SECTION AV
AUDIO, VISUAL & NAVIGATION SYSTEM

CONTENTS

MID AUDIO

DISPLAY AUDIO WITHOUT AMPLIFIER

NAVIGATION

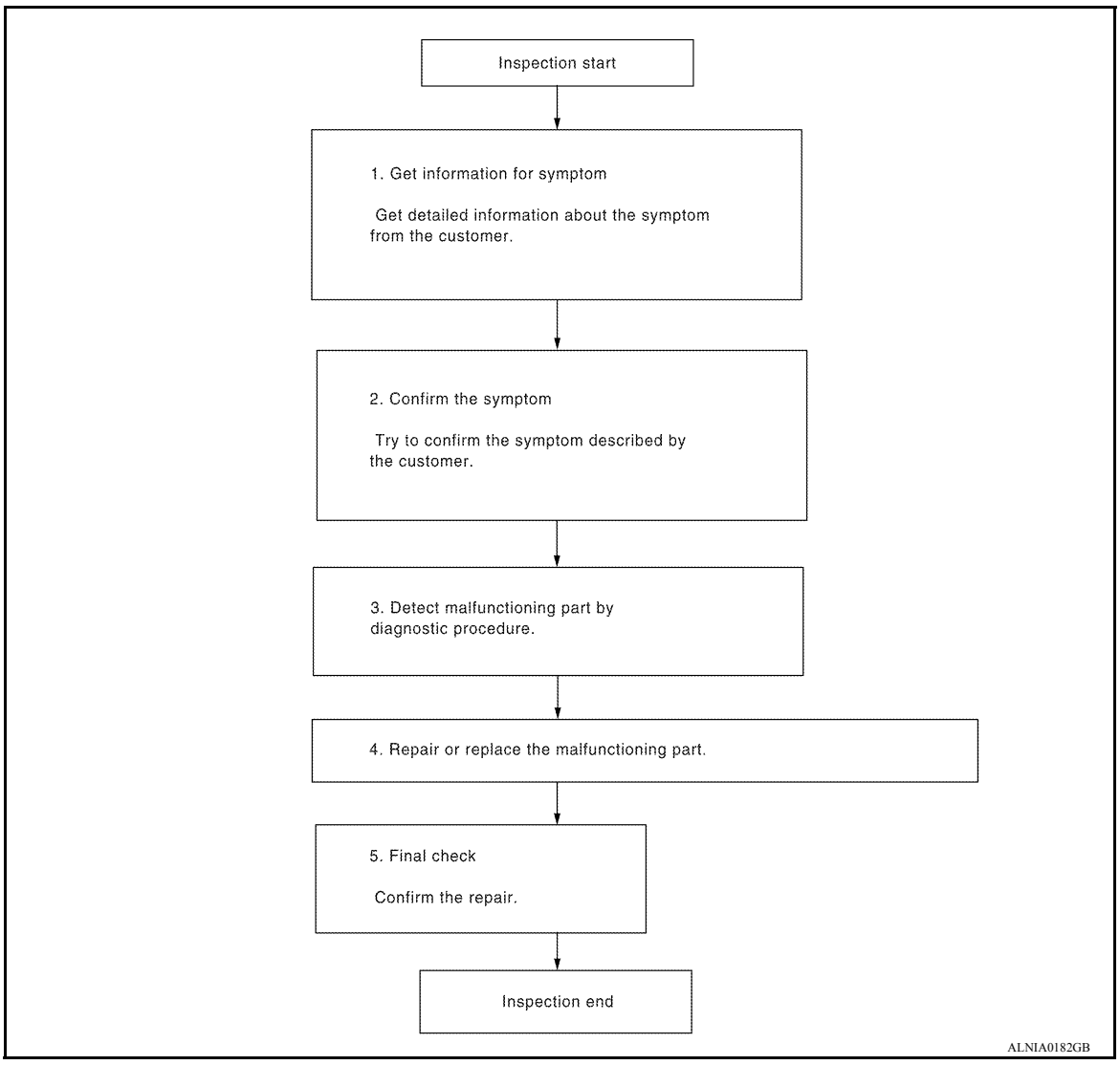
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000009876435

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5. FINAL CHECK

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

Has the symptom been repaired?

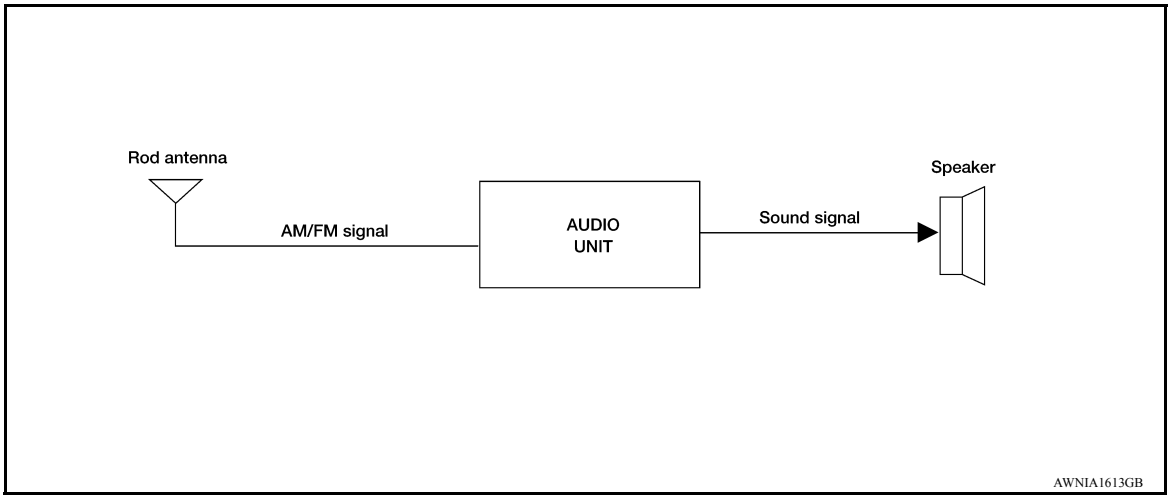
YES >> Inspection End.
NO >> GO TO 2.

SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram

INFOID:0000000009876436



System Description

INFOID:0000000009876437

AUDIO SYSTEM

The audio systems consists of the following components

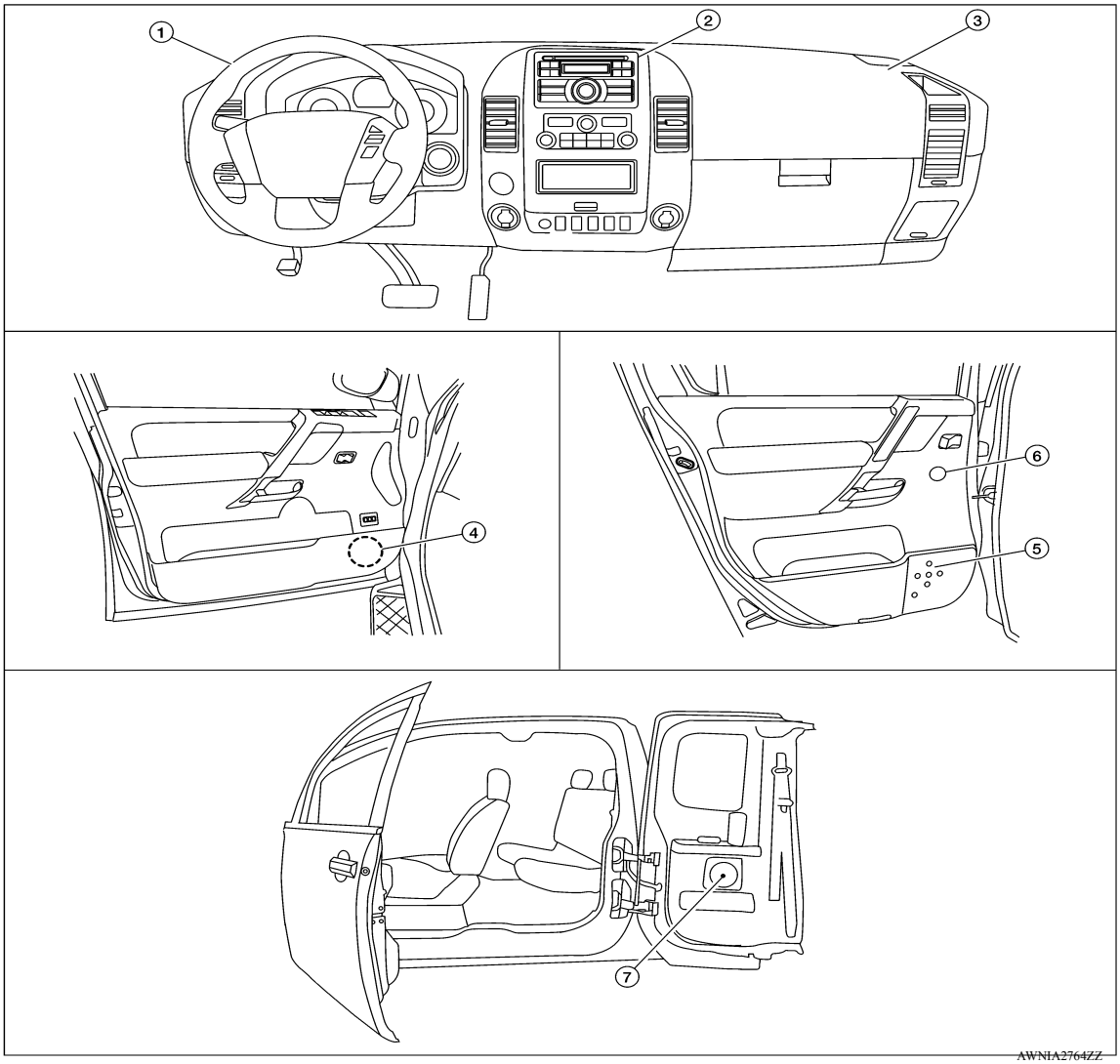
- Audio unit
- Rod antenna
- Front door speakers
- Front tweeters
- Rear door speakers
- Rear door tweeters (crew cab)

When the audio system is on, radio signals are received by the rod antenna. The audio unit then sends audio signals to the front door speakers, front tweeters, rear door speakers and rear door tweeters (crew cab).

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

Component Parts Location

INFOID:0000000009876438



1. Front tweeter LH M109
2. Audio unit M168
3. Front tweeter RH M111
4. Front door speaker
   LH D12
   RH D112
5. Rear door speaker (crew cab)
   LH D207
   RH D307
6. Rear door tweeter (crew cab)
   LH D208
   RH D308
7. Rear door speaker (king cab)
   LH B76
   RH B159

Component Description

INFOID:0000000009876439

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

Part name	Description
Rear door speakers	• Outputs audio signal from audio unit • Outputs high, mid and low range sounds
Rear door tweeters (crew cab)	• Outputs audio signal from audio unit • Outputs high range sounds

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT
AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000009876440

Regarding Wiring Diagram information, refer to AV-23, "Wiring Diagram".

1.CHECK FUSES

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

Unit	Terminals	Signal name	Fuse No.
Audio unit	19	Battery power	31
	7	Ignition switch ACC or ON	4

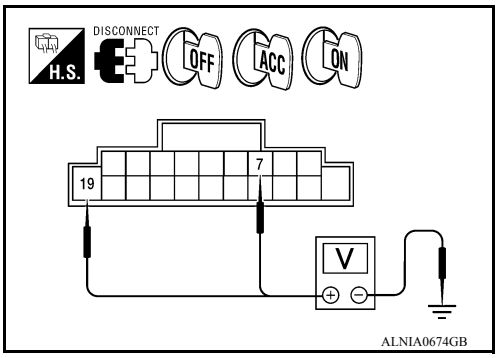
Are the fuses OK?

YES >> GO TO 2.
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect audio unit connector M168.
2. Check voltage between the audio unit connector M168 ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M168	7	Ground	0V	Battery voltage	Battery voltage
	19	Ground	Battery voltage	Battery voltage	Battery voltage



Are the voltage results as specified?

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

3.GROUND CIRCUIT CHECK

Inspect audio unit case ground.

Does case ground pass inspection?

YES >> Inspection end.
NO >> Repair audio unit case ground.

FRONT DOOR SPEAKER

Description

INFOID:0000000009876441

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

Diagnosis Procedure

INFOID:0000000009876442

Regarding Wiring Diagram information, refer to AV-23, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

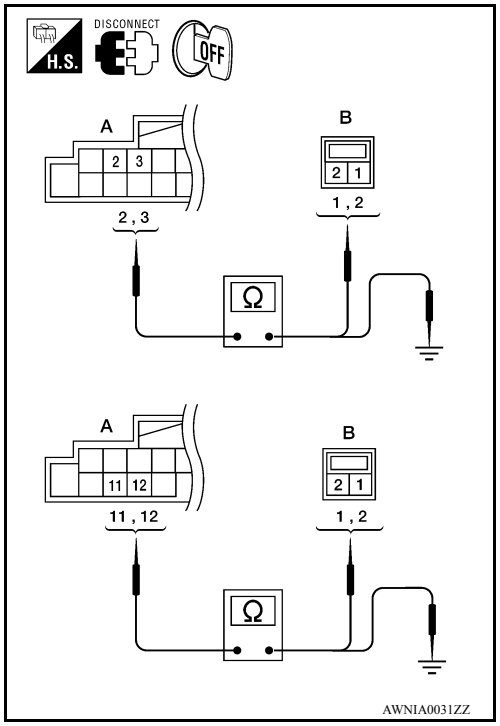
Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

2.HARNESS CHECK

1. Disconnect audio unit connector M168 and suspect front door speaker connector.
2. Check continuity between audio unit harness connector M168 (A) terminal and suspect front door speaker harness connector (B) terminal.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M168	2	D12	1	Yes
	3		2	
	11	D112	1	
	12		2	



3. Check continuity between audio unit harness connector M168 (A) terminal and ground.

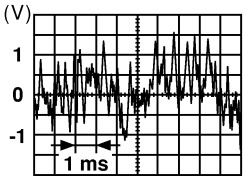
A		—	Continuity
Connector	Terminal		
M168	2	Ground	No
	3		
	11		
	12		

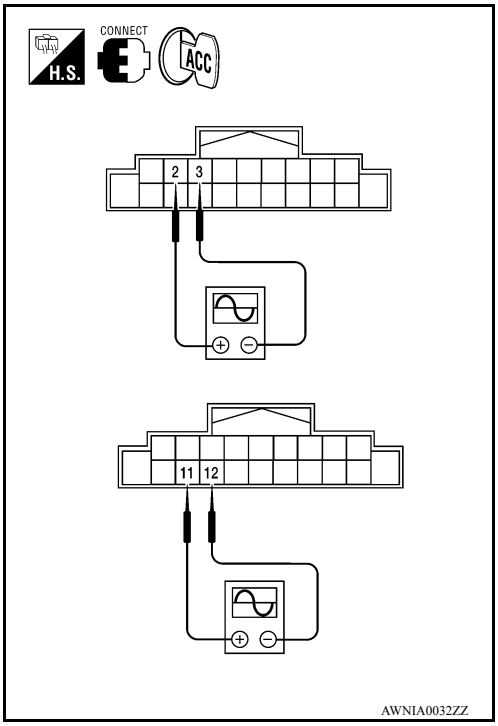
Are continuity results as specified?

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

3.FRONT SPEAKER SIGNAL CHECK

1. Connect audio unit connector M168 and front door speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M168 terminals with CONSULT or oscilloscope.

(+)		(-)	Condition	Reference signal
Connector	Terminal	Terminal		
M168	2	3	Receive audio signal	 SKIA0177E
	11	12		



AWNIA0032ZZ

Is the audio signal voltage as specified?

YES >> Replace front door speaker. Refer to AV-37, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-35, "Removal and Installation".

FRONT TWEETER

Description

INFOID:0000000009876443

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

Diagnosis Procedure

INFOID:0000000009876444

Regarding Wiring Diagram information, refer to AV-23, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

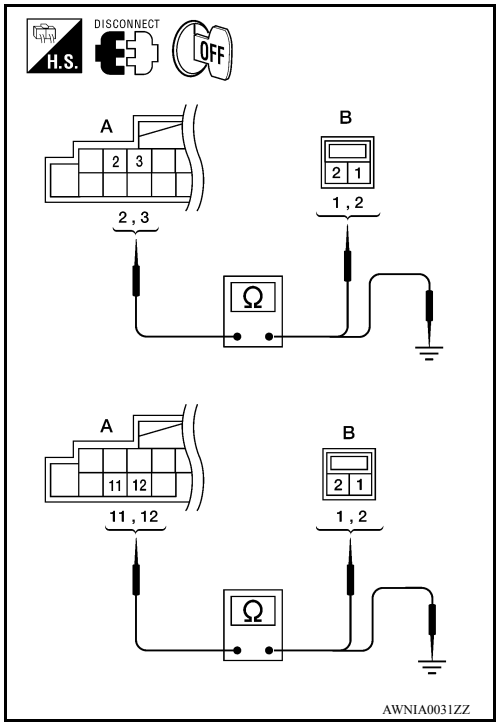
Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

2.HARNESS CHECK

1. Disconnect audio unit connector M168 and suspect front tweeter connector.
2. Check continuity between audio unit harness connector M168 (A) and suspect front tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M168	2	M109	1	Yes
	3		2	
	11	M111	1	
	12		2	



3. Check continuity between audio unit harness connector M168 (A) and ground.

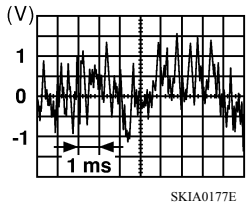
A		—	Continuity
Connector	Terminal		
M168	2	Ground	No
	3		
	11		
	12		

Are the continuity results as specified?

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

3.FRONT TWEETER SIGNAL CHECK

1. Connect audio unit connector M168 and front tweeter connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M168 terminals with CONSULT or oscilloscope.

(+)		(-)	Condition	Reference signal
Connector	Terminal	Terminal		
M168	2	3	Receive audio signal	
	11	12		

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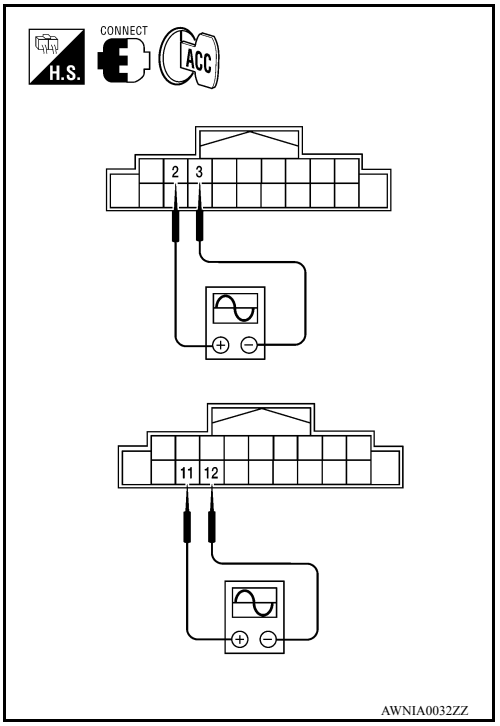


AWNIA0032ZZ

Is the audio signal voltage as specified?

YES >> Replace the suspect front tweeter. Refer to AV-36, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-35, "Removal and Installation".

REAR DOOR SPEAKER

Description

INFOID:0000000009876445

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

Diagnosis Procedure

INFOID:0000000009876446

Regarding Wiring Diagram information, refer to AV-23, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

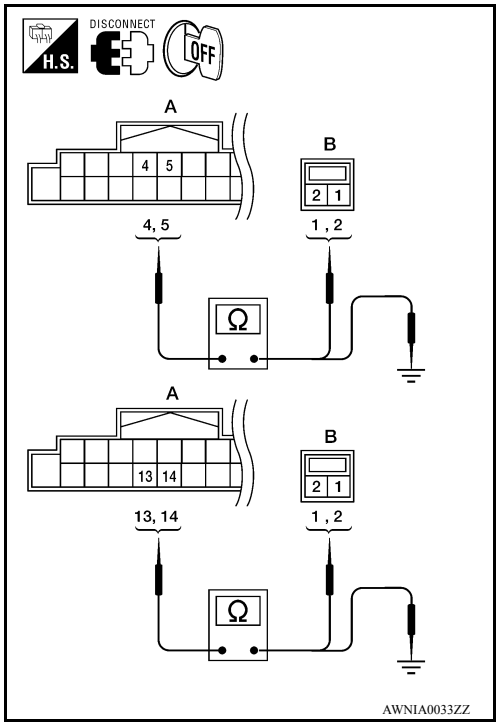
Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

2.HARNESS CHECK

1. Disconnect audio unit connector M168 and suspect rear door speaker connector.
2. Check continuity between audio unit harness connector M168 (A) and suspect rear door speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M168	4	D207 (crew cab) B76 (king cab)	1	Yes
	5		2	
	13	D307 (crew cab) B159 (king cab)	1	
	14		2	



3. Check continuity between audio unit harness connector M168 (A) and ground.

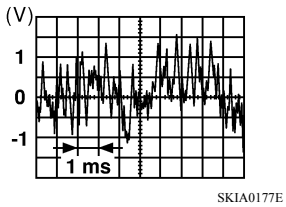
A		—	Continuity
Connector	Terminal		
M168	4	Ground	No
	5		
	13		
	14		

Are the continuity results as specified?

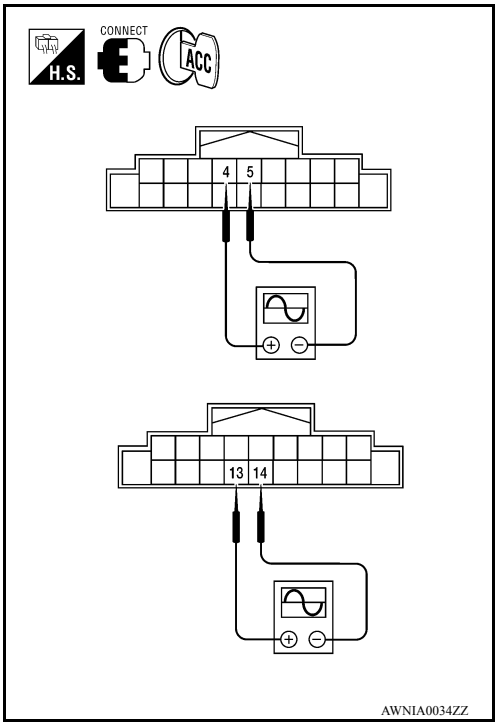
YES >> GO TO 3.
NO >> Repair harness or connector.

3.REAR DOOR SPEAKER SIGNAL CHECK

1. Connect audio unit connector and rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M168 terminals with CONSULT or oscilloscope.

(+)		(-)	Condition	Reference signal
Connector	Terminal	Terminal		
M168	4	5	Receive audio signal	
	13	14		

SKIA0177E



AWNIA0034ZZ

Is the audio signal voltage as specified?

YES >> Replace the suspect rear door speaker. Refer to AV-38, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-35, "Removal and Installation".

REAR DOOR TWEETER

Description

INFOID:0000000009876447

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

Diagnosis Procedure

INFOID:0000000009876448

Regarding Wiring Diagram information, refer to AV-23, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

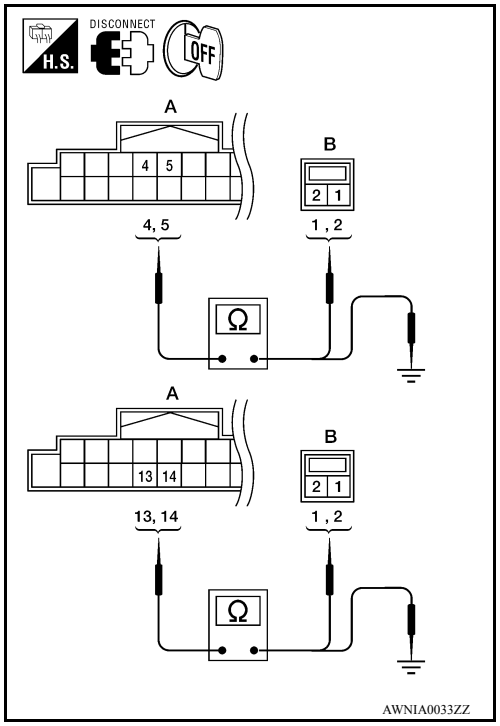
Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

2.HARNESS CHECK

1. Disconnect audio unit connector M168 and suspect rear door tweeter connector.
2. Check continuity between audio unit harness connector M168 (A) and suspect rear door tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M168	4	D208	1	Yes
	5		2	
	13	D308	1	
	14		2	



3. Check continuity between audio unit harness connector M168 (A) and ground.

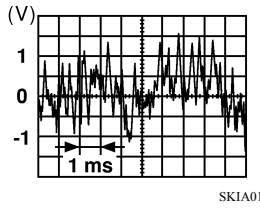
A		—	Continuity
Connector	Terminal		
M168	4	Ground	No
	5		
	13		
	14		

Are the continuity results as specified?

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

3.REAR DOOR TWEETER SIGNAL CHECK

1. Connect audio unit connector and rear door tweeter connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M168 terminals with CONSULT or oscilloscope.

(+)		(-)	Condition	Reference signal
Connector	Terminal	Terminal		
M168	4	5	Receive audio signal	
	13	14		

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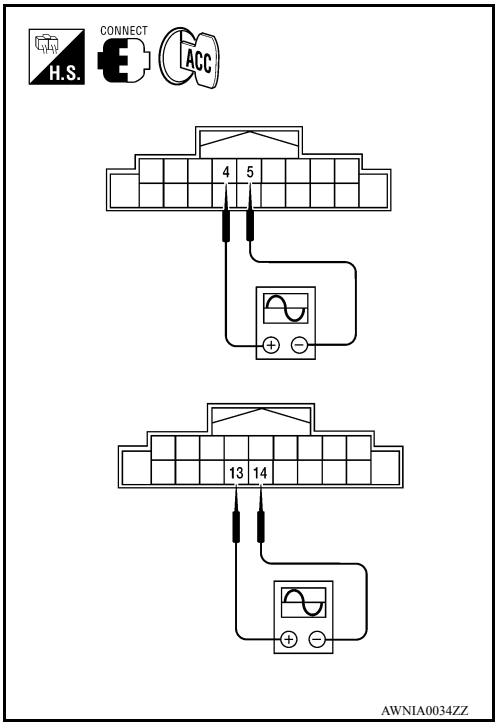


AWNIA0034ZZ

Is the audio signal voltage as specified?

YES >> Replace the suspect rear door tweeter. Refer to AV-38, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-35, "Removal and Installation".

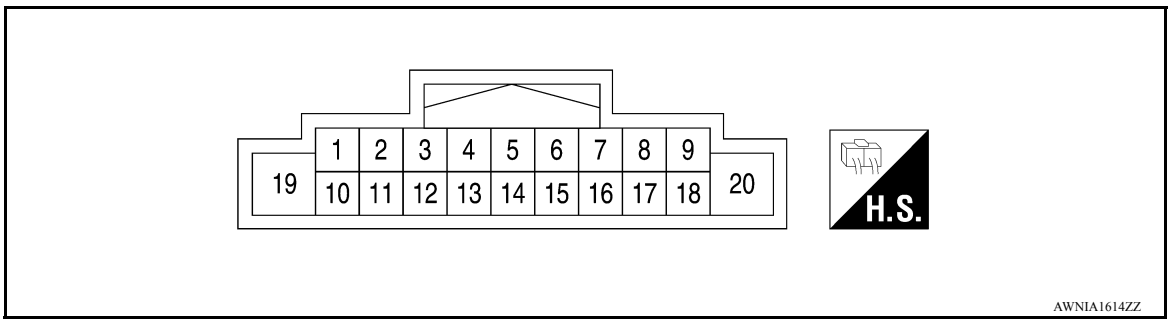
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

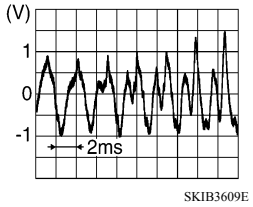
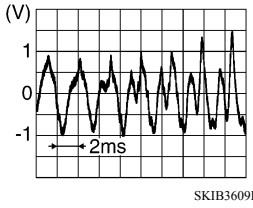
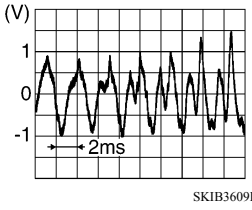
Reference Value

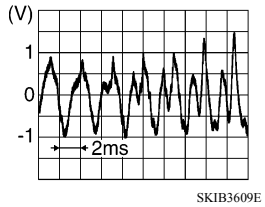
INFOID:0000000009876449

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
2 (L/W)	3 (L/R)	Sound signal front door speaker and front tweeter LH (if equipped)	Output	Ignition switch ON	Audio output	
4 (SB)	5 (B/Y)	Sound signal rear door speaker and rear tweeter LH (if equipped)	Output	Ignition switch ON	Audio output	
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC or ON	—	Battery voltage
9 (R/L)	8 (BR)	Illumination	Input	Ignition switch ACC or ON	Exterior lights ON	Battery voltage
11 (W/B)	12 (L/B)	Sound signal front door speaker and front tweeter RH (if equipped)	Output	Ignition switch ON	Voice output	

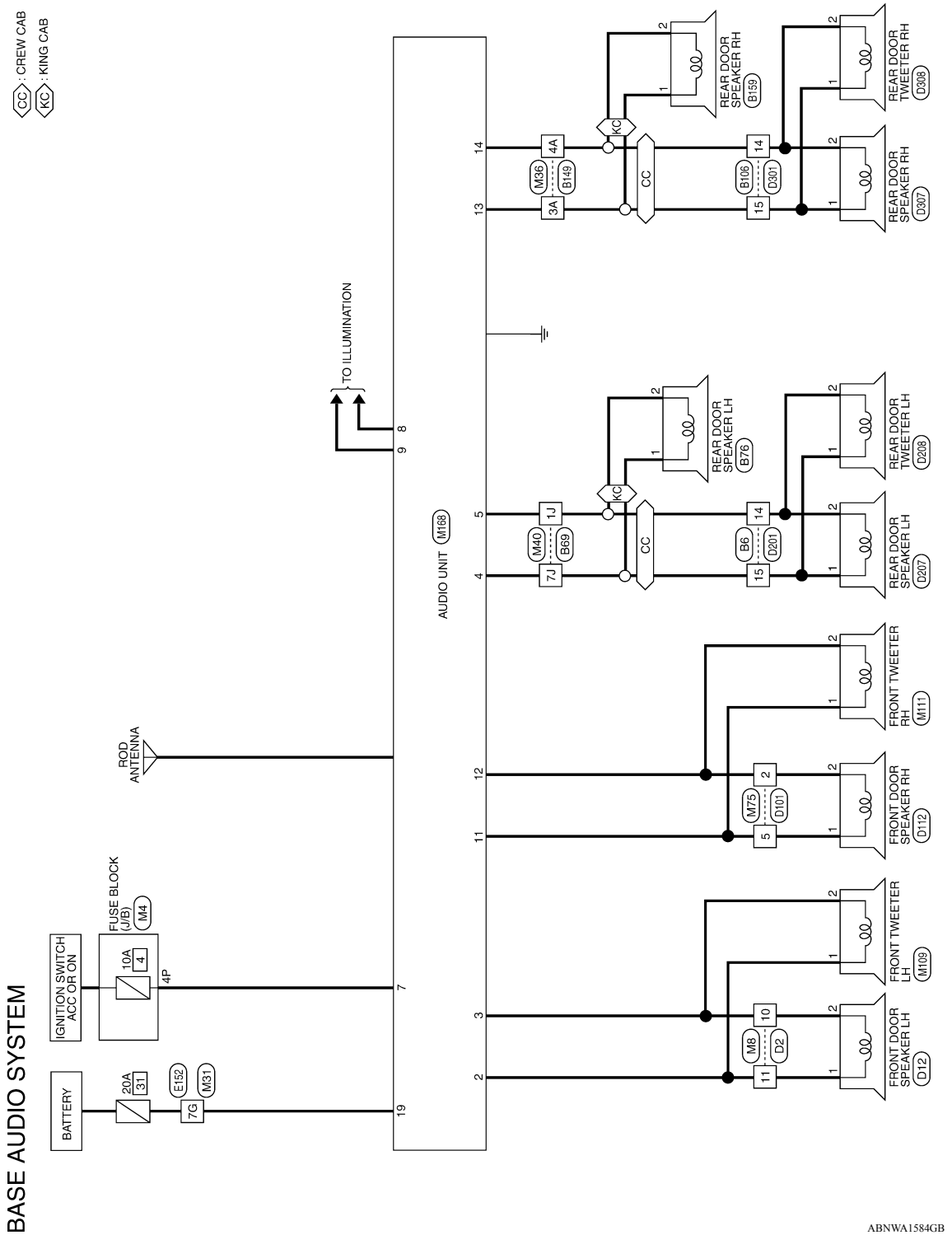
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
13 (O/L)	14 (R/L)	Sound signal rear door speaker and rear tweeter RH (if equipped)	Output	Ignition switch ON	Voice output	 SKIB3609E
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage

WIRING DIAGRAM

BASE AUDIO SYSTEM

Wiring Diagram

INFOID:0000000009876450



BASE AUDIO SYSTEM CONNECTORS

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
4P	V	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

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

H.S.

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

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

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

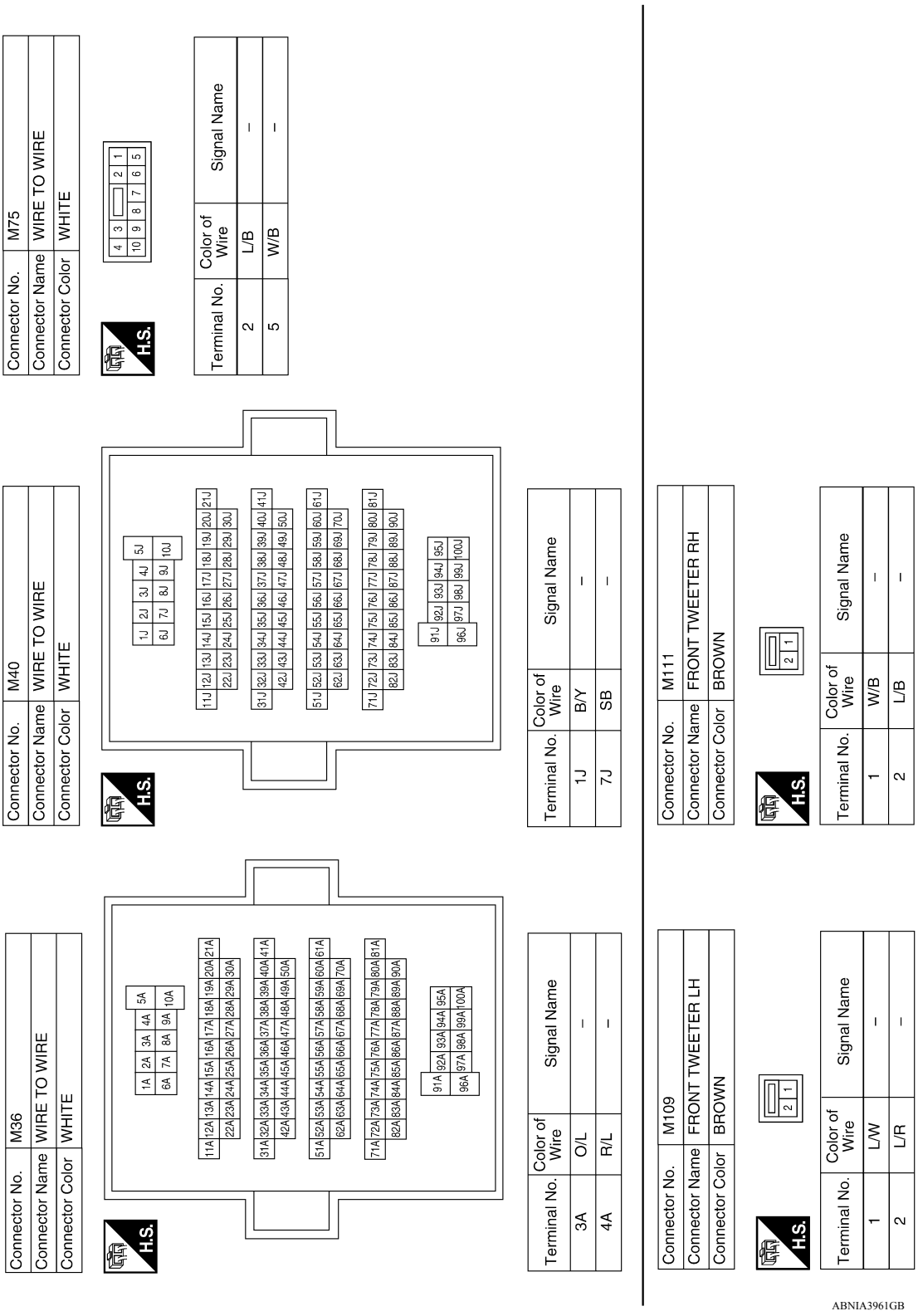
51G	52G	53G	54G	55G	56G	57G	58G	59G	60G	61G
62G	63G	64G	65G	66G	67G	68G	69G	70G		

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

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

Terminal No.	Color of Wire	Signal Name
7G	Y	–

ABNIA3960GB


Connector No. M75
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
4 3 2 1
10 9 8 7 6 5
Terminal No. Color of Wire Signal Name
2 L/B –
5 W/B –
Connector No. M40
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1J 2J 3J 4J 5J
6J 7J 8J 9J 10J
11J 12J 13J 14J 15J 16J 17J 18J 19J 20J 21J
22J 23J 24J 25J 26J 27J 28J 29J 30J
31J 32J 33J 34J 35J 36J 37J 38J 39J 40J 41J
42J 43J 44J 45J 46J 47J 48J 49J 50J
51J 52J 53J 54J 55J 56J 57J 58J 59J 60J 61J
62J 63J 64J 65J 66J 67J 68J 69J 70J
71J 72J 73J 74J 75J 76J 77J 78J 79J 80J 81J
82J 83J 84J 85J 86J 87J 88J 89J 90J
91J 92J 93J 94J 95J
96J 97J 98J 99J 100J
Terminal No. Color of Wire Signal Name
1J B/Y –
7J SB –
Connector No. M36
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1A 2A 3A 4A 5A
6A 7A 8A 9A 10A
11A 12A 13A 14A 15A 16A 17A 18A 19A 20A 21A
22A 23A 24A 25A 26A 27A 28A 29A 30A
31A 32A 33A 34A 35A 36A 37A 38A 39A 40A 41A
42A 43A 44A 45A 46A 47A 48A 49A 50A
51A 52A 53A 54A 55A 56A 57A 58A 59A 60A 61A
62A 63A 64A 65A 66A 67A 68A 69A 70A
71A 72A 73A 74A 75A 76A 77A 78A 79A 80A 81A
82A 83A 84A 85A 86A 87A 88A 89A 90A
91A 92A 93A 94A 95A
96A 97A 98A 99A 100A
Terminal No. Color of Wire Signal Name
3A O/L –
4A R/L –
Connector No. M111
Connector Name FRONT TWEETER RH
Connector Color BROWN
H.S.
2 1
Terminal No. Color of Wire Signal Name
1 W/B –
2 L/B –
Connector No. M109
Connector Name FRONT TWEETER LH
Connector Color BROWN
H.S.
2 1
Terminal No. Color of Wire Signal Name
1 L/W –
2 L/R –
ABNIA3961GB

Connector No.	M168
Connector Name	AUDIO UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	–	–
2	L/W	–
3	L/R	–
4	SB	–
5	B/Y	–
6	–	–
7	V	–
8	BR	–
9	R/L	–
10	–	–
11	W/B	–
12	L/B	–
13	O/L	–
14	R/L	–
15	–	–
16	–	–
17	–	–
18	–	–
19	Y	–
20	–	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
7G	Y	–

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

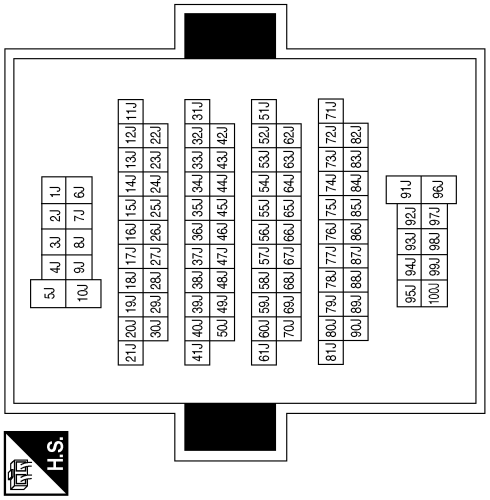
H.S.

Terminal No.	Color of Wire	Signal Name
14	B/Y	–
15	SB	–

ABNIA3962GB

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

H.S.



Terminal No.	Color of Wire	Signal Name
1J	Y	– (KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
1J	B/Y	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
7J	L	– (KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
7J	SB	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)

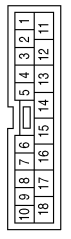
Connector No.	B76
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	– (WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	Y	– (WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)

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

H.S.



Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	–

ABNIA6307GB

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

H.S.

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

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

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

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

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

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

Terminal No.	Color of Wire	Signal Name
3A	L	– (KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
3A	O/L	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
4A	R/L	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

Connector No.	B159
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	L	– (WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	R/L	–

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

H.S.

2	1

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

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

H.S.

1	2		3	4
5	6	7	8	9	10

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

ABNIA6308GB

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

H.S.

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

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

H.S.

Terminal No.	Color of Wire	Signal Name
14	B/Y	– (WITHOUT NAVI OR MID AUDIO SYSTEM)
15	SB	– (WITHOUT NAVI OR MID AUDIO SYSTEM)

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	– (WITHOUT NAVI OR MID AUDIO SYSTEM)
2	B/Y	– (WITHOUT NAVI OR MID AUDIO SYSTEM)

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	B/Y	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	– (WITHOUT NAVI OR MID AUDIO SYSTEM)

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	O/L	– (WITHOUT NAVI OR MID AUDIO SYSTEM)
2	R/L	–

ABNIA6309GB

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

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

ABNIA3966GB

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000009876451

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	• Audio unit power and ground circuit • Audio unit	• AV-12 • AV-35
All speakers do not sound	• Speaker circuit shorted to ground • Audio unit power and ground circuit • Audio unit	• AV-23 • AV-12 • AV-35
One or several speakers do not sound	• Front door speaker • Front tweeter • Rear door tweeter (crew cab) • Rear door speaker	• AV-13 • AV-15 • AV-19 • AV-17
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-35
CD cannot be ejected.		
The CD cannot be played.		
The sound skips, stops suddenly, or is distorted.		

