands-free system is stuck”	Check steering wheel audio control switches. Refer to AV-126, "Diagnosis Procedure" .
“Phone/End for the hands-free system is stuck”	
“Microphone test” (failed interactive test)	<ol style="list-style-type: none"> 1. Inspect harness between Bluetooth control unit and microphone. 2. Replace microphone. Refer to AV-144, "Removal and Installation".

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[PREMIUM AUDIO]

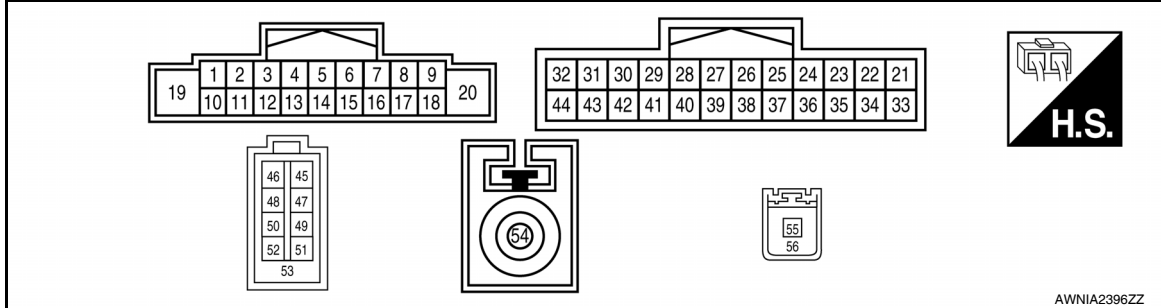
ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

INFOID:000000007642105

TERMINAL LAYOUT



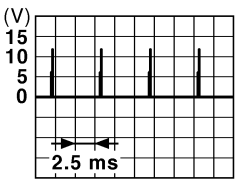

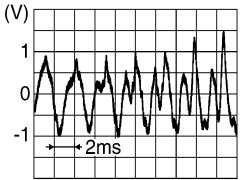
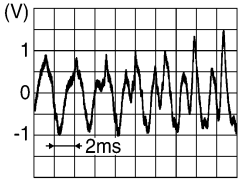

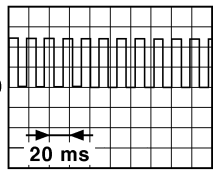
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
2 (GR)	3 (P)	Sound signal front door speaker LH	Output	Ignition switch ON	Audio output	 SKIB3609E
4 (W)	5 (R)	Sound signal rear door speaker LH	Output	Ignition switch ON	Audio output	 SKIB3609E
6 (LG)	15 (L)	Steering switch signal A	Input	Ignition switch ON	Press SOURCE switch	0 V
					Press SEEK UP switch	1.4 V
					Press SEEK DOWN switch	2.5 V
					Press switch	3.5 V
					Except for above	5.0 V
7 (L)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[PREMIUM AUDIO]

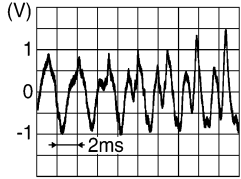
Terminal (Wire color)		Description		Condition	Reference value (Approx.)	
+	-	Signal name	Input/ Output			
9 (LG)	8 (B)	Illumination control signal	Input	Ignition switch ON	<ul style="list-style-type: none"> Lighting switch 1ST When meter illumination is maximum  <p style="text-align: right; font-size: small;">JPNIA1687GB</p>	
				Ignition switch ON	<ul style="list-style-type: none"> Lighting switch 1ST When meter illumination is step 11  <p style="text-align: right; font-size: small;">JPNIA1686GB</p>	
				Ignition switch ON	<ul style="list-style-type: none"> Lighting switch 1ST When meter illumination is minimum <p style="text-align: center;">0 V</p>	
11 (O)	12 (V)	Sound signal front speaker RH	Output	Ignition switch ON	Sound output	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
13 (L)	14 (Y)	Sound signal rear speaker RH	Output	Ignition switch ON	Sound output	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
16 (R)	15 (L)	Steering switch signal B	Input	Ignition switch ON	Press VOL DOWN switch	0 V
					Press VOL UP switch	1.4 V
					Press  switch	2.5 V
					Except for above	5.0 V
18 (P)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 25 mph (40 km/h)	<p style="text-align: center;">NOTE: The maximum voltage varies depending on the specification (destination unit).</p>  <p style="text-align: right; font-size: small;">JSNIA0012GB</p>
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage

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AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[PREMIUM AUDIO]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
20 (B/W)	Ground	EQ1	—	Ignition switch ON	—	0 V
28 (Y)	Ground	Reverse signal	Input	Ignition switch ON	Shift position is in R	12.0 V
					Shift position is in other than R	0 V
30 (B/W)	Ground	EQ3	—	Ignition switch ON	—	0 V
31 (B/W)	—	EQ2	—	Ignition switch ON	—	0 V
38 (SB)	—	M CAN L1	Input/ Output	—	—	—
39 (LG)	—	M CAN H1	Input/ Output	—	—	—
40	—	Shield	—	—	—	—
41 (B/W)	—	TEL ground	—	—	—	—
43 (G)	42 (R)	Sound signal (TEL voice, voice guid- ance)	Input	Ignition switch ON	During voice guide output with the switch pressed	 <small>SKIB3609E</small>
45	—	USB ground	—	—	—	—
46	—	AUX sound signal LH	Input/ Output	—	—	—
47	—	USB D- signal	Input/ Output	—	—	—
48	—	AUX sound signal RH	Output	—	—	—
49	—	USB D+ signal	Input	—	—	—
50	—	AUX sound signal ground	Input	—	—	—
51	—	USB V BUS signal	Input	—	—	—
53	—	USB Shield	—	—	—	—
54 (B)	—	Satellite radio antenna sig- nal	Input	—	—	—
55 (B)	Ground	GPS antenna signal	Input	Ignition switch ON	—	—
56	—	Shield	—	—	—	—

BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

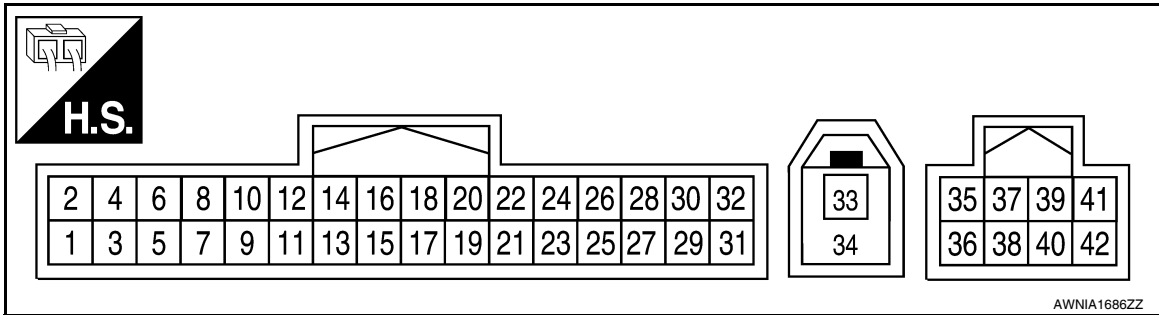
[PREMIUM AUDIO]

BLUETOOTH CONTROL UNIT

Reference Value

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TERMINAL LAYOUT



PHYSICAL VALUES

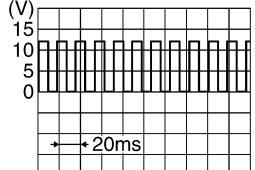
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
1 (Y)	Ground	Battery power	Input	-	-	Battery voltage
2 (L)	Ground	ACC power	Input	Ignition switch ACC or ON	-	Battery voltage
3 (O)	Ground	IGN power	Input	Ignition switch ON or START	-	Battery voltage
4 (B)	Ground	Ground	-	-	-	0.2 V
7 (BR)	8 (B)	Mic-in signal	Input	Ignition switch ACC or ON	While speaking into microphone	<p>PKIB5037J</p>
9 (R)	10 (L)	Audio out	Output	Ignition switch ACC or ON	Bluetooth control unit sends audio sig- nal	<p>SKIB3609E</p>
11 (SB)	-	Mute	Output	-	-	-

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BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[PREMIUM AUDIO]

Terminal (Wire color)		Description		Condition	Reference value (Approx.)	
+	-	Signal name	Input/ Output			
12 (W)	Ground	Ladder input 1	Input	Ignition switch ACC or ON	Press SOURCE switch	0 V
					Press SEEK UP switch	0.7 V
					Press SEEK DOWN switch	1.3 V
					Press switch	2.0 V
					Except for above	3.3 V
13 (P)	Ground	Ladder input 2	Input	Ignition switch ACC or ON	Press VOL DOWN switch	0.7 V
					Press VOL UP switch	1.3 V
					Press switch	2.0 V
					Except for above	3.3 V
14 (G)	-	Ladder ground	Input	-	-	-
17 (BR)	Ground	Steering switch signal A	Output	Ignition switch ACC or ON	Press SOURCE switch	0 V
					Press Δ switch	0.7 V
					Press ∇ switch	1.3 V
					Press switch	2.0 V
					Except for above	3.3 V
18 (V)	Ground	Steering switch signal B	Output	Ignition switch ACC or ON	Press volume DOWN switch	0.7 V
					Press volume UP switch	1.3 V
					Press switch	2.0 V
					Except for above	3.3 V
19 (GR)	-	Steering switch ground	Output	-	-	-
21 (B)	-	Ground	-	-	-	0 V
23 (B)	-	Ground	-	-	-	0 V
24 (B)	-	Ground	-	-	-	0 V
27 (B)	-	Ground	-	-	-	0 V
28 (LG)	-	Vehicle speed signal (8- pulse)	Input	Ignition switch ON	When vehicle speed is approx. 25 MPH (40 km/h)	