NORMAL OPERATING CONDITION

Description

INFOID:0000000009876452

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

NOISE

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

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

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

NOTE:

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

Type of Noise and Possible Cause

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

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010159250

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 three minutes before performing any service.**

Precaution for Work

INFOID:0000000009876454

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:

- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:

- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

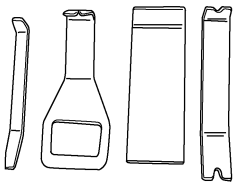
PREPARATION

PREPARATION

Special Service Tools

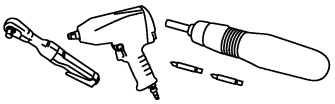
INFOID:0000000010159255

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

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

Commercial Service Tools

INFOID:0000000009876456

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

REMOVAL AND INSTALLATION

AUDIO UNIT

Removal and Installation

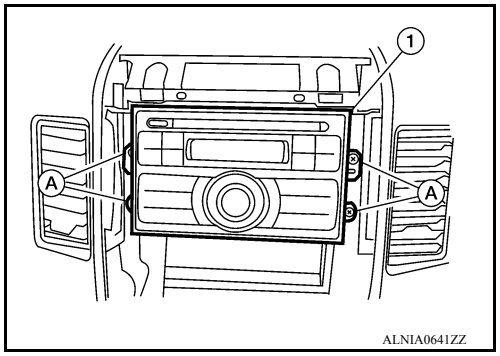
INFOID:0000000009876457

AUDIO UNIT

Removal

1. Remove the cluster lid C. Refer to IP-15, "Removal and Installation".
2. Remove the audio unit screws (A), using power tool.
3. Remove the audio unit.

a. Pull out the audio unit (1) out of the instrument panel.
b. Disconnect the audio unit harness connectors.



Installation

Installation is in the reverse order of removal.

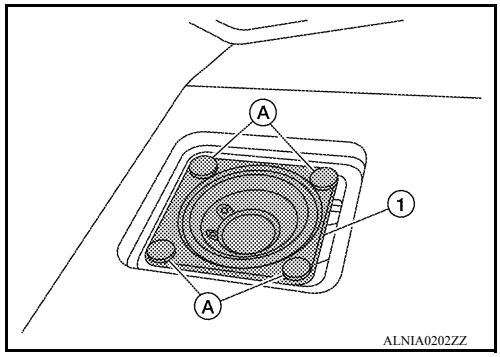
FRONT TWEETER

Removal and Installation

INFOID:0000000009876458

REMOVAL

1. Remove front tweeter speaker grille, using a suitable tool.
2. Remove the front tweeter clips (A).
3. Disconnect the front tweeter harness connector.
4. Remove the front tweeter (1).



Installation
Installation is in the reverse order of removal.

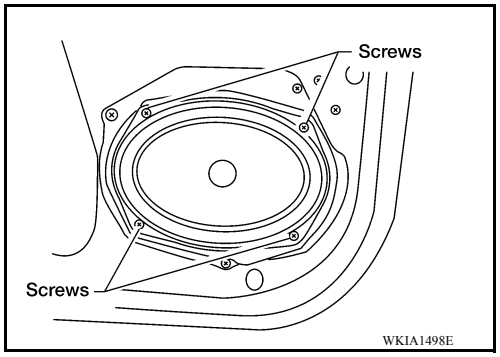
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000009876459

REMOVAL

1. Remove the front door finisher. Refer to INT-10, "Removal and Installation".
2. Remove the front door speaker screws.
3. Disconnect the front door speaker harness connector.
4. Remove the front door speaker.



INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

Removal and Installation

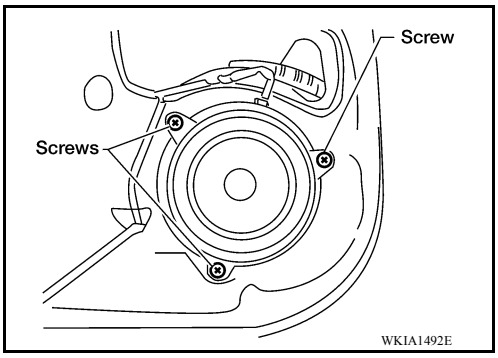
INFOID:0000000009876460

REAR DOOR SPEAKER

Removal

1. Remove the rear door finisher. Refer to INT-10, "Removal and Installation" (Crew Cab) or INT-10, "Removal and Installation" (King Cab).
2. Remove the rear door speaker.

a. Remove the rear door speaker screws.
b. Disconnect the rear door speaker harness connector.



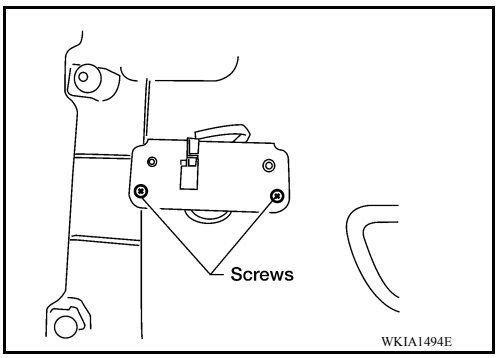
Installation
Installation is in the reverse order of removal.

REAR DOOR TWEETER

Removal

1. Remove the rear door finisher. Refer to INT-10, "Removal and Installation".
2. Remove the rear door tweeter.

a. Remove the rear door tweeter screws.
b. Disconnect the rear door tweeter harness connector.

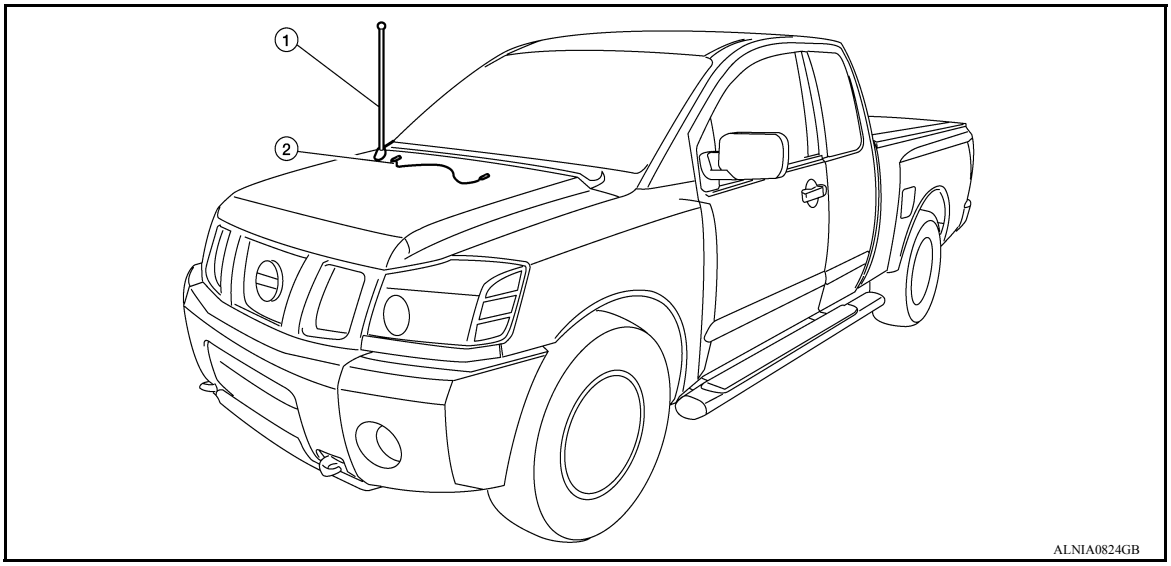


Installation
Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:0000000009876461



1. Antenna
2. Main feeder cable

Removal and Installation

INFOID:0000000009876462

REMOVAL

1. Remove audio antenna rod.
2. Remove audio antenna rubber seal.
3. Remove fender protector RH. Refer to EXT-24, "Removal and Installation".
4. Remove audio antenna assembly bolts.
5. Disconnect the audio antenna feeder from the audio antenna assembly.
6. Remove audio antenna assembly from the vehicle.

INSTALLATION

Installation is in the reverse order of removal.

- Tighten audio antenna rod to specification.

Audio antenna rod : 3.5 N·m (0.36 kg-m, 31 in-lb)

CAUTION:

Always properly tighten the audio antenna rod during installation or the audio antenna rod may bend or break during vehicle operation.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010159251

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 three minutes before performing any service.**

Precaution for Trouble Diagnosis

INFOID:0000000009876464

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 Work

INFOID:0000000009876466

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:

- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:

- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.

• Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

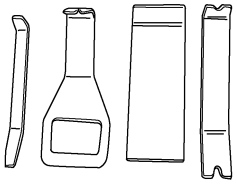
PREPARATION

PREPARATION

Special Service Tools

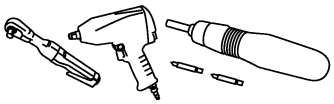
INFOID:0000000010159260

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

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

Commercial Service Tools

INFOID:0000000009876468

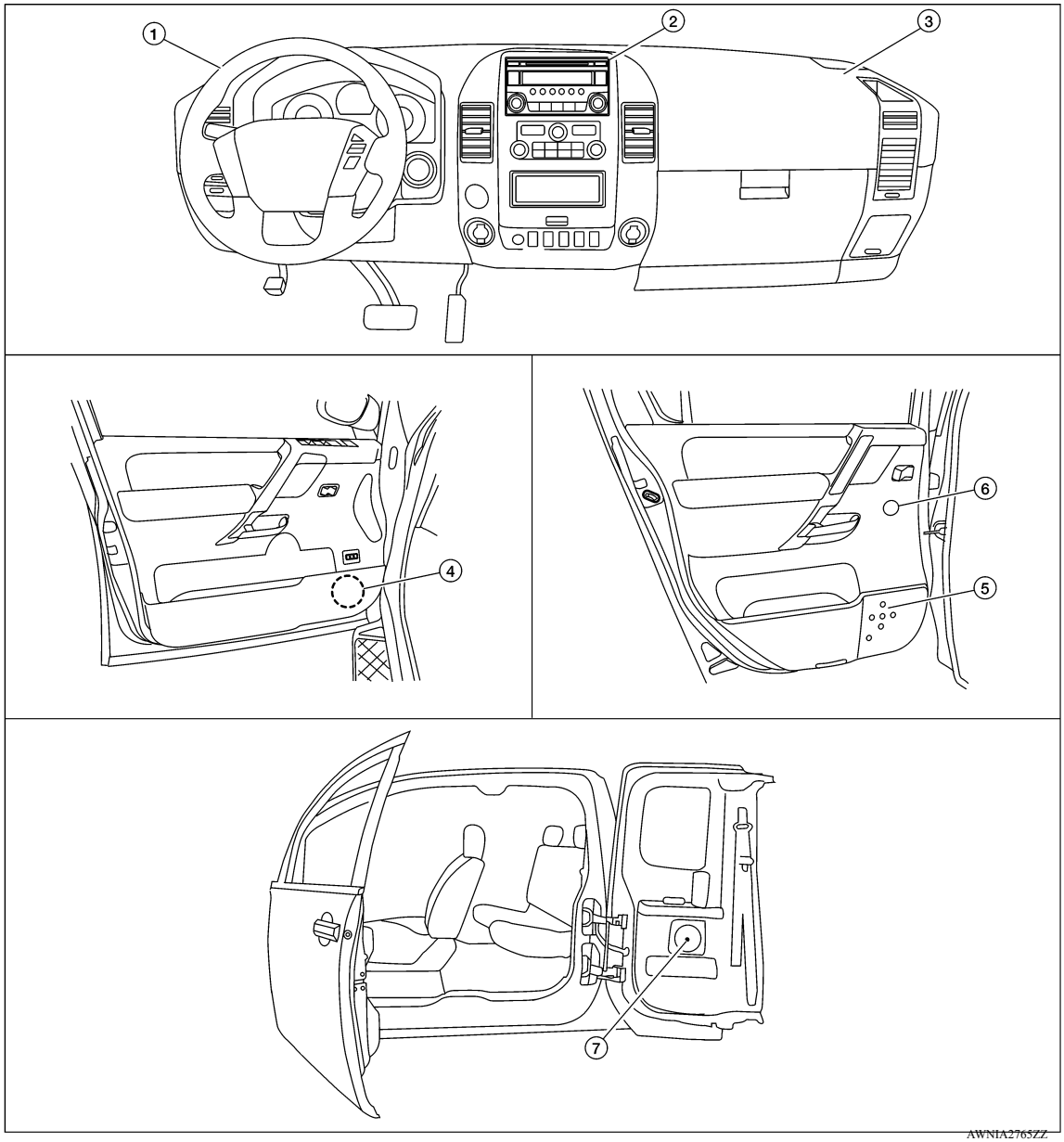
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000009876469



1. Front tweeter LH M109
2. Audio unit M163, M164
3. Front tweeter RH M111
4. Front door speaker
   LH D12
   RH D112
5. Rear door speaker (crew cab)
   LH D207
   RH D307
6. Rear door tweeter (crew cab)
   LH D208
   RH D308
7. Rear door speaker (king cab)
   LH B76
   RH B159

Component Description

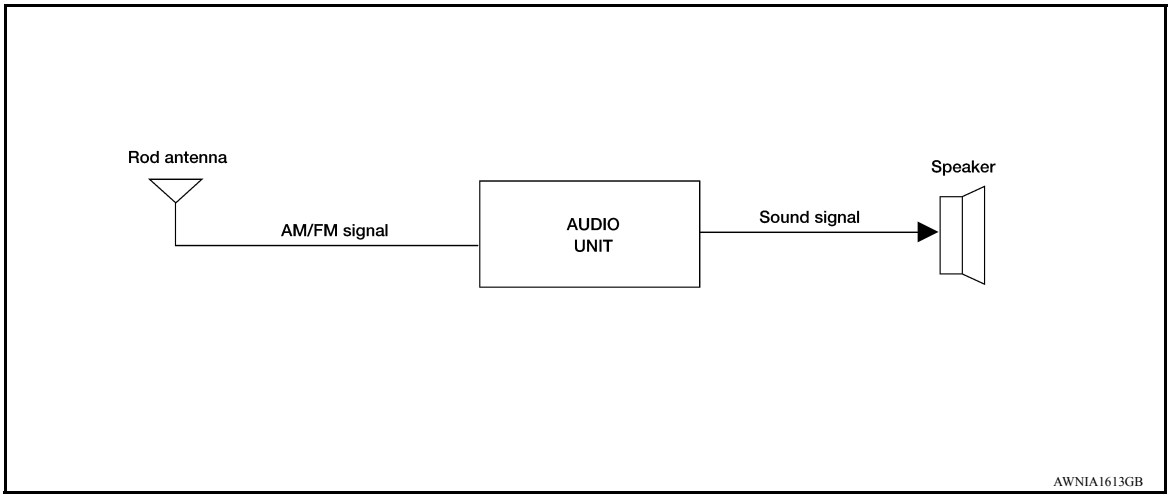
INFOID:0000000009876470

Part name	Description
Audio unit	• Controls audio system functions.
Front door speakers	• Outputs audio signal from audio unit. • Outputs high, mid and low range sounds
Front tweeters	• Outputs audio signal from audio unit • Outputs high range sounds.
Rear door speakers	• Outputs audio signal from audio unit. • Outputs high, mid and low range sounds.
Rear door tweeters (crew cab)	• Outputs audio signal from audio unit. • Outputs high range sounds.
Rod antenna	AM/FM signal is received and transmitted to the audio unit.

SYSTEM

System Diagram

INFOID:0000000009876471



System Description

INFOID:0000000009876472

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Front door speakers
- Front tweeters
- Rear speakers
- Rear tweeters (crew cab)
- Rod antenna

When the audio system is on, radio signals are received by the rod antenna. The audio unit then sends audio signals to the front door speakers, front tweeters, rear door speakers and rear tweeters (crew cab).
Refer to Owner's Manual for audio system operating instructions.

DIAGNOSIS SYSTEM (AUDIO UNIT)

Diagnosis Description

INFOID:0000000009876473

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

Mode	Description
Hardware/Software Versions	Hardware and software versions are available for: • audio unit. • combination meter EEPROM version and EQ pin info are also available for the audio unit.
Speaker Channel Check	The connection of the speakers to the audio unit can be confirmed.
Communication Diagnosis	The AV communication (M-CAN) message history can be monitored.

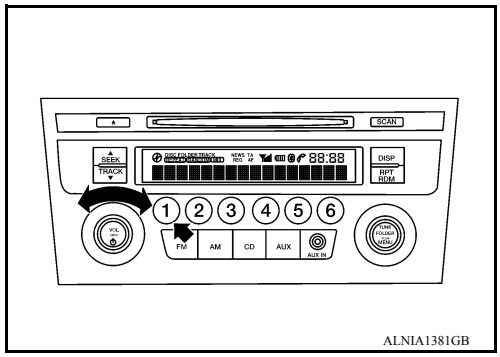
On Board Diagnosis Function

INFOID:0000000009876474

METHOD OF STARTING

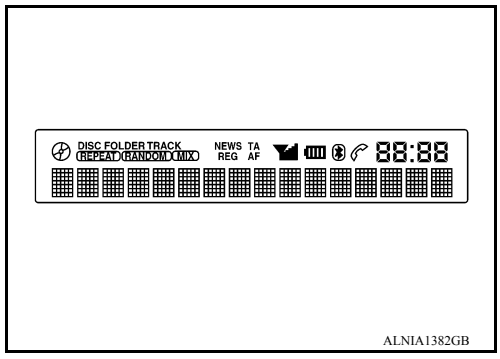
Hardware/Software Versions and Speaker Channel Check

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



ALNIA1381GB

4. Initially, all display segments will be illuminated.



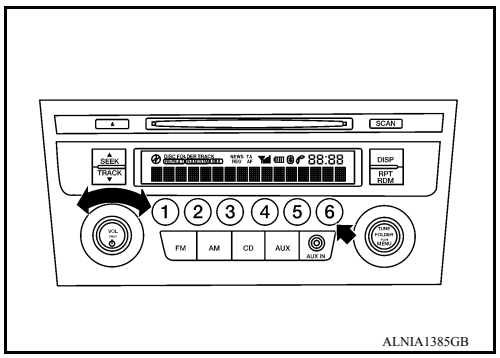
ALNIA1382GB

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

Communication Diagnosis

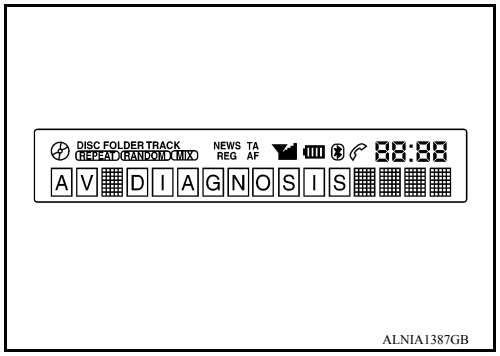
1. Turn the ignition ON.
2. Turn the audio system OFF.

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



ALNIA1385GB

4. Initially, the communication diagnosis mode is displayed.



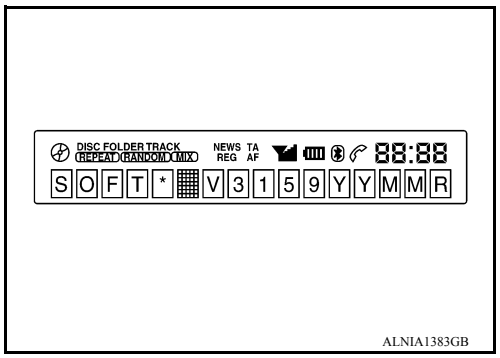
ALNIA1387GB

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

SELF DIAGNOSIS MODE

Hardware/Software Versions

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



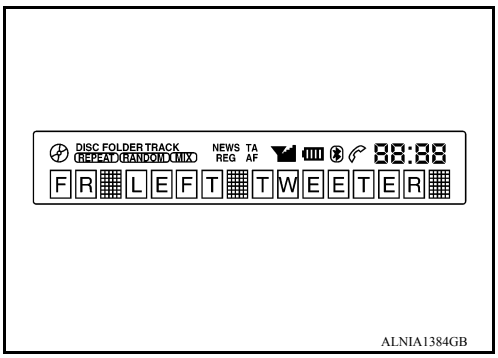
ALNIA1383GB

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

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

Speaker Channel Check

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

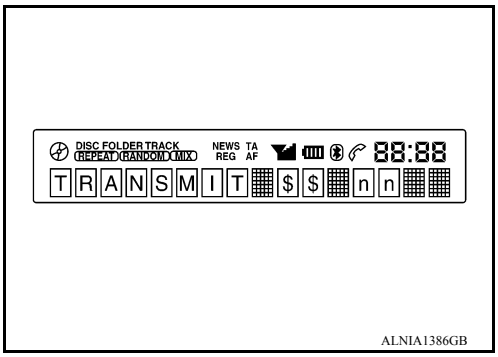


ALNIA1384GB

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

Communication Diagnosis

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



ALNIA1386GB

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

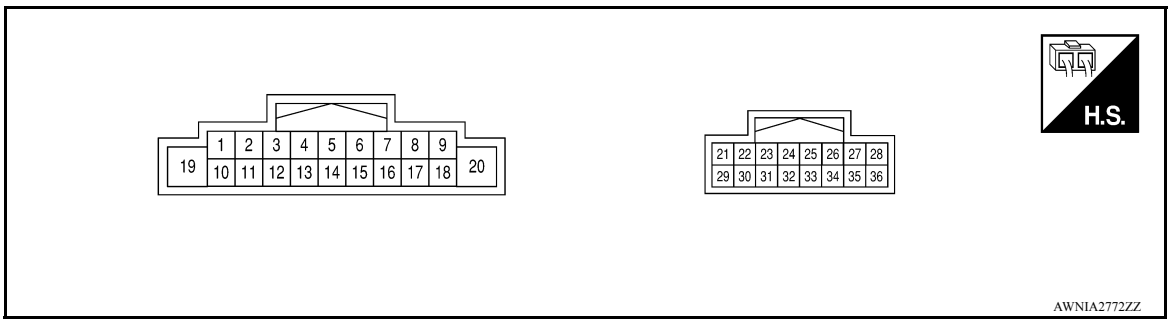
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

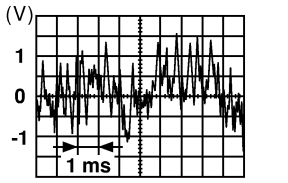
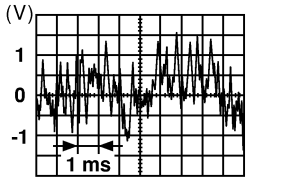
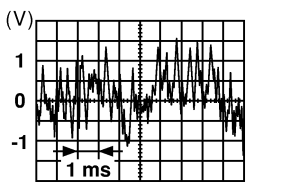
Reference Value

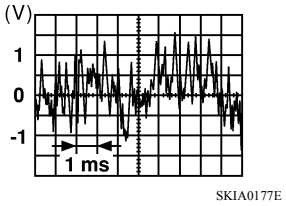
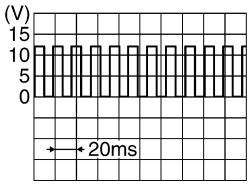
INFOID:0000000009876475

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
2 (L/W)	3 (L/R)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
4 (SB)	5 (B/Y)	Audio sound signal rear LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
7 (V)	Ground	ACC signal	Input	Ignition switch ON	–	Battery voltage
8 (BR)	Ground	Illumination control signal	Input	Ignition switch ON	Illumination control switch is operated by lighting switch in 1st position.	Changes between 0 and 12V
9 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch is in 1st position.	Battery voltage
					Lighting switch is OFF.	0V
11 (W/B)	12 (L/B)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E

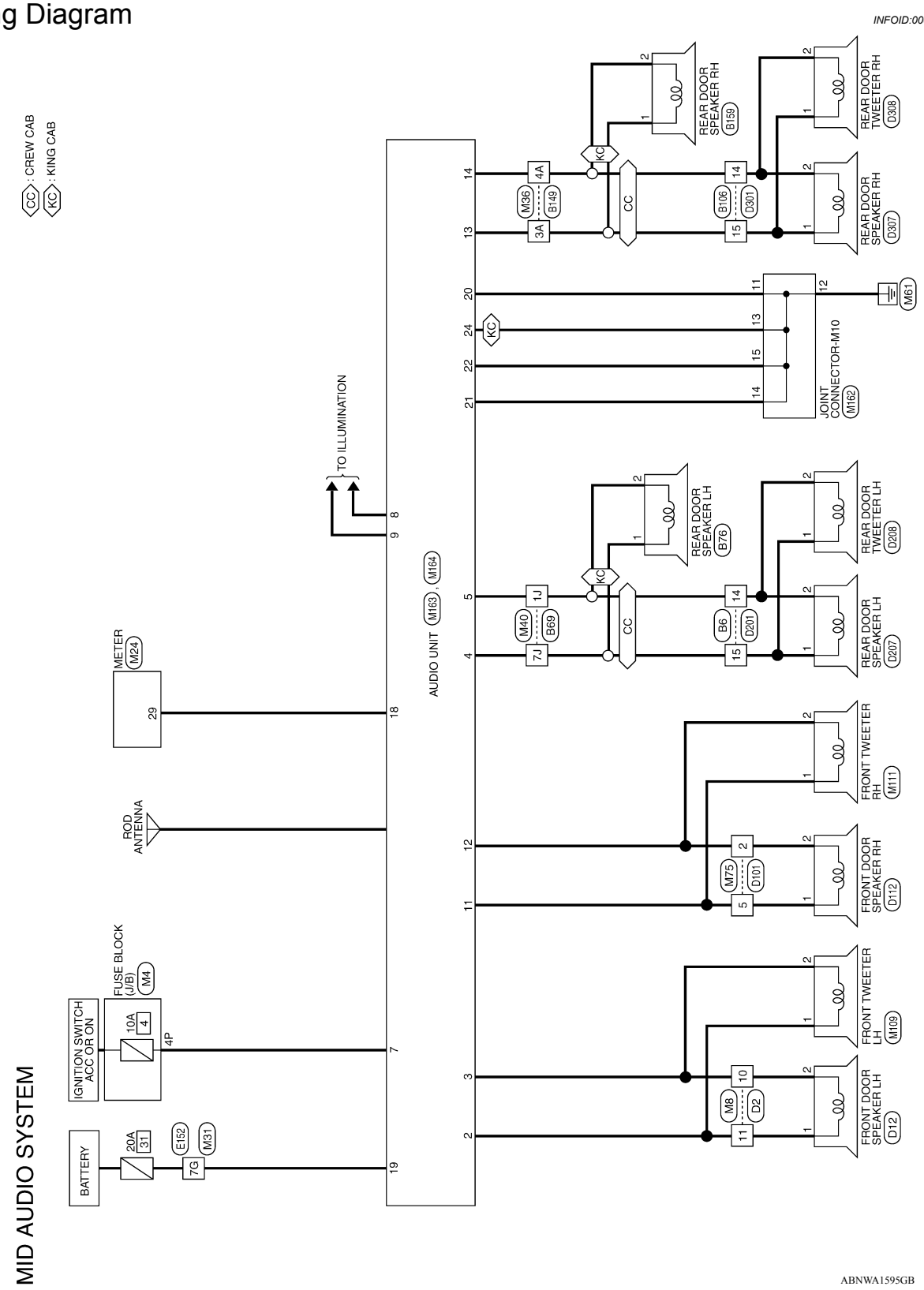
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	–					
13 (O/L)	14 (R/L)	Audio sound signal rear RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
18 (W/R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 mph)	 PKIA1935E
19 (Y)	Ground	Battery power	Input	–	–	Battery voltage
20 (Y)	–	Ground	–	–	–	0V
21 (B)	Ground	Eq1 port1	–	Ignition switch ON	–	0V
22 (B)	Ground	Eq2 port2	–	Ignition switch ON	–	0V
24 (B)	Ground	Eq4 port4	–	Ignition switch ON	–	0V

WIRING DIAGRAM

MID AUDIO SYSTEM

Wiring Diagram

INFOID:0000000009876476



ABNWA1595GB

MID AUDIO SYSTEM CONNECTORS

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
4P	V	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
29	W/R	SPEED OUT

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

H.S.

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

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

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

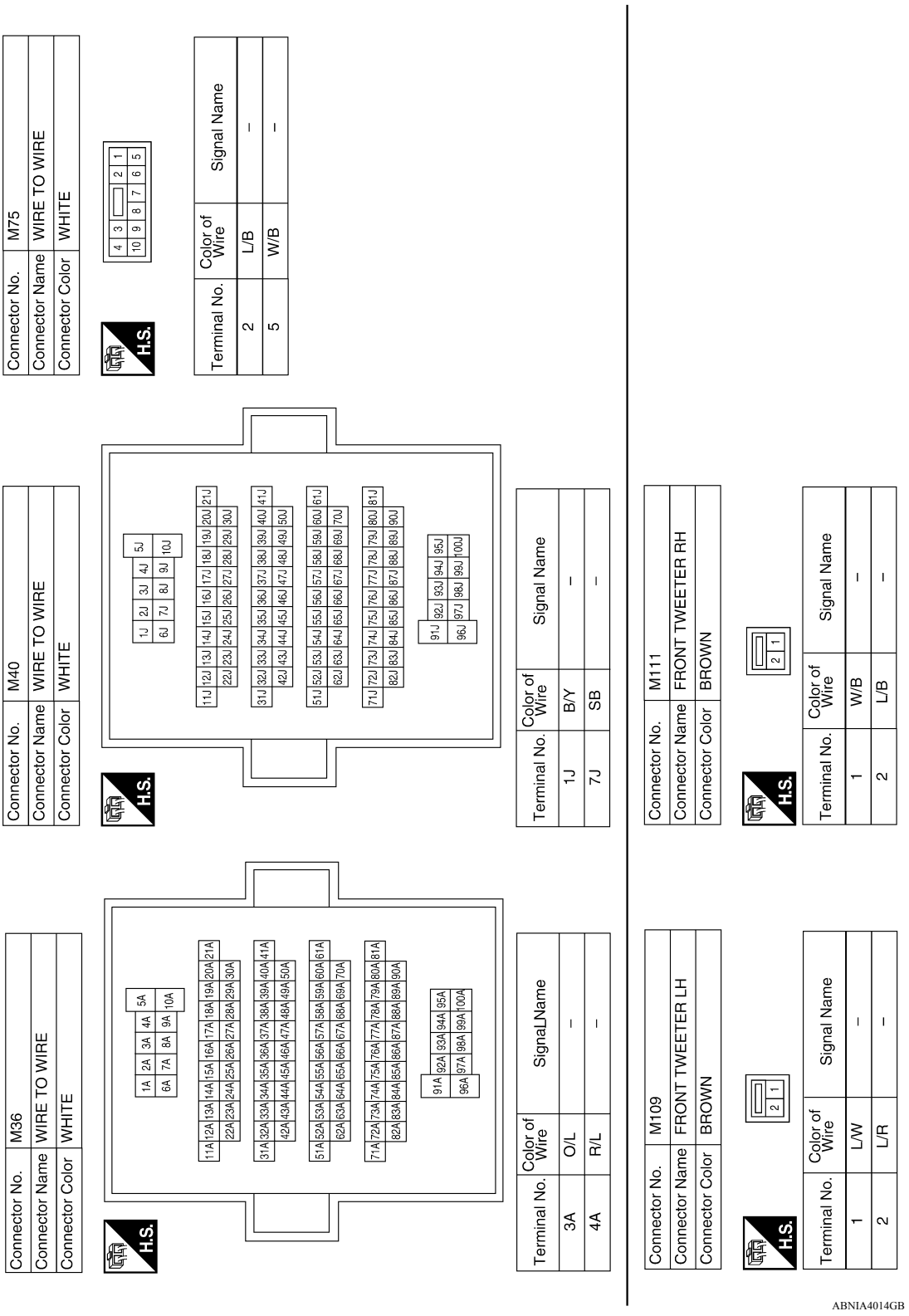
51G	52G	53G	54G	55G	56G	57G	58G	59G	60G	61G
62G	63G	64G	65G	66G	67G	68G	69G	70G		

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

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

Terminal No.	Color of Wire	Signal Name
7G	Y	–

ABNIA4013GB


Connector No. M75
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 L/B –
5 W/B –
Connector No. M40
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
1J B/Y –
7J SB –
Connector No. M111
Connector Name FRONT TWEETER RH
Connector Color BROWN
H.S.
Terminal No. Color of Wire Signal Name
1 W/B –
2 L/B –
Connector No. M36
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire SignalLName
3A O/L –
4A R/L –
Connector No. M109
Connector Name FRONT TWEETER LH
Connector Color BROWN
H.S.
Terminal No. Color of Wire Signal Name
1 L/W –
2 L/R –
ABNIA4014GB

Terminal No.	Color of Wire	Signal Name
7	V	ACC
8	BR	ILL CONT
9	R/L	LIGHT SW
10	–	–
11	W/B	FR SP RH+
12	L/B	RR SP RH-
13	O/L	RR SP RH+
14	R/L	RR SP RH-
15	–	–
16	–	–
17	–	–
18	W/R	SPEED SIG SSV
19	Y	BACK UP
20	B	GND

Terminal No.	Color of Wire	Signal Name
34	–	–
35	–	–
36	–	–

Connector No.	M163
Connector Name	AUDIO UNIT (WITH MID AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	–	–
2	L/W	FR SP LH+
3	L/R	FR SP LH-
4	SB	FR SP LH+
5	B/Y	RR SP LH-
6	–	–

Terminal No.	Color of Wire	Signal Name
23	–	–
24	B	EQ4 PORT4
25	–	–
26	–	–
27	–	–
28	–	–
29	–	–
30	–	–
31	–	–
32	–	–
33	–	–

Connector No.	M162
Connector Name	JOINT CONNECTOR-M10
Connector Color	BLUE

H.S.

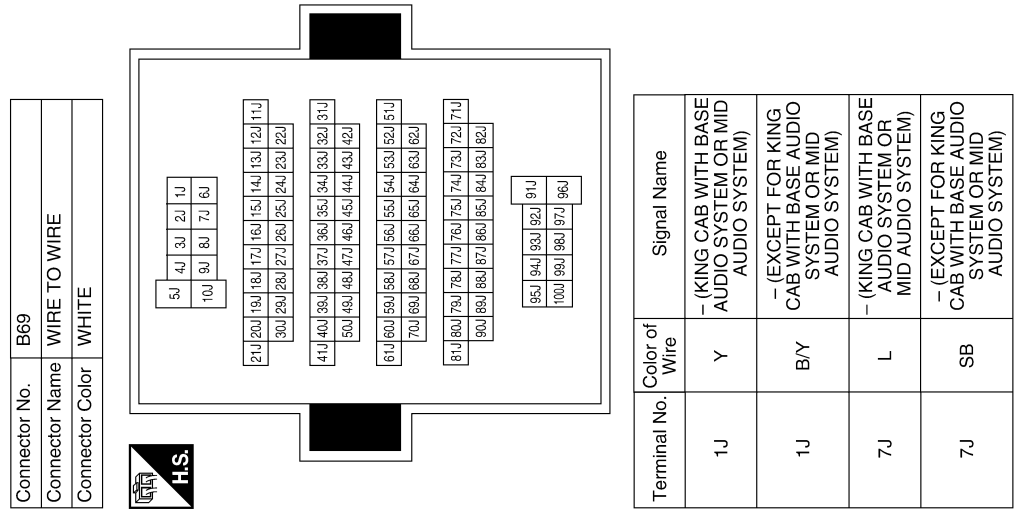
Terminal No.	Color of Wire	Signal Name
11	B	–
12	B	–
13	B	–
14	B	–
15	B	–

Connector No.	M164
Connector Name	AUDIO UNIT (WITH MID AUDIO SYSTEM)
Connector Color	WHITE

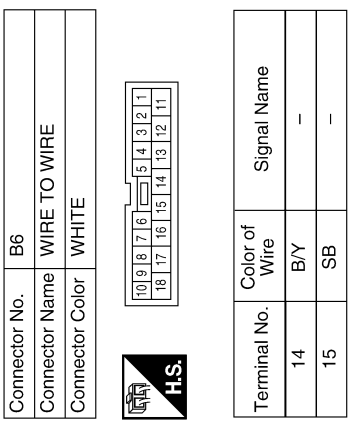
H.S.

Terminal No.	Color of Wire	Signal Name
21	B	EQ1 PORT1
22	B	EQ2 PORT2

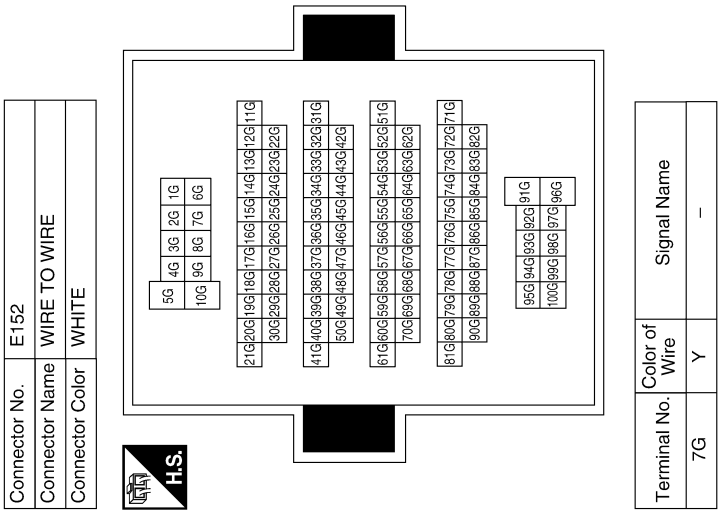
ABNIA6310GB



Terminal No.	Color of Wire	Signal Name
1J	Y	– (KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
1J	B/Y	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
7J	L	– (KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
7J	SB	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)



Terminal No.	Color of Wire	Signal Name
14	B/Y	–
15	SB	–



Terminal No.	Color of Wire	Signal Name
7G	Y	–

ABNIA4016GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	– (WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	Y	– (WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)

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

H.S.

Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
3A	L	– (KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
3A	O/L	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
4A	R/L	–

Connector No.	B159
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	– (WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	R/L	–

ABNIA6311GB

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

H.S.

1	2		3	4
5	6	7	8	9	10

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

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

H.S.

2	1

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

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

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

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	L	– (WITH NAVI OR MID AUDIO SYSTEM)
2	Y	– (WITH NAVI OR MID AUDIO SYSTEM)

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	Y	– (WITH NAVI OR MID AUDIO SYSTEM)
15	L	– (WITH NAVI OR MID AUDIO SYSTEM)

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

H.S.

2	1

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

ABNIA6312GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	B/Y	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	L	– (WITH NAVI OR MID AUDIO SYSTEM)

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	– (WITH NAVI OR MID AUDIO SYSTEM)
2	R/L	–

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

H.S.

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

ABNIA6313GB

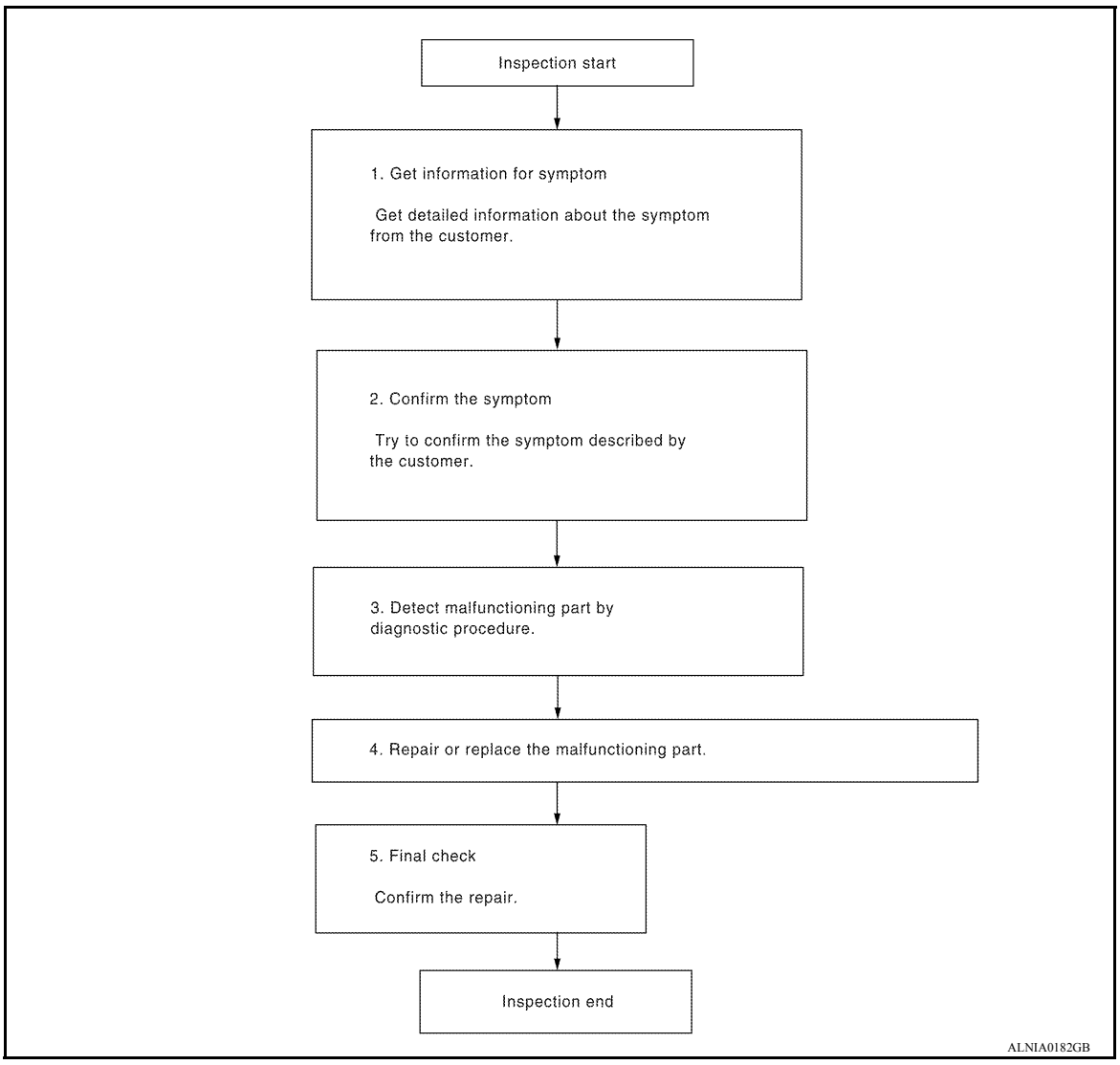
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000009876477

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2

2.CONFIRM THE SYMPTOM

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

>> GO TO 3

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5

5. FINAL CHECK

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

Has the symptom been repaired?

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

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT
AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000009876478

Regarding Wiring Diagram information, refer to AV-51, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	4 (10A)
19	Battery power supply	31 (20A)

Are the fuses blown?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M164.
3. Check voltage between audio unit connector M164 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M164	7	—	Ignition switch: ON	Battery voltage
	19		Ignition switch: OFF	

Is the inspection result normal?

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

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000009876479

Regarding Wiring Diagram information, refer to AV-51, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminals or connectors.

2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M164 and suspect front door speaker connector.
2. Check continuity between audio unit connector M164 and suspect front door speaker connector.

Audio unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M164	2	D12 (LH)	1	Yes
	3		2	
	11	D112 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M164 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M164	2	—	No
	3		
	11		
	12		

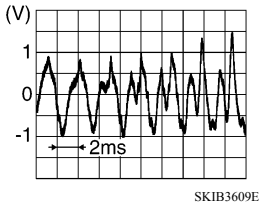
Is the inspection result normal?

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

3.CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect audio unit connector M164 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M164 and ground.

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

2	3		
11	12	Audio signal output	 SKIB3609E

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-140, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-137, "Removal and Installation".

FRONT TWEETER

Diagnosis Procedure

INFOID:0000000009876480

Regarding Wiring Diagram information, refer to AV-51, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminals or connectors.

2.CHECK FRONT TWEETER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M164 and suspect front tweeter connector.
2. Check continuity between audio unit connector M164 and suspect front tweeter connector.

Audio unit		Front tweeter		Continuity
Connector	Terminal	Connector	Terminal	
M164	2	M109 (LH)	1	Yes
	3		2	
	11	M111 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M164 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M164	2	—	No
	3		
	11		
	12		

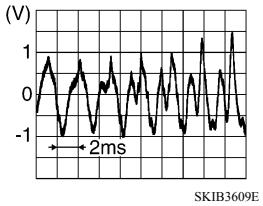
Is the inspection result normal?

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

3.CHECK FRONT TWEETER SIGNAL

1. Connect audio unit connector M164 and suspect front tweeter connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M164 and ground.

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

2	3	Audio signal output	 SKIB3609E
11	12		

Is the inspection result normal?

YES >> Replace front tweeter. Refer to AV-74, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-73, "Removal and Installation".

REAR SPEAKER

Description

INFOID:0000000009876481

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

Diagnosis Procedure

INFOID:0000000009876482

Regarding Wiring Diagram information, refer to AV-51, "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 M164 and suspect speaker connector.
2. Check continuity between audio unit harness connectors M164 and suspect speaker harness connector.

Audio unit		Rear speakers		Continuity
Connector	Terminal	Connector	Terminal	
M164	4	D207 (crew cab) B76 (king cab)	1	Yes
	5		2	
	13	D307 (crew cab) B159 (king cab)	1	
	14		2	

3. Check continuity between audio unit harness connectors M164 and ground.

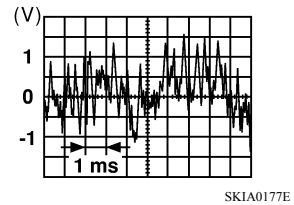
Connector	Terminal	-	Continuity
M164	4	Ground	No
	5		
	13		
	14		

Are the continuity test results as specified?

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

3.REAR DOOR SPEAKER SIGNAL CHECK

1. Connect audio unit connectors and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connectors M164 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M164	4	5	Receive audio signal	 SKIA0177E
	13	14		

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to AV-76, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-73, "Removal and Installation".

REAR DOOR TWEETER

Description

INFOID:0000000009876483

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

Diagnosis Procedure

INFOID:0000000009876484

Regarding Wiring Diagram information, refer to AV-51, "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 M164 and suspect rear door tweeter connector.
2. Check continuity between audio unit harness connectors M164 and suspect rear door tweeter harness connector.

Audio unit		Rear door tweeters		Continuity
Connector	Terminal	Connector	Terminal	
M164	4	D208	1	Yes
	5		2	
	13	D308	1	
	14		2	

3. Check continuity between audio unit harness connectors M164 and ground.

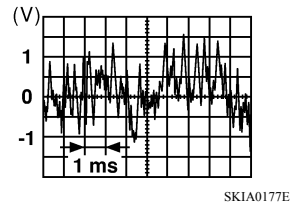
Connector	Terminal	-	Continuity
M164	4	Ground	No
	5		
	13		
	14		

Are the continuity test results as specified?

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

3.REAR DOOR TWEETER SIGNAL CHECK

1. Connect audio unit connectors and suspect rear door tweeter connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connectors M164 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M164	4	5	Receive audio signal	
	13	14		

SKIA0177E

Are audio signal voltage readings as specified?

YES >> Replace suspect rear door tweeter. Refer to AV-76, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-73, "Removal and Installation".

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000009876485

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-46, "On Board Diagnosis Function".
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-51, "Wiring Diagram". • Audio unit power supply and ground circuits malfunction. Refer to AV-61, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-62, "Diagnosis Procedure" (front door speaker). - AV-64, "Diagnosis Procedure" (front tweeter). - AV-66, "Diagnosis Procedure" (rear speaker). - AV-68, "Diagnosis Procedure" (rear door tweeter) • Malfunction in speaker. Refer to: - AV-75, "Removal and Installation" (front door speaker). - AV-74, "Removal and Installation" (front tweeter). - AV-76, "Removal and Installation" (rear speaker). - AV-76, "Removal and Installation" (rear door tweeter) • Malfunction in audio unit. Refer to AV-46, "On Board Diagnosis Function".

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in audio unit. Refer to AV-46, "On Board Diagnosis Function".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-62, "Diagnosis Procedure" (front door speaker). - AV-64, "Diagnosis Procedure" (front speaker). - AV-64, "Diagnosis Procedure" (rear speaker). - AV-68, "Diagnosis Procedure" (rear tweeter). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-75, "Removal and Installation" (front door speaker). - AV-74, "Removal and Installation" (front tweeter). - AV-76, "Removal and Installation" (rear speaker). - AV-76, "Removal and Installation" (rear tweeter). • Malfunction in audio unit. Refer to AV-46, "On Board Diagnosis Function".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna.
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

Description

INFOID:0000000009876486

RELATED TO NOISE

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

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

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

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

NOTE:

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

Type of Noise and Possible Cause

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

REMOVAL AND INSTALLATION

AUDIO UNIT

Removal and Installation

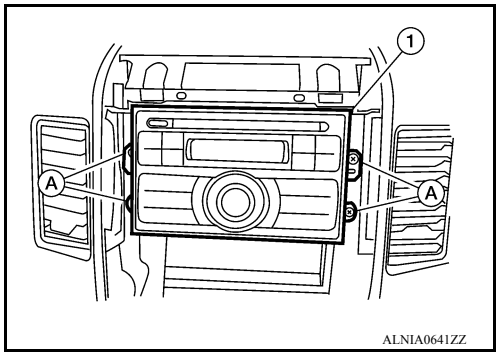
INFOID:0000000009876487

AUDIO UNIT

Removal

1. Remove the cluster lid C. Refer to IP-15, "Removal and Installation".
2. Remove the audio unit screws (A), using power tool.
3. Remove the audio unit.

a. Pull out the audio unit (1) out of the instrument panel.
b. Disconnect the audio unit harness connectors.



Installation

Installation is in the reverse order of removal.

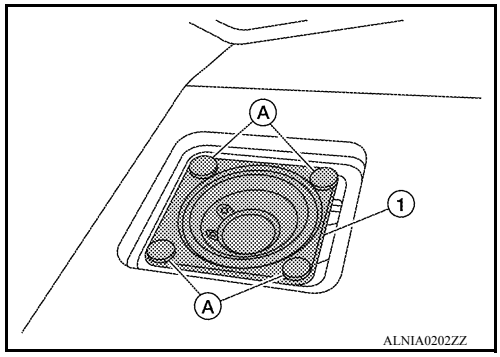
FRONT TWEETER

Removal and Installation

INFOID:0000000009876488

REMOVAL

1. Remove front tweeter speaker grille, using a suitable tool.
2. Remove the front tweeter clips (A).
3. Disconnect the front tweeter harness connector.
4. Remove the front tweeter (1).



Installation
Installation is in the reverse order of removal.

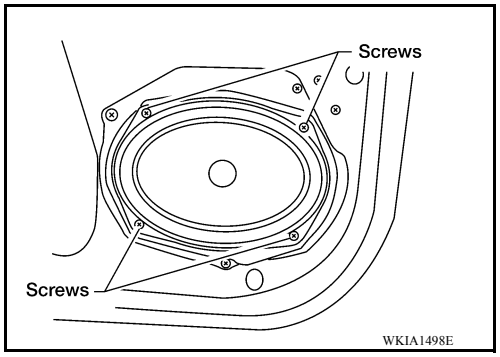
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000009876489

REMOVAL

1. Remove the front door finisher. Refer to INT-10, "Removal and Installation".
2. Remove the front door speaker screws.
3. Disconnect the front door speaker harness connector.
4. Remove the front door speaker.



INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

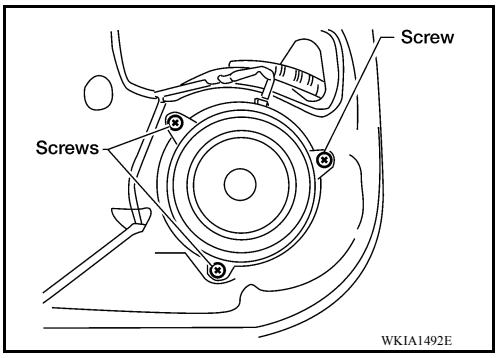
Removal and Installation

INFOID:0000000009876490

REAR DOOR SPEAKER

Removal

1. Remove the rear door finisher. Refer to INT-10, "Removal and Installation" (Crew Cab) or INT-10, "Removal and Installation" (King Cab).
2. Remove the rear door speaker.
a. Remove the rear door speaker screws.
b. Disconnect the rear door speaker harness connector.

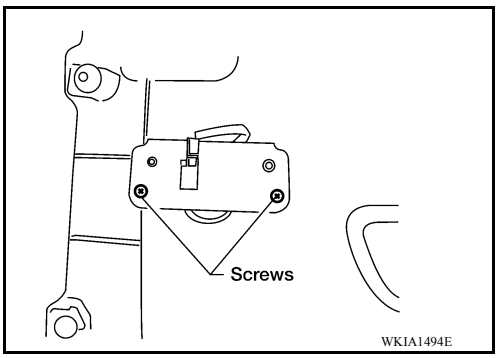


Installation
Installation is in the reverse order of removal.

REAR DOOR TWEETER

Removal

1. Remove the rear door finisher. Refer to INT-10, "Removal and Installation".
2. Remove the rear door tweeter.
a. Remove the rear door tweeter screws.
b. Disconnect the rear door tweeter harness connector.

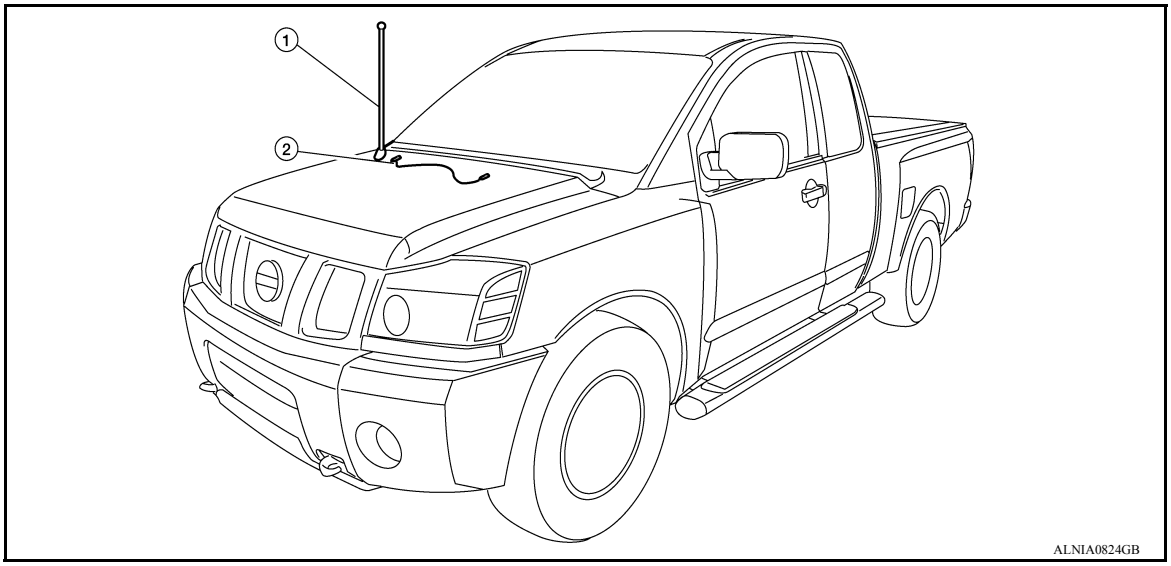


Installation
Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:0000000009876491



1. Antenna
2. Main feeder cable

Removal and Installation

INFOID:0000000009876492

REMOVAL

1. Remove audio antenna rod.
2. Remove audio antenna rubber seal.
3. Remove fender protector RH. Refer to EXT-24, "Removal and Installation".
4. Remove audio antenna assembly bolts.
5. Disconnect the audio antenna feeder from the audio antenna assembly.
6. Remove audio antenna assembly from the vehicle.

INSTALLATION

Installation is in the reverse order of removal.

- Tighten audio antenna rod to specification.

Audio antenna rod : 3.5 N·m (0.36 kg-m, 31 in-lb)

CAUTION:

Always properly tighten the audio antenna rod during installation or the audio antenna rod may bend or break during vehicle operation.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010585909

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 three minutes before performing any service.**

Precaution for Trouble Diagnosis

INFOID:0000000009876494

AV COMMUNICATION SYSTEM

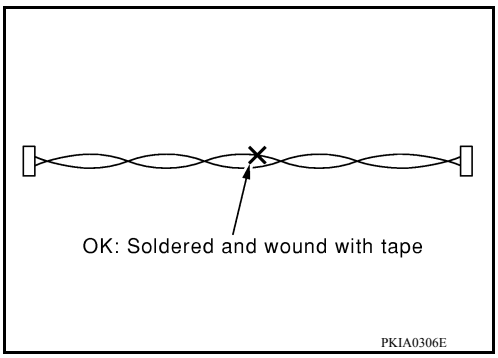
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

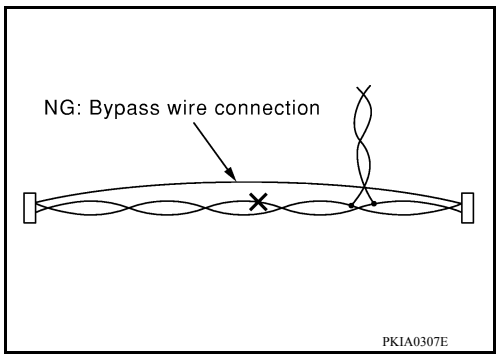
INFOID:0000000009876495

AV COMMUNICATION SYSTEM

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



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



Precaution for Work

INFOID:0000000009876496

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

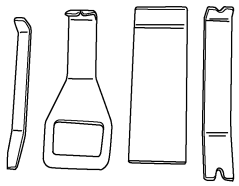
PREPARATION

PREPARATION

Special Service Tools

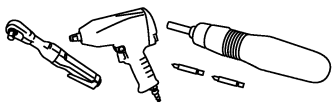
INFOID:0000000010159261

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

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

Commercial Service Tools

INFOID:0000000009876498

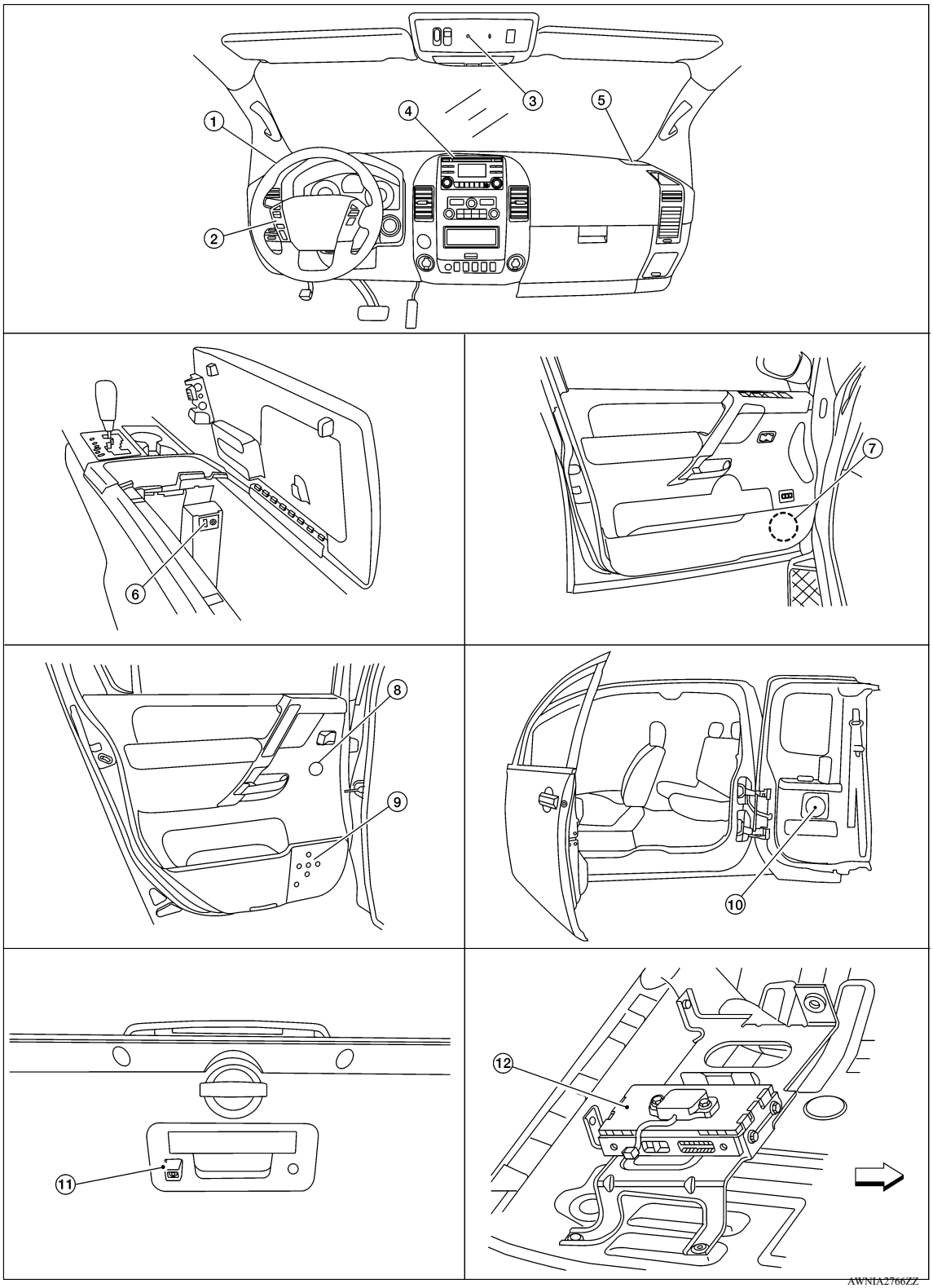
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000009876499



1. Front tweeter LH M109
2. Steering wheel audio control switches
3. Microphone R109
4. Audio unit M165, M166, M167, M189
5. Front tweeter RH M111
6. USB Interface M214
7. Front door speaker
   LH D12
   RH D112
8. Rear door tweeter (crew cab)
   LH D208
   RH D308
9. Rear door speaker (crew cab)
   LH D207
   RH D307
10. Rear door speaker (king cab)
    LH B76
    RH B159
11. Rear view camera T2
12. Bluetooth® control unit B142, B143, B144

Component Description

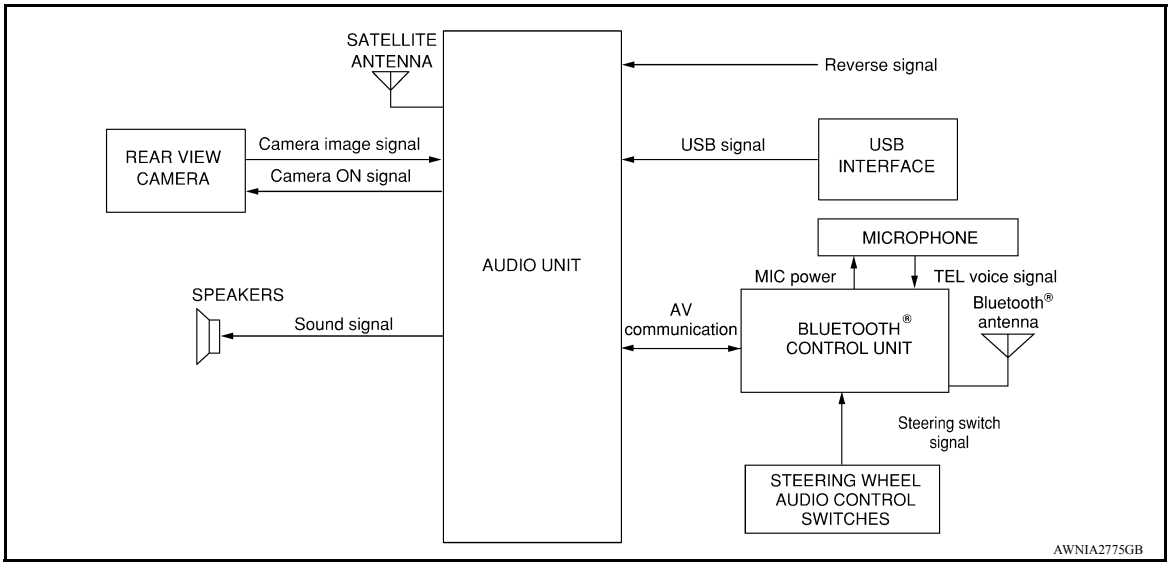
INFOID:0000000009876500

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

SYSTEM

System Diagram

INFOID:0000000009876501



System Description

INFOID:0000000009876502

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Front door speakers
- Front tweeters
- Rear speakers
- Rear tweeters
- Steering switches
- Microphone
- USB interface
- Rear view camera
- Rod antenna

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

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

HANDS-FREE PHONE SYSTEM

System Operation

NOTE:

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

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

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

Audio unit

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

Steering Switches

When buttons on the steering switches are pushed, the resistance in steering switches circuits change, depending on which button is pushed.
The following functions can be performed using the steering switches:

- Initiate self-diagnosis of the Bluetooth® telephone system
- Start a voice recognition session
- Answer and end telephone calls
- Adjust the volume of calls
- Record memos

Microphone

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

REAR VIEW CAMERA SYSTEM

- The audio unit supplies power to the rear view camera when the reverse signal is received from the TCM.
- The rear view camera transmits rear view camera images to the audio unit when power is supplied from the audio unit.
- The audio unit combines a warning message and fixed guide lines with an image received from the rear view camera to display a rear view camera image on the screen.

DIAGNOSIS SYSTEM (AUDIO UNIT)

Description

INFOID:0000000009876503

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

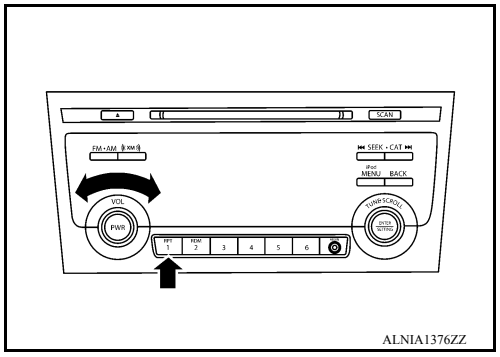
Mode		Description
Self Diagnosis		• Audio unit diagnosis. • Diagnoses the connections across system components.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, lights, reverse, EQ pin, destination and camera type.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera System	Guiding line position that overlaps rear view camera image can be adjusted.
	AV COMM Diagnosis	The communication condition of each unit of display audio system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Initialize Setting	Initializes the audio unit memory.

On Board Diagnosis Function

INFOID:0000000009876504

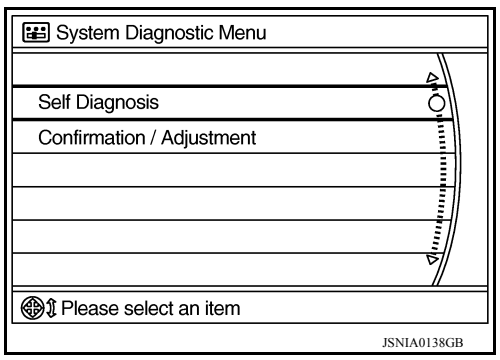
METHOD OF STARTING

1. Turn the ignition ON.
2. Turn the audio system OFF.
3. While pressing the preset 1 button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. When self-diagnosis mode begins, a short beep will be heard. Shifting from current screen to previous screen is performed by pressing BACK button.



ALNIA1376ZZ

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



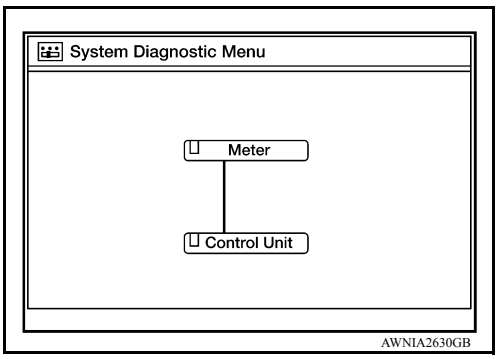
JSNIA0138GB

SELF DIAGNOSIS MODE

Audio Unit Self Diagnosis

1. Select Self Diagnosis.

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

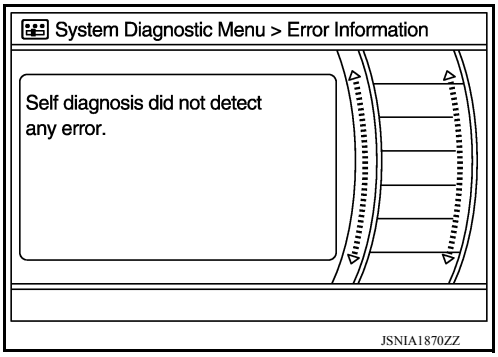


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction [1]	Red	Green

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

- Replace audio unit if Self Diagnosis did not run because control unit malfunction is indicated. The symptom is audio unit internal error. Refer to AV-137, "Removal and Installation".
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.

4. Comments of self diagnosis results can be viewed in the diagnosis result screen.



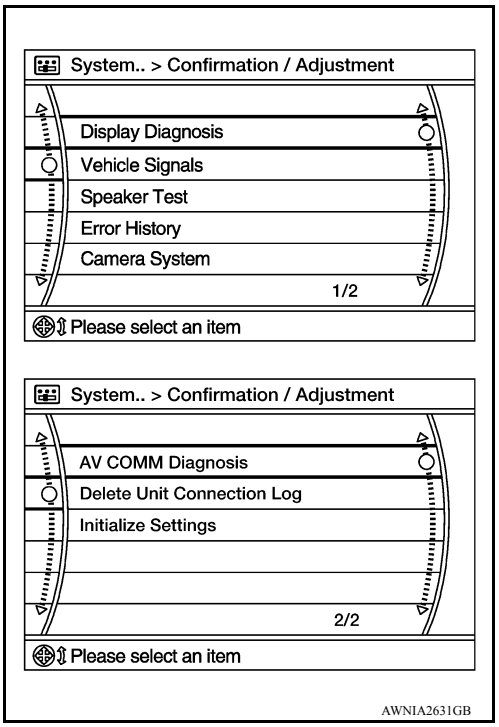
Audio Unit Self Diagnosis Results

Only Unit Part Is Displayed In Red		
Screen switch	Description	Possible cause
Control unit	Malfunction is detected in audio unit power supply and ground circuits.	• Audio unit power supply or ground circuits. Refer to AV-114, "AUDIO UNIT : Diagnosis Procedure". • If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer AV-137, "Removal and Installation".

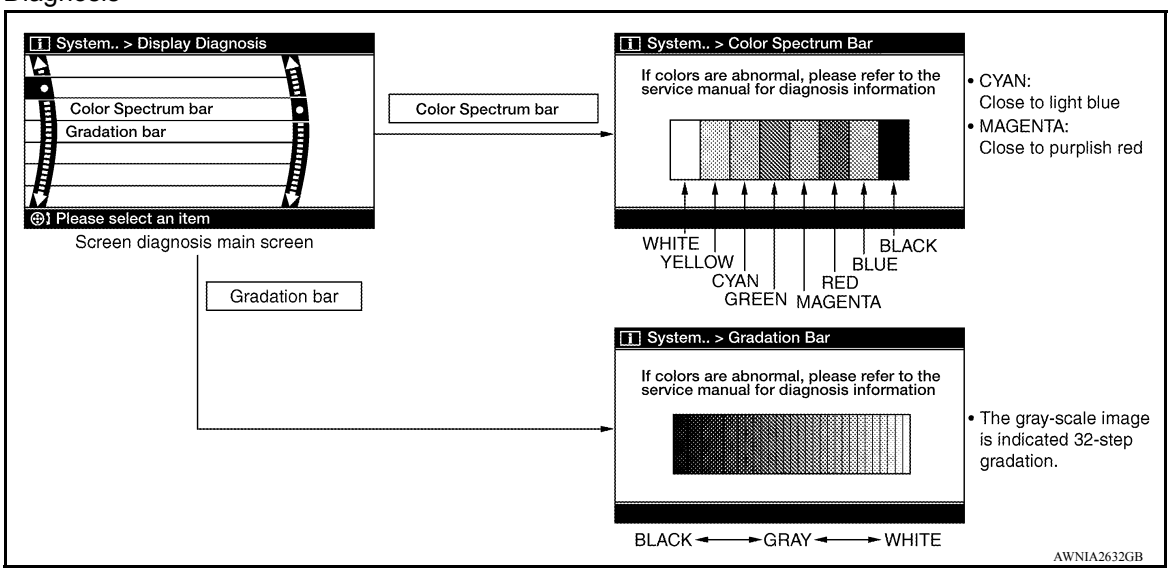
A Connecting Cable Between Units Is Displayed In Yellow		
Area with yellow connection lines	Description	Possible cause
Control unit ⇔ Meter	When one of the following is detected: • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication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

Audio Unit Confirmation/Adjustment

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

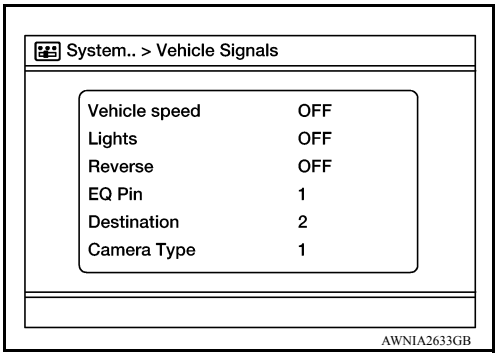


Display Diagnosis



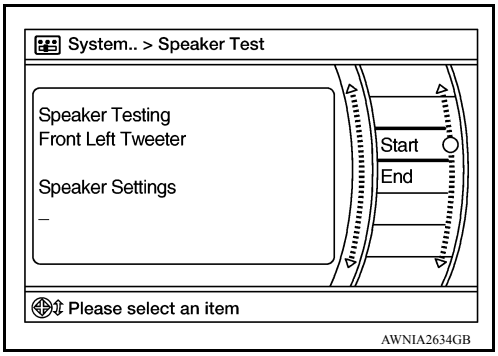
Vehicle Signals

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



Speaker Test

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



Error History

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

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

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

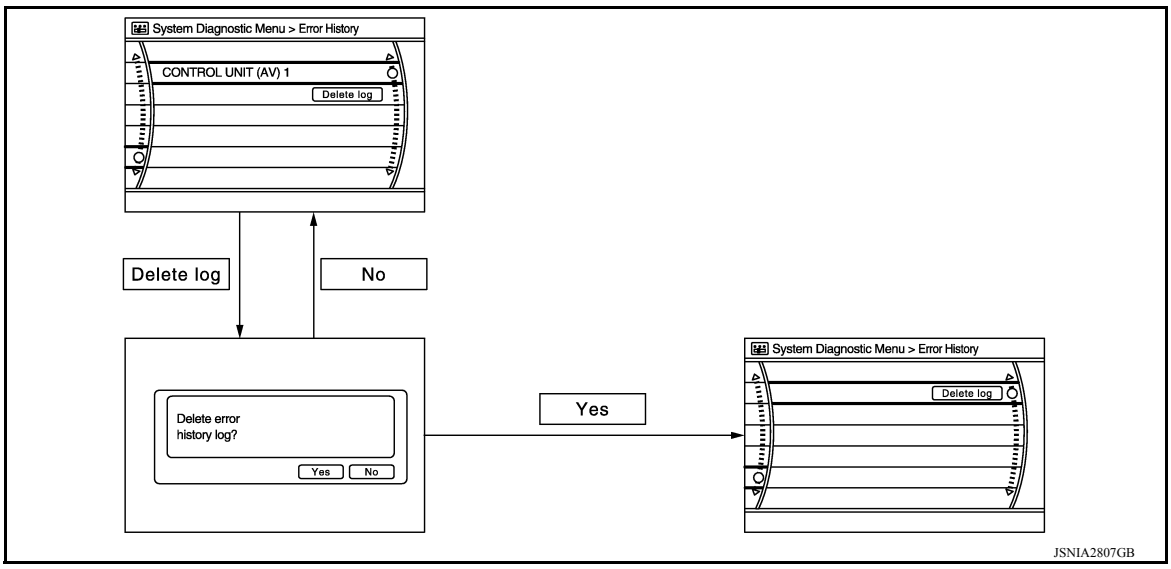
Count up method A

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

Count up method B

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

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



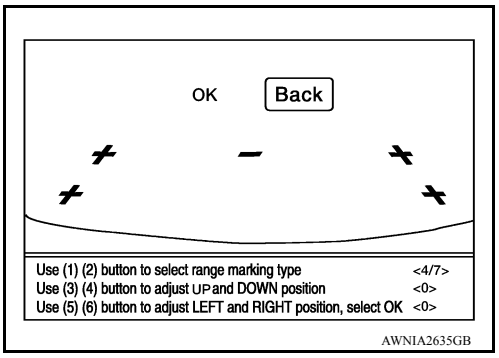
Error item

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

Error item	Description	Possible cause
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	Replace the audio unit if the malfunction occurs constantly. Refer to AV-137, "Removal and Installation"
AV COMM CIRCUIT	When one of the following is detected: • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and combination meter.	• Combination meter power supply or ground circuits. • AV communication circuits between audio unit and combination meter.

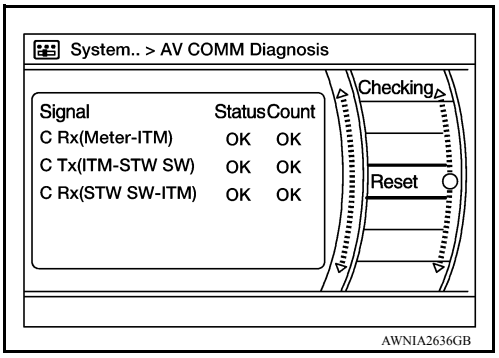
Camera System

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



AV COMM Diagnosis

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

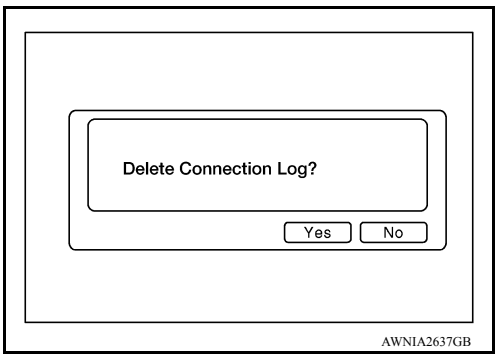


Items	Status (Current)	Counter (Past)
C Rx(Meter-ITM)	OK / ???	OK / 0 – 39
C Tx(ITM-TW SW)	OK / ???	OK / 0 – 39
C Rx(STW SW-ITM)	OK / ???	OK / 0 – 39

NOTE:
"???" indicates UNKWN.

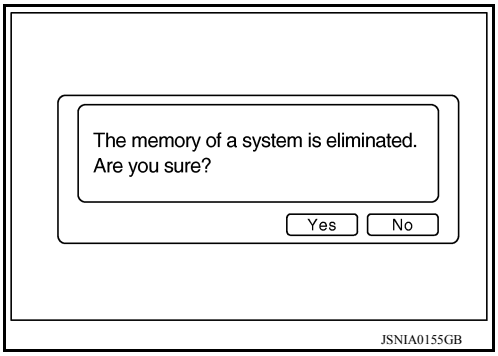
Delete Unit Connection Log

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



Initialize Settings

Deletes data stored from the audio unit.



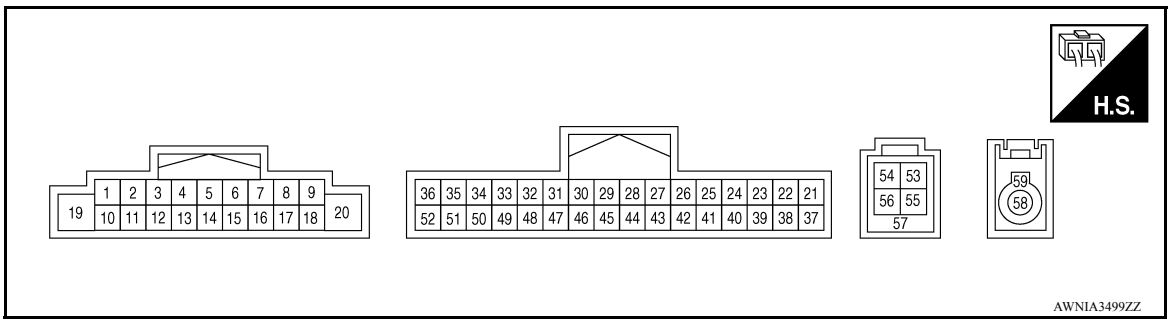
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

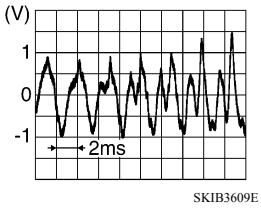
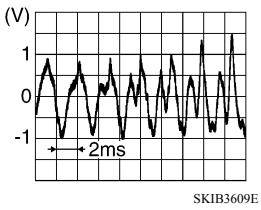
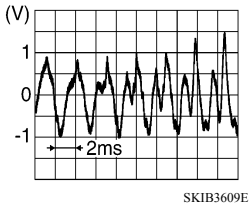
Reference Value

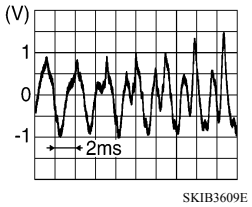
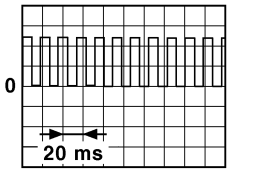
INFOID:0000000009876505

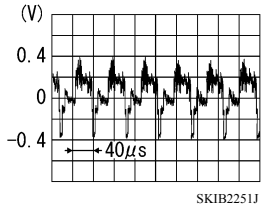
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
2 (L/W)	3 (L/R)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
4 (SB)	5 (B/Y)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIB3609E
6 (V)	Ground	STRG SW A	Input	ON	Press SEEK DOWN switch.	0.7 V
					Press SEEK UP switch.	1.3 V
					Press switch.	2.0 V
					Except for above.	3.3 V
7 (V)	Ground	ACC power supply	Input	ACC	—	Battery voltage
8 (BR)	9 (R/L)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
11 (W/B)	12 (L/B)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
13 (O/L)	14 (R/L)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
15 (R/B)	–	STRG SW ground	Output	–	–	–
16 (G/O)	Ground	STRG SW B	Input	ON	Press SOURCE switch.	0 V
					Press switch.	0.7 V
					Press VOL UP switch.	1.3 V
					Press VOL DOWN switch	2.0 V
					Except for above.	3.3 V
18 (W/R)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
23 (W)	Ground	Camera power supply	Output	ON	When camera image is displayed	6.0 V
					Except for above	0 V
24 (R)	25 (G)	Telephone audio in	—	—	—	0 V
26	—	Telephone shield	—	—	—	—
28 (W/L)	—	M-CAN A+	—	—	—	—
29 (Y/L)	—	M-CAN A-	—	—	—	—
30	—	Multimedia CAN shield	—	—	—	—
31 (B/P)	—	M-CAN B+	—	—	—	—
32 (L/W)	—	M-CAN B-	—	—	—	—
33 (B)	Ground	RV_CAM_GND	—	—	—	—
34 (W)	Ground	RV_CAM_SIG	Output	Ignition switch ACC	Shift selector is in R position	6.0V

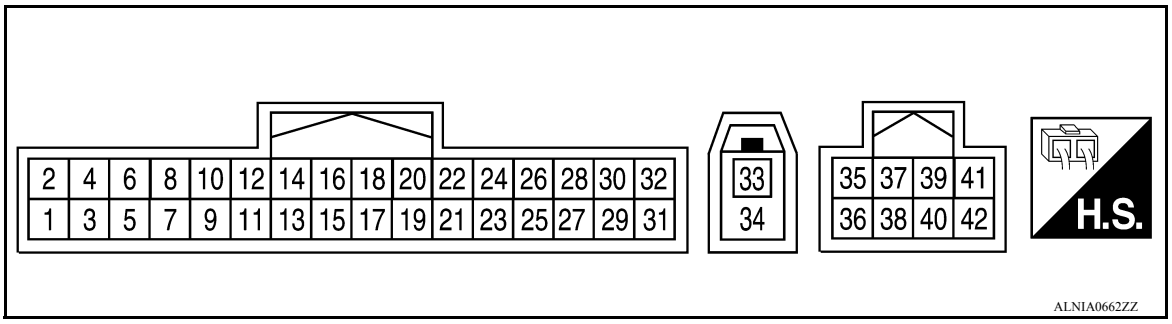
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
35 (R)	Ground	Rear view camera video in (+)	Input	Ignition switch ON	With rear view camera ON	 SKIB2251J
36	—	Shield	—	—	—	—
41 (Y)	Ground	Telephone ON signal	Input	ON	–	–
44 (G)	—	Camera DET	—	—	—	—
45 (B)	—	EQ 1 Port 1	—	—	—	—
46 (B)	—	EQ 2 Port 2	—	—	—	—
47 (B)	—	EQ 3 Port 3	—	—	—	—
48 (B)	—	EQ4 Port 4	—	—	—	—
50 (G/W)	Ground	Reverse signal	Input	Ignition switch ON	R position	Battery voltage
					Other than R position	0 V
53 (W)	—	V BUS signal	—	—	—	—
54 (G)	—	USB ground	—	—	—	—
55 (L)	—	USB D+	—	—	—	—
56 (R)	—	USB D-	—	—	—	—
57	—	Shield	—	—	—	—
58 (B)	—	Satellite antenna signal	—	—	—	—
59 (B)	—	Shield	—	—	—	—