PKIA1935E

BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[PREMIUM AUDIO]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
29 (Y)	Ground	Microphone power	Output	Ignition switch ACC or ON	-	5 V
33 (B)	-	Bluetooth an- tenna	-	-	-	-
34	-	Shield	-	-	-	-
35 (SB)	-	CAN H1	-	-	-	-
36 (LG)	-	CAN L1	-	-	-	-
39 (LG)	-	CAN jumper 1	-	-	-	-
40 (LG)	-	CAN H2	-	-	-	-
41 (SB)	-	CAN jumper 2	-	-	-	-
42 (SB)	-	CAN L2	-	-	-	-

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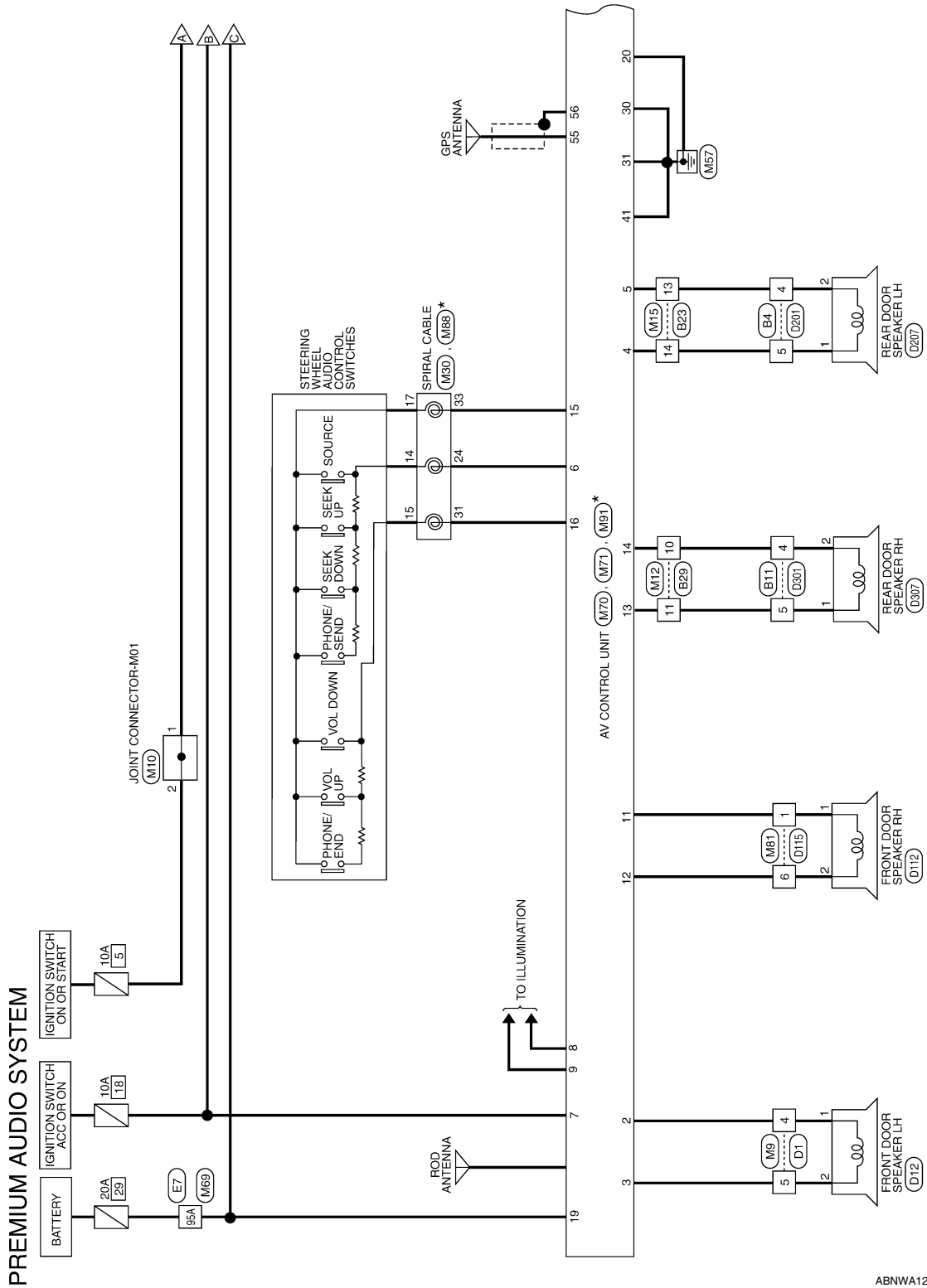
< WIRING DIAGRAM >

WIRING DIAGRAM

PREMIUM AUDIO SYSTEM

Wiring Diagram

INFOID:000000007642107



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

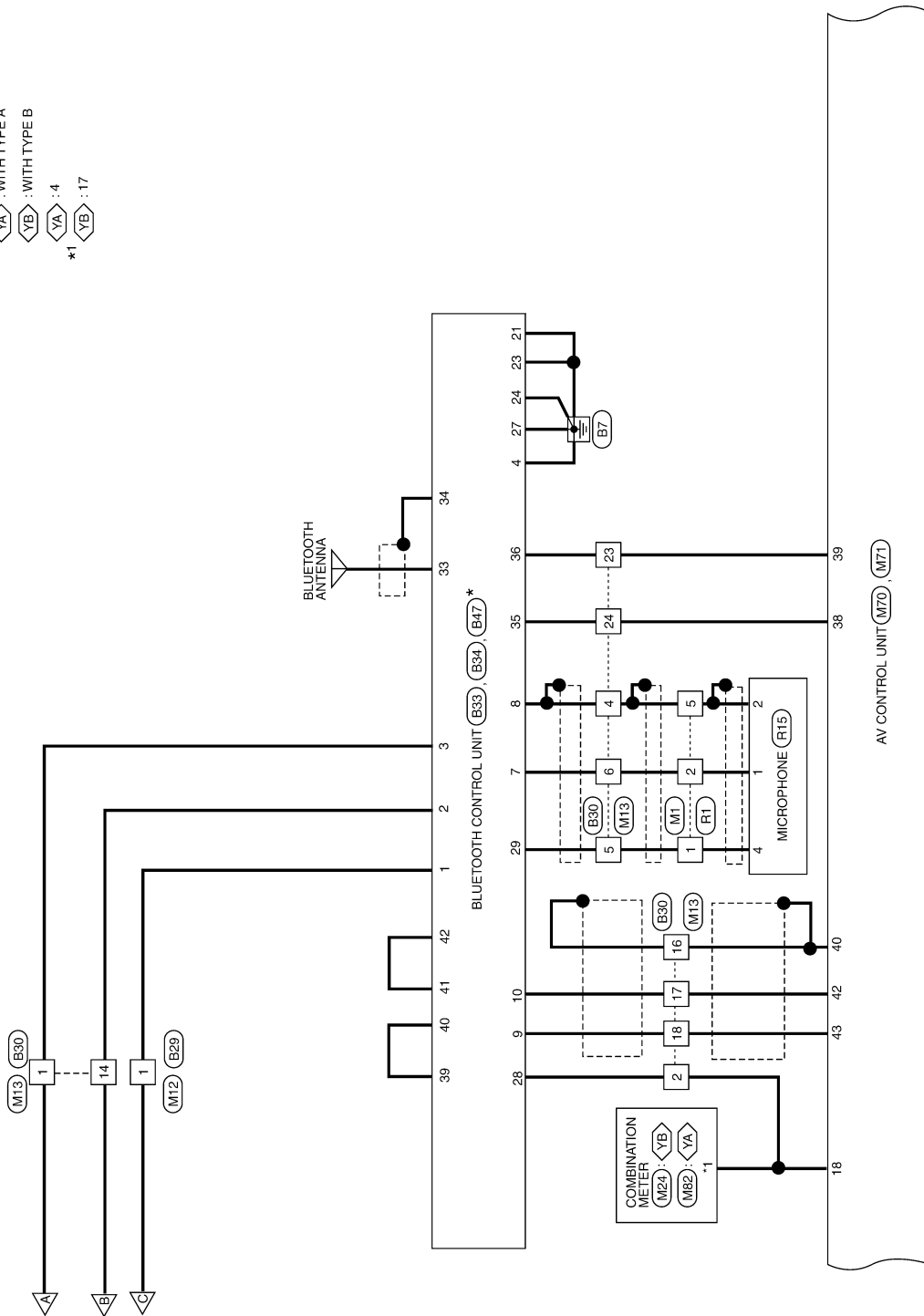
ABNWA1226GB

PREMIUM AUDIO SYSTEM

< WIRING DIAGRAM >

[PREMIUM AUDIO]

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 <VA> : 4
 <VB> : 17
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*: THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

ABNWA1227GB

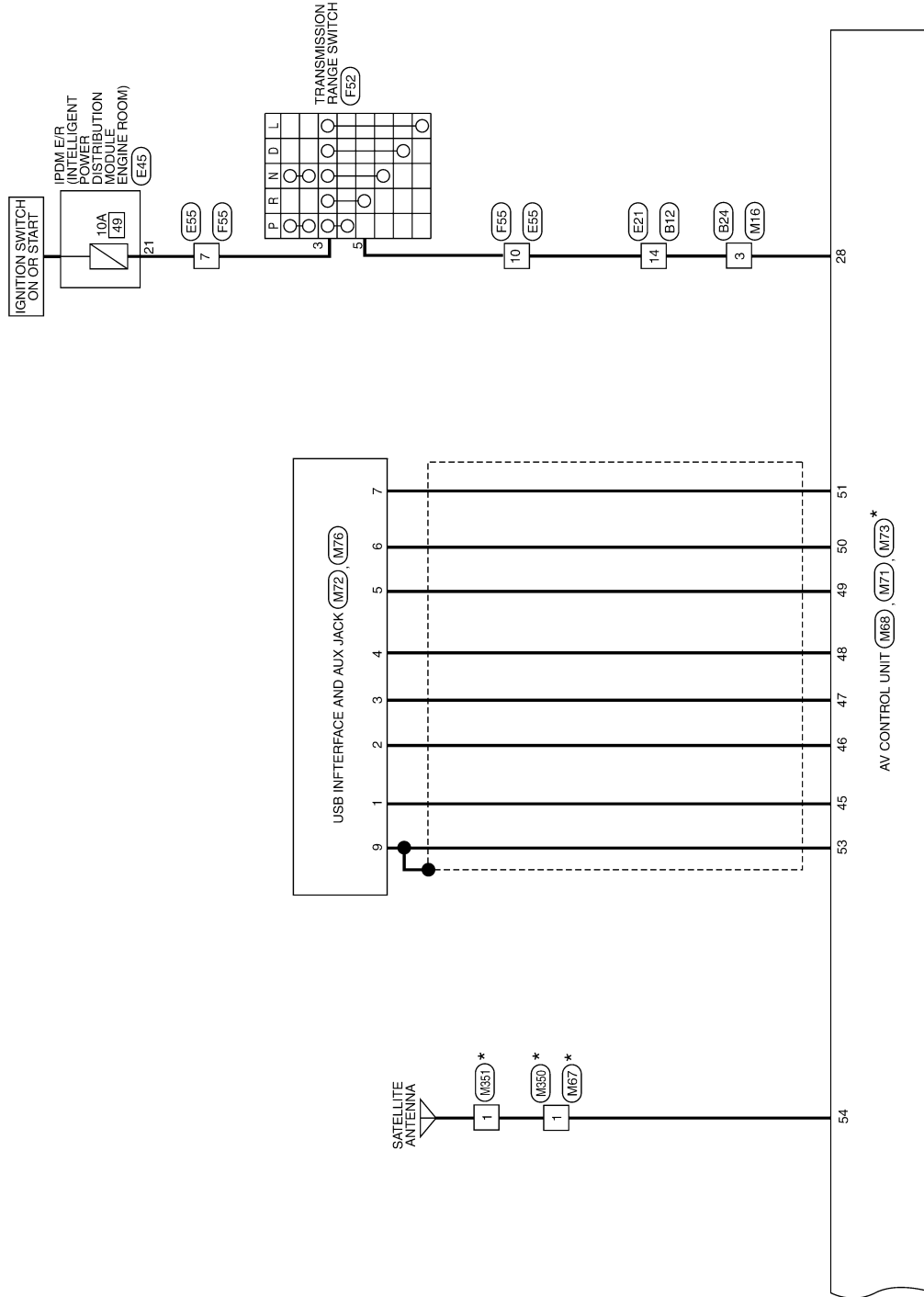
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PREMIUM AUDIO SYSTEM

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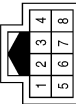
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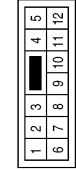
PREMIUM AUDIO SYSTEM CONNECTORS

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



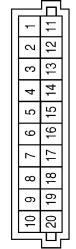
Terminal No.	Color of Wire	Signal Name
1	L	-
2	P	-
5	SHIELD	-

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



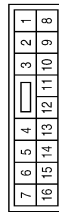
Terminal No.	Color of Wire	Signal Name
4	GR	-
5	P	-

Connector No.	M10
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY



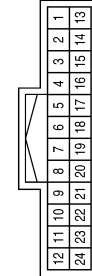
Terminal No.	Color of Wire	Signal Name
1	O	-
2	O	-

Connector No.	M12
Connector Name	WIRE TO WIRE
Connector Color	WHITE



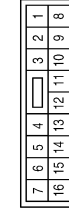
Terminal No.	Color of Wire	Signal Name
1	Y	-
10	Y	-
11	L	-

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



Terminal No.	Color of Wire	Signal Name
1	O	-
2	SB	-
4	SHIELD	-
5	L	-
6	P	-
14	L	-
16	SHIELD	-
17	R	-
18	G	-
23	LG	-
24	SB	-

Connector No.	M15
Connector Name	WIRE TO WIRE
Connector Color	WHITE



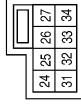
Terminal No.	Color of Wire	Signal Name
13	R	-
14	W	-

PREMIUM AUDIO SYSTEM

< WIRING DIAGRAM >

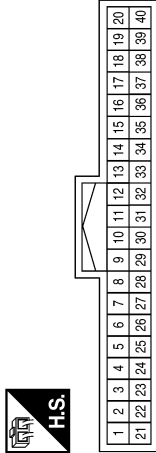
[PREMIUM AUDIO]

Connector No.	M30
Connector Name	COMBINATION SWITCH
Connector Color	GRAY



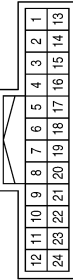
Terminal No.	Color of Wire	Signal Name
24	LG	STRG SW A
31	R	STRG SW B
33	L	STRG SW GND

Connector No.	M24
Connector Name	COMBINATION METER (WITH TYPE B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
17	P	8P/R

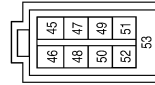
Connector No.	M16
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	Y	-

Terminal No.	Color of Wire	Signal Name
45	-	USB GND
46	-	AUDIO L
47	-	USB D-
48	-	AUDIO R
49	-	USB D+
50	-	AUDIO GND
51	-	V BUS
52	-	-
53	-	USB SHIELD

Connector No.	M68
Connector Name	AV CONTROL UNIT
Connector Color	GRAY



Connector No.	M67
Connector Name	WIRE TO WIRE
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	B	-

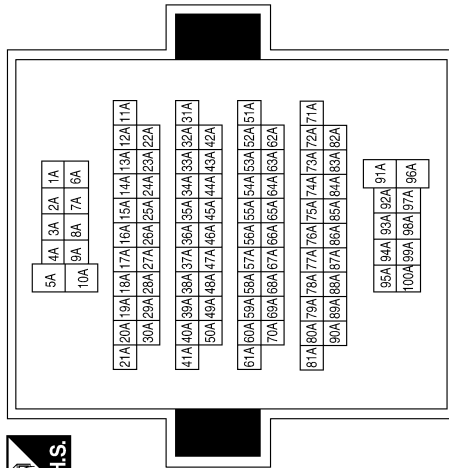
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PREMIUM AUDIO SYSTEM

< WIRING DIAGRAM >

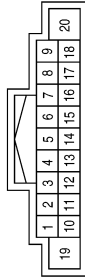
[PREMIUM AUDIO]

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



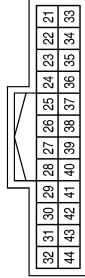
Terminal No.	Color of Wire	Signal Name
95A	Y	-

Connector No.	M70
Connector Name	AV CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	-	-
2	GR	FR SP LH (+)
3	P	FR SP LH (-)
4	W	RR SP LH (+)
5	R	RR SP LH (-)
6	LG	STRG SW A
7	L	ACC
8	B	ILL (-)
9	LG	ILL (+), LIGHT SW
10	-	-
11	O	FR SP RH (+)
12	V	FR SP RH (-)
13	L	RR SP RH (+)
14	Y	RR SP RH (-)
15	L	STRG SW GND
16	R	STRG SW B
17	-	-
18	P	SPEED SIGNAL
19	Y	BAT
20	B/W	GND (SHIELD1)

Connector No.	M71
Connector Name	AV CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	Y	REVERSE
29	-	-
30	B/W	EQ3
31	B/W	EQ2
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	SB	MCAN +
39	LG	MCAN -
40	SHIELD	TEL SHIELD
41	B/W	TEL GND
42	R	TEL -VE
43	G	TEL +VE
44	-	-

A B C D E F G H I J K L M O P

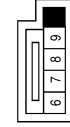
AV

PREMIUM AUDIO SYSTEM

< WIRING DIAGRAM >

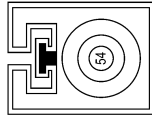
[PREMIUM AUDIO]

Connector No.	M76
Connector Name	USB INTERFACE AND AUX JACK
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
6	-	AUDIO L
7	-	AUDIO GND
8	-	-
9	-	AUDIO R

Connector No.	M73
Connector Name	AV CONTROL UNIT
Connector Color	GREEN



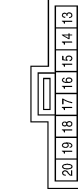
Terminal No.	Color of Wire	Signal Name
54	B	-

Connector No.	M72
Connector Name	USB INTERFACE AND AUX JACK
Connector Color	BLACK



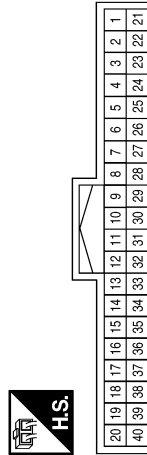
Terminal No.	Color of Wire	Signal Name
1	-	V BUS
2	-	USB D-
3	-	USB D+
4	-	USB GND
5	-	USB SHIELD

Connector No.	M88
Connector Name	COMBINATION SWITCH
Connector Color	GRAY



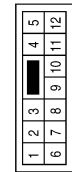
Terminal No.	Color of Wire	Signal Name
14	W	REMOTE A
15	L	REMOTE B
17	BR	GND

Connector No.	M82
Connector Name	COMBINATION METER (WITH TYPE A)
Connector Color	WHITE



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

Connector No.	M81
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	O	-
6	V	-

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PREMIUM AUDIO SYSTEM

< WIRING DIAGRAM >

[PREMIUM AUDIO]

Connector No.	M351
Connector Name	SATELLITE RADIO ANTENNA
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M350
Connector Name	WIRE TO WIRE
Connector Color	VIOLET



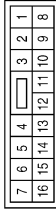
Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M91
Connector Name	AV CONTROL UNIT
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
55	B	-
56	SHIELD	-