BLUETOOTH® CONTROL UNIT

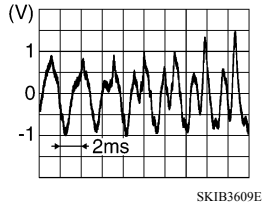
Reference Value

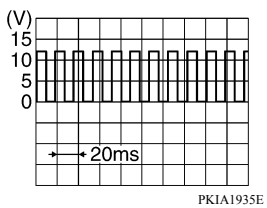
INFOID:0000000009876506

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 (V)	Ground	ACC power	Input	Ignition switch ACC/ON	–	Battery voltage
3 (G/R)	Ground	IGN power	Input	Ignition switch ON/ START	–	Battery voltage
4 (B/W)	Ground	Ground	–	Ignition switch ON	–	0V
6	–	MIC Shield	–	–	–	–
7 (B)	8 (R/L)	MIC in signal	Input	–	–	–
9 (G)	10 (R)	Audio out	Output	Ignition switch ACC/ON	Bluetooth® control unit sends audio signal	 SKIB3609E
11 (Y)	–	Mute control	Output	–	–	–
12 (R/G)	Ground	Ladder in 1	Input	ACC/ON	Press SEEK DOWN switch.	0.7 V
					Press SEEK UP switch.	1.3 V
					Pressing switch.	2.0 V
					Except for above.	3.3 V

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ output			
13 (G/W)	Ground	Ladder in 2	Input	ACC/ON	Press SOURCE switch.	0 V
					Press switch.	0.7 V
					Press VOL UP switch.	1.3 V
					Press VOL DOWN switch	2 V
					Except for above.	3.3 V
14 (Y/R)	-	Ladder in ground	Input	-	-	-
15 (GR)	–	LED ind 1		–	–	–
17 (V)	Ground	Ladder out 1	Output	ACC/ON	Press SEEK DOWN switch.	0.7 V
					Press SEEK UP switch.	1.3 V
					Pressing switch.	2.0 V
					Except for above.	3.3 V
18 (G/O)	Ground	Ladder out 2	Output	ACC/ON	Press SOURCE switch.	0 V
					Press switch.	0.7 V
					Press VOL UP switch.	1.3 V
					Press VOL DOWN switch	2 V
					Except for above.	3.3 V
19 (R/B)	Ground	Ladder out ground	Output	–	–-	–
21 (B)	Ground	Cont 1	–	–	–	0V
22 (B)	Ground	Cont 3	–	–	–	0V
27 (B)	Ground	Cont 4	–	–	–	0V
28 (W/R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	 PKIA1935E
29 (R/W)	Ground	Microphone power	Output	Ignition switch ON	–	5V

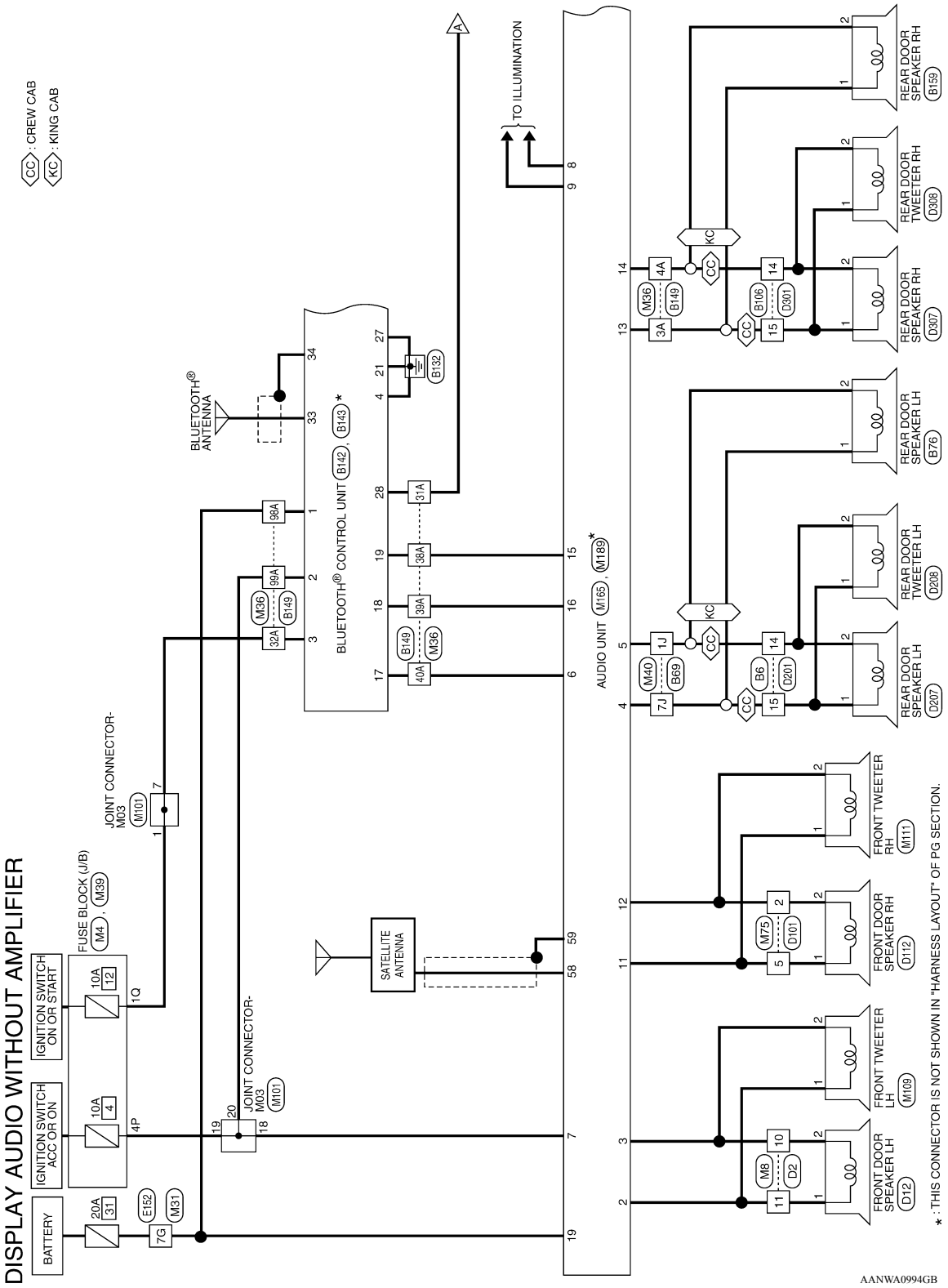
Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ output			
33 (B)	–	Bluetooth ® antenna	–	–	–	—
34 (B)	–	Bluetooth ® antenna	–	–	–	—
35 (B)	–	M-CAN (+)	–	–	–	—
36 (P)	–	M-CAN (-)	–	–	–	—
37	–	Shield	–	–	–	—

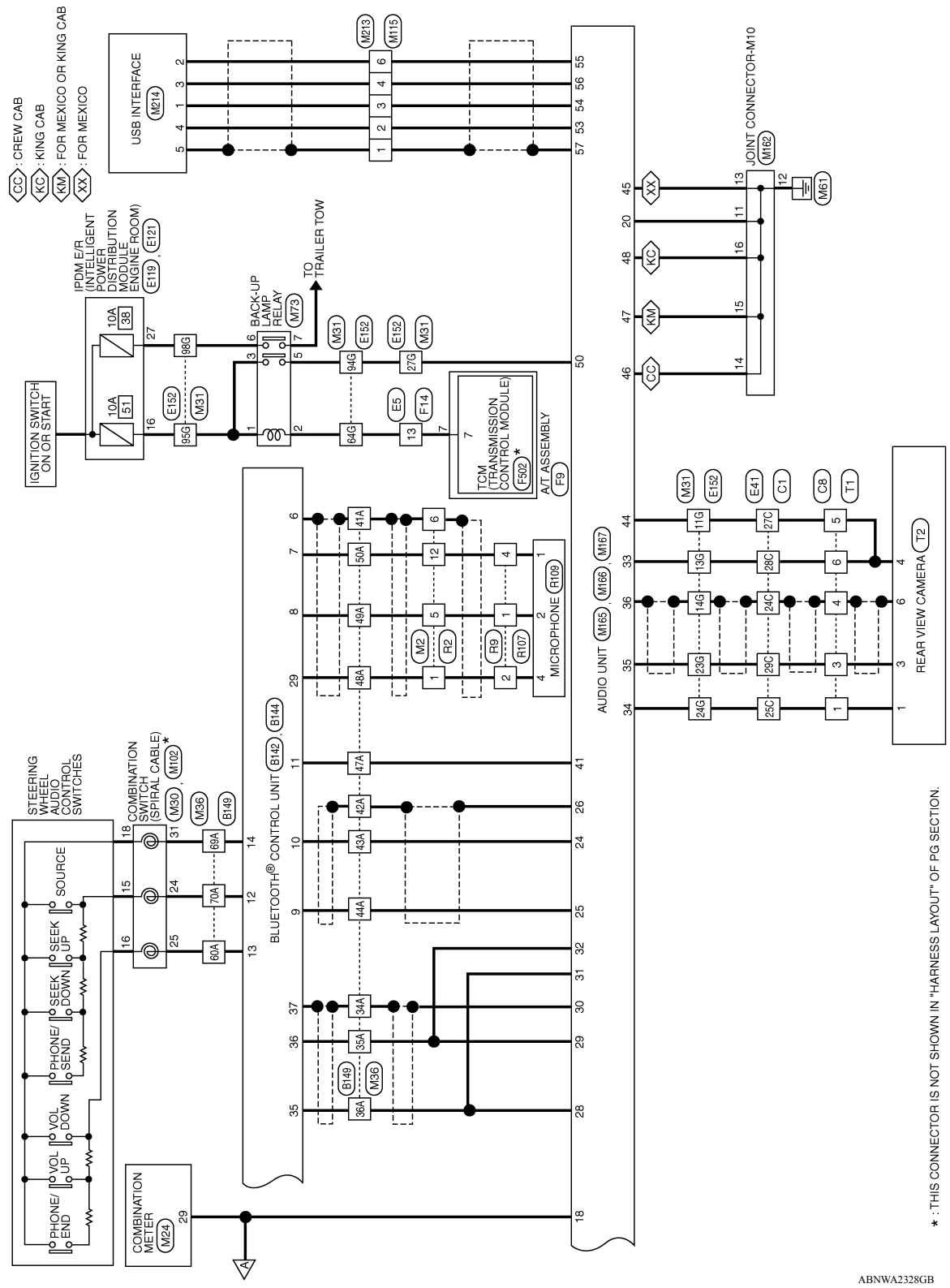
WIRING DIAGRAM

DISPLAY AUDIO WITHOUT AMPLIFIER

Wiring Diagram

INFOID:0000000009876507




CC : CREW CAB
KC : KING CAB
KM : FOR MEXICO OR KING CAB
XX : FOR MEXICO
USB INTERFACE
M214
M213
M115
JOINT CONNECTOR-M10
M162
M61
IPDM E/R
INTELLIGENT
POWER
DISTRIBUTION
MODULE
ENGINE ROOM)
E119
E121
10A
38
10A
51
IGNITION SWITCH
ON OR START
BACK-UP
LAMP
RELAY
M73
TO
TRAILER TOW
TCM
(TRANSMISSION
CONTROL MODULE)
F502 *
A/T ASSEMBLY
F9
BLUETOOTH® CONTROL UNIT
B142
B144
MICROPHONE
R109
R107
AUDIO UNIT
M165
M166
M167
REAR VIEW CAMERA
T2
STEERING
WHEEL
AUDIO
CONTROL
SWITCHES
SOURCE
SEEK
UP
SEEK
DOWN
PHONE/
SEND
VOL
DOWN
VOL
UP
PHONE/
END
COMBINATION
SWITCH
(SPIRAL CABLE)
M30
M102 *
M36
B149
COMBINATION
METER
M24
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.
ABNWA2328GB

DISPLAY AUDIO CONNECTORS WITHOUT AMPLIFIER

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	R/W	– (WITHOUT NAVI)
5	R/L	– (WITHOUT NAVI)
6	SHIELD	–
12	B	– (WITHOUT NAVI)

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
4P	V	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
29	W/R	SPEED OUT

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

H.S.

24	25	26	27
31	32	33	34

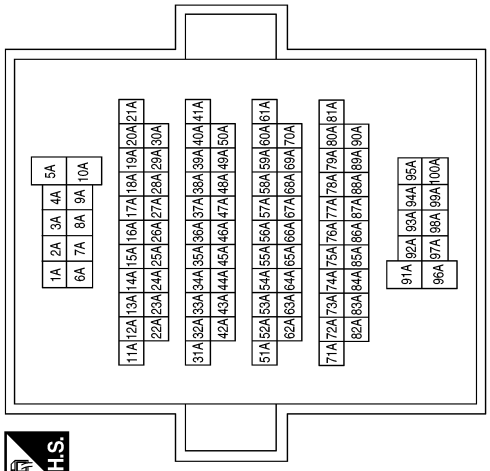
Terminal No.	Color of Wire	Signal Name
24	R/G	– (WITHOUT NAVI)
25	G/W	– (WITHOUT NAVI)
31	Y/R	– (WITHOUT NAVI)

ABNIA6344GB

Terminal No.	Color of Wire	Signal Name
44A	G	–
47A	Y	–
48A	R/W	–
49A	R/L	–
50A	B	–
60A	G/W	–
69A	Y/R	–
70A	R/G	–
98A	Y	–
99A	V	–

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

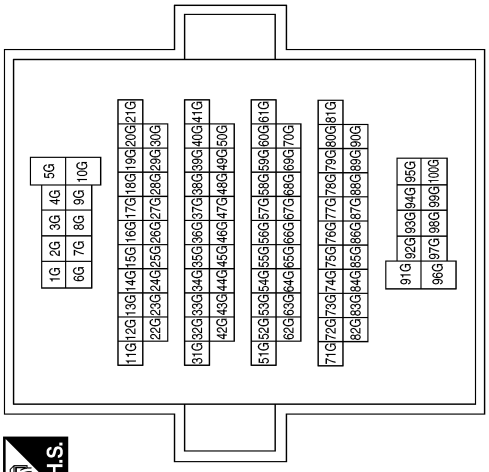
H.S.



Terminal No.	Color of Wire	Signal Name
3A	O/L	–
4A	R/L	–
31A	W/R	–
32A	G/R	–
34A	SHIELD	–
35A	P	–
36A	B	–
38A	R/B	–
39A	G/O	–
40A	V	–
41A	SHIELD	–
42A	SHIELD	–
43A	R	–

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

H.S.



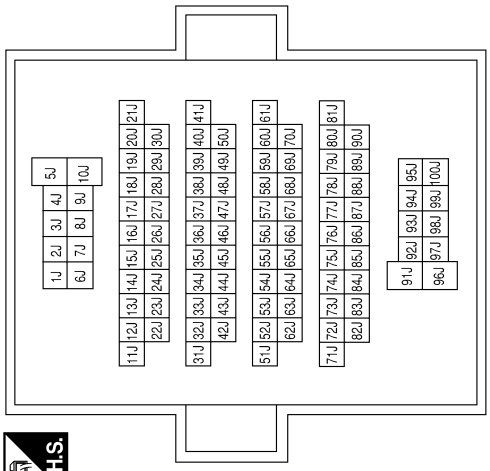
Terminal No.	Color of Wire	Signal Name
7G	Y	–
11G	G	–
13G	B	–
14G	SHIELD	–
23G	R	–
24G	W	–
27G	G/W	–
64G	R	–
94G	G/W	–
95G	G	–
98G	W/B	–

ABNIA6345GB

Terminal No.	Color of Wire	Signal Name
1J	B/Y	–
7J	SB	–

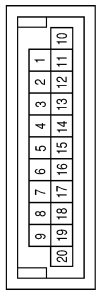
Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Connector No.	M101
Connector Name	JOINT CONNECTOR-M03
Connector Color	BLUE

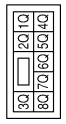
H.S.



Terminal No.	Color of Wire	Signal Name
1	G/R	–
7	G/R	–
18	V	–
19	V	–
20	V	–

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

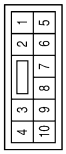
H.S.



Terminal No.	Color of Wire	Signal Name
1Q	G/R	–

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

H.S.



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

Connector No.	M73
Connector Name	BACK-UP LAMP RELAY
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	–
3	G	–
5	G/W	–
6	W/B	–
7	Y/R	–

ABNIA3969GB

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

H.S.

14 15 16 17 18 19 20 21

Terminal No.	Color of Wire	Signal Name
15	B	–
16	R	–
18	BR	–

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

H.S.

2 1

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

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

H.S.

2 1

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

Connector No.	M115
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

1
2 3
4 5
6 7

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

Connector No.	M162
Connector Name	JOINT CONNECTOR-M10
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
11	B	–
12	B	–
13	B	–
14	B	–
15	B	–
16	B	–

ABNIA6346GB

Connector No.	M165
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO WITHOUT AMPLIFIER)
Connector Color	WHITE

H.S.

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

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

Connector No.	M166
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO WITHOUT AMPLIFIER)
Connector Color	GREEN

H.S.

54	53
56	55
57	

Terminal No.	Color of Wire	Signal Name
53	W	V BUS
54	G	USB GND
55	L	USB D +
56	R	USB D -
57	SHIELD	SHIELD
42	–	–
43	–	–
44	G	CAMERA DET
45	B	EQ1 PORT 1
46	B	EQ2 PORT 2
47	B	EQ3 PORT 3
48	B	EQ4 PORT 4
49	–	–
50	G/W	REVERSE SGN
51	–	–
52	–	–

Connector No.	M167
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO WITHOUT AMPLIFIER)
Connector Color	WHITE

H.S.

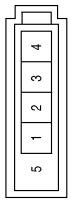
36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21
52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37

Terminal No.	Color of Wire	Signal Name
21	–	–
22	–	–
23	–	–
24	R	TEL I/F -
25	G	TEL I/F +
26	SHIELD	TEL SHIELD
27	–	–
28	W/L	MCAN A+
29	Y/L	MCAN A-
30	SHIELD	MULTIMEDIA CAN SHIELD
31	B/P	MCAN B+
32	L/W	MCAN B-
33	B	GND
34	W	CAMERA ON
35	R	COMP+
36	SHIELD	COMP-
37	–	–
38	–	–
39	–	–
40	–	–
41	Y	TEL ON

ABNIA6347GB

Connector No.	M214
Connector Name	USB INTERFACE
Connector Color	GRAY

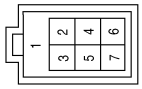
H.S.



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

Connector No.	M213
Connector Name	WIRE TO WIRE
Connector Color	GRAY

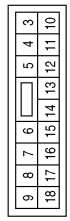
H.S.



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

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
16	G	REVERSE LAMP

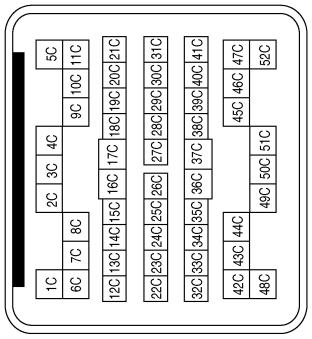
Connector No.	M189
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO WITHOUT AMPLIFIER)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
58	B	SAT ANT
59	B	SAT SHIELD

Connector No.	E41
Connector Name	WIRE TO WIRE
Connector Color	GRAY

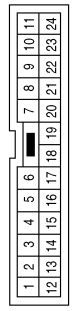
H.S.



Terminal No.	Color of Wire	Signal Name
24C	SHIELD	–
25C	W	–
27C	G	–
28C	B	–
29C	R	–

Connector No.	E5
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



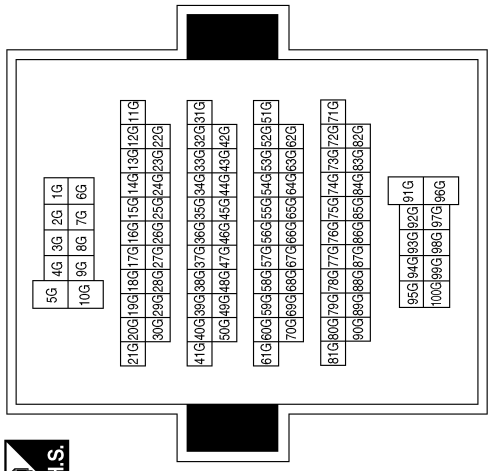
Terminal No.	Color of Wire	Signal Name
13	R	–

ABNIA6355GB

Terminal No.	Color of Wire	Signal Name
7G	Y	–
11G	G	–
13G	B	–
14G	SHIELD	–
23G	R	–
24G	W	–
27G	G/W	–
64G	R	–
94G	G/W	–
95G	G	–
98G	W/B	–

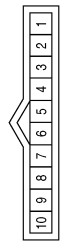
Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Connector No.	F502
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	GRAY

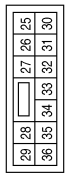
H.S.



Terminal No.	Color of Wire	Signal Name
7	O	REV LAMP RLY

Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

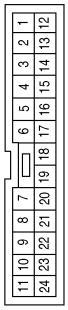
H.S.



Terminal No.	Color of Wire	Signal Name
27	W/B	T TOW REV LAMP

Connector No.	F14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

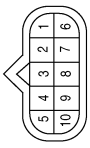
H.S.



Terminal No.	Color of Wire	Signal Name
13	R	–

Connector No.	F9
Connector Name	A/T ASSEMBLY (FLOOR SHIFT)
Connector Color	GREEN

H.S.



Terminal No.	Color of Wire	Signal Name
7	R	–

ABNIA6348GB

Connector No.	C8
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
1J	B/Y	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
7J	SB	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)

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

H.S.

Connector No.	C1
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
24C	SHIELD	–
25C	W	–
27C	G	–
28C	B	–
29C	R	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
14	B/Y	–
15	SB	–

ABNIA6349GB

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

H.S.

2 1

Terminal No.	Color of Wire	Signal Name
1	SB	– (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	B/Y	– (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	–

Connector No.	B142
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	Y	BATT
2	V	ACC
3	G/R	IGN
4	B/W	GND
5	–	–

Terminal No.	Color of Wire	Signal Name
6	SHIELD	MIC SHIELD
7	B	MIC IN+
8	R/L	MIC IN-
9	G	AUDIO OUT+
10	R	AUDIO OUT-
11	Y	MUTE CONTROL
12	R/G	LADDER IN 1
13	G/W	LADDER IN 2
14	Y/R	LADDER IN GND
15	–	–
16	–	–
17	V	LADDER OUT 1

Terminal No.	Color of Wire	Signal Name
18	G/O	LADDER OUT 2
19	R/B	LADDER OUT GND
20	–	–
21	B	CONT 2
22	–	–
23	–	–
24	–	–
25	–	–
26	–	–
27	B	CONT 6
28	W/R	SPEED SIGNAL
29	R/W	MIC POWER
30	–	–
31	–	–
32	–	–

ABNIA6350GB

Connector No.	B143
Connector Name	BLUETOOTH CONTROL® UNIT
Connector Color	BLACK

H.S.

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

Connector No.	B144
Connector Name	BLUETOOTH CONTROL® UNIT
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
35	B	MCAN + 1
36	P	MCAN - 1
37	SHIELD	MCAN SHIELD 1
38	–	–
39	–	–
40	–	–
41	–	–
42	–	–

Terminal No.	Color of Wire	Signal Name
47A	Y	–
48A	R/W	–
49A	R/L	–
50A	B	–
60A	G/W	–
69A	Y/R	–
70A	R/G	–
98A	Y	–
99A	V	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
3A	O/L	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
4A	R/L	–
31A	W/R	–
32A	G/R	–
34A	SHIELD	–
35A	P	–
36A	B	–
38A	R/B	–
39A	G/O	–
40A	V	–
41A	SHIELD	–
42A	SHIELD	–
43A	R	–
44A	G	–

ABNIA6351GB

Connector No.	B159
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	O/L	– (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	R/L	–

Connector No.	T1
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

1	2	3
4	5	6

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

Connector No.	T2
Connector Name	REAR VIEW CAMERA
Connector Color	GRAY

H.S.

3	2	1
6	5	4

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

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	R/W	– (WITHOUT NAVI)
5	R/L	– (WITHOUT NAVI)
6	SHIELD	–
12	B	– (WITHOUT NAVI)

Connector No.	R9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

3	2	1
8	7	6	5	4

Terminal No.	Color of Wire	Signal Name
1	R/L	– (WITHOUT NAVI)
2	R/W	–
4	B	–

Connector No.	R107
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

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

ABNIA6352GB

Connector No.	R109
Connector Name	MICROPHONE
Connector Color	WHITE

H.S.

1 2 3 4

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

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

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

H.S.

2 1

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

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

H.S.

1 2 3 4
5 6 7 8 9 10

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

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

H.S.

2 1

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

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	B/Y	– (WITHOUT NAVI OR MID AUDIO SYSTEM)
15	SB	– (WITHOUT NAVI OR MID AUDIO SYSTEM)

ABNIA6353GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	– (WITHOUT NAVI OR MID AUDIO SYSTEM)
2	B/Y	– (WITHOUT NAVI OR MID AUDIO SYSTEM)

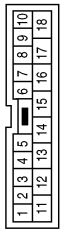
Connector No.	D208
Connector Name	REAR DOOR TWEETER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	B/Y	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	– (WITHOUT NAVI OR MID AUDIO SYSTEM)

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	O/L	– (WITHOUT NAVI OR MID AUDIO SYSTEM)
2	R/L	–

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

H.S.

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

ABNIA6354GB

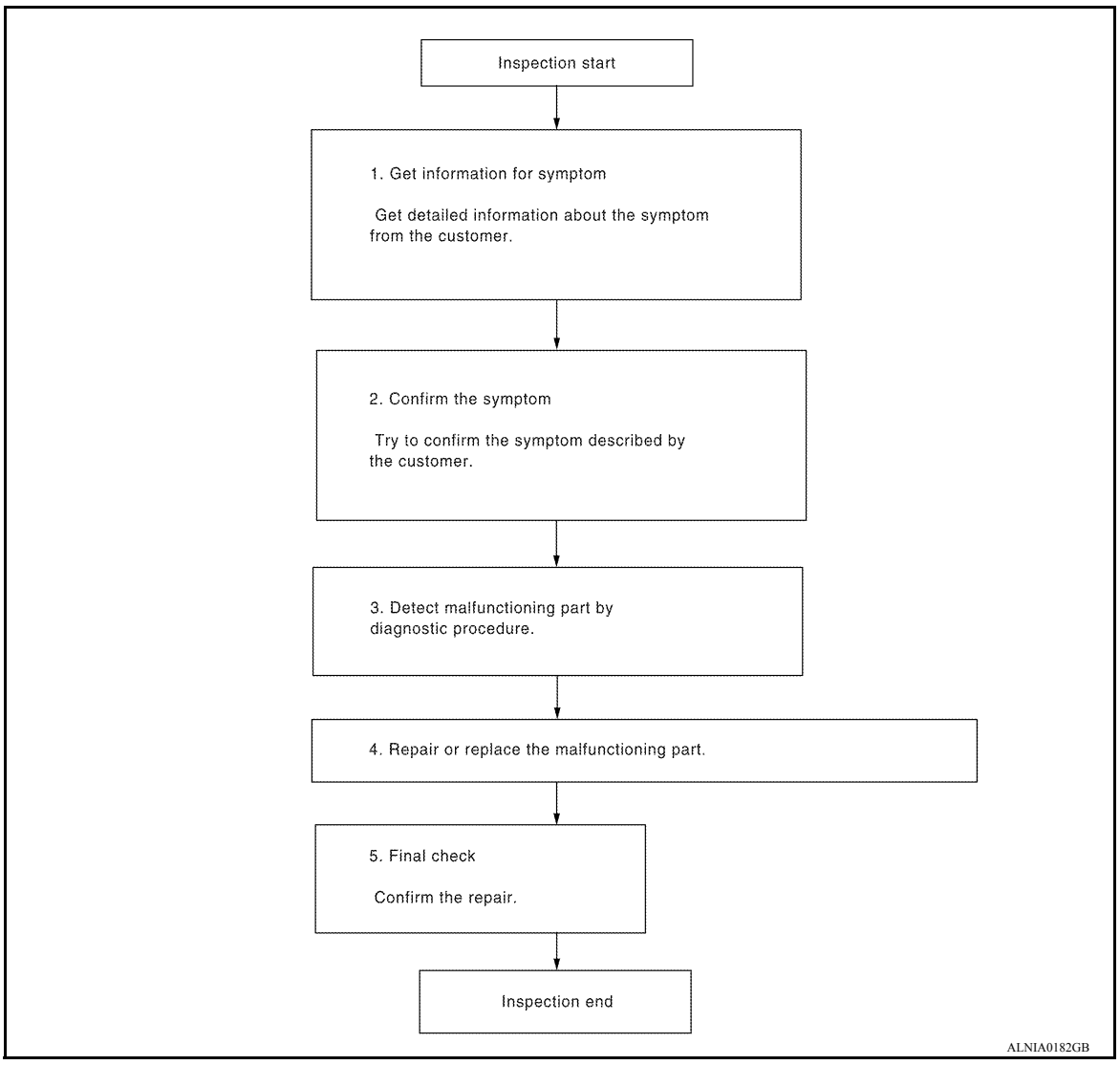
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000009876508

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5. FINAL CHECK

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

Was the repair confirmed?

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

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000009876509

Regarding Wiring Diagram information, refer to AV-97, "Wiring Diagram".

1.CHECK FUSES

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

Unit	Terminals	Signal name	Fuse No.
Audio unit	7	Battery power	4 (10A)
	19	Ignition switch ACC or ON	31 (20A)

Is the fuse blown?

YES >> GO TO 2.
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect audio unit connector M165.
2. Check voltage between the audio unit connector M165 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M165	7	Ground	0V	Battery voltage	Battery voltage
	19	Ground	Battery voltage	Battery voltage	Battery voltage

Is the inspection result normal?

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

3.GROUND CIRCUIT CHECK

1. Turn ignition switch OFF..
2. Check continuity between the audio unit connector M165, M167 and ground.

Connector	Terminal	—	Continuity
M167	45 (Mexico)	Ground	Yes
	46 (Crew cab)		
	47 (Mexico or King cab)		
	48 (King cab)		
M165	20		

Is the inspection result normal?

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

BLUETOOTH® CONTROL UNIT

BLUETOOTH® CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009876510

Regarding Wiring Diagram information, refer to AV-97, "Wiring Diagram".

1.CHECK FUSE

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

Unit	Terminal	Signal name	Fuse No.
Bluetooth® control unit	1	Battery power	31 (20A)
	2	Ignition switch ACC or ON	4 (10A)
	3	Ignition switch ON or START	12 (10A)

Is the fuse blown?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between Bluetooth® control unit harness connector B142 and ground.

Connector	Terminal	Ignition switch position	Value (Approx.)
B142	1	OFF	Battery voltage
	2	ACC	
	3	ON	

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector.
3. Check continuity between Bluetooth® control unit harness connector B142 and ground.

Connector	Terminal	—	Continuity
B142	4	Ground	Yes
	21		
	27		

Is the inspection result normal?

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

MICROPHONE

MICROPHONE : Diagnosis Procedure

INFOID:0000000009876511

Regarding Wiring Diagram information, refer to AV-97, "Wiring Diagram".

1.CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

1. Turn ignition switch ON.
2. Check voltage between microphone harness connector R109 and ground.

(+)		(-)	Value (Approx.)
Connector	Terminal		
R109	4	Ground	5V

Is the inspection result normal?

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 R109 and Bluetooth® control unit harness connector B142.

Microphone		Bluetooth® control unit		Continuity
Connector	Terminal	Connector	Terminal	
R109	4	B142	29	Yes

4. Check continuity between microphone harness connector R109 terminal 4 and ground.

Microphone		—	Continuity
Connector	Terminal		
R109	4	Ground	No

Is the inspection result normal?

YES >> Replace the Bluetooth® control unit. Refer to AV-147, "Removal and Installation".
NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect microphone harness connector R109 and Bluetooth® control unit harness connector B142.
3. Check continuity between microphone harness connector R109 and Bluetooth® control unit harness connector B142.

Microphone		Bluetooth® control unit		Continuity
Connector	Terminal	Connector	Terminal	
R109	2	B142	8	Yes

Is the inspection result normal?

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

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000009876512

Regarding Wiring Diagram information, refer to AV-97, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminals or connectors.

2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M43 and suspect front door speaker connector.
2. Check continuity between audio unit connector M165 and suspect front door speaker connector.

Audio unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M165	2	D12 (LH)	1	Yes
	3		2	
	11	D112 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M165 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M165	2	—	No
	3		
	11		
	12		

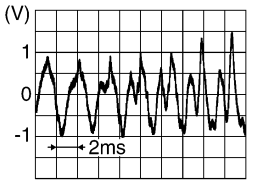
Is the inspection result normal?

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

3.CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect audio unit connector M165 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M165 and ground.

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

2	3	Audio signal output	 SKIB3609E
11	12		

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-140, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-137, "Removal and Installation".

FRONT TWEETER

Diagnosis Procedure

INFOID:0000000009876513

Regarding Wiring Diagram information, refer to AV-97, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminals or connectors.

2.CHECK FRONT TWEETER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M165 and suspect front tweeter connector.
2. Check continuity between audio unit connector M165 and suspect front tweeter connector.

Audio unit		Front tweeter		Continuity
Connector	Terminal	Connector	Terminal	
M165	2	M109 (LH)	1	Yes
	3		2	
	11	M111 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M165 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M165	2	—	No
	3		
	11		
	12		

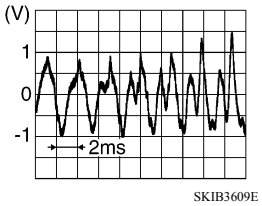
Is the inspection result normal?

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

3.CHECK FRONT TWEETER SIGNAL

1. Connect audio unit connector M165 and suspect front tweeter connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M165 and ground.

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

2	3	Audio signal output	 SKIB3609E
11	12		

Is the inspection result normal?

YES >> Replace front tweeter. Refer to AV-139, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-137, "Removal and Installation".

REAR DOOR SPEAKER

Description

INFOID:0000000009876514

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

Diagnosis Procedure

INFOID:0000000009876515

Regarding Wiring Diagram information, refer to AV-97, "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 M165 and suspect rear door speaker connector.
2. Check continuity between audio unit harness connectors M165 and suspect rear door speaker harness connector.

Audio unit		Rear speakers		Continuity
Connector	Terminal	Connector	Terminal	
M165	4	D207 (crew cab) B76 (king cab)	1	Yes
	5		2	
	13	D307 (crew cab) B159 (king cab)	1	
	14		2	

3. Check continuity between audio unit harness connectors M165 and ground.

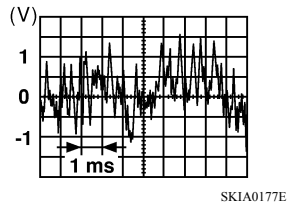
Connector	Terminal	-	Continuity
M165	4	Ground	No
	5		
	13		
	14		

Is the inspection result normal?

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

3.REAR DOOR SPEAKER SIGNAL CHECK

1. Connect audio unit connectors and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connectors M166 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M165	4	5	Receive audio signal	
	13	14		

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Is the inspection result normal?

YES >> Replace suspect rear door speaker. Refer to AV-141, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-137, "Removal and Installation".

REAR DOOR TWEETER

Description

INFOID:0000000009876516

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

Diagnosis Procedure

INFOID:0000000009876517

Regarding Wiring Diagram information, refer to AV-97, "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 M166 and suspect rear door tweeter connector.
2. Check continuity between audio unit harness connectors M165 and suspect rear door tweeter harness connector.

Audio unit		Rear tweeters		Continuity
Connector	Terminal	Connector	Terminal	
M165	4	D208	1	Yes
	5		2	
	13	D308	1	
	14		2	

3. Check continuity between audio unit harness connectors M165 and ground.

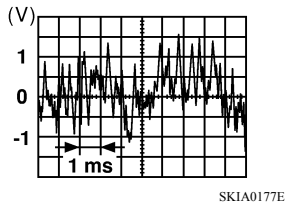
Connector	Terminal	-	Continuity
M166	4	Ground	No
	5		
	13		
	14		

Is the inspection result normal?

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

3.REAR DOOR TWEETER SIGNAL CHECK

1. Connect audio unit connectors and suspect rear door tweeter connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connectors M165 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M166	4	5	Receive audio signal	
	13	14		

SKIA0177E

Is the inspection result normal?

YES >> Replace suspect rear door tweeter. Refer to AV-141, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-137, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000009876518

Regarding Wiring Diagram information, refer to AV-97, "Wiring Diagram".

1.CHECK REVERSE INPUT SIGNAL

1. Turn ignition switch ON.
2. Shift the selector lever to R (reverse).
3. Check voltage between audio unit connector M167 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M167	50	—	Selector lever in R (reverse)	Battery Voltage

Is the inspection result normal?

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

2.CHECK CAMERA POWER SUPPLY CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M167 and rear view camera connector.
3. Check continuity between audio unit connector M167 and rear view camera connector T2.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M167	34	T2	1	Yes

4. Check continuity between audio unit connector M167 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M167	34		No

Is the inspection result normal?

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

3.CHECK CAMERA POWER SUPPLY VOLTAGE

1. Connect audio unit connector M167 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check voltage between audio unit connector M167 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M167	34	—	Selector lever is in “R”.	6.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace audio unit. Refer to AV-137, "Removal and Installation".

4.CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M167 and rear view camera connector.
3. Check continuity between audio unit connector M167 and rear view camera connector T2.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M167	35	T2	3	Yes

4. Check continuity between audio unit connector M167 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M167	35		No

Is the inspection result normal?

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

5.CHECK CAMERA GROUND CIRCUIT CONTINUITY

Check continuity between audio unit connector M167 and rear view camera connector T2.

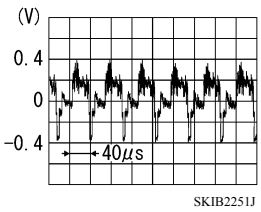
Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M167	33	T2	4	Yes

Is the inspection result normal?

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

6.CHECK CAMERA IMAGE SIGNAL

1. Connect audio unit connector M167 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check signal between audio unit connector M167 and ground.

Audio unit (+)		Ground (−)	Condition	Reference value
Connector	Terminal			
M167	35	—	Camera image displayed.	

SKIB2251J

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-137, "Removal and Installation".
NO >> Replace rear view camera.

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000009876519

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Disconnect combination switch connector M102.
2. Check resistance between combination switch connector terminals.

Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
16	18	Volume (down)	Depress − switch.	1
		Volume (up)	Depress + switch.	121
		Phone end	Depress switch.	321
15	18	Source	Depress SOURCE switch.	1
		Seek (up)	Depress △ switch.	121
		Seek (down)	Depress ▽ switch.	321
		Phone/Send	Depress switch.	723

Do the steering wheel audio control switches check OK?

YES >> GO TO 2.
NO >> Replace steering wheel audio control switch. Refer to AV-142, "Removal and Installation".

2. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector B142 and combination switch connector M30.
3. Check continuity between Bluetooth® control unit harness connector B142 and combination switch harness connector M30.

Bluetooth® control unit		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
B142	12	M30	24	Yes
	14		31	
	13		25	

4. Check continuity between Bluetooth® control unit connector B142 and ground.

Bluetooth® control unit		—	Continuity
Connector	Terminal		
B142	12	Ground	No
	13		
	14		

Are the continuity results as specified?

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

3.SPIRAL CABLE CHECK

Check continuity between combination switch harness connectors M30 and M102.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M102	15	Yes
	31		18	
	25		16	

Does the spiral cable check OK?

YES >> Inspection End.
NO >> Replace spiral cable. Refer to SR-13, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000009876520

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

Diagnosis Procedure

INFOID:0000000009876521

Regarding Wiring Diagram information, refer to AV-97, "Wiring Diagram".

1. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector and microphone connector.
3. Check continuity between Bluetooth® control unit harness connector B142 and microphone harness connector R109.

Bluetooth® control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
B142	7	R109	1	Yes
	8		2	
	29		4	

4. Check continuity between Bluetooth® control unit harness connector B142 and ground.

Bluetooth® control unit		—	Continuity
Connector	Terminal		
B142	7	Ground	No
	8		
	29		

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2. CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth® control unit connector and microphone connector.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector R109 terminal 4 and ground.

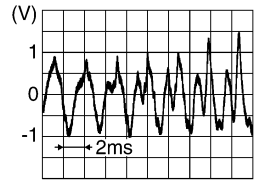
(+)		(-)	Value (Approx.)
Connector	Terminal		
R109	4	Ground	5V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace Bluetooth® control unit. Refer to AV-147, "Removal and Installation".

3. CHECK MICROPHONE SIGNAL

Check signal between Bluetooth® control unit harness connector B142 with CONSULT or and oscilloscope.

Connector	(+)	(-)	Reference signal
	Terminal	Terminal	
B142	7	8	While speaking into MIC  SKIB3609E

Is the inspection result normal?

YES >> Replace Bluetooth® control unit. Refer to AV-147, "Removal and Installation".
NO >> Replace microphone. Refer to AV-145, "Removal and Installation".

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000009876522

Regarding Wiring Diagram information, refer to AV-97, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M166 and USB interface connector M214.
3. Check continuity between audio unit connector M166 and USB interface connector M214.

Audio unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M166	53	M214	4	Yes
	54		1	
	55		2	
	56		3	
	57		5	

4. Check continuity between audio unit connector M166 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M166	53	Ground	No
	55		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-144, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000009876523

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-85, "On Board Diagnosis Function".
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-97, "Wiring Diagram". • Audio unit power supply and ground circuits malfunction. Refer to AV-114, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-117, "Diagnosis Procedure" (front door speaker). - AV-119, "Diagnosis Procedure" (front tweeter). - AV-121, "Diagnosis Procedure" (rear speaker). - AV-123, "Diagnosis Procedure" (rear tweeter) • Malfunction in speaker. Refer to: - AV-140, "Removal and Installation" (front door speaker). - AV-139, "Removal and Installation" (front tweeter). - AV-141, "Removal and Installation" (rear speaker). - AV-141, "Removal and Installation" (rear tweeter) • Malfunction in audio unit. Refer to AV-85, "On Board Diagnosis Function".

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in audio unit. Refer to AV-85, "On Board Diagnosis Function".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-117, "Diagnosis Procedure" (front door speaker). - AV-119, "Diagnosis Procedure" (front tweeter). - AV-121, "Diagnosis Procedure" (rear speaker). - AV-123, "Diagnosis Procedure" (rear tweeter) • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-140, "Removal and Installation" (front door speaker). - AV-139, "Removal and Installation" (front tweeter). - AV-141, "Removal and Installation" (rear speaker). - AV-141, "Removal and Installation" (rear tweeter) • Malfunction in audio unit. Refer to AV-85, "On Board Diagnosis Function".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna.
No radio reception or poor reception.	• Other audio sounds are normal. • Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	• Poor connector connection of antenna.
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

1. Make sure the customer's Bluetooth® related concern is understood.
2. Verify the customer's concern.
   NOTE:
   The customer's phone may be required, depending upon their concern.
3. Write down the customer's phone brand, model and service provider.
   NOTE:
   It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.