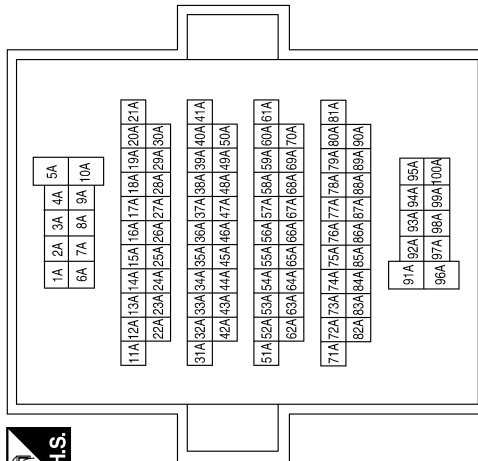
Connector No.	E21
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
14	SB	-

Terminal No.	95A	Color of Wire	LG	Signal Name	-
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Connector No.	E7
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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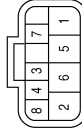
AV

PREMIUM AUDIO SYSTEM

< WIRING DIAGRAM >

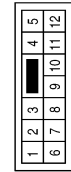
[PREMIUM AUDIO]

Connector No.	F52
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



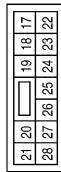
Terminal No.	Color of Wire	Signal Name
3	R	-
5	O	-

Connector No.	E55
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
7	R	-
10	SB	-

Connector No.	E45
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



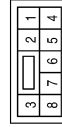
Terminal No.	Color of Wire	Signal Name
21	R	AT ECU (WITH CVT)

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Color	WHITE



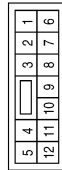
Terminal No.	Color of Wire	Signal Name
4	GR	-
5	LG	-

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



Terminal No.	Color of Wire	Signal Name
4	R	-
5	W	-

Connector No.	F55
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
7	R	-
10	O	-

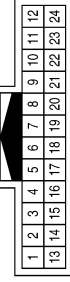
ABNIA3127GB

PREMIUM AUDIO SYSTEM

< WIRING DIAGRAM >

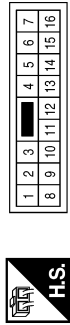
[PREMIUM AUDIO]

Connector No.	B24
Connector Name	WIRE TO WIRE
Connector Color	WHITE



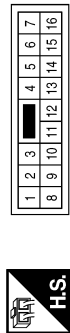
Terminal No.	Color of Wire	Signal Name
3	Y	-

Connector No.	B23
Connector Name	WIRE TO WIRE
Connector Color	WHITE



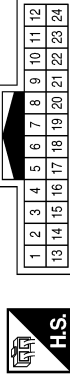
Terminal No.	Color of Wire	Signal Name
13	R	-
14	W	-

Connector No.	B12
Connector Name	WIRE TO WIRE
Connector Color	GRAY



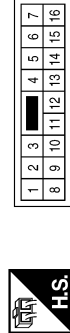
Terminal No.	Color of Wire	Signal Name
14	Y	-

Connector No.	B30
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	O	-
2	LG	-
4	SHIELD	-
5	Y	-
6	BR	-
14	L	-
16	SHIELD	-
17	L	-
18	R	-
23	LG	-
24	SB	-

Connector No.	B29
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	-
10	GR	-
11	LG	-

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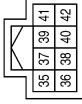
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PREMIUM AUDIO SYSTEM

< WIRING DIAGRAM >

[PREMIUM AUDIO]

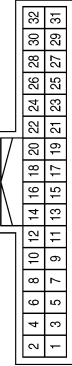
Connector No.	B34
Connector Name	BLUETOOTH CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
35	SB	CAN H1
36	LG	CAN L1
37	-	-
38	-	-
39	LG	CAN JUMPER 1
40	LG	CAN H2
41	SB	CAN JUMPER 2
42	SB	CAN L2

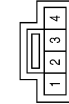
Terminal No.	Color of Wire	Signal Name
13	P	LADDER IN 2
14	G	LADDER IN 3
15	-	-
16	-	-
17	BR	LADDER OUT 1
18	V	LADDER OUT 2
19	GR	LADDER OUT 3 (GND)
20	-	-
21	B	CONT 2
22	-	-
23	B	CONT 4
24	B	CONT 5
25	-	-
26	-	-
27	B	CONT 6
28	LG	SPEED
29	Y	MIC POWER
30	-	-
31	-	-
32	-	-

Connector No.	B33
Connector Name	BLUETOOTH CONTROL UNIT
Connector Color	WHITE



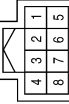
Terminal No.	Color of Wire	Signal Name
1	Y	+B
2	L	ACC
3	O	IGN
4	B	GND
5	-	-
6	-	-
7	BR	MIC IN+
8	SHIELD	MIC IN - (GND)
9	R	AUDIO OUT +
10	L	AUDIO OUT -
11	SB	MUTE CONTROL
12	W	LADDER IN 1

Connector No.	R15
Connector Name	MICROPHONE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	P	-
2	SHIELD	-
4	L	-

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



Terminal No.	Color of Wire	Signal Name
1	L	-
2	P	-
5	SHIELD	-

Connector No.	B47
Connector Name	BLUETOOTH CONTROL UNIT
Connector Color	GRAY



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

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PREMIUM AUDIO SYSTEM

< WIRING DIAGRAM >

[PREMIUM AUDIO]

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



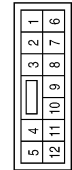
Terminal No.	Color of Wire	Signal Name
1	GR	-
2	P	-

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



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

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



Terminal No.	Color of Wire	Signal Name
4	GR	-
5	P	-

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



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

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



Terminal No.	Color of Wire	Signal Name
4	R	-
5	W	-

Connector No.	D115
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	GR	-
6	P	-

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PREMIUM AUDIO SYSTEM

< WIRING DIAGRAM >

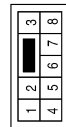
[PREMIUM AUDIO]

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



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

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



Terminal No.	Color of Wire	Signal Name
4	R	-
5	W	-

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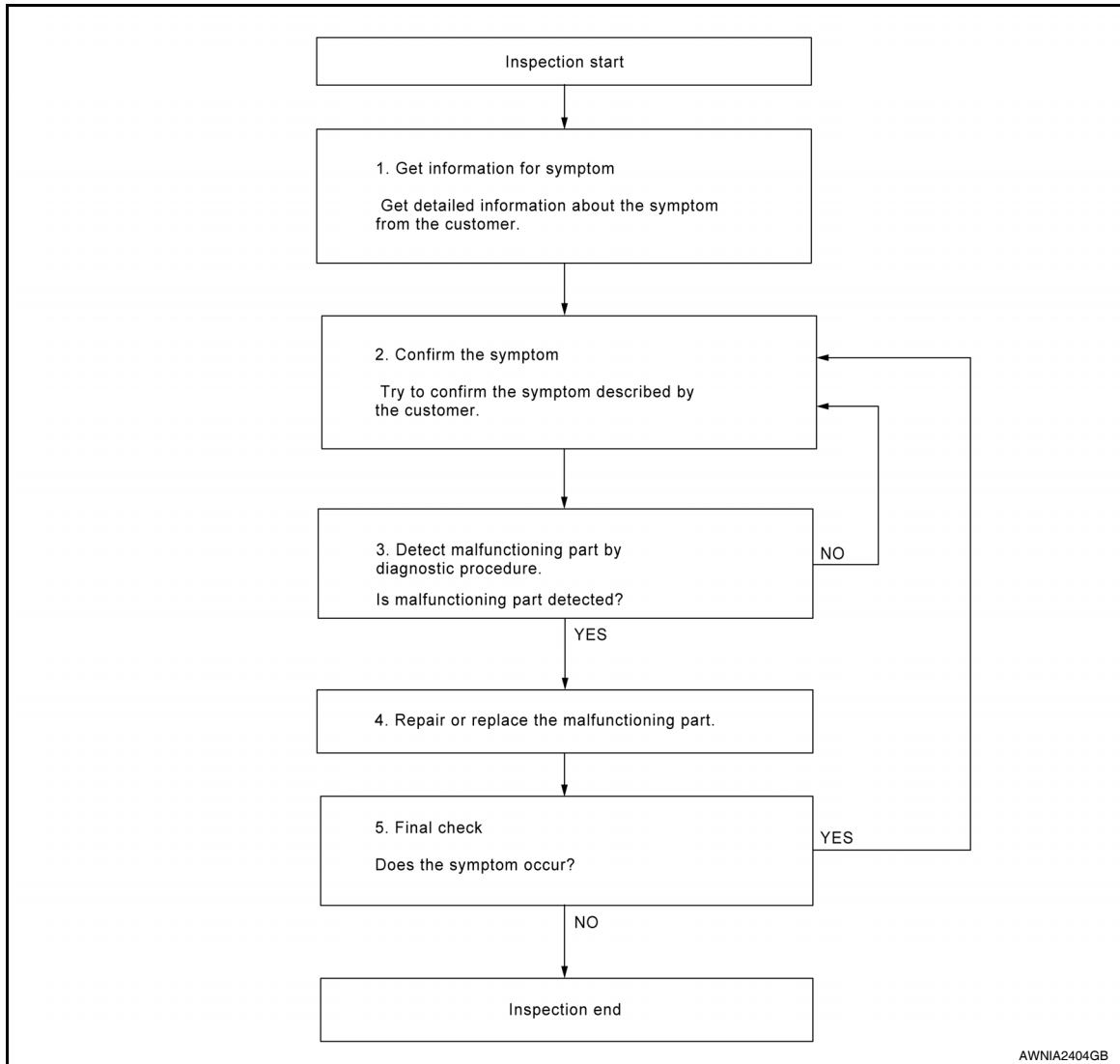
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000007642108

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-130. "Symptom Table"](#).

>> GO TO 3

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

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AV

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[PREMIUM AUDIO]

Is malfunctioning part detected?

YES >> GO TO 4

NO >> GO TO 2

4.REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5

5.FINAL CHECK

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

Was the repair confirmed?

YES >> Inspection End.

NO >> GO TO 2

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000007642109

Regarding Wiring Diagram information, refer to [AV-104, "Wiring Diagram"](#).

1.CHECK FUSE

Check that the following fuses of the AV control unit are not blown.

Unit	Terminals	Signal name	Fuse No.
AV control unit	19	Battery power	29
	7	Ignition switch ACC or ON	18

Is the inspection result normal?

YES >> GO TO 2

NO >> Replace the fuse after repairing the affected circuit. Refer to [GI-41, "Circuit Inspection"](#).

2.AV CONTROL UNIT POWER SUPPLY CIRCUIT CHECK

1. Disconnect AV control unit connector M70.
2. Check voltage between the AV control unit connector M70 and ground.

Unit	Terminal No.		Ignition switch position			
	(+)		(-)	OFF	ACC	ON
	Connector	Terminal				
AV control unit	M70	19	Ground	Battery voltage	Battery voltage	Battery voltage
		7	Ground	0 V	Battery voltage	Battery voltage

Are the voltage results as specified?

YES >> GO TO 3

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

3.CHECK GROUND CIRCUIT

Check continuity between AV control unit harness connectors M70, M71 and ground.

(+)		(-)	Continuity
Connector	Terminal		
M70	20	Ground	Yes
M71	30		
	31		
	41		

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

BLUETOOTH CONTROL UNIT

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO]

BLUETOOTH CONTROL UNIT : Diagnosis Procedure

INFOID:000000007642110

Regarding Wiring Diagram information, refer to [AV-104, "Wiring Diagram"](#).

1. CHECK FUSE

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

Unit	Terminals	Signal name	Fuse No.
Bluetooth control unit	1	Battery power	29
	2	Ignition switch ACC or ON	18
	3	Ignition switch ON or START	5

Is the inspection result normal?

YES >> GO TO 2

NO >> Replace the fuse after repairing the affected circuit. Refer to [GI-41, "Circuit Inspection"](#).

2. CHECK POWER SUPPLY CIRCUIT

Check voltage between Bluetooth control unit harness connector B33 and ground.

(+)		(-)	Ignition switch position	Value (Approx.)
Connector	Terminal			
B33	1	Ground	OFF	Battery voltage
	2		ACC	
	3		ON	

Are the voltage results as specified?

YES >> GO TO 3

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

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth control unit connector B33.
3. Check continuity between Bluetooth control unit harness B33 connector and ground.

(+)		(-)	Continuity
Connector	Terminal		
B33	4	Ground	Yes
	21		
	23		
	24		
	27		

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

MICROPHONE

MICROPHONE : Diagnosis Procedure

INFOID:000000007642112

Regarding Wiring Diagram information, refer to [AV-104, "Wiring Diagram"](#).

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO]

1. CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

1. Turn ignition switch ON.
2. Check voltage between microphone harness connector R15 terminal 4 and ground.

Connector	Terminal	—	Ignition switch position	Value (Approx.)
R15	4	Ground	ON	5V

Is voltage reading as specified?

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

2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect microphone and Bluetooth control unit harness connectors.
3. Check continuity between microphone harness connector R15 terminal 4 and Bluetooth control unit harness connector B33 terminal 29.

Connector	Terminal	Connector	Terminal	Continuity
R15	4	B33	29	Yes

4. Check continuity between microphone harness connector R15 terminal 4 and ground.

Connector	Terminal	—	Continuity
R15	4	Ground	No

Are the continuity results as specified?

- YES >> Replace the Bluetooth control unit. Refer to [AV-143. "Removal and Installation"](#).
NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect microphone harness connector R15 and Bluetooth control unit harness connector B33.
3. Check continuity between microphone harness connector R15 terminal 2 and Bluetooth control unit harness connector B33 terminal 8.

Connector	Terminal	Connector	Terminal	Continuity
R15	2	B33	8	Yes

Does continuity exist?

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

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FRONT DOOR SPEAKER

Description

INFOID:000000007642113

The AV control unit sends sound signals to the front door speakers using the front door speaker circuits.

Diagnosis Procedure

INFOID:000000007642114

Regarding Wiring Diagram information, refer to [AV-104, "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 terminal and connector.

2. HARNESS CHECK

1. Disconnect AV control unit connector M70 and suspect speaker connector.
2. Check continuity between AV control unit harness connector M70 terminal and suspect speaker harness connector terminal.

Connector	Terminal	Connector	Terminal	Continuity
M70	2	D12	1	Yes
	3		2	
	11	D112	1	
	12		2	

3. Check continuity between AV control unit harness connector M70 terminal and ground.

Connector	Terminal	—	Continuity
M70	2	Ground	No
	3		
	11		
	12		

Are continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3. FRONT SPEAKER SIGNAL CHECK

1. Connect AV control unit connector and front door speaker connectors.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check the signal between AV control unit harness connector M70 with CONSULT or oscilloscope.

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO]

(+) Connector		(-) Terminal	Condition	Reference signal (Approx.)
Terminal	Terminal			
M70	2	3	Receive audio signal	
	11	12		

Are voltage readings as specified?

- YES >> Replace speaker. Refer to [AV-138, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-135, "Removal and Installation"](#).

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REAR DOOR SPEAKER

Description

INFOID:000000007687110

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

Diagnosis Procedure

INFOID:000000007687111

Regarding Wiring Diagram information, refer to [AV-104, "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 terminal and connector.

2. HARNESS CHECK

1. Disconnect AV control unit connector M70 and suspect speaker connector.
2. Check continuity between AV control unit harness connector M70 terminal and suspect speaker harness connector terminal.

Connector	Terminal	Connector	Terminal	Continuity
M70	4	D207	1	Yes
	5		2	
	13	D307	1	
	14		2	

3. Check continuity between AV control unit harness connector M70 terminal and ground.

Connector	Terminal	—	Continuity
M70	4	Ground	No
	5		
	13		
	14		

Are continuity results as specified?

YES >> GO TO 3

NO >> Repair or replace harness or connector.

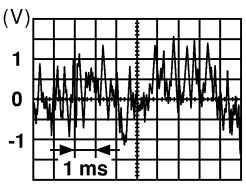
3. REAR SPEAKER SIGNAL CHECK

1. Connect AV control unit connector M70 and rear speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check the signal between AV control unit harness connector M70 terminals with CONSULT or oscilloscope.

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO]

(+)		(-)		Condition	Reference signal (Approx.)
Con- nector	Terminal	Terminal	Terminal		
M70	4	5	14	Receive audio sig- nal	 <p style="text-align: center;">SKIA0177E</p>
	13	14			

Is the audio signal voltage as specified?

- YES >> Replace speaker. Refer to [AV-139, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-135, "Removal and Installation"](#).

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AV

STEERING SWITCH

Description

INFOID:000000007687112

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



Diagnosis Procedure

INFOID:000000007687113

Regarding Wiring Diagram information, refer to [AV-104, "Wiring Diagram"](#).

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect steering wheel audio control switch connector M88.
3. Check resistance between steering switch connector terminals.

Terminal	Signal name	Condition	Resistance (Ω) (Approx.)
14	Source	Depress SOURCE switch.	1
	Seek (up)	Depress Δ switch.	121
	Seek (down)	Depress ∇ switch.	321
17	Phone/Send	Depress  switch.	723
15	Volume (down)	Depress VOL DOWN switch.	1
	Volume (up)	Depress VOL UP switch.	121
	Phone/End	Depress  switch.	321

Do the steering wheel audio control switches check OK?

YES >> GO TO 2.

NO >> Replace steering wheel audio control switch. Refer to [AV-141, "Removal and Installation"](#).

2. CHECK HARNESS

1. Disconnect AV control unit connector M70 and spiral cable connector M30.
2. Check continuity between AV control unit harness connector M70 and spiral cable harness connector M30.

Connector	Terminal	Connector	Terminal	Continuity
M70	6	M30	24	Yes
	15		33	
	16		31	

3. Check continuity between AV control unit connector M70 and ground.

Connector	Terminal	—	Continuity
M70	6	Ground	No
	15		
	16		

Are the continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO]

3. SPIRAL CABLE CHECK

Check continuity between spiral cable harness connector M30 and M88.

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

Does the spiral cable check OK?

YES >> Inspection End.

NO >> Replace spiral cable. Refer to [SR-7. "Removal and Installation"](#).

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AV

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO]

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:000000007687114

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

Diagnosis Procedure

INFOID:000000007687115

Regarding Wiring Diagram information, refer to [AV-104, "Wiring Diagram"](#).

1. CHECK HARNESS BETWEEN BLUETOOTH CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth control unit connector B33 and microphone connector R15.
3. Check continuity between Bluetooth control unit harness connector B33 and microphone harness connector R15.

Connector	Terminal	Connector	Terminal	Continuity
B33	7	R15	1	Yes
	8		2	
	29		4	

4. Check continuity between Bluetooth control unit harness connector B33 and ground.

Connector	Terminal	—	Continuity
B33	7	Ground	No
	8		
	29		

Are continuity results as specified?

YES >> GO TO 2

NO >> Repair harness or connector.

2. CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth control unit connector B33 and microphone connector R15.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector R15 terminal 4 and ground.

(+)		(-)	Voltage (Approx.)
Connector	Terminal		
R15	4	Ground	5V

Is the voltage reading as specified?

YES >> GO TO 3

NO >> Replace Bluetooth control unit. Refer to [AV-143, "Removal and Installation"](#).

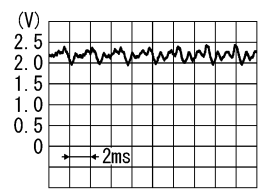
3. CHECK MICROPHONE SIGNAL

Check signal between Bluetooth control unit harness connector B33 terminals 7 and 8.

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[PREMIUM AUDIO]

(+)		(-)	Condition	Value (approx.)
Connector	Terminal			
B33	7	8	While speaking into MIC	 <p style="text-align: center;">PKIB5037J</p>

Were voltage readings as specified?

YES >> Replace Bluetooth control unit. Refer to [AV-143, "Removal and Installation"](#).

NO >> Replace microphone. Refer to [AV-144, "Removal and Installation"](#).