4. Go to “www.nissanusa.com/bluetooth/”.

a. Using the website’s search engine, find out if the customer’s phone is on the approved list.

b. If the customer’s phone is NOT on the approved list:
Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.

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

d. If the feature related to the customer’s concern shows as “Y” (compatible):
Perform diagnosis as per the following table.

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	Malfunction in audio unit. Replace audio unit. Refer to AV-137, "Removal and Installation".
Hands-free phone cannot be established.	• Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.	
The other party’s voice cannot be heard by hands-free phone.	Check the “microphone speaker” in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-129, "Diagnosis Procedure".
The system cannot be operated.	• The voice recognition can be controlled. • Steering switch’s +, −, and switch works, but does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-142, "Removal and Installation".
	Steering switch’s , +, −, and switches do not work.	Steering switch signal circuit malfunction. Refer to AV-127, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-127, "Diagnosis Procedure".

RELATED TO REAR VIEW CAMERA

Symptoms	Check items	Probable malfunction location
Rear view camera is inoperative.	Reverse signal circuit malfunction.	Reverse signal circuit malfunction between BCM and audio unit. Refer to AV-125, "Diagnosis Procedure".
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and audio unit. Refer to AV-125, "Diagnosis Procedure".
	Rear view camera malfunction.	Replace rear view camera.

NORMAL OPERATING CONDITION

Description

INFOID:0000000009876524

RELATED TO NOISE

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).
The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction.

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

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

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

Type of Noise and Possible Cause

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” in AV-132, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. **NOTE:** While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.

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

REMOVAL AND INSTALLATION

AUDIO UNIT

Removal and Installation

INFOID:0000000009876525

AUDIO UNIT

Removal

1. Disconnect the battery negative terminal. Refer to PG-79, "Removal and Installation".
2. Remove the cluster lid C. Refer to IP-15, "Removal and Installation".
3. Remove the audio unit.

a. Remove the audio unit screws using power tool.
b. Pull the audio unit out from the instrument panel.
c. Disconnect the harness connectors from the audio unit.

Installation

Installation is in the reverse order of removal.

AV SWITCH

Removal

1. Disconnect battery negative terminal. Refer to PG-79, "Removal and Installation".
2. Remove the cluster lid C. Refer to IP-15, "Removal and Installation".
3. Remove the AV switch screws.
4. Carefully remove the AV switch.

Installation

Installation is in the reverse order of removal.

SATELLITE RADIO ANTENNA

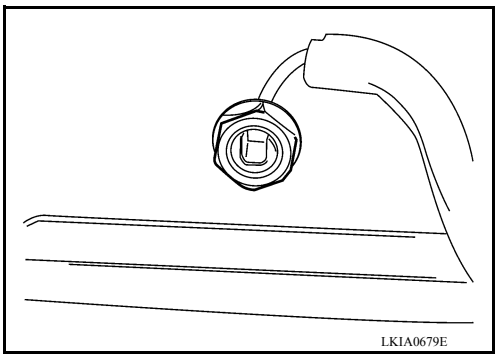
Removal and Installation

INFOID:0000000010159256

SATELLITE RADIO ANTENNA

Removal

1. Lower the headliner. Refer to INT-21, "Removal and Installation".
2. Disconnect the satellite radio antenna connector.
3. Remove the satellite radio antenna nut.
4. Remove the satellite radio antenna.



Installation

Installation is in the reverse order of removal.

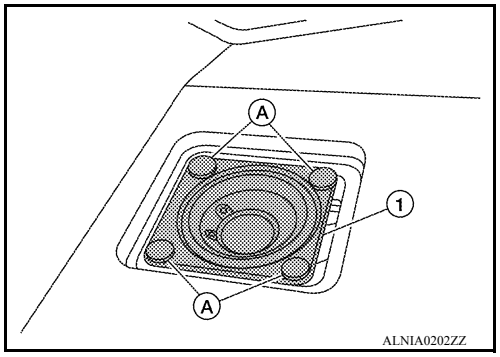
FRONT TWEETER

Removal and Installation

INFOID:0000000009876526

REMOVAL

1. Remove front tweeter speaker grille, using a suitable tool.
2. Remove the front tweeter clips (A).
3. Disconnect the front tweeter harness connector.
4. Remove the front tweeter (1).



Installation

Installation is in the reverse order of removal.

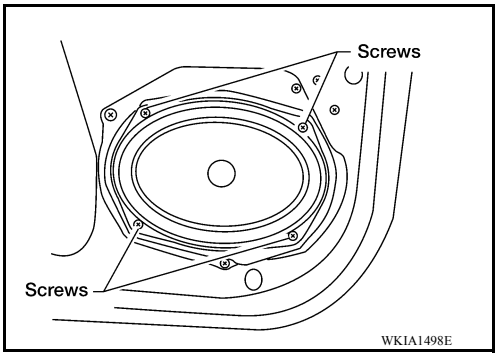
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000009876527

REMOVAL

1. Remove the front door finisher. Refer to INT-10, "Removal and Installation".
2. Remove the front door speaker screws.
3. Disconnect the front door speaker harness connector.
4. Remove the front door speaker.



INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

Removal and Installation

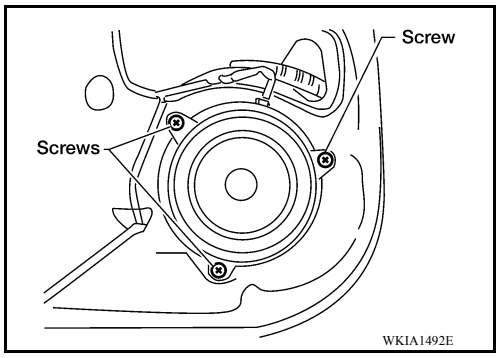
INFOID:0000000009876528

REAR DOOR SPEAKER

Removal

1. Remove the rear door finisher. Refer to INT-10, "Removal and Installation" (Crew Cab) or INT-10, "Removal and Installation" (King Cab).
2. Remove the rear door speaker.

a. Remove the rear door speaker screws.
b. Disconnect the rear door speaker harness connector.



Installation

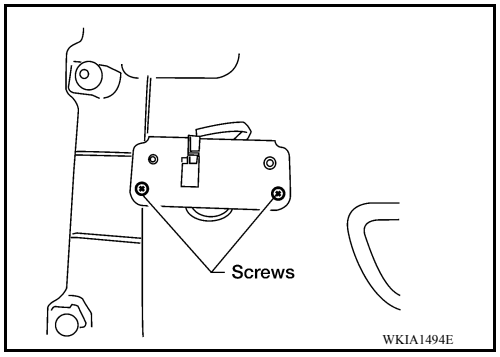
Installation is in the reverse order of removal.

REAR DOOR TWEETER

Removal

1. Remove the rear door finisher. Refer to INT-10, "Removal and Installation".
2. Remove the rear door tweeter.

a. Remove the rear door tweeter screws.
b. Disconnect the rear door tweeter harness connector.



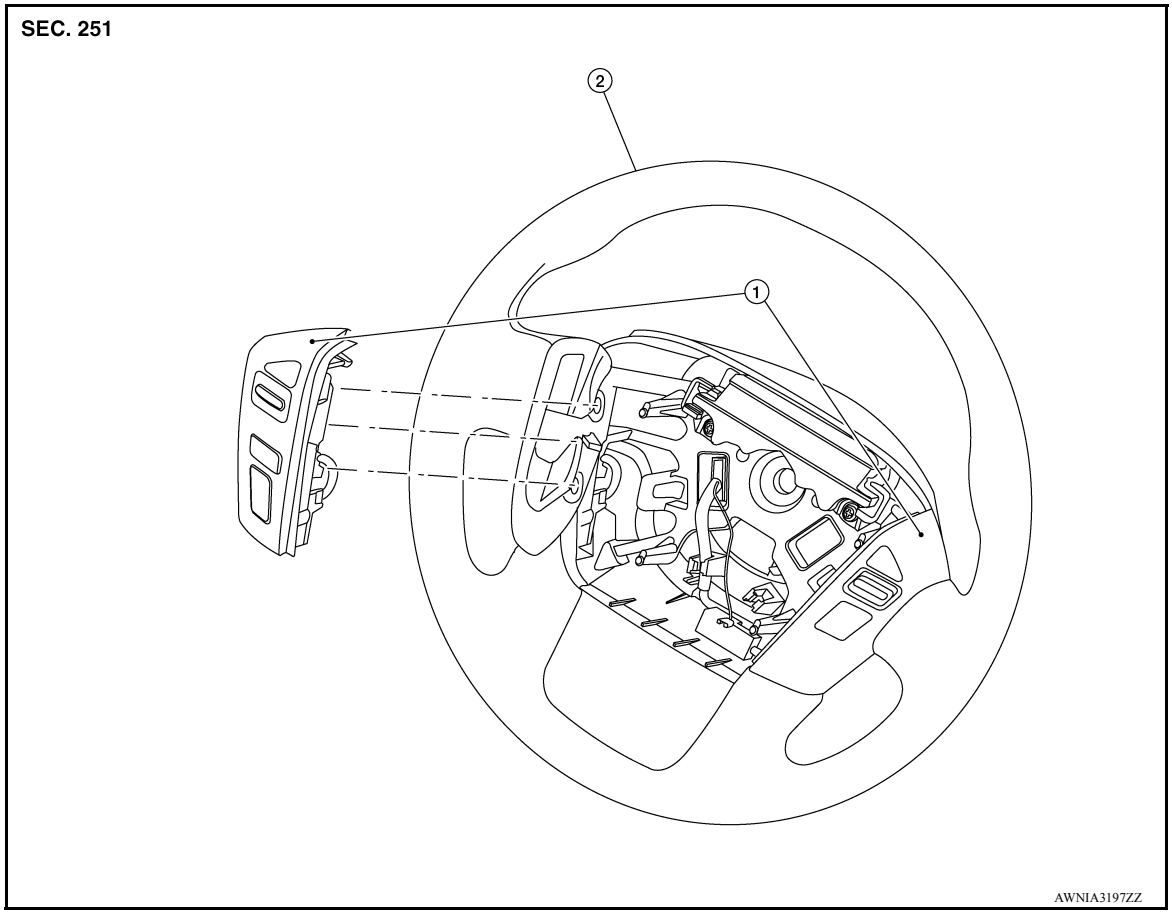
Installation

Installation is in the reverse order of removal.

STEERING SWITCH

Removal and Installation

INFOID:0000000010159258



1. Steering wheel audio control switches 2. Steering wheel

STEERING WHEEL AUDIO CONTROL SWITCHES

Removal

1. Remove the steering wheel. Refer to ST-22, "Removal and Installation".
2. Remove the steering wheel rear cover screws and the steering wheel rear cover.
3. Remove the steering wheel switch assembly screws and the steering wheel switches.

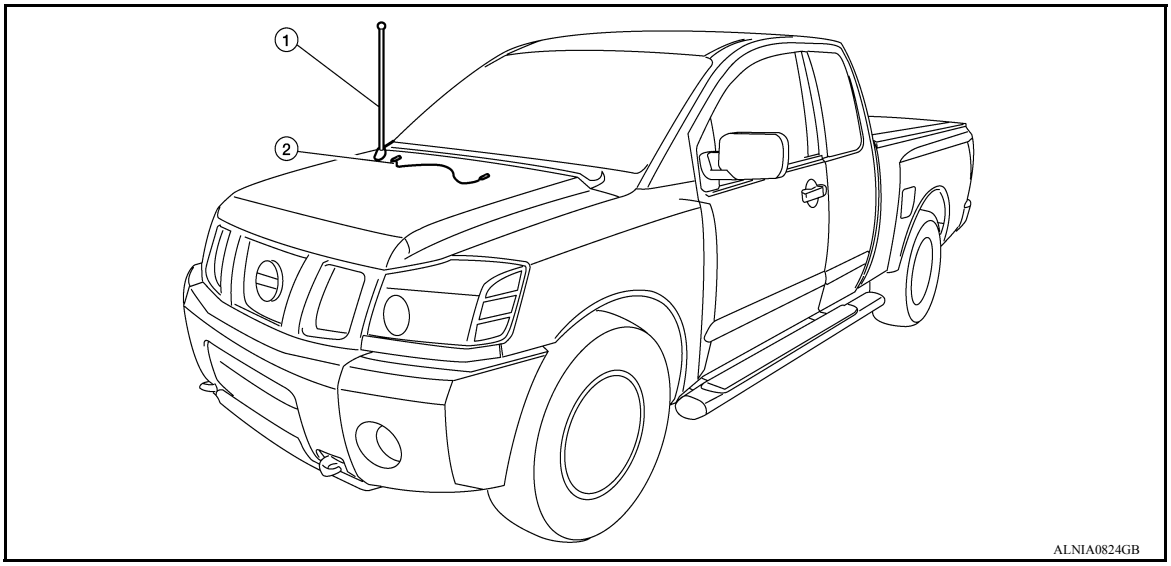
Installation

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:0000000009876530



1. Antenna
2. Main feeder cable

Removal and Installation

INFOID:0000000009876531

REMOVAL

1. Remove audio antenna rod.
2. Remove audio antenna rubber seal.
3. Remove fender protector RH. Refer to EXT-24, "Removal and Installation".
4. Remove audio antenna assembly bolts.
5. Disconnect the audio antenna feeder from the audio antenna assembly.
6. Remove audio antenna assembly from the vehicle.

INSTALLATION

Installation is in the reverse order of removal.

- Tighten audio antenna rod to specification.

Audio antenna rod : 3.5 N·m (0.36 kg-m, 31 in-lb)

CAUTION:

Always properly tighten the audio antenna rod during installation or the audio antenna rod may bend or break during vehicle operation.

USB CONNECTOR

Removal and Installation

INFOID:0000000009876532

REMOVAL

1. Remove the center console assembly. Refer to IP-20, "Removal and Installation".
2. Push the pawl from the back of the center console to remove the USB interface.

INSTALLATION

Installation is in the reverse order of removal.

MICROPHONE

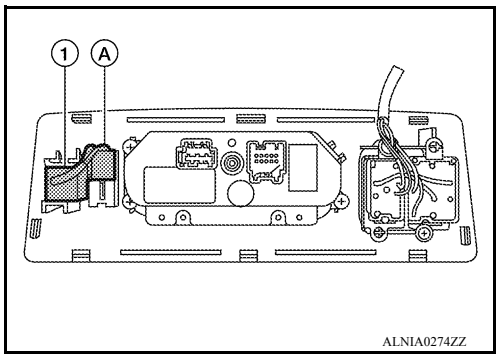
Removal and Installation

INFOID:0000000009876533

REMOVAL

1. Remove the front roof console finisher. Refer to INT-21, "Removal and Installation".
2. Remove the Bluetooth microphone (1)

a. Disconnect the Bluetooth microphone harness connector (A).
b. Detach the Bluetooth microphone (1) from the front roof console finisher.



INSTALLATION

Installation is in the reverse order of removal.

TEL ANTENNA

Removal and Installation

INFOID:0000000009876534

The Bluetooth antenna and the Bluetooth control unit are serviced as an assembly. Refer to AV-147, "Removal and Installation".

BLUETOOTH CONTROL UNIT

Removal and Installation

INFOID:0000000009876535

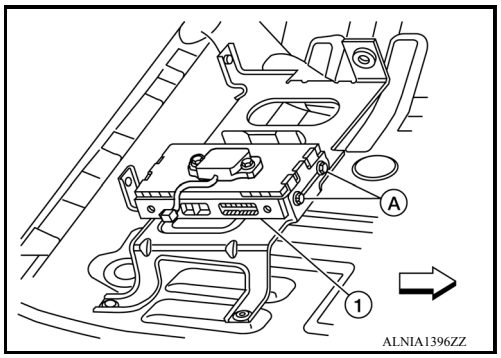
REMOVAL

1. Disconnect the negative battery terminal.
2. Slide the front RH seat forward.
3. Remove the Bluetooth control unit kick shield screws and the Bluetooth control unit kick shield.
4. Remove the Bluetooth control unit (1).

a. Remove the Bluetooth control unit screws (A).

b. Disconnect the harness connectors from the Bluetooth control unit.

⇦: Front



INSTALLATION

Installation is in the reverse order of removal.

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000009876536

REMOVAL

1. Remove the tail gate handle. Refer to DLK-137, "Exploded View".
2. Remove the rear view camera screws and the rear view camera from the tail gate handle.

INSTALLATION

Installation is in the reverse order of removal.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010159253

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 three minutes before performing any service.**

Precaution for Trouble Diagnosis

INFOID:0000000009876538

AV COMMUNICATION SYSTEM

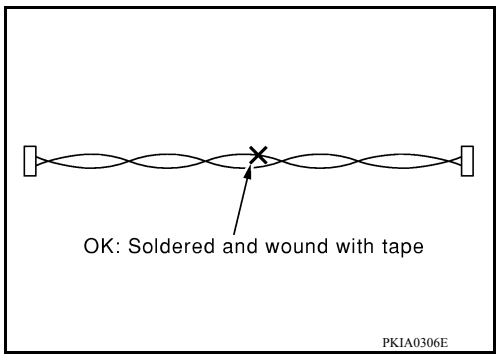
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

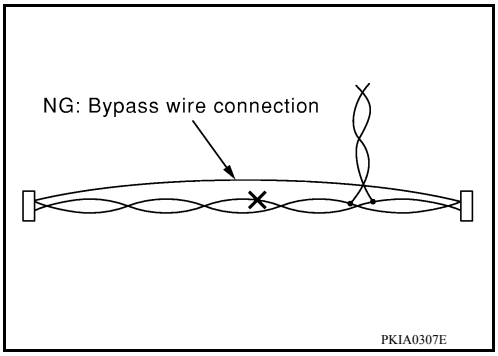
INFOID:0000000009876539

AV COMMUNICATION SYSTEM

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



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



Precaution for Work

INFOID:0000000009876540

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:

- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:

- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

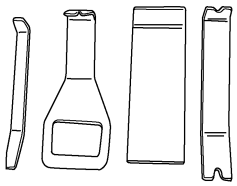
PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000010159262

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

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

Commercial Service Tools

INFOID:0000000009876542

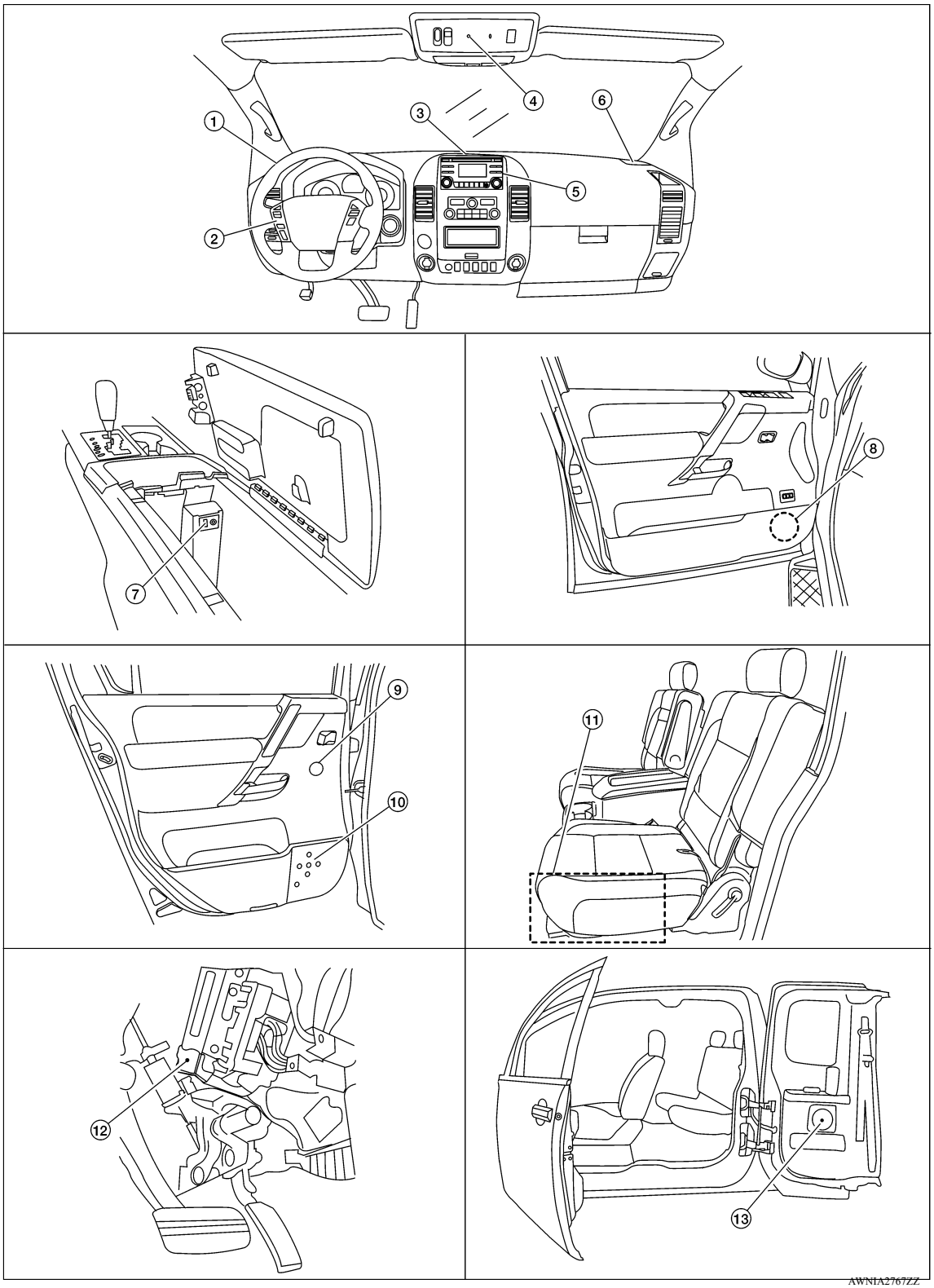
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

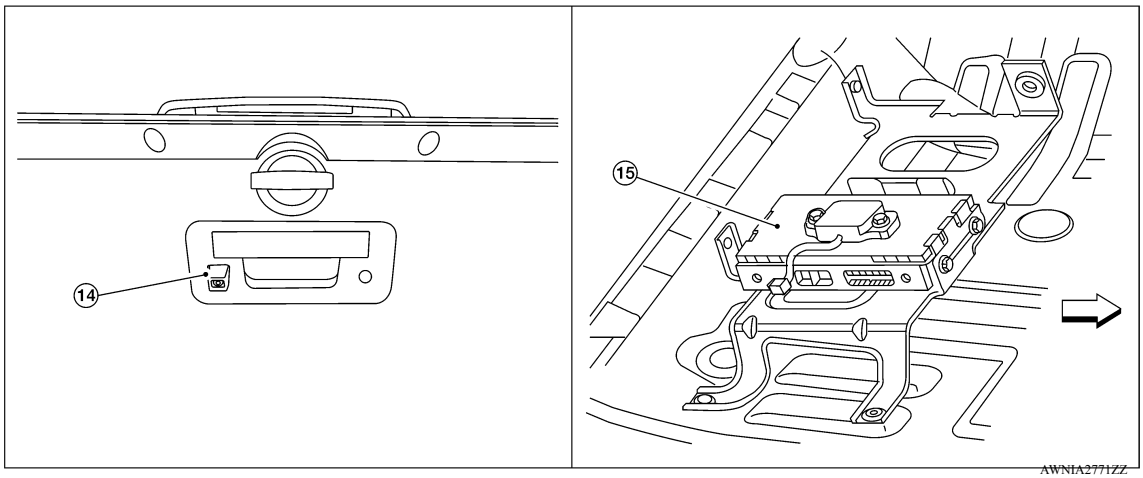
SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000009876543





1. Front tweeter LH M109
2. Steering wheel audio control switches
3. Center speaker M110
4. Microphone R109
5. Audio unit M171, M172, M175, M188
6. Front tweeter RH M111
7. USB Interface M214
8. Front door speaker
   LH D12
   RH D112
9. Rear door tweeter (crew cab)
   LH D208
   RH D308
10. Rear door speaker (crew cab)
    LH D207
    RH D307
11. Subwoofer B72
12. Audio amp. M112, M113
13. Rear door speaker (king cab)
    LH B76
    RH B159
14. Rear view camera T2
15. Bluetooth® control unit B142, B143, B144

Component Description

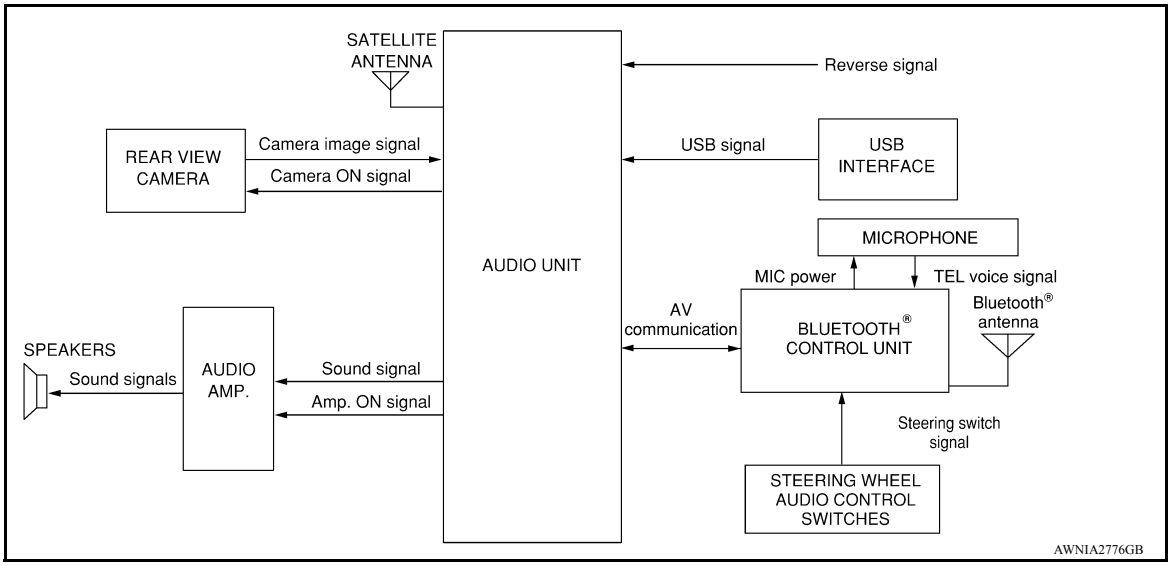
INFOID:0000000009876544

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

SYSTEM

System Diagram

INFOID:0000000009876545



System Description

INFOID:0000000009876546

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Audio amp.
- Front speakers
- Center speaker
- Front door speakers
- Rear door speakers
- Rear speakers
- Steering switches
- Microphone
- USB interface
- Rear view camera
- satellite antenna
- Antenna amp.
- Window antenna

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

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

HANDS-FREE PHONE SYSTEM

System Operation

NOTE:

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

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

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

Audio unit

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

Steering Switches

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

The following functions can be performed using the steering switches:

- Initiate self-diagnosis of the Bluetooth® telephone system
- Start a voice recognition session
- Answer and end telephone calls
- Adjust the volume of calls
- Record memos

Microphone

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

REAR VIEW CAMERA SYSTEM

- The audio unit supplies power to the rear view camera when the reverse signal is received.
- The rear view camera transmits rear view camera images to the audio unit when power is supplied from the audio unit.
- The audio unit combines a warning message and fixed guide lines with an image received from the rear view camera to display a rear view camera image on the screen.

DIAGNOSIS SYSTEM (AUDIO UNIT)

Description

INFOID:0000000009876547

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

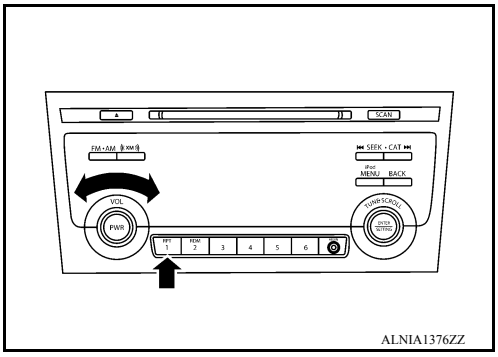
Mode		Description
Self Diagnosis		• Audio unit diagnosis. • Diagnoses the connections across system components.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, lights, reverse, EQ pin, destination and camera type.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera System	Guiding line position that overlaps rear view camera image can be adjusted.
	AV COMM Diagnosis	The communication condition of each unit of display audio system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Initialize Setting	Initializes the audio unit memory.

On Board Diagnosis Function

INFOID:0000000009876548

METHOD OF STARTING

1. Turn the ignition ON.
2. Turn the audio system OFF.
3. While pressing the preset 1 button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. When self-diagnosis mode begins, a short beep will be heard. Shifting from current screen to previous screen is performed by pressing BACK button.



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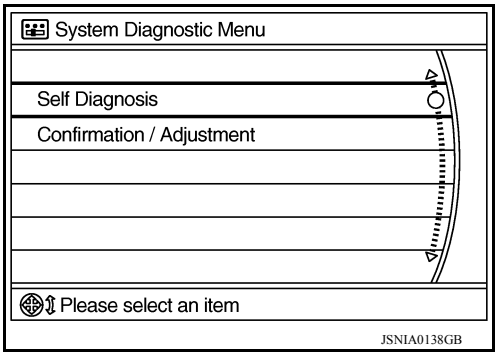
4. The trouble diagnosis initial screen is displayed, and Self Diagnosis or Confirmation/Adjustment can be selected.



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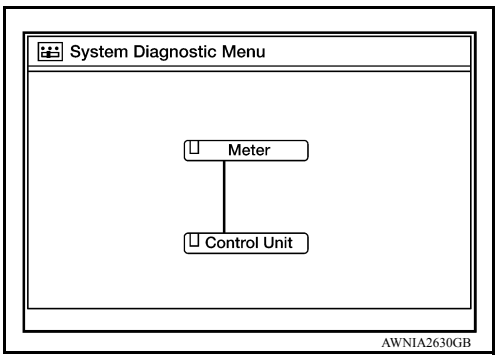
SELF DIAGNOSIS MODE

Audio Unit Self Diagnosis

1. Select Self Diagnosis.

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

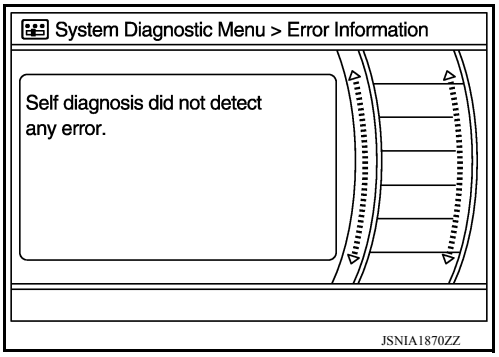


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction [1]	Red	Green

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

- Replace audio unit if Self Diagnosis did not run because control unit malfunction is indicated. The symptom is audio unit internal error. Refer to AV-228, "Removal and Installation".
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.

4. Comments of self diagnosis results can be viewed in the diagnosis result screen.



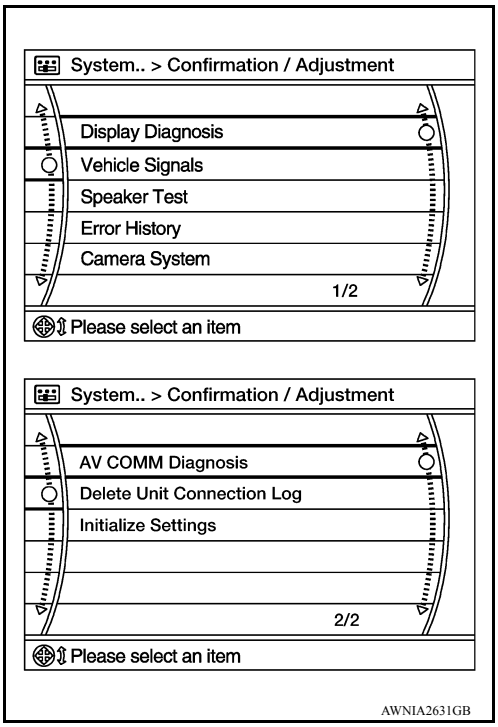
Audio Unit Self Diagnosis Results

Only Unit Part Is Displayed In Red		
Screen switch	Description	Possible cause
Control unit	Malfunction is detected in audio unit power supply and ground circuits.	• Audio unit power supply or ground circuits. Refer to AV-192, "AUDIO UNIT : Diagnosis Procedure". • If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to AV-228, "Removal and Installation".

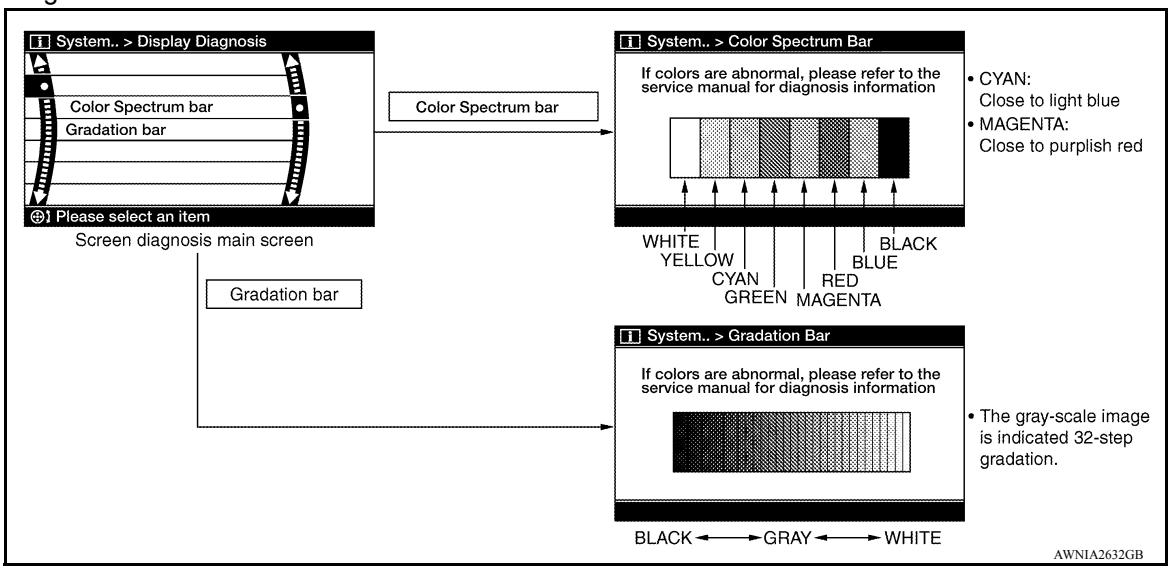
A Connecting Cable Between Units Is Displayed In Yellow		
Area with yellow connection lines	Description	Possible cause
Control unit ⇔ Meter	When one of the following is detected: • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and combination meter.	• Combination meter power supply or ground circuits. Refer to MWI-33, "COMBINATION METER : Diagnosis Procedure". • AV communication circuits between audio unit and combination meter.

Audio Unit Confirmation/Adjustment

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

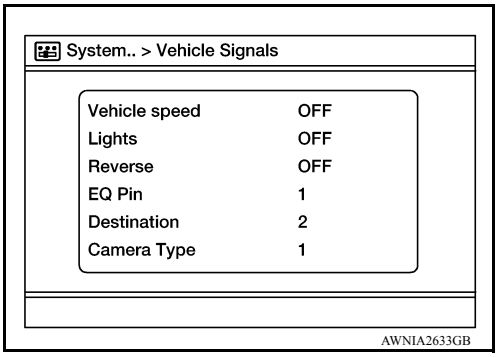


Display Diagnosis



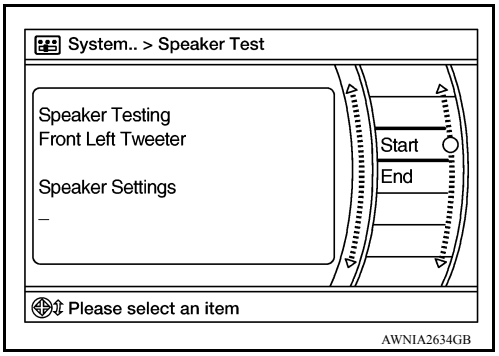
Vehicle Signals

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



Speaker Test

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



Error History

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

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

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

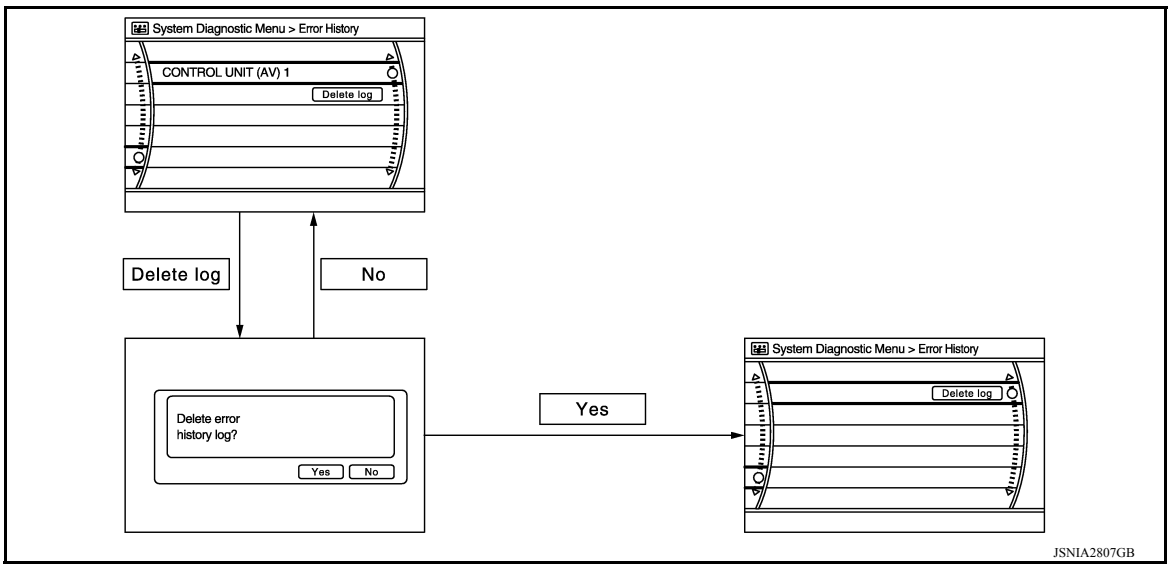
Count up method A

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

Count up method B

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

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



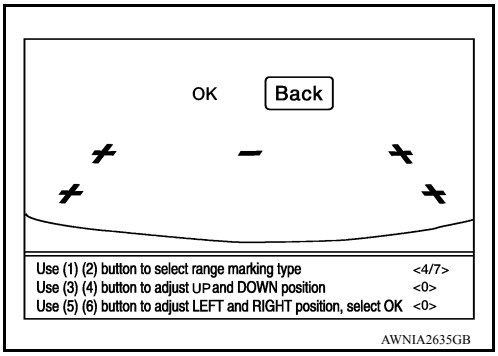
Error item

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

Error item	Description	Possible cause
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	Replace the audio unit if the malfunction occurs constantly. Refer to AV-228, "Removal and Installation".
AV COMM CIRCUIT	When one of the following is detected: • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and combination meter.	• Combination meter power supply or ground circuits. Refer to MWI-33, "COMBINATION METER : Diagnosis Procedure". • AV communication circuits between audio unit and combination meter.

Camera System

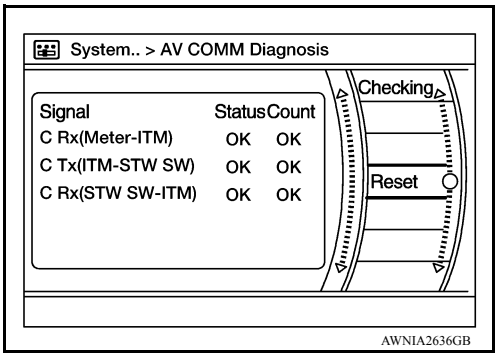
This mode is used to adjust the guide line display position of the rear view camera.



AWNIA2635GB

AV COMM Diagnosis

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



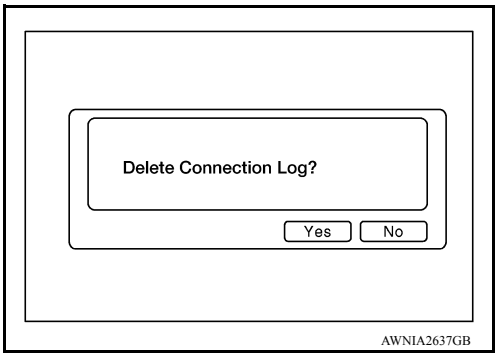
AWNIA2636GB

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

NOTE:
"???" indicates UNKWN.

Delete Unit Connection Log

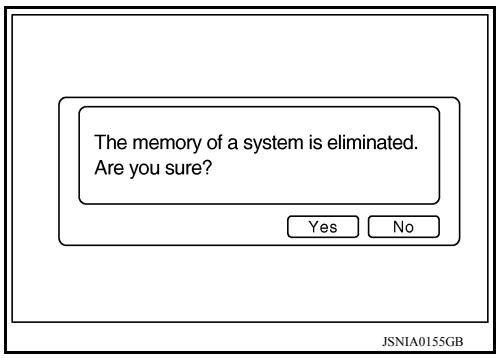
Deletes any unit connection records and error records from the audio unit memory (clears the records of the unit that has been removed).



AWNIA2637GB

Initialize Settings

Deletes data stored from the audio unit.