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SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:000000007642123

NAVIGATION SYSTEM

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> • AV control unit power and ground circuit • AV control unit 	<ul style="list-style-type: none"> • AV-119 • AV-135
Steering wheel audio control switches do not operate	<ul style="list-style-type: none"> • Steering wheel audio control switches • AV control unit 	<ul style="list-style-type: none"> • AV-126 • AV-135
Voice activated control does not operate	<ul style="list-style-type: none"> • Microphone power and ground circuit • Steering wheel audio control switches • Microphone • AV control unit 	<ul style="list-style-type: none"> • AV-120 • AV-126 • AV-144 • AV-135

HANDS-FREE PHONE SYSTEM

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> • Bluetooth control unit power and ground circuit • Bluetooth control unit • AV control unit power and ground circuit • AV control unit 	<ul style="list-style-type: none"> • AV-120 • AV-143 • AV-119 • AV-135
Steering wheel audio control switches do not operate	<ul style="list-style-type: none"> • Steering wheel audio control switches • AV control unit 	<ul style="list-style-type: none"> • AV-126 • AV-135
Voice activated control does not operate	<ul style="list-style-type: none"> • Microphone power and ground circuit • Steering wheel audio control switches • Microphone • AV control unit 	<ul style="list-style-type: none"> • AV-120 • AV-126 • AV-144 • AV-135

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> • AV control unit power and ground circuit • AV control unit 	<ul style="list-style-type: none"> • AV-119 • AV-135
Steering wheel audio control switches do not operate	<ul style="list-style-type: none"> • Steering wheel audio control switches • AV control unit 	<ul style="list-style-type: none"> • AV-126 • AV-135
All speakers do not sound	<ul style="list-style-type: none"> • Speaker circuit shorted to ground • AV control unit power and ground circuit • AV control unit 	<ul style="list-style-type: none"> • AV-104 • AV-119 • AV-135
One or several speakers do not sound	<ul style="list-style-type: none"> • Front door speaker • Rear door speaker 	<ul style="list-style-type: none"> • AV-138 • AV-139
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.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM AUDIO]

NORMAL OPERATING CONDITION

Description

INFOID:000000007642124

NOTE:

For Navigation system operation information, refer to Navigation system Owner's Manual.

BASIC OPERATIONS

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The display is turned OFF.	Press "☀/☾" to turn on the display.
No voice guidance is available or the volume is too high or too low.	The volume is not set correctly, or it is turned OFF.	Adjust the voice guidance volume level.
No map is displayed on the screen.	The map SD-card is not inserted.	Insert the map SD-card correctly.
	A screen other than map screen is displayed.	Press "MAP".
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the navigation system.

NOTE:

Locations stored in the Address Book and other memory functions may be lost if the vehicle's battery is disconnected or becomes discharged. If this occurs, service the vehicle's battery as necessary and re-enter the information in the Address Book.

RELATED TO AUDIO

- The majority of the audio malfunctions are the result of outside causes (bad CD, electromagnetic interference, etc.). Check the symptoms below to diagnose the malfunction.
- 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, turning the ignition switch to each position, and operation of each piece of electrical equipment, and then determine the cause.

NOTE:

- CD-R is not guaranteed to play because they can contain compressed audio (MP3, WMA) or could be incorrectly mastered by the customer on a computer.
- Check if the CDs carry the Compact Disc Logo. If not, the disc is not mastered to the Compact Disc Standard (red book) and may not play.

Symptom	Cause and Counter measure
Cannot play	Check if the CD was inserted correctly.
	Check if the CD is scratched or dirty.
	Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.
	If there is a mixture of music CD files (CD-DA data) and MP3/WMA files on a CD, only the music CD files (CD-DA data) will be played.
	Files with extensions other than ".MP3", ".WMA", ".mp3", or ".wma" cannot be played. In addition, the character codes and number of characters for folder names and file names should be in compliance with the specifications.
	Check if the disc or the file is generated in an irregular format. This may occur depending on the variation or the setting of MP3/WMA writing applications or other text editing applications.
	Check if the finalization process, such as session close and disc close, is done for the CD.
Check if the CD is protected by copyright.	

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM AUDIO]

Symptom	Cause and Counter measure
Poor sound quality	Check if the CD is scratched or dirty.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA CD, or if it is a multi session disc, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities of data, such as high bit rate data.
Moves immediately to the next song when playing	When a non-MP3/WMA file has been given an extension of ".MP3", ".WMA", ".mp3" or ".wma", or when play is prohibited by copyright protection, the player will skip to the next song.
The songs do not play back in the desired order.	The playback order is the order in which the files were written by the software, so the files might not play in the desired order.

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

NOTE:

- 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 a time difference between the broadcast waves directly from the station arriving at the antenna and the waves reflected by mountains or buildings.

MAP SD-CARD

Symptom	Possible cause	Possible solution
The message "Error" appears.	The SD-card is not recognized by the system.	Check the map SD-card data. Files can be lost.
		If you see any damage, replace the map SD-card.

RELATED TO ROUTE CALCULATION AND VISUAL GUIDANCE

Symptom	Possible cause	Possible solution
Route information is not displayed.	Route calculation has not yet been performed.	Set the destination and perform route calculation.
	You are not driving on the suggested route.	Drive on the suggested route.
	Route guidance is cancelled.	Turn on the route guidance.
The auto reroute calculation (or detour calculation) suggests the same route as the one previously suggested.	Route calculations took priority conditions into consideration, but the same route was calculated.	This is not a malfunction.
The suggested route is not displayed.	Roads near the destination cannot be calculated.	Reset the destination to a main or ordinary road, and recalculate the route.
	The starting point and destination are too close.	Set a more distant destination.
	The starting point and destination are too far away.	Divide your trip by selecting one or two intermediate destinations, and perform a global route calculation based on multiple route calculations.
An indirect route is suggested.	If there are restrictions (such as one-way streets) on roads close to the starting point or destination, the system may suggest an indirect route.	Adjust the location of the starting point or destination.
	The system may suggest an indirect route because route calculation does not take into consideration some areas such as narrow streets.	Reset the destination to a main or ordinary road, and recalculate the route.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM AUDIO]

Symptom	Possible cause	Possible solution
The landmark information does not correspond to the actual information.	This may be caused by insufficient or incorrect data on the map SD-card.	Updated information will be included in the next version of the map SD-card.
The suggested route does not exactly connect to the starting point, waypoints, or destination.	There is no data for route calculation closes to these locations.	Set the starting point, waypoints and destination on a main road, and perform route calculation.

RELATED TO VEHICLE ICON

Symptom	Possible cause	Possible solution
Names of roads and locations differ between 2D and 3D view.	This is because the quantity of the displayed information is reduced so that the screen does not become difficult to read. There is also a chance that the names of roads or locations may be displayed several times, and that the names appearing on the screen may be different because of a processing procedure.	This is not a malfunction.
The vehicle icon is not displayed in the correct position.	The vehicle was transported after the ignition switch was turned OFF, for example, by a ferry or car transporter.	Drive the vehicle for a while on a road where GPS signals can be received.
	The position and direction of the vehicle icon may be incorrect depending on the driving environments and the levels of positioning accuracy of the navigation system.	This is not a malfunction. Drive the vehicle for a while to automatically correct the position and direction of the vehicle icon.
When the vehicle is travelling on a new road, the vehicle icon is located on another nearby road.	The system automatically places the vehicle icon on the nearest available road, because the new road is not stored in the map data.	Updated road information will be included in the next version of the map SD-card.
The screen does not switch to the night screen even after turning on the headlights.	The daytime screen was set the last time the headlights were turned on.	Set the screen to the night screen mode using <Day/Night> when you turn on the headlights.
The map does not scroll even when the vehicle is moving.	The current location map screen is not displayed.	Press "MAP".
The vehicle icon is not displayed.	The current location map screen is not displayed.	Press "MAP".
The location of the vehicle icon is misaligned from the actual position.	When using tire chains or replacing the tires, speed calculations based on the speed sensor may be incorrect.	Drive the vehicle for a while [at approximately 30 km/h (19 MPH) for about 30 minutes] to automatically correct the vehicle icon position.
	The map data has an error or is incomplete (the vehicle icon position is always misaligned in the same area).	Updated road information will be included in the next version of the map SD-card.

RELATED TO VOICE GUIDANCE

Symptom	Possible cause	Possible solution
Voice guidance is not available.	In some cases, voice guidance is not available even when the vehicle should make a turn.	This is not a malfunction.
	The vehicle has deviated from the suggested route.	Go back to the suggested route or request route calculation again
	Voice guidance is set to OFF.	Turn voice guidance ON.
	Route guidance is set to OFF.	Route guidance is set to ON.
The guidance contact does not correspond to the actual condition.	The contact of voice guidance may vary, depending on the types of intersections at which turns are made.	Follow all traffic rules and regulations.

RELATED TO TRAFFIC INFORMATION

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM AUDIO]

Symptom	Possible cause	Possible solution
The traffic information is not displayed.	The traffic information is not set to ON.	Set the traffic information to ON.
	You are in an area where traffic information is not available	Scroll to an area where traffic information is available
	You have not subscribed to XM NavTraffic or, your subscription to XM NavTraffic has expired.	Check your subscription status of XM NavTraffic.
	The map scale is set at a level where the display of icons is impossible.	Check that the map scale is set at a level in which the display of icons is possible.
With the automatic detour route search ON, no detour route is set to avoid congested areas.	There is no faster route compared to the current route, based on the road network and traffic information.	The automatic detour search is not intended for avoiding traffic jams. It searches for the fastest route taking into consideration such things as traffic jams.
The route does not avoid road section with traffic information stating it is closed due to road construction.	The navigation system is designed not to avoid this event because the actual period of closure may differ from the declared roadwork period.	Observe the actual road condition and follow the instructions on road for detour when necessary. If the road closure is for certain, use detour function and set the detour distance to avoid the closed road section.
Traffic information displayed differs from information from other media (e.g. radio).	Other media may use different information sources.	Observe the actual road conditions and regulations. Always observe safe driving practices and follow all traffic regulations.