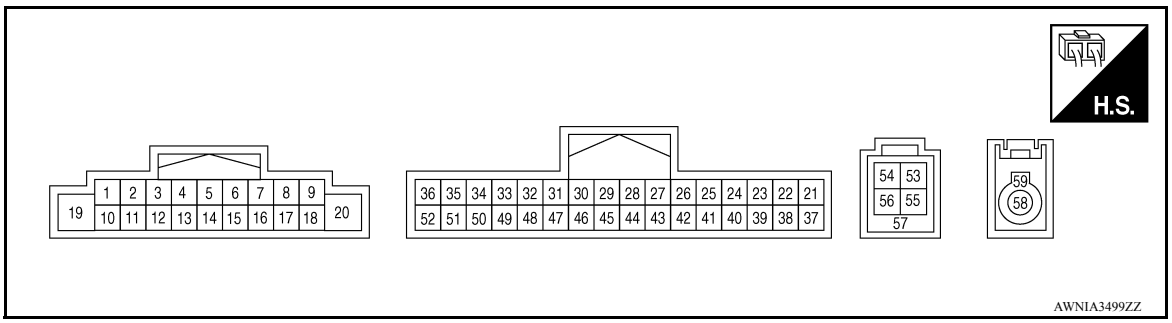
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

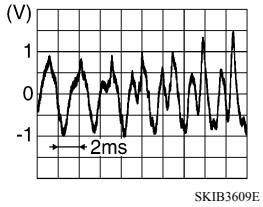
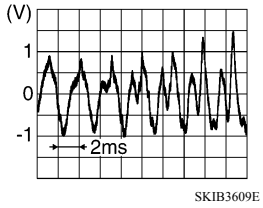
Reference Value

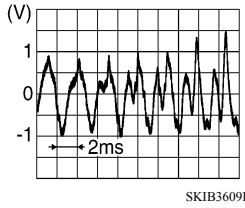
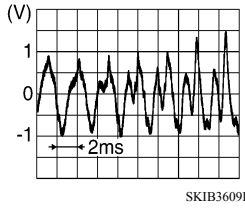
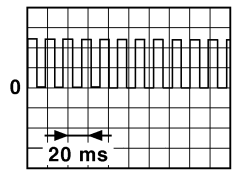
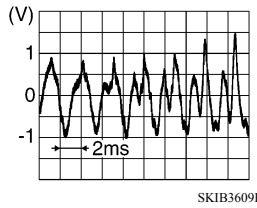
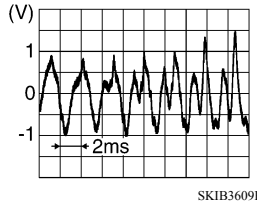
INFOID:0000000009876549

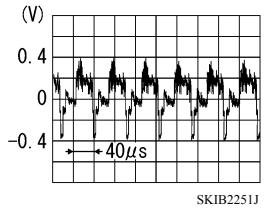
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
1 (G/W)	Ground	Amp. ON signal	Output	ACC	—	Battery voltage
2 (Y)	3 (BR)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
4 (BR)	5 (B/R)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIB3609E
6 (V)	15 (R/B)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 V
					Keep pressing MENU UP switch.	1.0 V
					Keep pressing MENU DOWN switch.	2.0 V
					Keep pressing switch	3.0 V
					Keep pressing ENTER switch.	4.0 V
					Except for above.	5.0 V
7 (V)	Ground	ACC power supply	Input	ACC	—	Battery voltage
9 (R/L)	8 (BR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
11 (W)	12 (B)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E
13 (L)	14 (B/W)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
16 (G/O)	15 (R/B)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 V
					Keep pressing VOL UP switch.	1.0 V
					Keep pressing switch.	2.0 V
					Keep pressing switch.	3.0 V
					Except for above.	5.0 V
18 (W/R)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (B)	Ground	Ground	—	ON	—	0 V
24 (R)	—	TEL I/F ––	Input	ON	—	 SKIB3609E
25 (G)	—	TEL I/F +	Input	ON	—	 SKIB3609E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
26	Shield	TEL shield	—	—	—	0 V
28 (W/L)	—	M-CAN (A+)	Input/ Output	—	—	—
29 (Y/L)	—	M-CAN (A-)	Input/ Output	—	—	—
30	Shield	Multimedia CAN shield	—	—	—	—
31 (B/P)	—	M-CAN (B+)	Input/ Output	—	—	—
32 (L/W)	—	M-CAN (B-)	Input/ Output	—	—	—
33 (B)	Ground	Ground	—	ON	—	0 V
34 (W)	—	Camera ON	Input/ Output	—	—	—
35 (R)	Ground	Rear view camera video in (+)	Input	Ignition switch ON	With rear view camera ON	 SKIB2251J
36	Shield	Comp –	Input/ Output	—	—	—
41 (Y)	Ground	Tel ON	—	ON	—	0 V
44 (G)	Ground	Camera det	—	ON	—	0 V
45 (B)	Ground	EQ2 port 2	—	ON	—	0 V
46 (B)	Ground	EQ2 port 2	—	ON	—	0 V
47 (B)	Ground	EQ3 port 3	—	ON	—	0 V
48 (B)	Ground	EQ4 port 4	—	ON	—	0 V
50 (G/W)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
					Selector lever in any position other than R (reverse)	0 V
53 (W)	—	V BUS signal	—	—	—	—
54 (G)	—	USB ground	—	—	—	—
55 (L)	—	USB D+ signal	—	—	—	—
56 (R)	—	USB D− signal	—	—	—	—
57	—	Shield	—	—	—	—

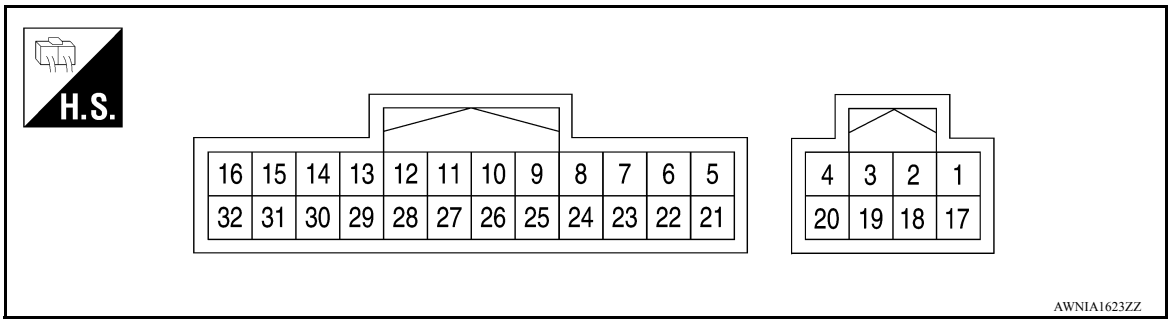
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
58 (B)	—	Satellite antenna signall	—	—	—	—
59 (B)	—	Shield	—	—	—	—

AUDIO AMP

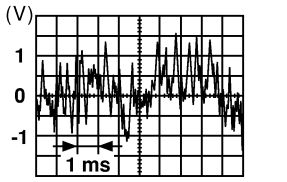
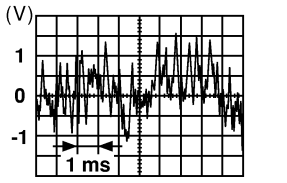
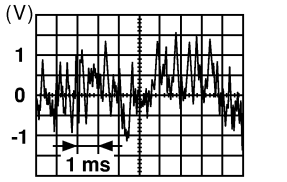
Reference Value

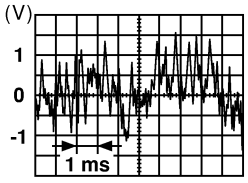
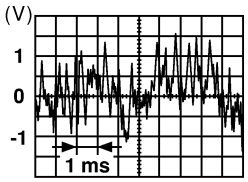
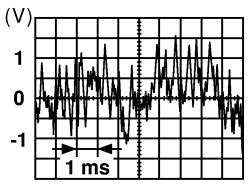
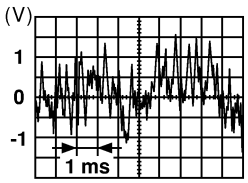
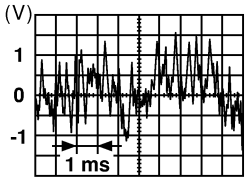
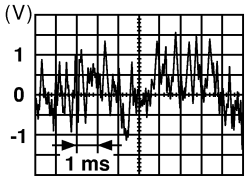
INFOID:0000000009876550

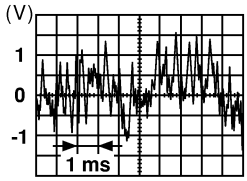
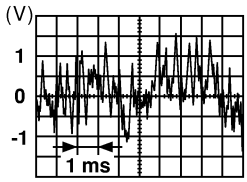
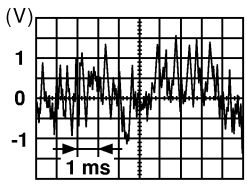
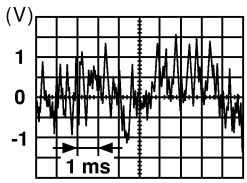
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (wire color) +	Terminal (wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
1 (Y)	Ground	Battery	Input	–	–	Battery voltage
2 (W)	18 (B)	Subwoofer	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
3 (BR/W)	19 (BR)	Subwoofer	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
4 (B)	Ground	Ground	–	Ignition switch ON	–	–
9 (G/W)	Ground	Amp. ON signal	Input	Ignition switch ON	–	More than 6.5V
10 (L/W)	26 (L/B)	Center speaker	Output	Ignition switch ON	Receive audio signal	 SKIA0177E

Terminal (wire color) +	Terminal (wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
11 (SB)	27 (B/Y)	Rear door speaker LH and rear door tweeter LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
12 (O/L)	28 (R/L)	Rear door speaker RH and rear door tweeter RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
13 (W/B)	29 (L/B)	Front door tweeter RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
14 (L/W)	30 (L/R)	Front tweeter LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
15 (L/W)	31 (L/R)	Front door speaker LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
16 (W/B)	32 (L/B)	Front door speaker RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
17 (Y/G)	Ground	Battery	Input	–	–	Battery voltage
20 (B)	Ground	Ground	–	Ignition switch ON	–	–

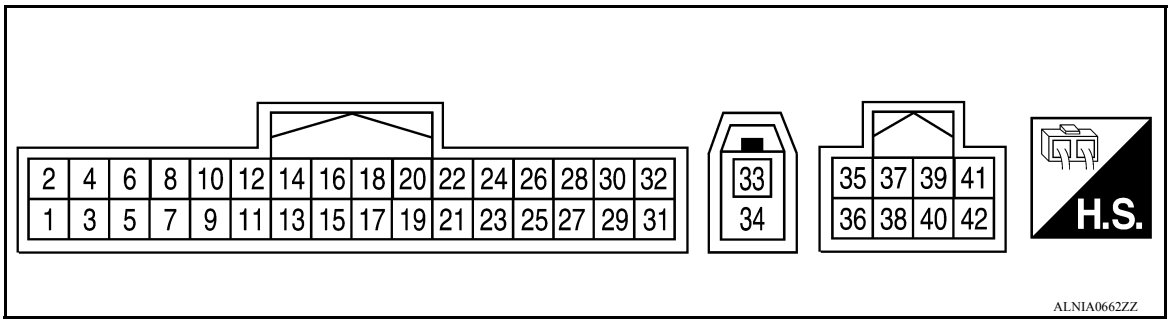
Terminal (wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	–					
21 (W)	5 (B)	Audio sound signal front RH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E
22 (Y)	6 (BR)	Audio sound signal front LH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E
23 (L)	7 (B/W)	Audio sound signal rear RH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E
24 (BR)	8 (B/R)	Audio sound signal rear LH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E

BLUETOOTH® CONTROL UNIT

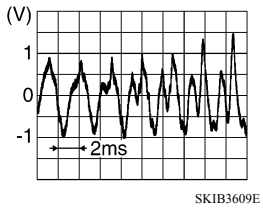
Reference Value

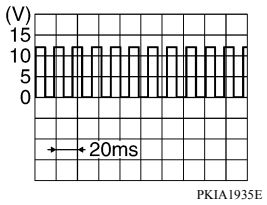
INFOID:0000000009876551

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 (V)	Ground	ACC power	Input	Ignition switch ACC/ON	–	Battery voltage
3 (G/R)	Ground	IGN power	Input	Ignition switch ON/ START	–	Battery voltage
4 (B/W)	Ground	Ground	–	Ignition switch ON	–	0V
6	–	MIC Shield	–	–	–	–
7 (B)	8 (R/L)	MIC in signal	Input	–	–	–
9 (G)	10 (R)	Audio out	Output	Ignition switch ACC/ON	Bluetooth® control unit sends audio signal	 SKIB3609E
11 (Y)	–	Mute control	Output	–	–	–
12 (R/G)	Ground	Ladder in 1	Input	ACC/ON	Press SEEK DOWN switch.	0.7 V
					Press SEEK UP switch.	1.3 V
					Pressing switch.	2.0 V
					Except for above.	3.3 V

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/output			
13 (G/W)	Ground	Ladder in 2	Input	ACC/ON	Press SOURCE switch.	0 V
					Press switch.	0.7 V
					Press VOL UP switch.	1.3 V
					Press VOL DOWN switch	2 V
					Except for above.	3.3 V
14 (Y/R)	-	Ladder in ground	Input	-	-	-
17 (V)	Ground	Ladder out 1	Output	ACC/ON	Press SEEK DOWN switch.	0.7 V
					Press SEEK UP switch.	1.3 V
					Pressing switch.	2.0 V
					Except for above.	3.3 V
18 (G/O)	Ground	Ladder out 2	Output	ACC/ON	Press SOURCE switch.	0 V
					Press switch.	0.7 V
					Press VOL UP switch.	1.3 V
					Press VOL DOWN switch	2 V
					Except for above.	3.3 V
19 (R/B)	Ground	Ladder out ground	Output	–	–-	–
21 (B)	Ground	Cont 1	–	–	–	0V
22 (B)	Ground	Cont 3	–	–	–	0V
27 (B)	Ground	Cont 4	–	–	–	0V
28 (W/R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	 PKIA1935E
29 (R/W)	Ground	Microphone power	Output	Ignition switch ON	–	5V
33 (B)	–	Bluetooth® antenna	–	–	–	—
34	Shield	Bluetooth® antenna	–	–	–	—
35 (B)	–	M-CAN (+)	–	–	–	—

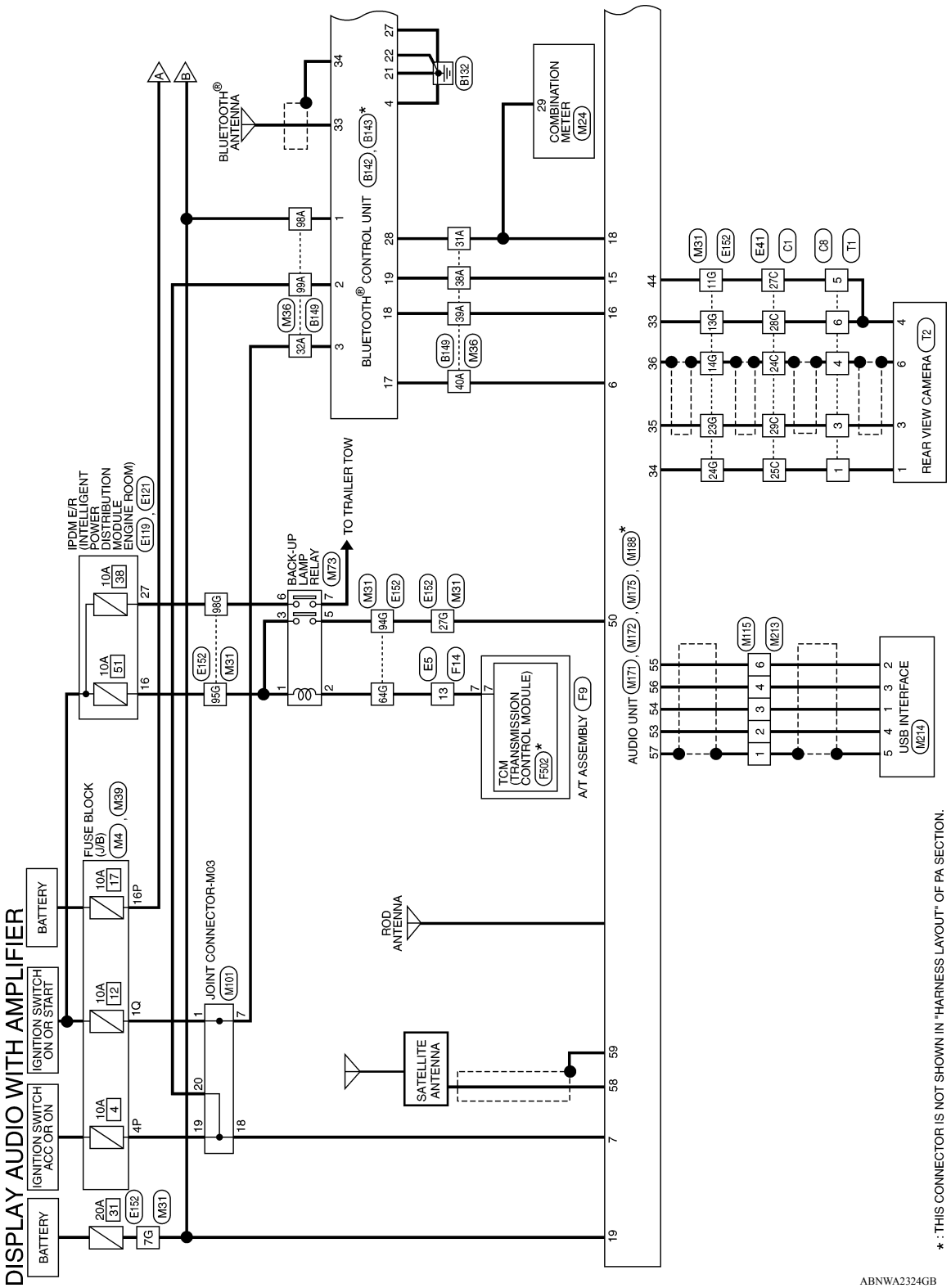
Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/output			
36 (P)	–	M-CAN (-)	–	–	–	—
37	–	Shield	–	–	–	—

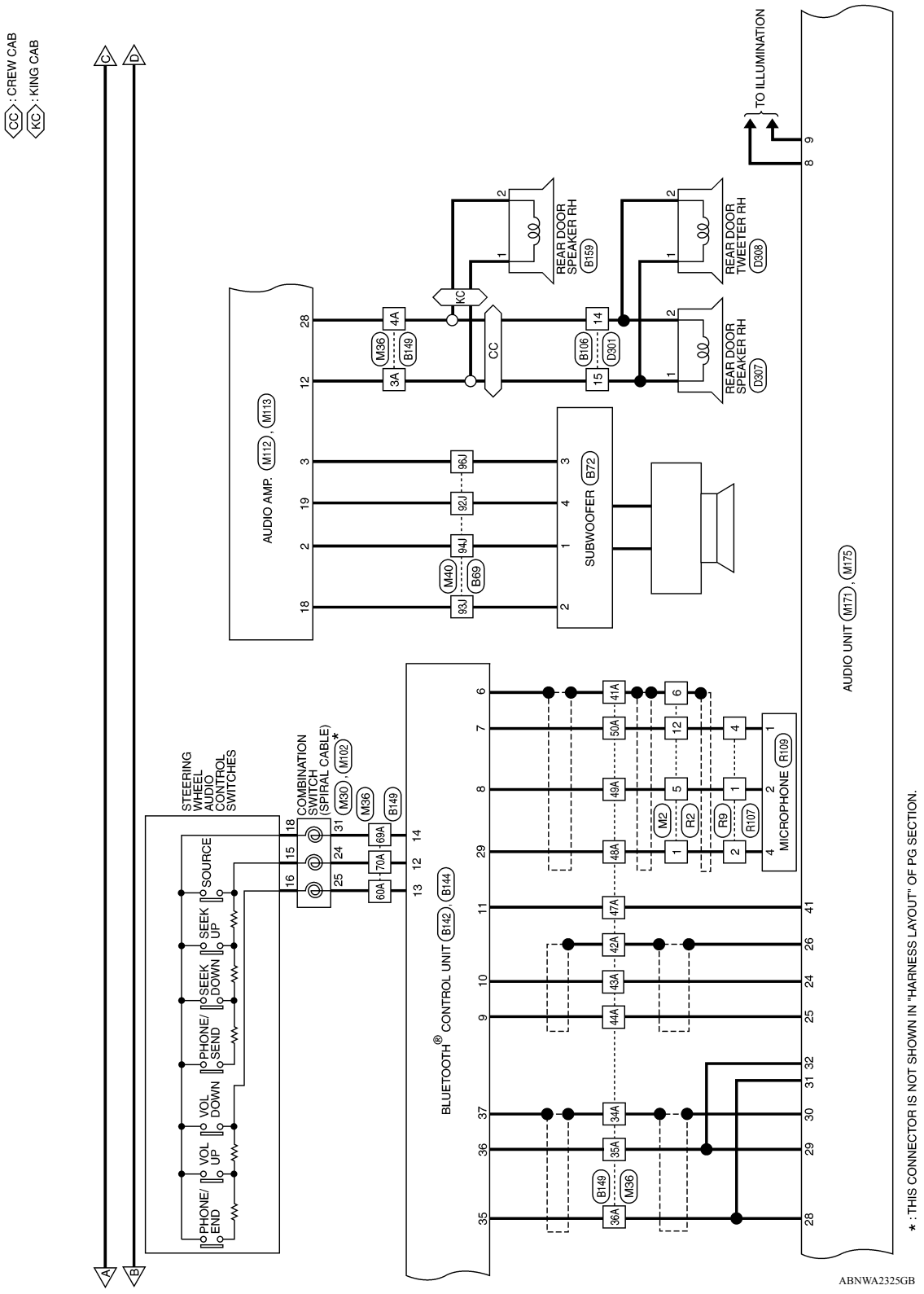
WIRING DIAGRAM

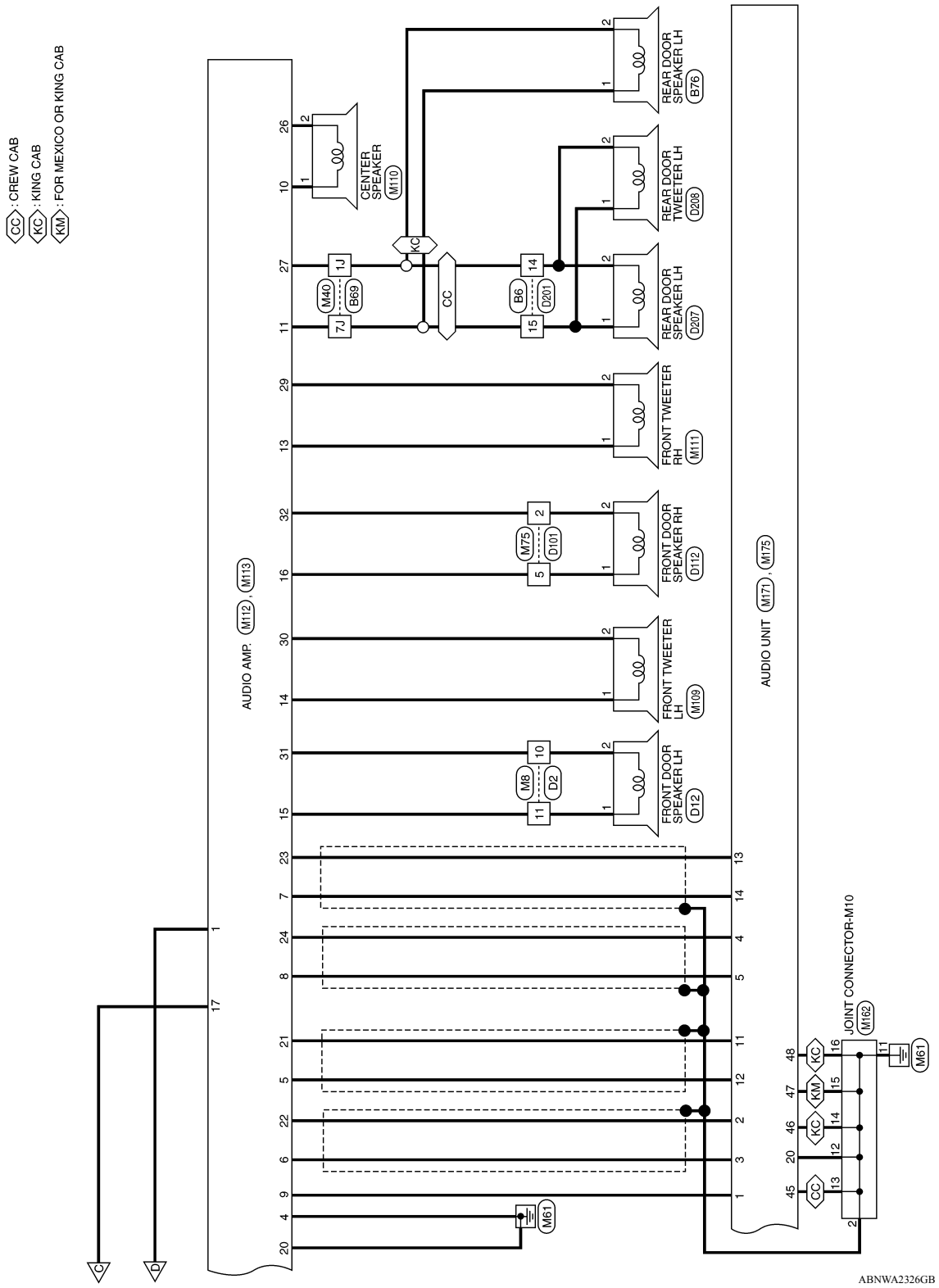
DISPLAY AUDIO WITH AMPLIFIER

Wiring Diagram

INFOID:0000000009876552




CC : CREW CAB
KC : KING CAB
TO ILLUMINATION
REAR DOOR SPEAKER RH B159
REAR DOOR TWEETER RH D308
REAR DOOR SPEAKER RH D307
AUDIO AMP. M112, M113
SUBWOOFER B72
STEERING WHEEL AUDIO CONTROL SWITCHES
SOURCE
SEEK UP
SEEK DOWN
PHONE/ SEND
VOL DOWN
VOL UP
PHONE/ END
COMBINATION SWITCH (SPIRAL CABLE)* M102
BLUETOOTH® CONTROL UNIT B142, B144
MICROPHONE R109
AUDIO UNIT M171, M175
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.
ABNWA2325GB


CC : CREW CAB
KC : KING CAB
KM : FOR MEXICO OR KING CAB
AUDIO AMP. (M112), (M113)
AUDIO UNIT (M171), (M175)
CENTER SPEAKER (M110)
REAR DOOR SPEAKER LH (B76)
REAR DOOR TWEETER LH (D208)
REAR DOOR SPEAKER LH (D207)
FRONT TWEETER RH (M111)
FRONT DOOR SPEAKER RH (D112)
FRONT TWEETER LH (M109)
FRONT DOOR SPEAKER LH (D12)
JOINT CONNECTOR-M10 (M162)
M61
1J
7J
M40
B69
B6
D201
M75
D101
M8
D2
C
D
ABNWA2326GB

DISPLAY AUDIO CONNECTORS WITH AMPLIFIER

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	R/W	– (WITHOUT NAVI)
5	R/L	– (WITHOUT NAVI)
6	SHIELD	–
12	B	– (WITHOUT NAVI)

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
4P	V	–
16P	Y/G	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
29	W/R	SPEED OUT

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

H.S.

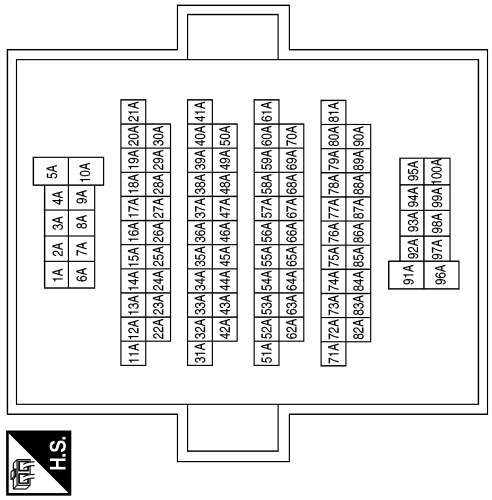
24	25	26	27
31	32	33	34

Terminal No.	Color of Wire	Signal Name
24	R/G	– (WITHOUT NAVI)
25	G/W	– (WITHOUT NAVI)
31	Y/R	– (WITHOUT NAVI)

ABNIA6331GB

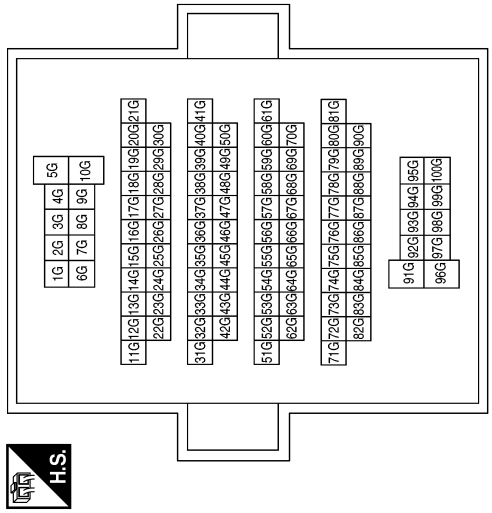
Terminal No.	Color of Wire	Signal Name
43A	R	–
44A	G	–
47A	Y	–
48A	R/W	–
49A	R/L	–
50A	B	–
60A	G/W	–
69A	Y/R	–
70A	R/G	–
98A	Y	–
99A	V	–

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



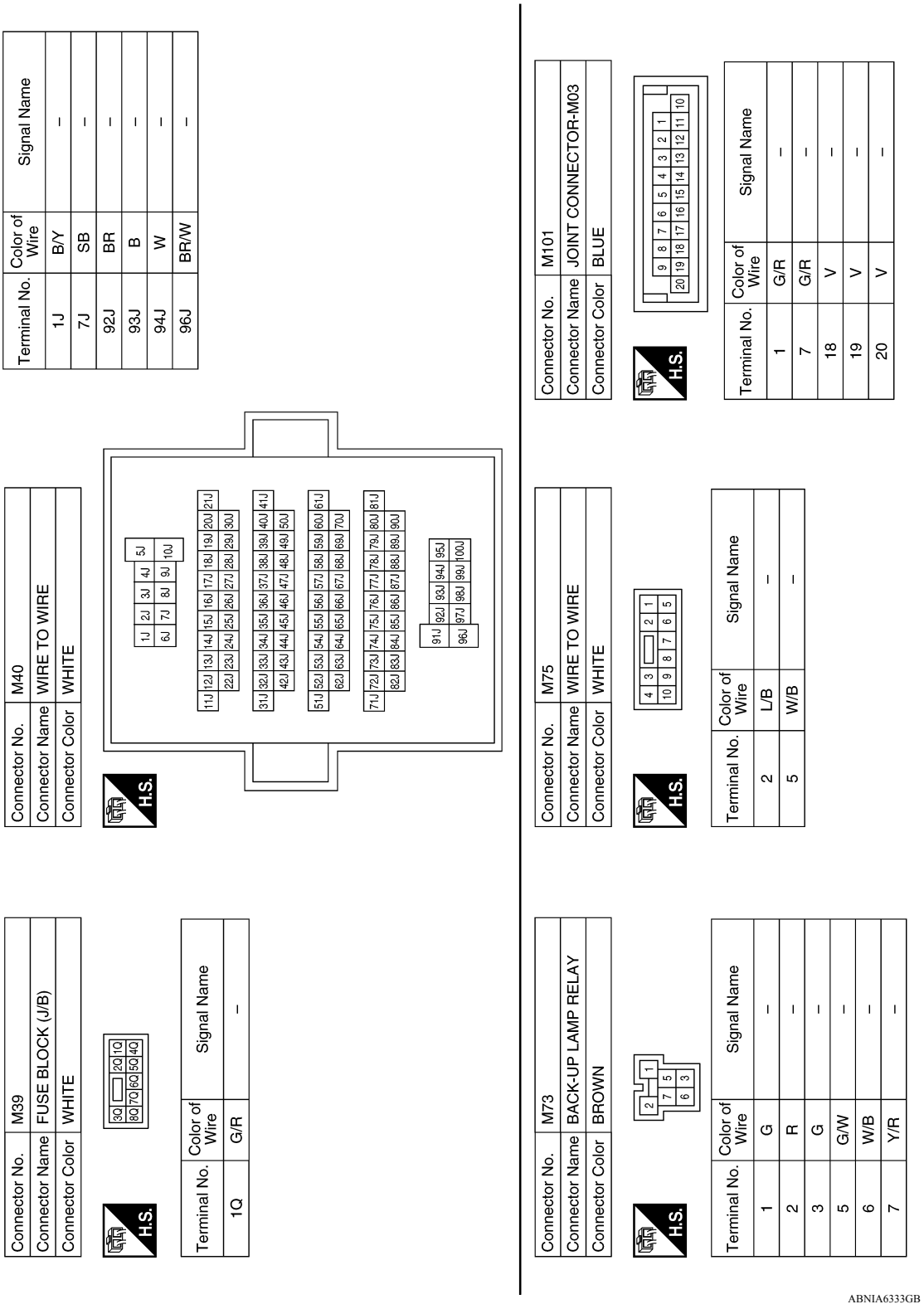
Terminal No.	Color of Wire	Signal Name
3A	O/L	–
4A	R/L	–
31A	W/R	–
32A	G/R	–
34A	SHIELD	–
35A	P	–
36A	B	–
38A	R/B	–
39A	G/O	–
40A	V	–
41A	SHIELD	–
42A	SHIELD	–

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



Terminal No.	Color of Wire	Signal Name
7G	Y	–
11G	G	–
13G	B	–
14G	SHIELD	–
23G	R	–
24G	W	–
27G	G/W	–
64G	R	–
94G	G/W	–
95G	G	–
98G	W/B	–

ABNIA6332GB



Terminal No.	Color of Wire	Signal Name
1J	B/Y	–
7J	SB	–
92J	BR	–
93J	B	–
94J	W	–
96J	BR/W	–

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

Connector No.	M101
Connector Name	JOINT CONNECTOR-M03
Connector Color	BLUE

Terminal No.	Color of Wire	Signal Name
1	G/R	–
7	G/R	–
18	V	–
19	V	–
20	V	–

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1Q	G/R	–

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

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

Connector No.	M73
Connector Name	BACK-UP LAMP RELAY
Connector Color	BROWN

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	–
3	G	–
5	G/W	–
6	W/B	–
7	Y/R	–

ABNIA6333GB

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

H.S.

21 20 19 18 17 16 15 14

Terminal No.	Color of Wire	Signal Name
15	B	–
16	R	–
18	BR	–

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

H.S.

2 1

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

Connector No.	M110
Connector Name	CENTER SPEAKER
Connector Color	BROWN

H.S.

2 1

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

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

H.S.

2 1

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

Connector No.	M112
Connector Name	AUDIO AMP.
Connector Color	WHITE

H.S.

4 3 2 1
20 19 18 17

Terminal No.	Color of Wire	Signal Name
1	Y	BAT
2	W	WOOFER 1+
3	BR/W	WOOFER 2+
4	B	GND
17	Y/G	BAT
18	B	WOOFER 1-
19	BR	WOOFER 2-
20	B	GND

ABNIA6334GB

Terminal No.	Color of Wire	Signal Name
29	L/B	FR RH TW-
30	L/R	FR LH TW-
31	L/R	FR LH OUT-
32	L/B	FR RH OUT-

Terminal No.	Color of Wire	Signal Name
13	W/B	FR RH TW+
14	L/W	FR LH TW+
15	L/W	FR LH OUT+
16	W/B	FR RH OUT+
21	W	FR RH IN+
22	Y	FR LH IN+
23	L	RR RH IN+
24	BR	RR LH IN+
25	–	–
26	L/B	CIR OUT-
27	B/Y	RR LH OUT
28	R/L	RR RH OUT-

Connector No.	M113
Connector Name	AUDIO AMP.
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	B	FR RH IN-
6	BR	FR LH IN-
7	B/W	RR RH IN-
8	B/R	RR LH IN-
9	G/W	AMP ON
10	L/W	CIR OUT+
11	SB	RR LH OUT+
12	O/L	RR RH OUT+

Connector No.	M162
Connector Name	JOINT CONNECTOR-M10
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
11	B	–
12	B	–
13	B	–
14	B	–
15	B	–
16	B	–

Connector No.	M115
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

1	
2	3
4	5
6	7

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

ABNIA6335GB

Connector No.	M171
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO WITH AMPLIFIER)
Connector Color	WHITE

H.S.

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

Connector No.	M172
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO WITH AMPLIFIER)
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
53	W	V BUS
54	G	USB GND
55	L	USB D +
56	R	USB D -
57	SHIELD	SHIELD
45	B	EQ2 PORT 2
46	B	EQ2 PORT 2
47	B	EQ3 PORT 3
48	B	EQ4 PORT 4
49	–	–
50	G/W	REVERSE SGN
51	–	–
52	–	–
29	Y/L	MCAN A-
30	SHIELD	MULTIMEDIA CAN SHIELD
31	B/P	MCAN B+
32	L/W	MCAN B-
33	B	GND
34	W	CAMERA ON
35	R	COMP+
36	SHIELD	COMP-
37	–	–
38	–	–
39	–	–
40	–	–
41	Y	TEL ON
42	–	–
43	–	–
44	G	CAMERA DET

Connector No.	M175
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO WITH AMPLIFIER)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
21	–	–
22	–	–
23	–	–
24	R	TEL I/F -
25	G	TEL I/F +
26	SHIELD	TEL SHIELD
27	–	–
28	W/L	MCAN A+

ABNIA6336GB

Connector No.	M188
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO WITH AMPLIFIER)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
58	B	SAT ANT
59	B	SAT SHIELD

Connector No.	M213
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

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

Connector No.	M214
Connector Name	USB INTERFACE
Connector Color	GRAY

H.S.

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

Connector No.	E5
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
13	R	–

Connector No.	E41
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
24C	SHIELD	–
25C	W	–
27C	G	–
28C	B	–
29C	R	–

ABNIA6337GB

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
16	G	REVERSE LAMP

Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

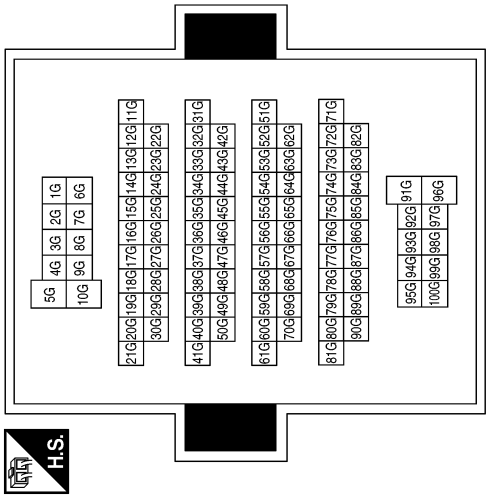
H.S.

29	28		27	26	25
36	35	34	33	32	31	30

Terminal No.	Color of Wire	Signal Name
27	W/B	T TOW REV LAMP

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

H.S.



Terminal No.	Color of Wire	Signal Name
7G	Y	–
11G	G	–
13G	B	–
14G	SHIELD	–
23G	R	–
24G	W	–
27G	G/W	–
64G	R	–
94G	G/W	–
95G	G	–
98G	W/B	–

Connector No.	F9
Connector Name	A/T ASSEMBLY (FLOOR SHIFT)
Connector Color	GREEN

H.S.

5	4	3	2	1
10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
7	R	–

ABNIA6338GB

Connector No.	F14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
13	R	–

Connector No.	F502
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	GRAY

H.S.

10	9	8	7	6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
7	O	REV LAMP RLY

Connector No.	C1
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

				4C	3C	2C		1C				
5C							8C	7C	6C			
11C	10C	9C										
21C	20C	19C	18C	17C	16C	15C	14C	13C	12C			
31C	30C	29C	28C	27C	26C	25C	24C	23C	22C			
41C	40C	39C	38C	37C	36C	35C	34C	33C	32C			
47C	46C	45C					44C	43C	42C			
52C					51C	50C	49C			48C		

Terminal No.	Color of Wire	Signal Name
24C	SHIELD	–
25C	W	–
27C	G	–
28C	B	–
29C	R	–

Connector No.	C8
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

3	2	1
6	5	4

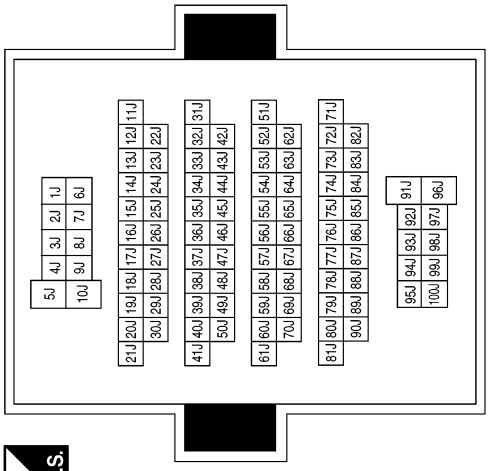
Terminal No.	Color of Wire	Signal Name
1	W	–
3	R	–
4	SHIELD	–
5	G	–
6	B	–

AANIA2357GB

Terminal No.	Color of Wire	Signal Name
1J	B/Y	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
7J	SB	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
92J	BR	–
93J	B	–
94J	W	–
96J	BR/W	–

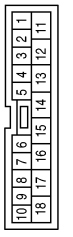
Connector No.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



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

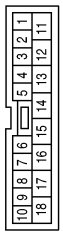
H.S.



Terminal No.	Color of Wire	Signal Name
14	B/Y	–
15	SB	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	– (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	B/Y	– (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)

Connector No.	B72
Connector Name	SUBWOOFER
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	BR/W	–
4	BR	–

ABNIA6339GB

Connector No.	B142
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	Y	BATT
2	V	ACC
3	G/R	IGN
4	B/W	GND
5	–	–
6	SHIELD	MIC SHIELD
7	B	MIC IN+
8	R/L	MIC IN-
9	G	AUDIO OUT+
10	R	AUDIO OUT-
11	Y	MUTE CONTROL
12	R/G	LADDER IN 1
13	G/W	LADDER IN 2
14	Y/R	LADDER IN GND
15	–	–
16	–	–
17	V	LADDER OUT 1
18	G/O	LADDER OUT 2
19	R/B	LADDER OUT GND
20	–	–
21	B	CONT 2
22	B	CONT 3
23	–	–
24	–	–
25	–	–
26	–	–
27	B	CONT 6
28	W/R	SPEED SIGNAL
29	R/W	MIC POWER
30	–	–
31	–	–
32	–	–

Connector No.	B143
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	BLACK

H.S.

33
34

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

Connector No.	B144
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE

H.S.

35	37	39	41
36	38	40	42

Terminal No.	Color of Wire	Signal Name
35	B	MCAN + 1
36	P	MCAN - 1
37	SHIELD	MCAN SHIELD 1
38	–	–
39	–	–
40	–	–
41	–	–
42	–	–

AANIA2389GB

Terminal No.	Color of Wire	Signal Name
42A	SHIELD	–
43A	R	–
44A	G	–
47A	Y	–
48A	R/W	–
49A	R/L	–
50A	B	–
60A	G/W	–
69A	Y/R	–
70A	R/G	–
98A	Y	–
99A	V	–

Terminal No.	Color of Wire	Signal Name
3A	O/L	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
4A	R/L	–
31A	W/R	–
32A	G/R	–
34A	SHIELD	–
35A	P	–
36A	B	–
38A	R/B	–
39A	G/O	–
40A	V	–
41A	SHIELD	–

Connector No.	T2
Connector Name	REAR VIEW CAMERA
Connector Color	GRAY

H.S.

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

Connector No.	T1
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

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

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

H.S.