RELATED TO TELEPHONE

Symptoms	Cause and Counter measure
System fails to interpret the command correctly.	Ensure that the command format is valid.
	Ensure that the command is spoken after the tone.
	Speak clearly without pausing between words and at a level appropriate to the ambient noise level in the vehicle.
	Ensure that the ambient noise level is not excessive (for example, windows open or defroster on). NOTE: If it is too noisy to use the phone, it is likely that the voice commands will not be recognized.
	If more than one command was said at a time, try saying the commands separately.
	If the system consistently fails to recognize commands, the voice training procedure should be carried out to improve the recognition response for the speaker. Refer to AV-94, "On Board Diagnosis Function" .
The system consistently selects the wrong entry from the phone book.	Ensure that the phone book entry name requested matches what was originally stored. This can be confirmed by using the "List Names" command.
	Replace one of the names being confused with a new name.

REMOVAL AND INSTALLATION

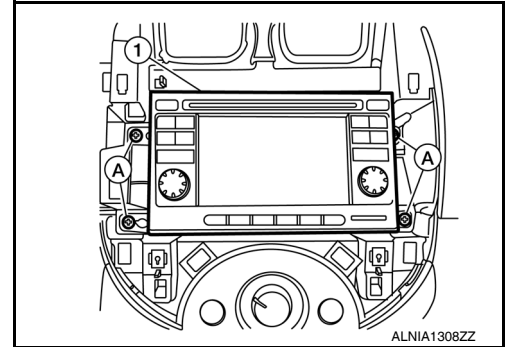
AV CONTROL UNIT

Removal and Installation

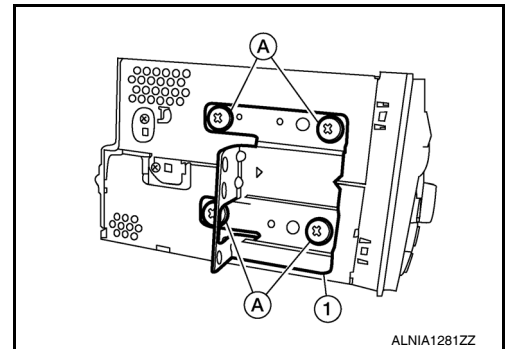
INFOID:000000007699177

REMOVAL

1. Remove cluster lid C. Refer to [IP-21, "Removal and Installation"](#).
2. Remove the audio unit screws (A).
3. Pull the audio unit (1) out from the instrument panel and disconnect the audio unit connectors.
4. Remove the audio unit (1) from the instrument panel.



5. If necessary, remove the audio unit bracket screws (A) and the audio unit bracket (1) from each side of the audio unit.



INSTALLATION

Installation is in the reverse order of removal.

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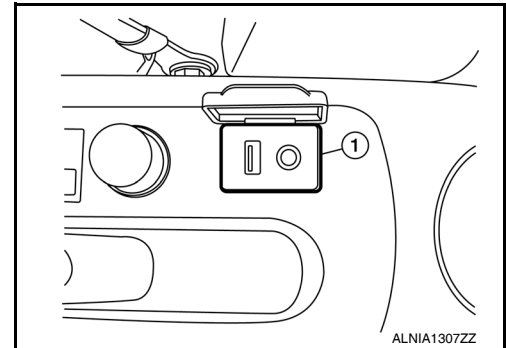
USB CONNECTOR

Removal and Installation

INFOID:000000007699169

REMOVAL

1. Push the pawl from the back of the center console to remove the USB connector (1) using a suitable tool.



2. Disconnect the USB connector electrical connector and remove the USB connector.

INSTALLATION

Installation is in the reverse order of removal.

IPOD® ADAPTER

Removal and Installation

INFOID:000000007759402

REMOVAL

1. Remove the center console assembly. Refer to [IP-23. "Removal and Installation"](#).
2. Disconnect the iPod® adapter electrical connector.
3. Remove the iPod® adapter.

INSTALLATION

Installation is in the reverse order of removal.

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FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[PREMIUM AUDIO]

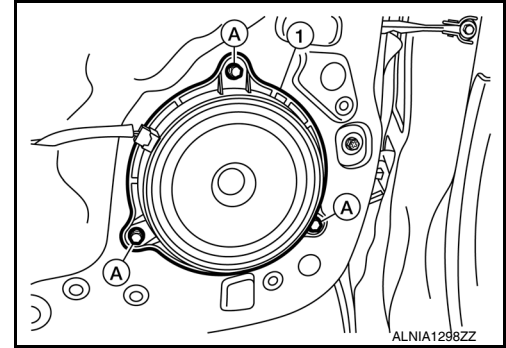
FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000007699173

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 front door speaker connector.
4. Remove the front door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

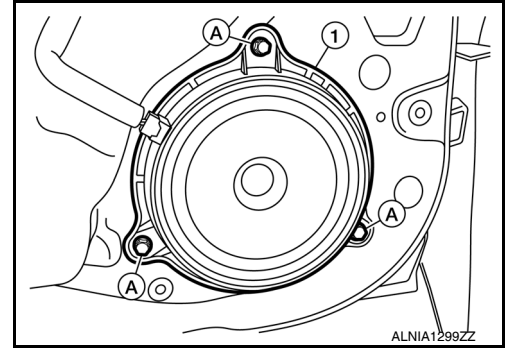
REAR DOOR SPEAKER

Removal and Installation

INFOID:000000007699170

REMOVAL

1. Remove the rear door finisher. Refer to [INT-17. "Removal and Installation"](#).
2. Remove the rear door speaker screws (A).
3. Disconnect the rear door speaker electrical connector.
4. Remove the rear door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

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SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[PREMIUM AUDIO]

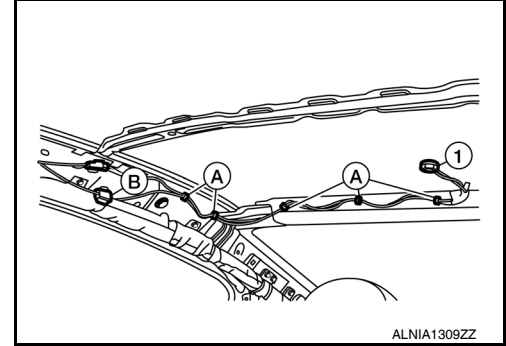
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:000000007642135

REMOVAL

1. Remove the headlining assembly. Refer to [INT-29, "Removal and Installation"](#).
2. Disconnect the satellite radio antenna retainers (A) using a suitable tool.
3. Disconnect the satellite radio antenna connectors (B).
4. Remove the satellite radio antenna nut (1).
5. Remove the satellite radio antenna.



INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

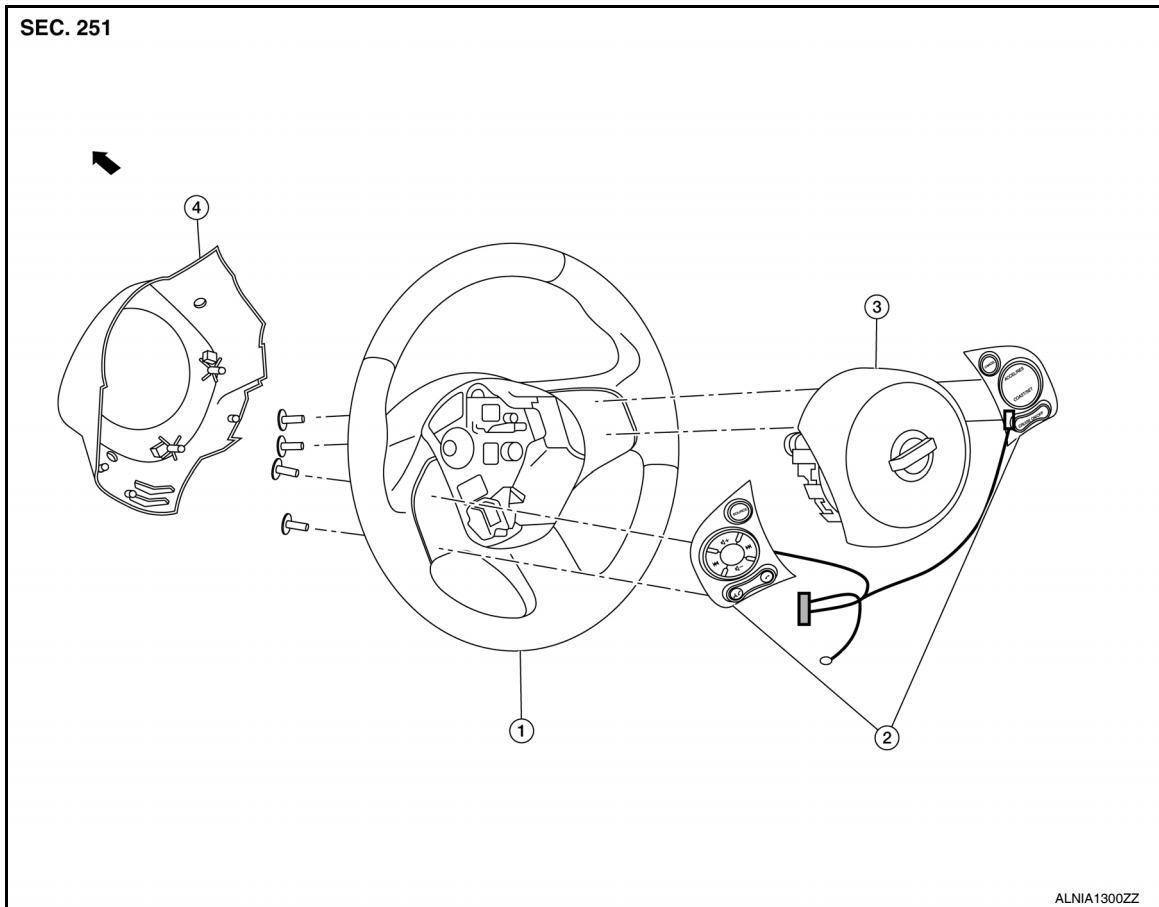
< REMOVAL AND INSTALLATION >

[PREMIUM AUDIO]

STEERING SWITCH

Removal and Installation

INFOID:000000007705999



1. Steering wheel
2. Steering wheel audio control switches
3. Steering wheel front covers
4. Steering wheel rear cover

REMOVAL

1. Remove the steering wheel. Refer to [ST-7, "Removal and Installation"](#).
2. Remove the steering wheel rear cover.
3. Remove the steering wheel audio control switches screws.
4. Remove the steering wheel audio control switches from the steering wheel.

INSTALLATION

Installation is in the reverse order of removal.

A
B
C
D
E
F
G
H
I
J
K
L
M
AV
O
P

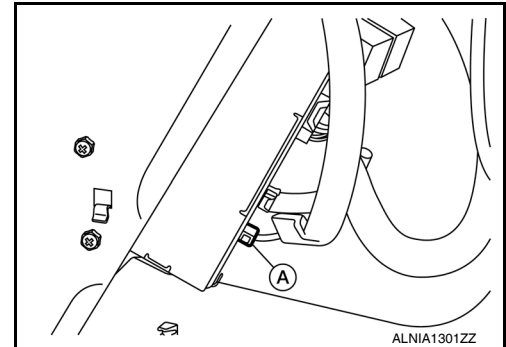
TEL ANTENNA

Removal and Installation

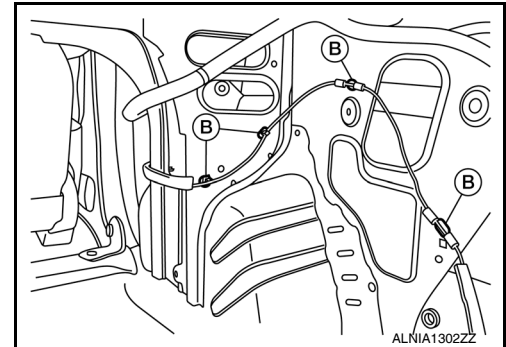
INFOID:000000007699171

REMOVAL

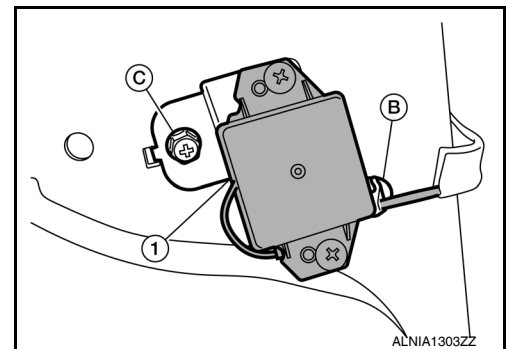
1. Remove the rear seat cushion assembly. Refer to [SE-19, "Exploded View"](#).
2. Remove the rear step plate (RH).
3. Remove the rear seatback side assembly (RH).
4. Remove the rear seatback assembly (RH).
5. Remove the trunk floor finisher.
6. Remove the trunk rear finisher.
7. Remove the trunk side finisher (RH).
8. Disconnect the bluetooth antenna from the bluetooth control unit (A).



9. Detach the four Bluetooth antenna harness clips (B).



10. Detach the remaining Bluetooth antenna harness clip (B) and remove the Bluetooth antenna screw (C).
11. Remove the Bluetooth antenna assembly (1).



INSTALLATION

Installation is in the reverse order of removal.

BLUETOOTH CONTROL UNIT

< REMOVAL AND INSTALLATION >

[PREMIUM AUDIO]

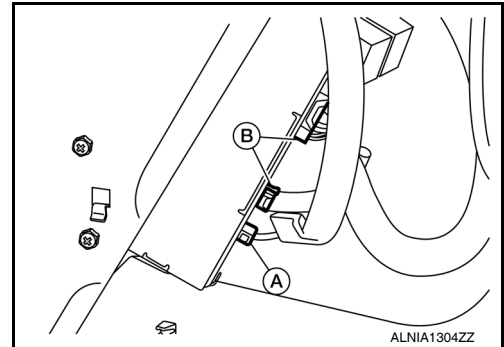
BLUETOOTH CONTROL UNIT

Removal and Installation

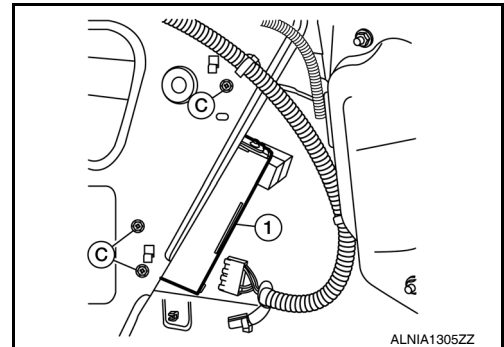
INFOID:000000007699175

REMOVAL

1. Remove the trunk floor finisher.
2. Remove the trunk rear finisher.
3. Remove the trunk side finisher RH
4. Disconnect the Bluetooth antenna connector (A) and the Bluetooth control unit electrical connectors (B).



5. Remove the Bluetooth control unit screws (C).
6. Remove the Bluetooth control unit (1).



INSTALLATION

Installation is in the reverse order of removal.

A
B
C
D
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AV


MICROPHONE

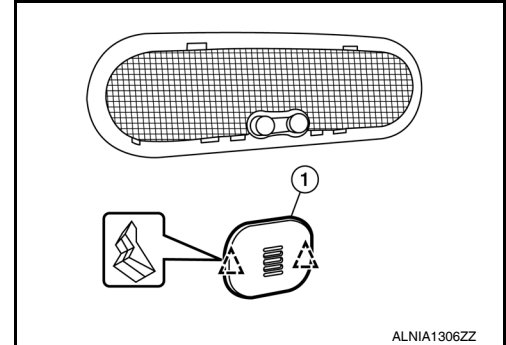
Removal and Installation

INFOID:000000007699172

REMOVAL

1. Remove the microphone (1) from the headliner using a suitable tool.

: Clip



2. Disconnect the Bluetooth microphone electrical connector and remove the Bluetooth microphone.

INSTALLATION

Installation is in the reverse order of removal.

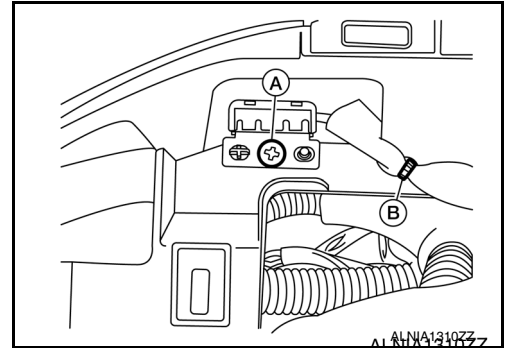
GPS ANTENNA

Removal and Installation

INFOID:000000007642136

REMOVAL

1. Remove the combination meter. Refer to [MWI-52, "Removal and Installation"](#) (Type A) or [MWI-101, "Removal and Installation"](#) (Type B).
2. Remove the AV control unit. Refer to [AV-135, "Removal and Installation"](#).
3. Remove the GPS antenna screw (A), then disconnect the GPS antenna retainer (B).



4. Remove the GPS antenna.

INSTALLATION

Installation is in the reverse order of removal.

A
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N
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P

AV

ANTENNA FEEDER

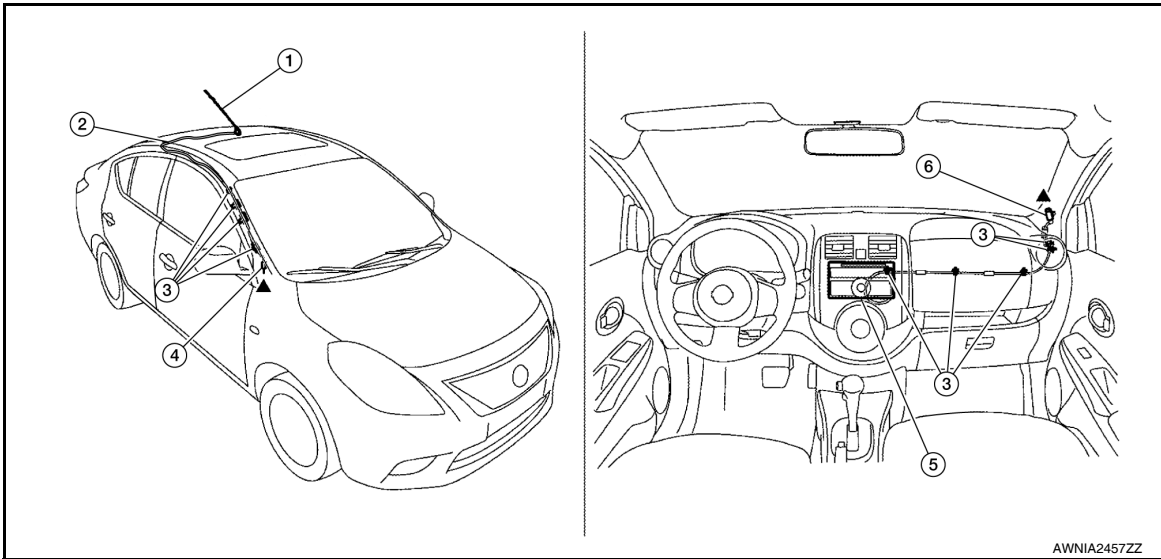
< REMOVAL AND INSTALLATION >

[PREMIUM AUDIO]

ANTENNA FEEDER

Feeder Layout

INFOID:000000007706000



- 1. Antenna mast
- 4. Connector

- 2. Antenna feed
- 5. Audio unit

- 3. Clip
- 6. Connector