Connector No.	B159
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	O/L	– (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	R/L	–

ABNIA6340GB

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	R/W	– (WITHOUT NAVI)
5	R/L	– (WITHOUT NAVI)
6	SHIELD	–
12	B	– (WITHOUT NAVI)

Connector No.	R9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

3	2	1
8	7	6	5	4

Terminal No.	Color of Wire	Signal Name
1	R/L	– (WITHOUT NAVI)
2	R/W	–
4	B	–

Connector No.	R107
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

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

Connector No.	R109
Connector Name	MICROPHONE
Connector Color	WHITE

H.S.

1	2	3	4

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

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

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

H.S.

2	1

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

ABNIA6341GB

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

H.S.

1	2	3	4
5	6	7	8	9	10

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

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

H.S.

2	1

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

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	B/Y	– (WITHOUT NAVI OR MID AUDIO SYSTEM)
15	SB	– (WITHOUT NAVI OR MID AUDIO SYSTEM)

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

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	SB	– (WITHOUT NAVI OR MID AUDIO SYSTEM)
2	B/Y	– (WITHOUT NAVI OR MID AUDIO SYSTEM)

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

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	B/Y	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	– (WITHOUT NAVI OR MID AUDIO SYSTEM)

ABNIA6342GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	O/L	– (WITHOUT NAVI OR MID AUDIO SYSTEM)
2	R/L	–

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

H.S.

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

ABNIA6343GB

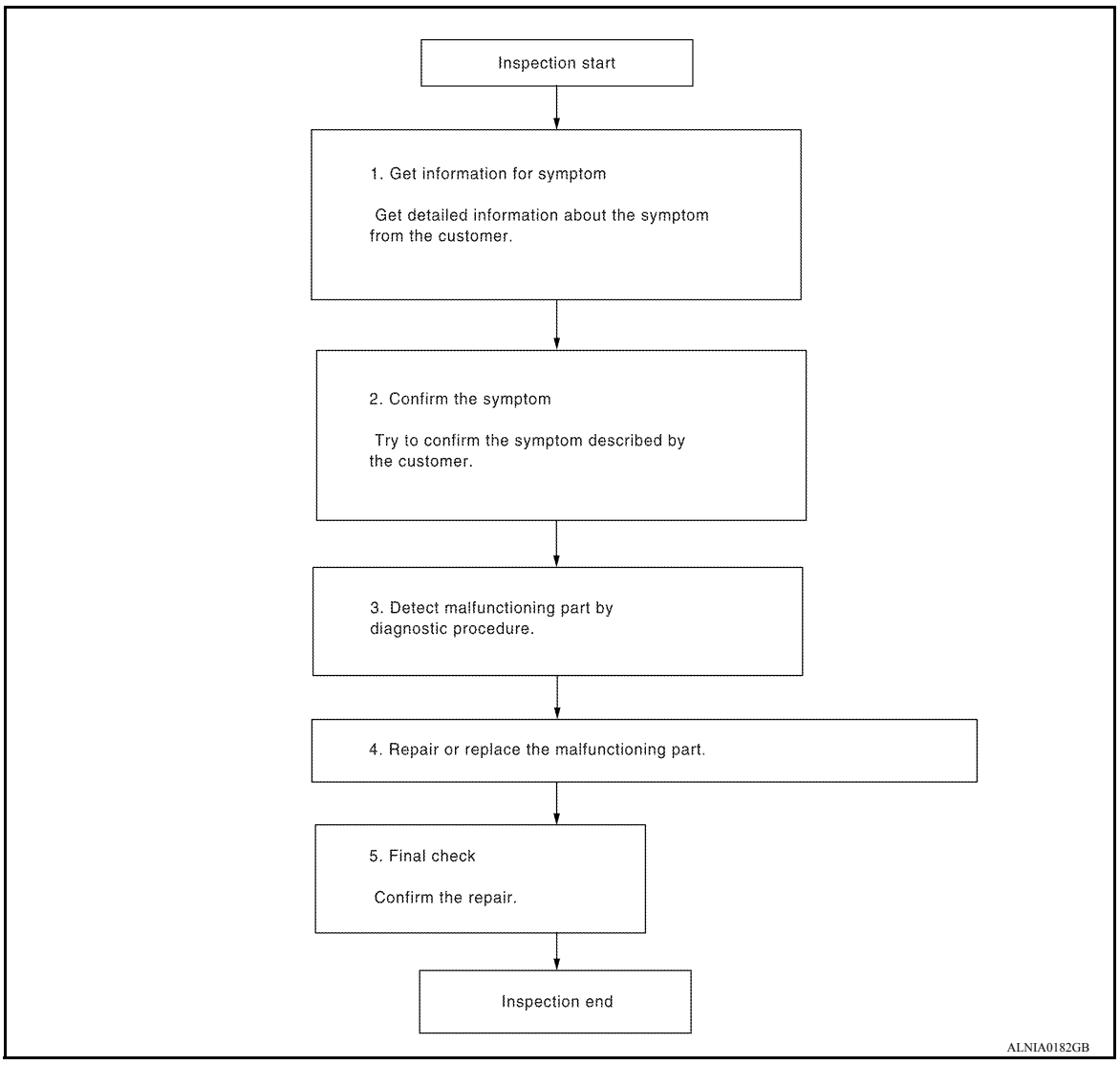
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000009876553

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2

2.CONFIRM THE SYMPTOM

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

>> GO TO 3

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5

5. FINAL CHECK

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

Was the repair confirmed?

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

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000009876554

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	4 (10A)
19	Battery power supply	31 (20A)

Are the fuses blown?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M171.
3. Check voltage between audio unit connector M171 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M171	7	—	Ignition switch: ON	Battery voltage
	19		Ignition switch: OFF	

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connectors M171 and M175.
3. Check continuity between audio unit connectors and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M171	20	—	Yes
M175	45 (Crew cab)		
	46 (King cab)		
	47 (King cab or Mexico)		
	48 (King cab)		

Is the inspection result normal?

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

AUDIO AMP

AUDIO AMP : Diagnosis Procedure

INFOID:0000000009876555

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CHECK FUSE

Check that the audio amp. fuses are not blown.

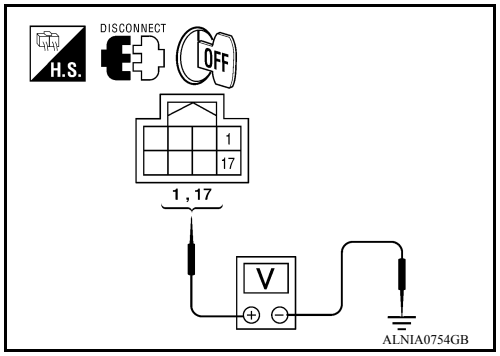
Unit	Terminal	Signal name	Fuse No.
Audio amp.	1	Battery power	31
	17		17

Are the fuses OK?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio amp. connector.
3. Check voltage between audio amp. harness connector M112 and ground.



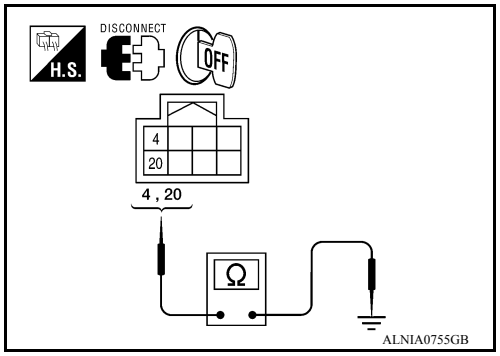
(+)		(-)	Voltage (approx.)
Connector	Terminal		
M112	1	Ground	Battery voltage
	17		

Is battery voltage present?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio amp. connector.
3. Check continuity between audio amp. harness connector M112 and ground.



Connector	Terminal	—	Continuity
M112	4	Ground	Yes
	20		

Does continuity exist?

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

BLUETOOTH® CONTROL UNIT

BLUETOOTH® CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009876556

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CHECK FUSE

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

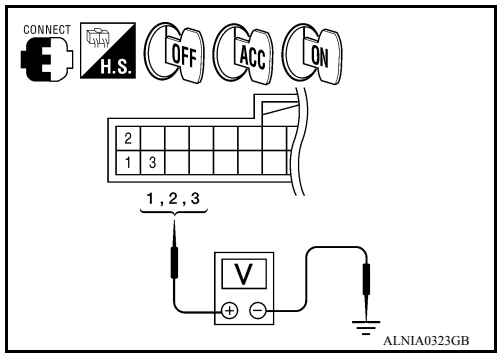
Unit	Terminal	Signal name	Fuse No.
Bluetooth® control unit	1	Battery power	31
	2	Ignition switch ACC or ON	4
	3	Ignition switch ON or START	12

Is inspection result OK?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between Bluetooth® control unit harness connector B142 and ground.



Connector	Terminal	Ignition switch position	Value (Approx.)
B142	1	OFF	Battery voltage
	2	ACC	
	3	ON	

Is battery voltage present as specified?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector.
3. Check continuity between Bluetooth® control unit harness connector B142 and ground.

Connector	Terminal	—	Continuity
B142	4	Ground	Yes
	21		
	22		
	27		

Are continuity results as specified?

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

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000009876557

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

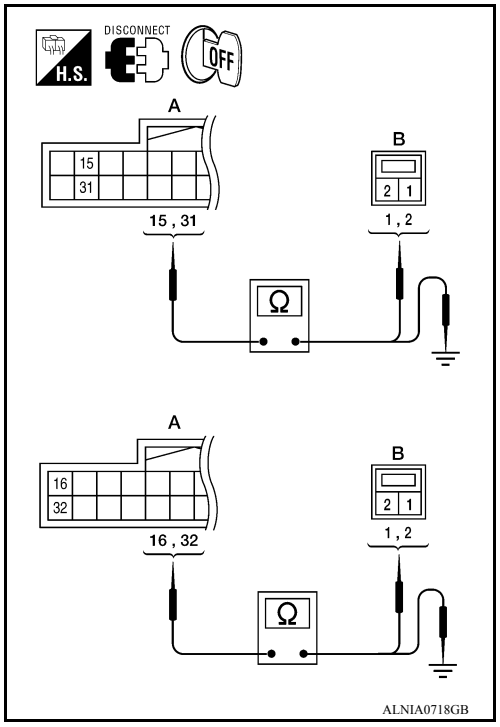
2.SPEAKER HARNESS CHECK

1. Disconnect audio amp. connector M113 and suspect front door speaker connector.
2. Check continuity between audio amp. harness connector M113 (A) and suspect front door speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	15	D12	1	Yes
	31		2	
	16	D112	1	
	32		2	

3. Check continuity between audio amp. harness connector M113 (A) and ground.

A		—	Continuity
Connector	Terminal		
M113	15	Ground	No
	31		
	16		
	32		

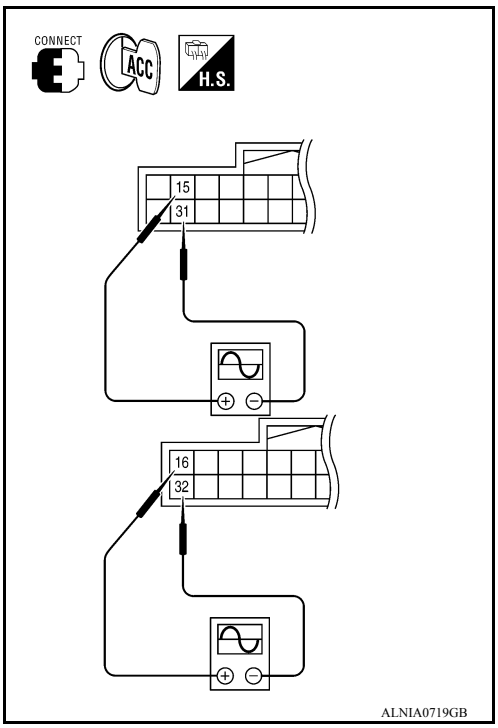


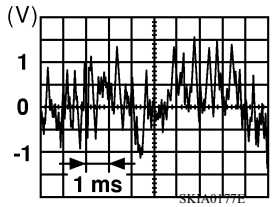
Are continuity test results as specified?

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

3.FRONT DOOR SPEAKER SIGNAL CHECK

1. Connect audio amp. connector M113 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio amp. harness connector M113 terminals with CONSULT or oscilloscope.



Connector	Terminal (+)	Terminal (-)	Condition	Reference signal
M113	15	31	Receive audio signal	
	16	32		

Is audio signal voltage as specified?

YES >> Replace suspect front door speaker. Refer to AV-232, "Removal and Installation".

NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M171 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M171 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M171	3	M113	6	Yes
	2		22	
	12		5	
	11		21	

3. Check continuity between audio unit harness connector M171 and ground.

Connector	Terminal	—	Continuity
M171	3	Ground	No
	2		
	12		
	11		

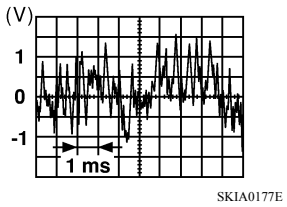
Are continuity test results as specified?

YES >> GO TO 5.

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

5. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M171 terminals with CONSULT or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M171	2	3	Receive audio signal	 SKIA0177E
	11	12		

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to AV-236, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-228, "Removal and Installation".

FRONT TWEETER

Diagnosis Procedure

INFOID:0000000009876558

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

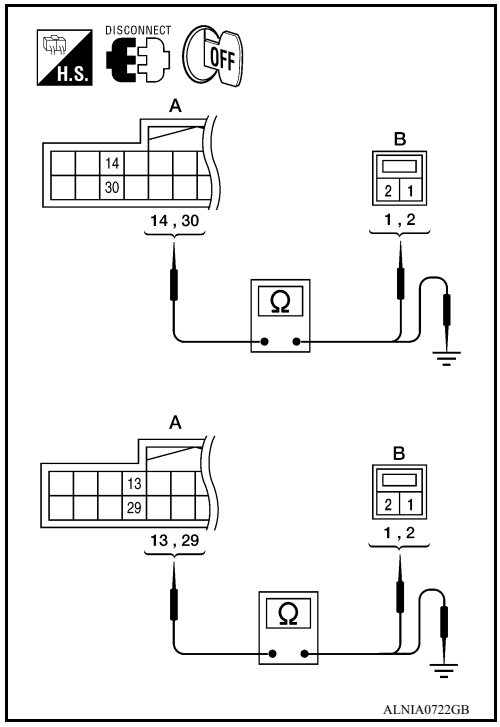
Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

2.HARNESS CHECK

1. Disconnect audio amp. connector M113 and suspect front tweeter connector.
2. Check continuity between audio amp. harness connector M113 (A) and suspect front tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	14	M109	1	Yes
	30		2	
	13	M111	1	
	29		2	



3. Check continuity between audio amp. harness connector M113 (A) and ground.

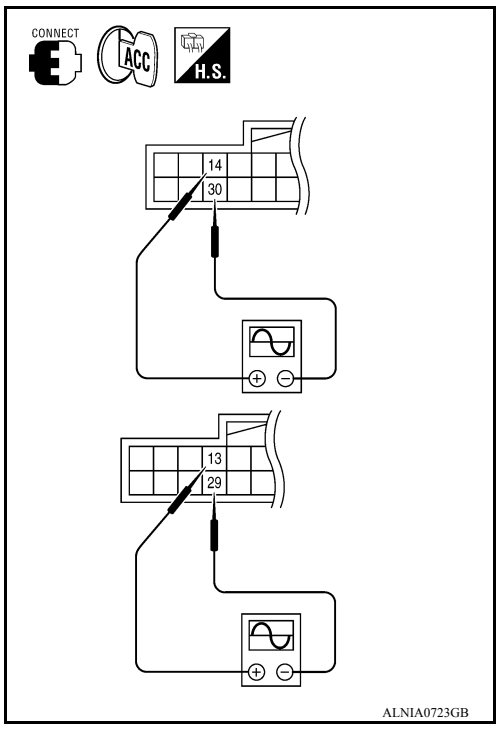
A		—	Continuity
Connector	Terminal		
M113	14	Ground	No
	30		
	13		
	29		

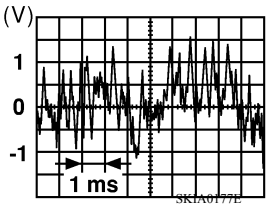
Are continuity test results as specified?

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

3.FRONT TWEETER SIGNAL CHECK

1. Connect audio amp. connector M113 and suspect front tweeter connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio amp. harness connector M113 terminals with CONSULT or oscilloscope.



Connector	Terminal (+)	Terminal (-)	Condition	Reference signal
M113	14	30	Receive audio signal	
	13	29		

Is audio signal voltage as specified?

YES >> Replace suspect front tweeter. Refer to AV-230, "Removal and Installation".

NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M171 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M171 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M171	3	M113	6	Yes
	2		22	
	12		5	
	11		21	

3. Check continuity between audio unit harness connector M171 and ground.

Connector	Terminal	—	Continuity
M171	3	Ground	No
	2		
	12		
	11		

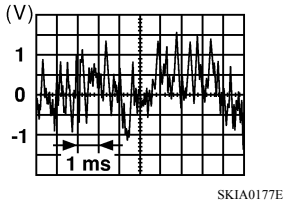
Are continuity test results as specified?

YES >> GO TO 5.

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

5. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M171 terminals with CONSULT or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M171	2	3	Receive audio signal	
	11	12		

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to AV-236, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-228, "Removal and Installation".

CENTER SPEAKER

Diagnosis Procedure

INFOID:0000000009876559

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CONNECTOR CHECK

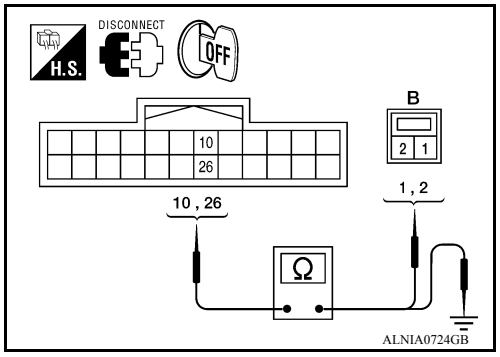
Check the audio amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

2.CENTER SPEAKER HARNESS CHECK

1. Disconnect audio amp. connector M113 and center speaker connector M110.
2. Check continuity between audio amp. harness connector M113 (A) and center speaker harness connector M110 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	10	M110	1	Yes
	26		2	

3. Check continuity between audio amp. harness connector M113 (A) and ground.

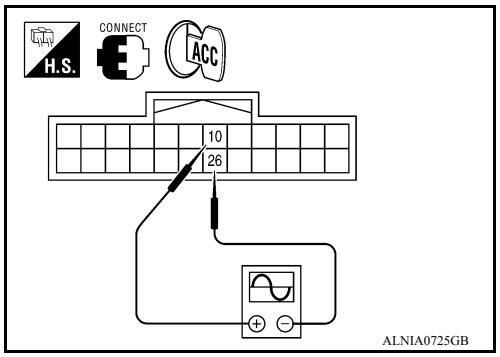
A		—	Continuity
Connector	Terminal		
M113	10	Ground	No
	26		

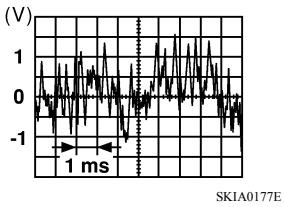
Are continuity test results as specified?

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

3.CENTER SPEAKER SIGNAL CHECK

1. Connect audio amp. connector M113 and center speaker connector M110.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio amp. harness connector M113 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	10	26	Receive audio signal	 SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace center speaker. Refer to AV-231, "Removal and Installation".
NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M171 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M171 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M171	3	M113	6	Yes
	2		22	
	12		5	
	11		21	

3. Check continuity between audio unit harness connector M171 and ground.

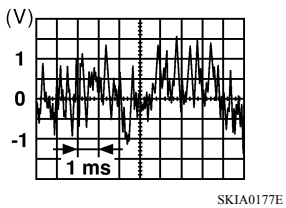
Connector	Terminal	—	Continuity
M171	3	Ground	No
	2		
	12		
	11		

Are continuity test results as specified?

YES >> GO TO 5.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

5. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M171 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M171	2	3	Receive audio signal	 SKIA0177E
	11	12		

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to AV-236, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-228, "Removal and Installation".

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000009876560

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

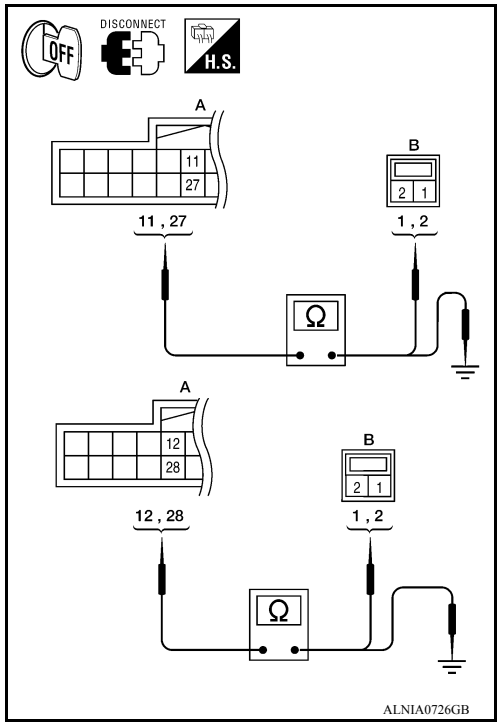
Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

2.SPEAKER HARNESS CHECK

1. Disconnect audio amp. connectors M113 and suspect rear door speaker connector.
2. Check continuity between audio amp. harness connectors M113 (A) and suspect rear door speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	11	D207 (crew cab) B76 (king cab)	1	Yes
	27		2	
	12	D307 (crew cab) B159 (king cab)	1	
	28		2	



3. Check continuity between audio amp. harness connectors M113 (A) and ground.

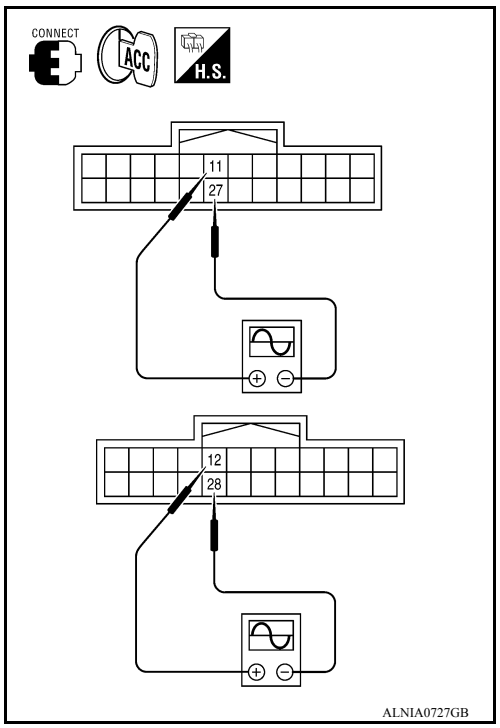
Connector	Terminal	-	Continuity
M113	11	Ground	No
	27		
	12		
	28		

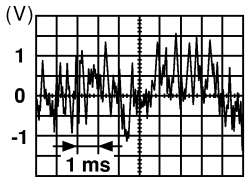
Are the continuity test results as specified?

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

3.SPEAKER SIGNAL CHECK

1. Connect audio amp. connectors and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio amp. harness connectors M113 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	11	27	Receive audio signal	
	12	28		

Are audio signal voltage readings as specified?

YES >> Replace suspect rear door speaker. Refer to AV-233, "Removal and Installation".

NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M171 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M171 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M171	5	M113	8	Yes
	4		24	
	14		7	
	13		23	

3. Check continuity between audio unit harness connector M171 and ground.

Connector	Terminal	—	Continuity
M171	5	Ground	No
	4		
	14		
	13		

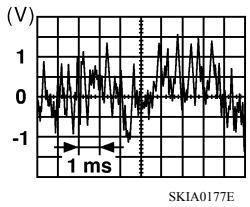
Are the continuity test results as specified?

YES >> GO TO 5.

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

5. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector M171 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M171 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M171	4	5	Receive audio signal	
	13	14		

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-236, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-228, "Removal and Installation".

REAR DOOR TWEETER

Diagnosis Procedure

INFOID:0000000009876561

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

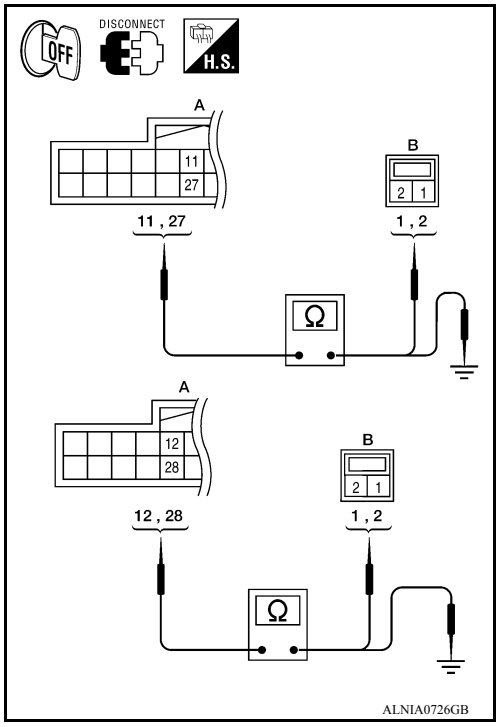
Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

2.TWEETER HARNESS CHECK

1. Disconnect audio amp. connectors M113 and suspect rear door tweeter connector.
2. Check continuity between audio amp. harness connectors M113 (A) and suspect rear door tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	11	D208	1	Yes
	27		2	
	12	D308	1	
	28		2	



3. Check continuity between audio amp. harness connectors M113 (A) and ground.

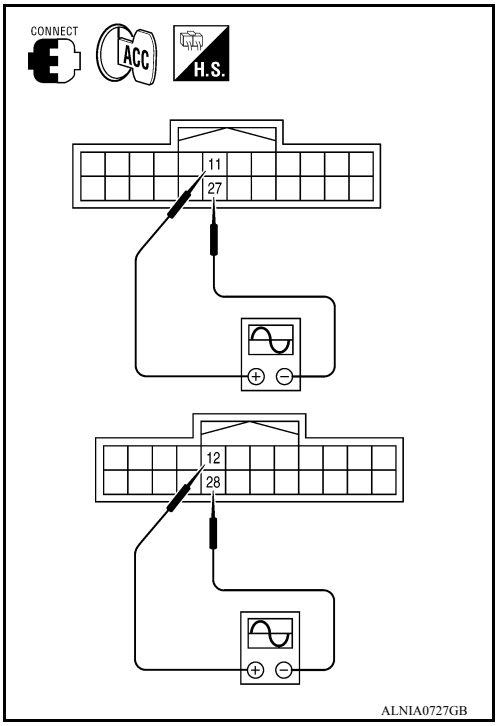
A		-	Continuity
Connector	Terminal		
M113	11	Ground	No
	27		
	12		
	28		

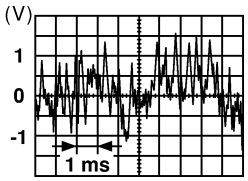
Are the continuity test results as specified?

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

3.TWEETER SIGNAL CHECK

1. Connect audio amp. connectors and suspect rear door tweeter connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio amp. harness connectors M113 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	11	27	Receive audio signal	
	12	28		

Are audio signal voltage readings as specified?

YES >> Replace suspect rear door tweeter. Refer to AV-233, "Removal and Installation".

NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M171 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M171 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M171	5	M113	8	Yes
	4		24	
	14		7	
	13		23	

3. Check continuity between audio unit harness connector M171 and ground.

Connector	Terminal	—	Continuity
M171	5	Ground	No
	4		
	14		
	13		

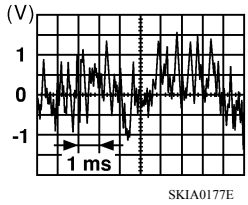
Are the continuity test results as specified?

YES >> GO TO 5.

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

5. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector M171 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M171 terminals with CONSULT or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M171	4	5	Receive audio signal	
	13	14		

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Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-236, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-228, "Removal and Installation".

SUBWOOFER

Description

INFOID:0000000009876562

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

Diagnosis Procedure

INFOID:0000000009876563

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CONNECTOR CHECK

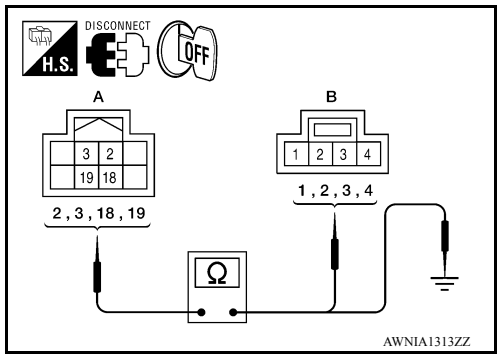
Check the audio amp. and subwoofer connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

2.SUBWOOFER HARNESS CHECK

1. Disconnect audio amp. connector M112 and subwoofer connector B72.
2. Check continuity between audio amp. harness connector M112 (A) and subwoofer harness connector B72 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M112	2	B72	1	Yes
	3		3	
	18		2	
	19		4	

3. Check continuity between audio amp. harness connector M112 (A) and ground.

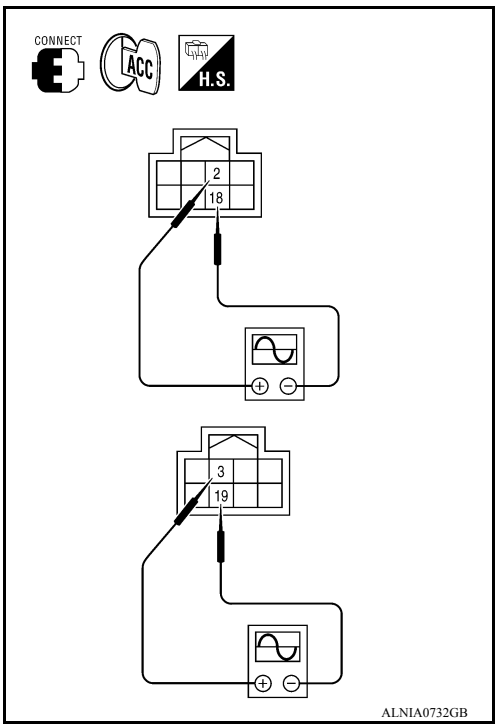
A		—	Continuity
Connector	Terminal		
M112	2	Ground	No
	3		
	18		
	19		

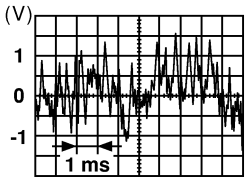
Are the continuity test results as specified?

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

3.SUBWOOFER SIGNAL CHECK

1. Connect audio amp. connector M112 and subwoofer connector B72.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio amp. harness connector M112 terminals with CONSULT or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M112	2	18	Receive audio signal	
	3	19		

Is the audio signal voltage as specified?

YES >> Replace subwoofer. Refer to AV-234, "Removal and Installation".

NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M171 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M171 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M171	5	M113	8	Yes
	4		24	
	14		7	
	13		23	

3. Check continuity between audio unit harness connector M171 and ground.

Connector	Terminal	—	Continuity
M171	5	Ground	No
	4		
	14		
	13		

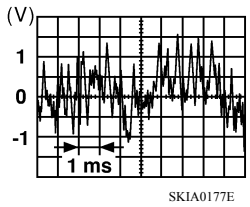
Are the continuity test results as specified?

YES >> GO TO 5.

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

5. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector M171 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M171 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M171	4	5	Receive audio signal	
	13	14		

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-236, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-228, "Removal and Installation".

AMP ON SIGNAL CIRCUIT

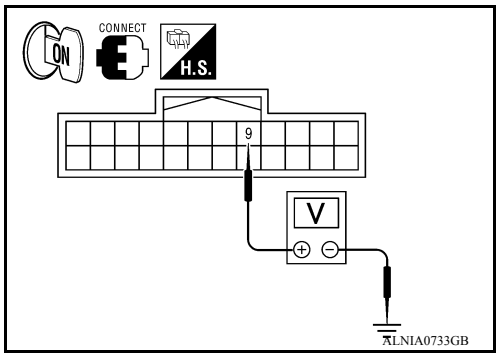
Diagnosis Procedure

INFOID:0000000009876564

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CHECK AMP ON SIGNAL

1. Turn audio system ON.
2. Check voltage between audio amp. harness connector M113 terminal 9 and ground.



(+)		(-)	Voltage (approx.)
Connector	Terminal		
M113	9	Ground	More than 6.5V

Is inspection result normal?

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

2.CHECK AMP ON SIGNAL (AUDIO UNIT)

Check voltage between audio unit harness connector M171 terminal 1 and ground.

(+)		(-)	Voltage (approx.)
Connector	Terminal		
M171	1	Ground	More than 6.5V

Is inspection result normal?

YES >> Repair harness or connector.
NO >> Replace audio unit. Refer to AV-228, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000009876565

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CHECK REVERSE INPUT SIGNAL

1. Turn ignition switch ON.
2. Shift the selector lever to R (reverse).
3. Check voltage between audio unit connector M175 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M175	50	—	Selector lever in R (reverse)	Battery Voltage

Is inspection result normal?

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

2.CHECK CAMERA POWER SUPPLY CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M175 and rear view camera connector.
3. Check continuity between audio unit connector M175 and rear view camera connector T2.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M175	34	T2	1	Yes

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

Audio unit		Ground	Continuity
Connector	Terminal		
M175	34		No

Is inspection result normal?

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

3.CHECK CAMERA POWER SUPPLY VOLTAGE

1. Connect audio unit connector M175 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check voltage between audio unit connector M175 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M175	34	—	Selector lever is in “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 4.
NO >> Replace audio unit. Refer to AV-228, "Removal and Installation".

4. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M175 and rear view camera connector.
3. Check continuity between audio unit connector M175 and rear view camera connector T2.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M175	35	T2	3	Yes

4. Check continuity between audio unit connector M175 terminal 35 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M175	35		No

Is inspection result normal?

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

5. CHECK CAMERA GROUND CIRCUIT CONTINUITY

Check continuity between audio unit connector M175 and rear view camera connector T2.

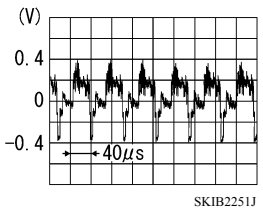
Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M175	33	T2	4	Yes

Is inspection result normal?

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

6. CHECK CAMERA IMAGE SIGNAL

1. Connect audio unit connector M175 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check signal between audio unit connector M175 and ground.

Audio unit (+)		Ground (−)	Condition	Reference value
Connector	Terminal			
M175	35	—	Camera image displayed.	

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Is inspection result normal?

YES >> Replace audio unit. Refer to AV-228, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-242, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

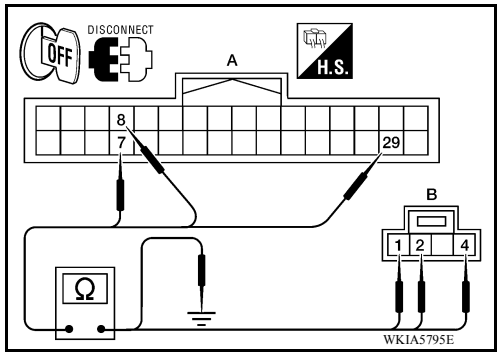
Diagnosis Procedure

INFOID:0000000009876566

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector and microphone connector.
3. Check continuity between Bluetooth® control unit harness connector B142 (A) and microphone harness connector R109 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
B142	7	R109	1	Yes
	8		2	
	29		4	

4. Check continuity between Bluetooth® control unit harness connector B142 (A) and ground.

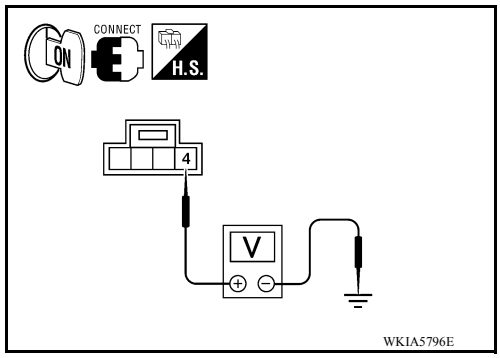
A		—	Continuity
Connector	Terminal		
B142	7	Ground	No
	8		
	29		

Are the continuity test results as specified?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK MICROPHONE POWER SUPPLY

1. Connect Bluetooth® control unit connector and microphone connector.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector R109 terminal 4 and ground.



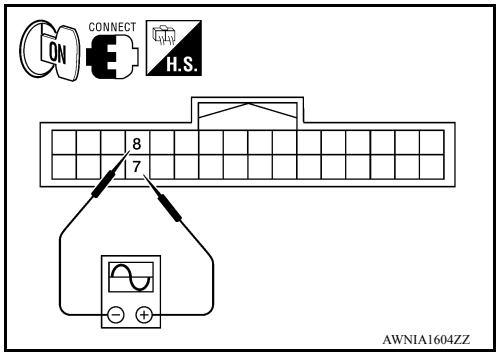
(+)		(-)	Voltage (approx.)
Connector	Terminal		
R109	4	Ground	5V

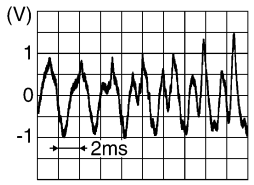
Is voltage reading approx. 5 volts?

YES >> GO TO 3.
NO >> Replace Bluetooth® control unit. Refer to AV-241, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

Check signal between Bluetooth® control unit harness connector B142 terminals 7 and 8 with CONSULT or and oscilloscope.



Connector	(+) Terminal	(-) Terminal	Reference signal
B142	7	8	While speaking into MIC 

Are voltage readings as specified?

YES >> Replace Bluetooth® control unit. Refer to AV-241, "Removal and Installation".
NO >> Replace microphone. Refer to AV-239, "Removal and Installation".

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000009876567

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Disconnect combination switch connector M102.
2. Check resistance between combination switch connector terminals.

Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
16	18	Volume (down)	Depress − switch.	1
		Volume (up)	Depress + switch.	121
		Phone end	Depress switch.	321
15	18	Source	Depress SOURCE switch.	1
		Seek (up)	Depress △ switch.	121
		Seek (down)	Depress ▽ switch.	321
		Phone/Send	Depress switch.	723

Do the steering wheel audio control switches check OK?

YES >> GO TO 2.
NO >> Replace steering wheel audio control switch. Refer to AV-235, "Removal and Installation".

2.CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector B142 and combination switch connector M30.
3. Check continuity between Bluetooth® control unit harness connector B142 and combination switch harness connector M30.

Bluetooth® control unit		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
B142	12	M30	24	Yes
	14		31	
	13		25	

4. Check continuity between Bluetooth® control unit connector B142 and ground.

Bluetooth® control unit		—	Continuity
Connector	Terminal		
B142	12	Ground	No
	13		
	14		

Are the continuity results as specified?

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

3.SPIRAL CABLE CHECK

Check continuity between combination switch harness connectors M30 and M102.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M102	15	Yes
	31		18	
	25		16	

Does the spiral cable check OK?

YES >> Inspection End.
NO >> Replace spiral cable. Refer to SR-13, "Removal and Installation".

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000009876568

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M172 and USB interface connector M214.
3. Check continuity between audio unit connector M172 and USB interface connector M214.

Audio unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M172	53	M214	4	Yes
	54		1	
	55		2	
	56		3	
	57		5	

4. Check continuity between audio unit connector M172 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M172	53	Ground	No
	55		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-238, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000009876569

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-156, "On Board Diagnosis Function".

Symptoms	Check items	Probable malfunction location
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-172, "Wiring Diagram". • Audio amp. ON signal circuit malfunction. Refer to AV-213, "Diagnosis Procedure". • Audio amp. power supply and ground circuits malfunction. Refer to AV-193, "AUDIO AMP : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear door speaker LH, rear door speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and audio amp. Refer to: - AV-195, "Diagnosis Procedure" (front door speaker). - AV-198, "Diagnosis Procedure" (front tweeter). - AV-201, "Diagnosis Procedure" (center speaker). - AV-204, "Diagnosis Procedure" (rear door speaker). - AV-207, "Diagnosis Procedure" (rear door tweeter). • Sound signal circuit malfunction between audio amp. and speaker. Refer to: - AV-195, "Diagnosis Procedure" (front door speaker). - AV-198, "Diagnosis Procedure" (front tweeter). - AV-201, "Diagnosis Procedure" (center speaker). - AV-204, "Diagnosis Procedure" (rear door speaker). - AV-207, "Diagnosis Procedure" (rear door tweeter). • Malfunction in speaker. Refer to: - AV-232, "Removal and Installation" (front door speaker). - AV-230, "Removal and Installation" (front tweeter). - AV-231, "Removal and Installation" (center speaker). - AV-233, "Removal and Installation" (rear door speaker). - AV-233, "Removal and Installation" (rear door tweeterr). • Malfunction in audio unit. Refer to AV-156, "On Board Diagnosis Function". • Malfunction in audio amp. Replace audio amp. Refer to AV-236, "Removal and Installation".

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	• Malfunction in audio unit. Refer to AV-156, "On Board Diagnosis Function". • Malfunction in audio amp. Replace audio amp. Refer to AV-236, "Removal and Installation".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear speaker door LH, rear door speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and audio amp. Refer to: - AV-195, "Diagnosis Procedure" (front door speaker). - AV-198, "Diagnosis Procedure" (front tweeter). - AV-201, "Diagnosis Procedure" (center speaker). - AV-204, "Diagnosis Procedure" (rear door speaker). - AV-207, "Diagnosis Procedure" (rear door tweeter). • Sound signal circuit malfunction between audio amp. and speaker. Refer to: - AV-195, "Diagnosis Procedure" (front door speaker). - AV-198, "Diagnosis Procedure" (front tweeter). - AV-201, "Diagnosis Procedure" (center speaker). - AV-204, "Diagnosis Procedure" (rear door speaker). - AV-207, "Diagnosis Procedure" (rear door tweeter). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-232, "Removal and Installation" (front door speaker). - AV-230, "Removal and Installation" (front tweeter). - AV-231, "Removal and Installation" (center speaker). - AV-233, "Removal and Installation" (rear door speaker). - AV-233, "Removal and Installation" (rear door tweeter). • Malfunction in audio unit. Refer to AV-156, "On Board Diagnosis Function". • Malfunction in audio amp. Replace audio amp. Refer to AV-236, "Removal and Installation".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna or antenna feeder. Refer to AV-237, "Location of Antenna".
No radio reception or poor reception.	• Other audio sounds are normal. • Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	• Antenna amp. ON signal circuit malfunction. Refer to AV-162, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-237, "Location of Antenna".

Symptoms	Check items	Probable malfunction location
No satellite radio reception.	Satellite radio antenna malfunction.	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-237, "Location of Antenna".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

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

a. Using the website's search engine, find out if the customer's phone is on the approved list.

b. If the customer's phone is NOT on the approved list:
   Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.

c. If the feature related to the customer's concern shows as "N" (not compatible):
   Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".

d. If the feature related to the customer's concern shows as "Y" (compatible):
   Perform diagnosis as per the following table.

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	Malfunction in audio unit. Replace audio unit. Refer to AV-228, "Removal and Installation".
Hands-free phone cannot be established.	• Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.	
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-216, "Diagnosis Procedure".

Symptoms	Check items	Probable malfunction location
The system cannot be operated.	• The voice recognition can be controlled. • Steering switch's +, −, and switch works, but does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-235, "Removal and Installation".
	Steering switch's , +, −, and switches do not work.	Steering switch signal circuit malfunction. Refer to AV-218, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-218, "Diagnosis Procedure".

RELATED TO REAR VIEW CAMERA

Symptoms	Check items	Probable malfunction location
Rear view camera is inoperative.	Reverse signal circuit malfunction.	Reverse signal circuit malfunction between BCM and audio unit. Refer to AV-214, "Diagnosis Procedure".
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and audio unit. Refer to AV-214, "Diagnosis Procedure".
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-242, "Removal and Installation".

NORMAL OPERATING CONDITION

Description

INFOID:0000000009876570

RELATED TO NOISE

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).
The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction.

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

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

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

Type of Noise and Possible Cause

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” in AV-221, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. **NOTE:** While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.

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

REMOVAL AND INSTALLATION

AUDIO UNIT

Removal and Installation

INFOID:0000000009876571

AUDIO UNIT

Removal

1. Disconnect the battery negative terminal. Refer to PG-79, "Removal and Installation".
2. Remove the cluster lid C. Refer to IP-15, "Removal and Installation".
3. Remove the audio unit.

a. Remove the audio unit screws using power tool.
b. Pull the audio unit out from the instrument panel.
c. Disconnect the harness connectors from the audio unit.

Installation

Installation is in the reverse order of removal.

AV SWITCH

Removal

1. Disconnect battery negative terminal. Refer to PG-79, "Removal and Installation".
2. Remove the cluster lid C. Refer to IP-15, "Removal and Installation".
3. Remove the AV switch screws.
4. Carefully remove the AV switch.

Installation

Installation is in the reverse order of removal.

SATELLITE RADIO ANTENNA

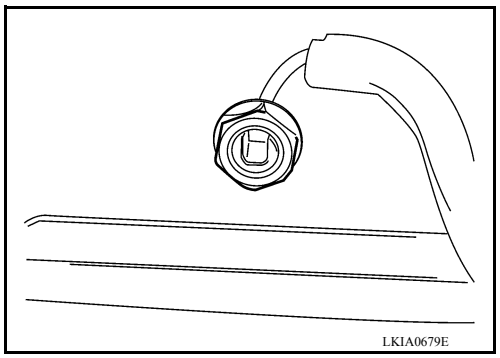
Removal and Installation

INFOID:0000000010159257

SATELLITE RADIO ANTENNA

Removal

1. Lower the headliner. Refer to INT-21, "Removal and Installation".
2. Disconnect the satellite radio antenna connector.
3. Remove the satellite radio antenna nut.
4. Remove the satellite radio antenna.



Installation

Installation is in the reverse order of removal.

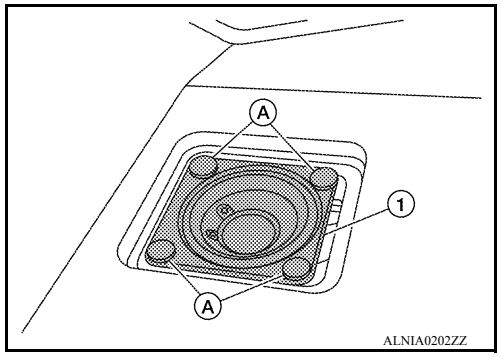
FRONT TWEETER

Removal and Installation

INFOID:0000000009876572

REMOVAL

1. Remove front tweeter speaker grille, using a suitable tool.
2. Remove the front tweeter clips (A).
3. Disconnect the front tweeter harness connector.
4. Remove the front tweeter (1).



Installation

Installation is in the reverse order of removal.

CENTER SPEAKER

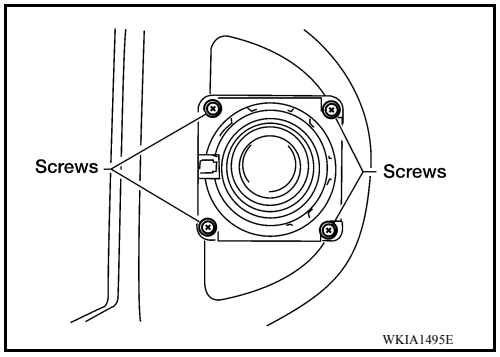
Removal and Installation

INFOID:0000000009876573

CENTER SPEAKER

Removal

1. Remove the center console. Refer to IP-20, "Removal and Installation".
2. Remove the cluster lid D. Refer to IP-15, "Removal and Installation".
3. Remove the center speaker screws.
4. Disconnect the center speaker harness connector.
5. Remove the center speaker.



Installation

Installation is in the reverse order of removal.

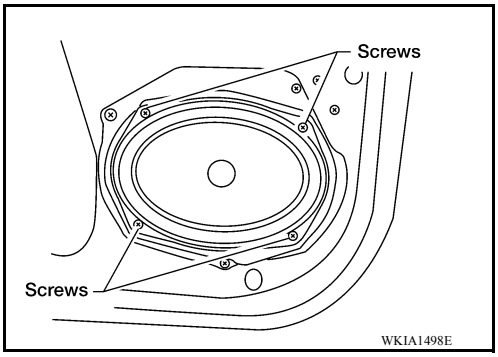
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000009876574

REMOVAL

1. Remove the front door finisher. Refer to INT-10, "Removal and Installation".
2. Remove the front door speaker screws.
3. Disconnect the front door speaker harness connector.
4. Remove the front door speaker.



INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

Removal and Installation

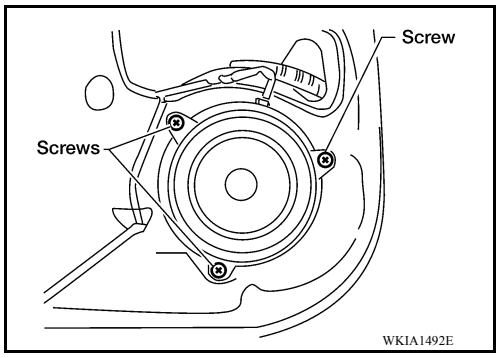
INFOID:0000000009876575

REAR DOOR SPEAKER

Removal

1. Remove the rear door finisher. Refer to INT-10, "Removal and Installation" (Crew Cab) or INT-10, "Removal and Installation" (King Cab).
2. Remove the rear door speaker.

a. Remove the rear door speaker screws.
b. Disconnect the rear door speaker harness connector.



Installation

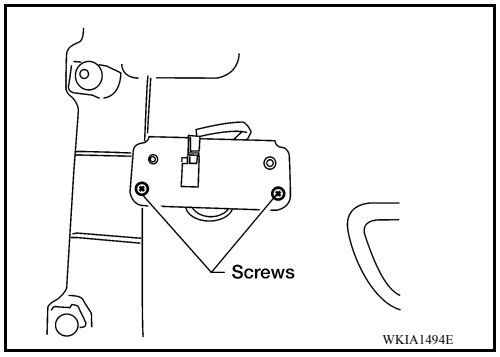
Installation is in the reverse order of removal.

REAR DOOR TWEETER

Removal

1. Remove the rear door finisher. Refer to INT-10, "Removal and Installation".
2. Remove the rear door tweeter.

a. Remove the rear door tweeter screws.
b. Disconnect the rear door tweeter harness connector.



Installation

Installation is in the reverse order of removal.

SUBWOOFER

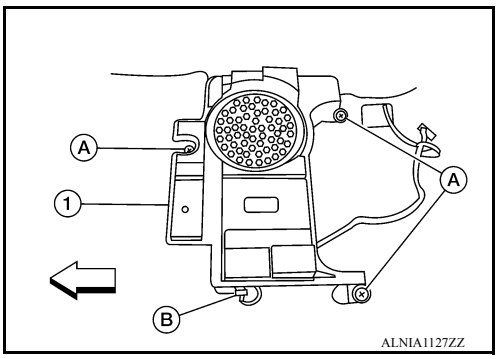
Removal and Installation

INFOID:0000000009876576

SUBWOOFER

Removal

1. Remove the LH front seat. Refer to SE-34, "Removal and Installation - Front Seat Assembly".
2. Disconnect the subwoofer harness connector (B).
   - ⇦: Front
3. Remove the subwoofer bolts (A).
4. Remove the subwoofer (1).



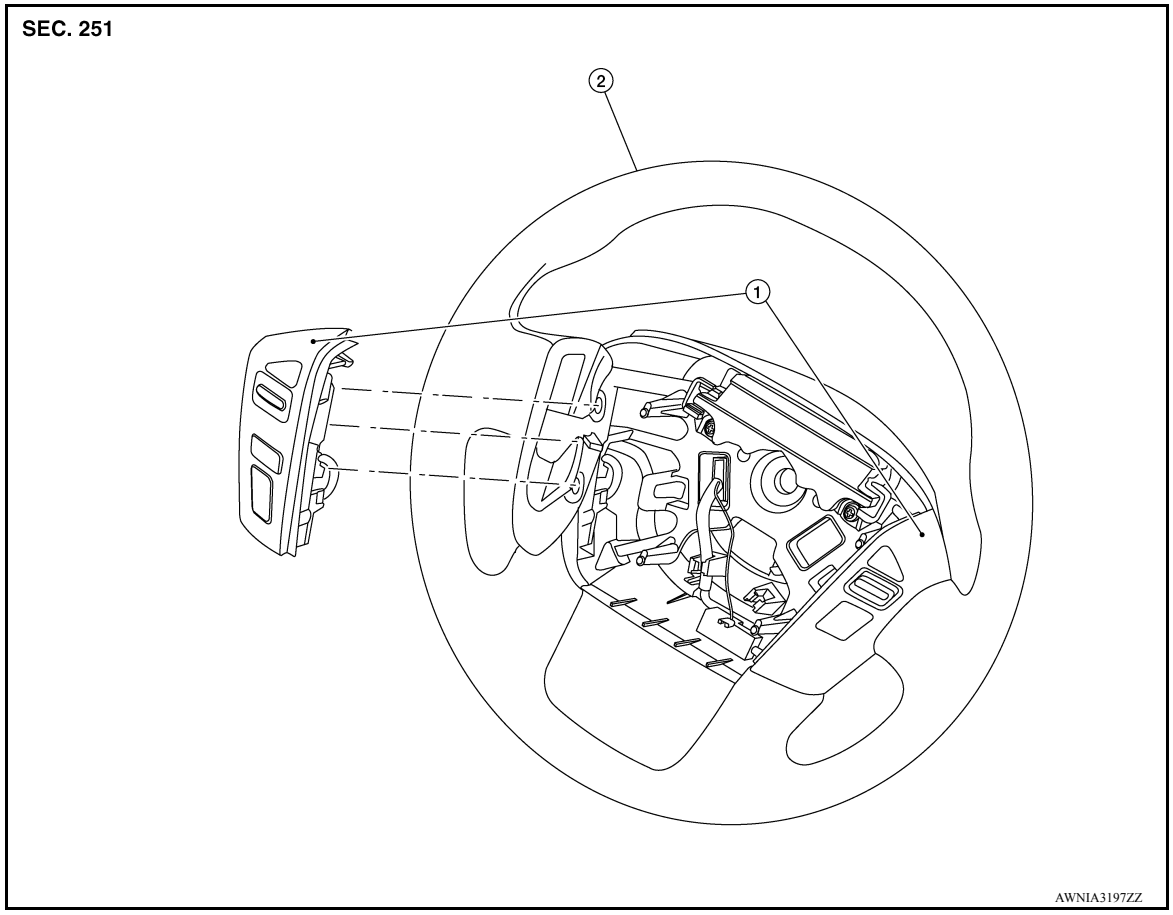
Installation

Installation is in the reverse order of removal.

STEERING SWITCH

Removal and Installation

INFOID:0000000010159266



1. Steering wheel audio control switches 2. Steering wheel

STEERING WHEEL AUDIO CONTROL SWITCHES

Removal

1. Remove the steering wheel. Refer to ST-22, "Removal and Installation".
2. Remove the steering wheel rear cover screws and the steering wheel rear cover.
3. Remove the steering wheel switch assembly screws and the steering wheel switches.

Installation

Installation is in the reverse order of removal.

AUDIO AMP.

Removal and Installation

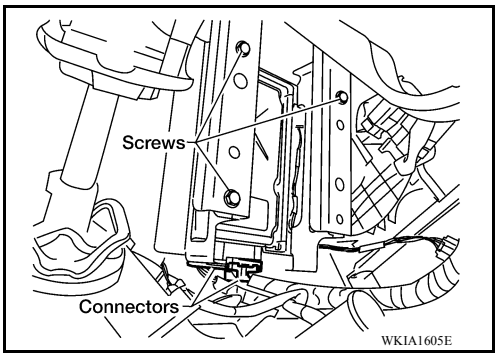
INFOID:0000000009876578

REMOVAL

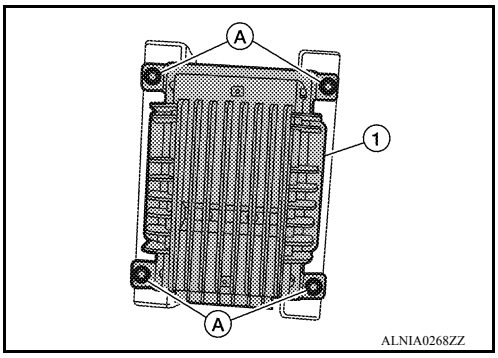
1. Remove the accelerator pedal. Refer to ACC-3, "Removal and Installation".
2. Remove the BCM. Refer to BCS-52, "Removal and Installation".
3. Remove the audio amp.

a. Disconnect the audio amp. harness connectors.

b. Remove the audio amp bracket screws and slide the audio amp and bracket assembly down.



4. Remove the audio amp. screws (A) and separate the audio amp. (1) from the bracket.



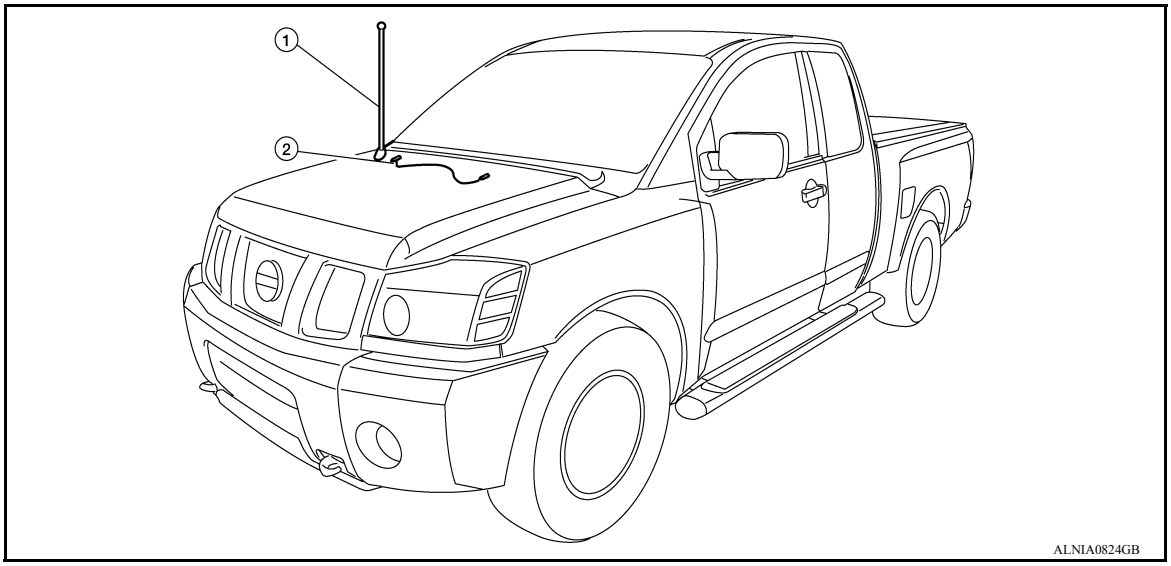
INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:0000000009876579



1. Antenna
2. Main feeder cable

Removal and Installation

INFOID:0000000009876580

REMOVAL

1. Remove audio antenna rod.
2. Remove audio antenna rubber seal.
3. Remove fender protector RH. Refer to EXT-24, "Removal and Installation".
4. Remove audio antenna assembly bolts.
5. Disconnect the audio antenna feeder from the audio antenna assembly.
6. Remove audio antenna assembly from the vehicle.

INSTALLATION

Installation is in the reverse order of removal.

- Tighten audio antenna rod to specification.

Audio antenna rod : 3.5 N·m (0.36 kg-m, 31 in-lb)

CAUTION:

Always properly tighten the audio antenna rod during installation or the audio antenna rod may bend or break during vehicle operation.

USB CONNECTOR

Removal and Installation

INFOID:0000000009876581

REMOVAL

1. Remove the center console assembly. Refer to IP-20, "Removal and Installation".
2. Push the pawl from the back of the center console to remove the USB interface.

INSTALLATION

Installation is in the reverse order of removal.

MICROPHONE

Removal and Installation

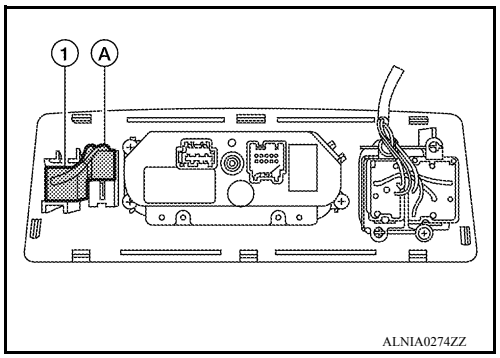
INFOID:0000000009876582

REMOVAL

1. Remove the front roof console finisher. Refer to INT-21, "Removal and Installation".
2. Remove the Bluetooth microphone (1)

a. Disconnect the Bluetooth microphone harness connector (A).

b. Detach the Bluetooth microphone (1) from the front roof console finisher.



INSTALLATION

Installation is in the reverse order of removal.

TEL ANTENNA

Removal and Installation

INFOID:0000000009876583

The Bluetooth antenna and the Bluetooth control unit are serviced as an assembly. Refer to AV-241, "Removal and Installation".

BLUETOOTH CONTROL UNIT

Removal and Installation

INFOID:0000000009876584

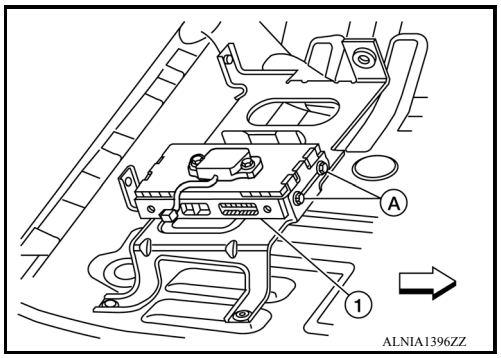
REMOVAL

1. Disconnect the negative battery terminal.
2. Slide the front RH seat forward.
3. Remove the Bluetooth control unit kick shield screws and the Bluetooth control unit kick shield.
4. Remove the Bluetooth control unit (1).

a. Remove the Bluetooth control unit screws (A).

b. Disconnect the harness connectors from the Bluetooth control unit.

⇦: Front



INSTALLATION

Installation is in the reverse order of removal.

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000009876585

REMOVAL

1. Remove the tail gate handle. Refer to DLK-137, "Exploded View".
2. Remove the rear view camera screws and the rear view camera from the tail gate handle.

INSTALLATION

Installation is in the reverse order of removal.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010159254

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 three minutes before performing any service.**

Precaution for Trouble Diagnosis

INFOID:0000000009876587

AV COMMUNICATION SYSTEM

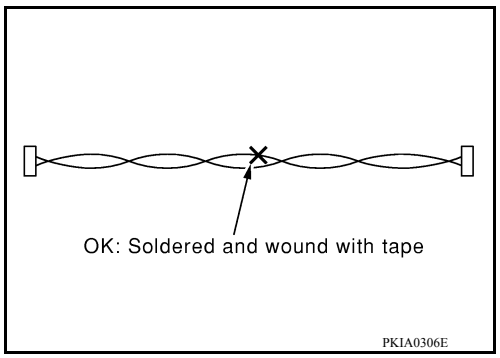
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

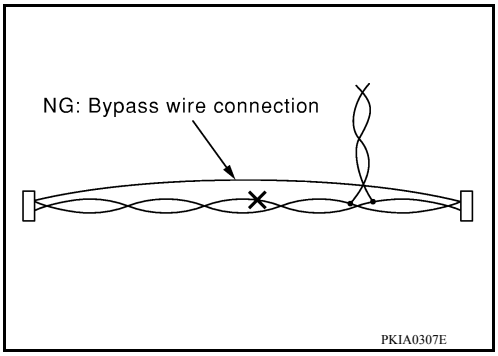
INFOID:0000000009876588

AV COMMUNICATION SYSTEM

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



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



Precaution for Work

INFOID:0000000009876589

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

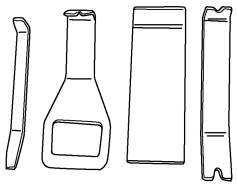
PREPARATION

PREPARATION

Special Service Tools

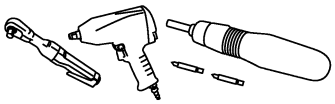
INFOID:0000000010159263

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

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

Commercial Service Tools

INFOID:0000000009876591

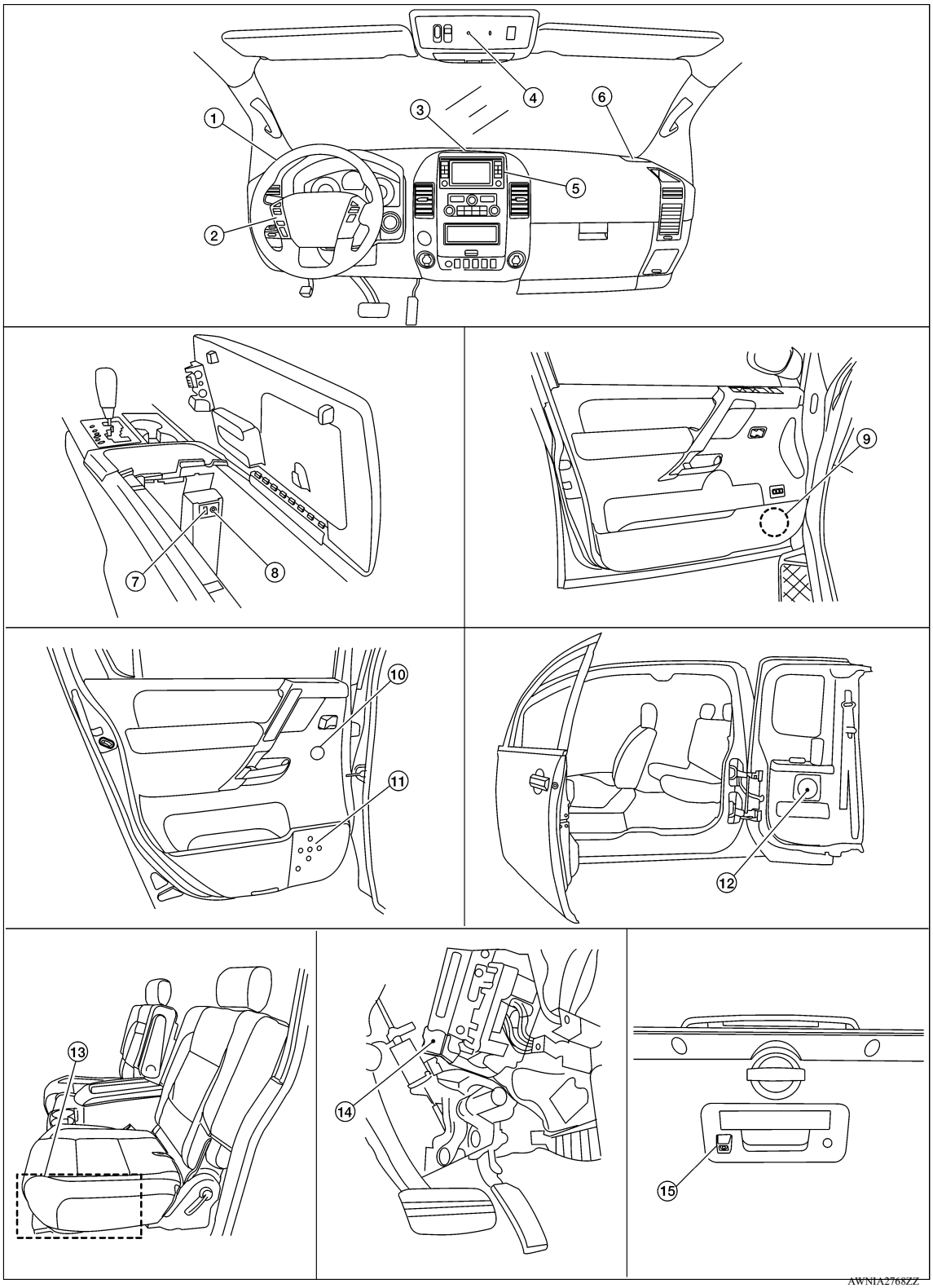
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

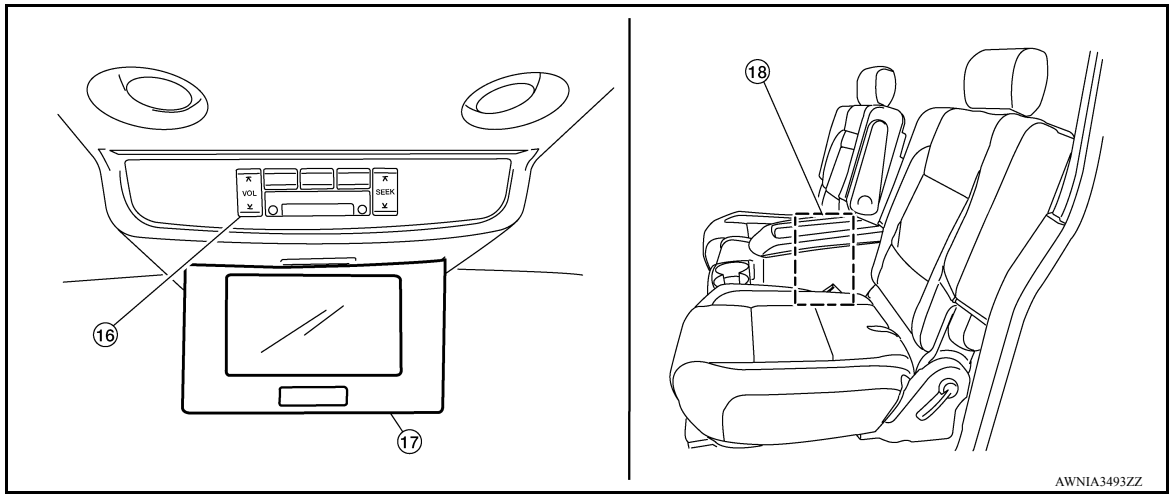
SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000009876592





1. Front tweeter LH M109
2. Steering wheel audio control switches
3. Center speaker M110
4. Microphone
5. AV control unit M42, M43, M45, M184, M185
6. Front tweeter RH M111
7. USB interface M124
8. Auxiliary input jacks
9. Front door speaker LH D12 RH D112
10. Rear door tweeter (crew cab) LH D208 RH D308
11. Rear door speaker (crew cab) LH D207 RH D307
12. Rear door speaker (king cab) LH B76 RH B159
13. Subwoofer B72
14. Audio amp M112, M113
15. Rear view camera T2
16. Rear control assembly (if equipped) R204
17. Video monitor (if equipped) R202
18. DVD player (if equipped) M205, M206

Component Description

INFOID:0000000009876593

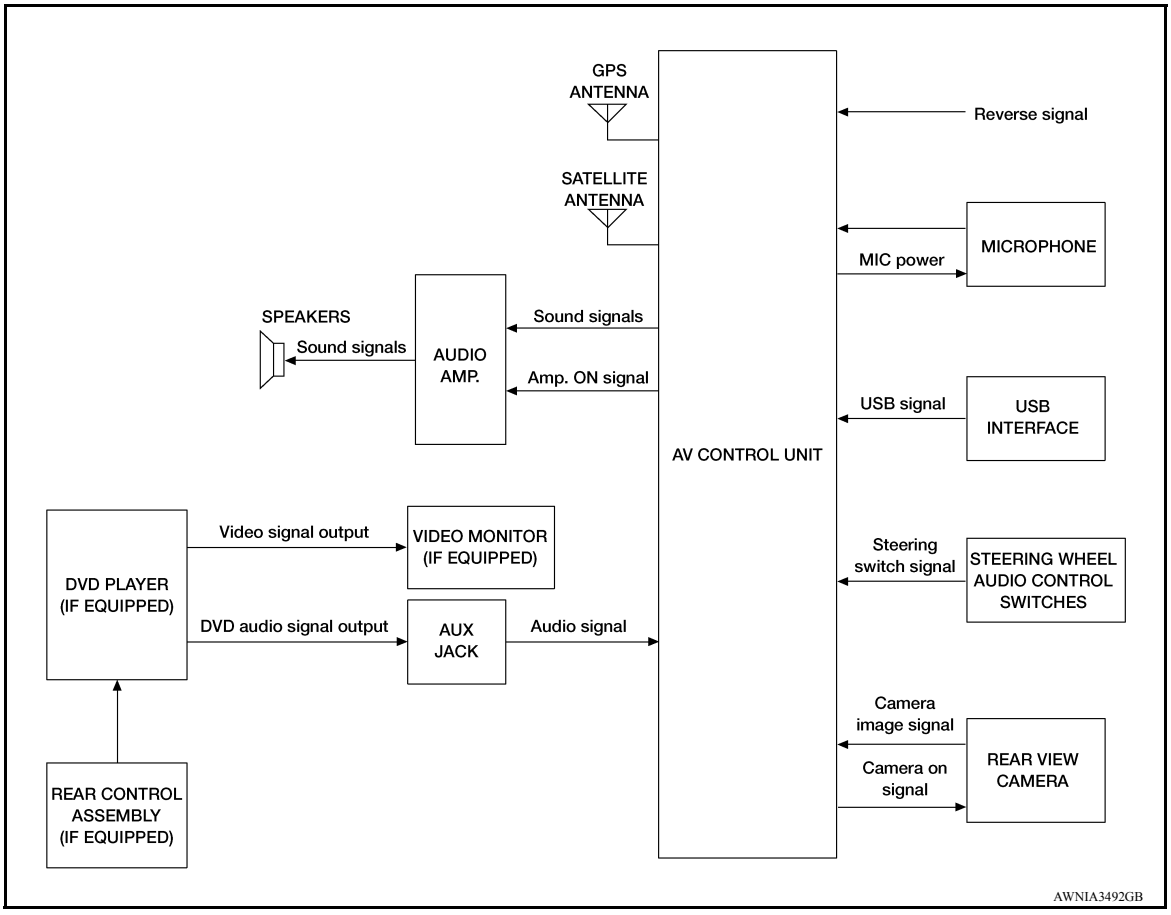
Part name	Description
AV control unit	• Operation of navigation and audio systems are integrated. • Includes the audio, hands-free phone, navigation, satellite radio, rear view monitor, USB connection and AUX IN connection functions. • Map data can be loaded from SD-card inserted in SD-card slot. • Audio signals are output to audio amp. • Inputs illumination signals required for display dimming control. • Inputs signals for driving status recognition (vehicle speed and reverse). • Touch panel functions can be operated by touching display directly.
Map SD-card	A collection of Map data.
Audio amp.	Receives audio signals from AV control unit and outputs audio signals to each speaker.
Front tweeters	Outputs high, mid and low range audio signals from audio amp.
Center speaker	
Front door speakers	
Rear door speakers	
Rear door tweeters	
Steering switches	• Operations for audio, hands-free phone and voice recognition are possible. • Steering switch signal is output to combination meter. • Combination meter outputs steering switch signal to AV control unit.
Microphone	• Used for hands-free phone operations. • Microphone signal is transmitted to AV control unit. • Power is supplied from AV control unit.
USB interface	USB sound and data input signals are transmitted to AV control unit.

Part name	Description
Rear view camera	• Outputs image of vehicle rear to AV control unit. • Power is supplied from AV control unit.
Satellite antenna	Satellite radio signal is received and transmitted to AV control unit.
GPS antenna	GPS signal is received and transmitted to AV control unit.
Antenna amp.	• AM/FM signal received by window antenna is amplified and transmitted to AV control unit. • Power is supplied from AV control unit.
Window antenna	AM/FM signal is received and transmitted to antenna amp.
DVD player	• Outputs DVD video to video monitor. • Outputs DVD audio to AV control unit via AUX JACK.
Video monitor	Receives and displays the DVD video signal.
Rear control assembly	• Audio and DVD functions can be operated. • Switch signal is output to the DVD player. • Receives audio signal from DVD player for headphones.

SYSTEM

System Diagram

INFOID:0000000009876594



System Description

INFOID:0000000009876595

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

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

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

NAVIGATION SYSTEM FUNCTION

Description

- The navigation system can be operated by control panel of the AV control unit and display (touch panel) of the AV control unit.
- Guide sound during the operation of the navigation system is output from AV control unit to front speakers.
- AV control unit calculates the vehicle location based on the signals from GYRO (angle speed sensor), vehicle sensor, and GPS satellite, as well as the map data from map SD-card. The vehicle location is displayed on the AV control unit.

POSITION DETECTION PRINCIPLE

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

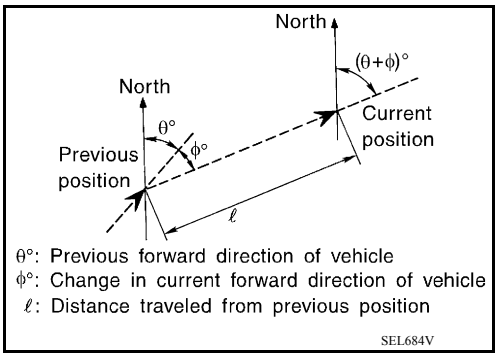
- Travel distance of the vehicle as determined by the vehicle speed sensor

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

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

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

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



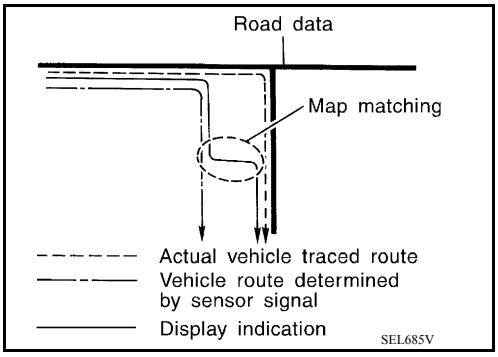
Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	Can detect the vehicle's turning angle quite accurately.	Direction errors may accumulate when vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	Can detect the vehicle's travel direction (North/South/East/West).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

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

MAP-MATCHING

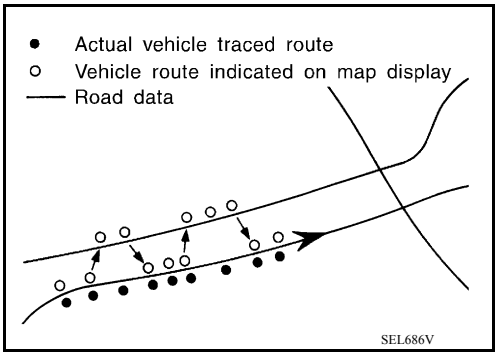
Map-matching compares a current location detected by the method in the “Location Detection Principle” with a road map data from map SD-card.

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

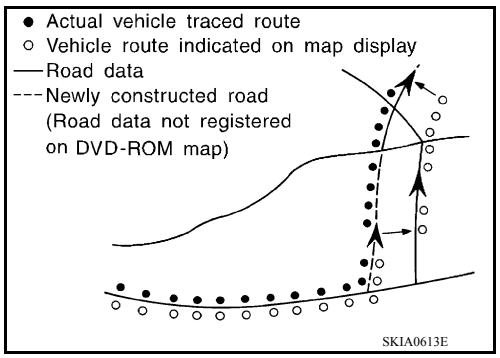


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

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

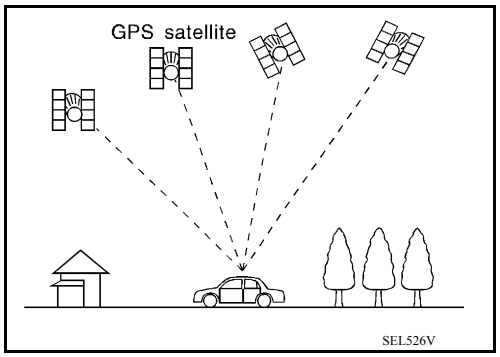


- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair.
  The map-matching function may find another road and position the vehicle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



GPS (Global Positioning System)

GPS (Global Positioning System) is developed for and is controlled by the US Department of Defense. The system utilizes GPS satellites (NAVSTAR), transmitting out radio waves while flying on an orbit around the earth at an altitude of approximately 21,000 km (13,049 mile).
The receiver calculates the travel position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves that four or more GPS satellites transmit (three-dimensional positioning). The GPS receiver calculates the travel position in two dimensions (latitude/longitude) with the previous altitude data if the GPS receiver receives only three radio waves (two-dimensional positioning). GPS position correction is not performed while stopping the vehicle.



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

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

SATELLITE RADIO FUNCTION

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

AUXILIARY INPUT FUNCTION

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

REAR VIEW MONITOR FUNCTION

Camera Image Operation Principle

- The ITS control unit supplies power to the rear view camera when receiving a reverse signal.
- The rear view camera transmits camera images to the ITS control unit when power is supplied from the ITS control unit.
- The ITS control unit transmits camera images to the AV control unit.
- The AV control unit combines a warning message and fixed guide lines with an image received from the ITS control unit to display a rear view camera image on the screen.

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 and tweeter.
- 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 is built into AV control unit.
- The connection between cellular phone and AV control unit is performed with Bluetooth® communication.
- The voice guidance signal is input from the AV control unit and output to the front speakers when operating the cellular phone.

When A Call Is Originated

- Spoken voice sound output from the microphone (microphone signal) is input to AV control unit.
- AV control unit outputs to cellular phone with Bluetooth® communication as a TEL voice signal.
- Voice sound is then heard at the other party.

When Receiving A Call

- Voice sound is input to own cellular phone from the other party.
- TEL voice signal is input to AV control unit by establishing Bluetooth® communication from cellular phone, and the signal is output to front speakers.

DVD PLAYER SYSTEM

The DVD entertainment system consists of the following components

- DVD player
- Video monitor
- Rear control assembly

When the DVD entertainment system is on, video signals are sent from the DVD player to the video monitor. Audio signals are sent to the AV control unit via AUX JACK. Audio signals can be directed through the wireless infrared headphones or through the audio amp. to the vehicle speakers. Refer to the Owner's Manual for complete DVD entertainment system operating instructions.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000009876596

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

Mode		Item	Content
Version		—	Version data of the AV control unit is displayed.
User Configuration	Touch Display Calibration	—	Allows correction of the position detection accuracy of the touch panel.
Radio	FM monitor	—	Monitors the dynamic values of the current tuner
	AM monitor	—	
	XM monitor	—	Version data is displayed.
	XM functions	• Clear XM Chipset NVM • Reset All XM Settings • Clear IGS • XM CBM Debug Mode • External Diag Mode	Current status is displayed.
System State	Running System Status	• 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.
	Speaker Test 4kHz	—	This activates a sequence of test tone outputs to the audio circuits one after the other for 1 second.
	Speaker Test 100Hz		
	Display-Test	—	This provides a test sequence where test displays (plain colored display: e.g. white, black, red, blue, green) are shown one after the other. The respective color is shown for an indicated period of time (parameter). After the display test, the design of the display previously available is stored. While the screen shows a plain colored display, a pixel malfunction may be detected.
Self Test		• SD Card Access • Radio Antenna • GPS Antenna • XM Antenna	A system self test is executed and the results are stored into the error memory.

Perform CONSULT diagnosis if the AV control unit on board diagnosis does not start or the screen does not display anything.

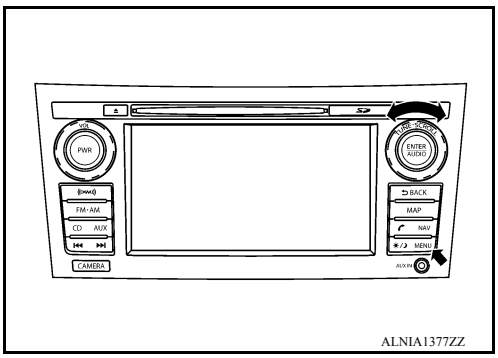
On Board Diagnosis Function

INFOID:0000000009876597

METHOD OF STARTING

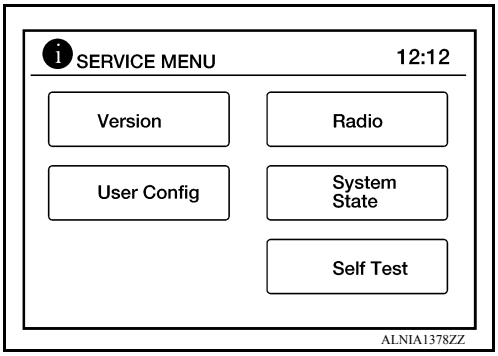
1. Turn the ignition ON.
2. Turn the audio system OFF.

3. While pressing the MENU button, turn the TUNE-SCROLL dial counterclockwise 3 or more clicks, then clockwise 3 or more clicks, then counterclockwise 3 or more clicks. When self diagnosis mode begins, a short beep will be heard. Shifting from current screen to previous screen is performed by pressing BACK button.



ALNIA1377ZZ

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



ALNIA1378ZZ

CONSULT Function

INFOID:0000000009876598

CONSULT FUNCTIONS

CONSULT performs the following functions via communication with the AV control unit.

Direct Diagnostic Mode	Description
Ecu Identification	The AV control unit part number is displayed.
Self Diagnostic Result	The AV control unit self diagnostic results are displayed.
Data Monitor	The AV control unit input/output data is displayed in real time.
Configuration	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing AV control unit.
CAN Diag Support Mntr	• The result of transmit/receive diagnosis of AV communication is displayed. • The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

The part number of AV control unit is displayed.

SELF DIAGNOSTIC RESULT

Refer to AV-258, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description
VHCL SPD SIG [On/Off]	Indicates vehicle speed signal received from combination meter on CAN communication line.
ILLUM SIG [On/Off]	Indicates condition of illumination signal for the AV control unit.
IGN SIG [On/Off]	Indicates condition of ignition signal.
REV SIG [On/Off]	Indicates condition of reverse signal received from BCM.

CONFIGURATION

Refer to AV-288, "CONFIGURATION (AV CONTROL UNIT) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-10, "CAN Diagnostic Support Monitor".

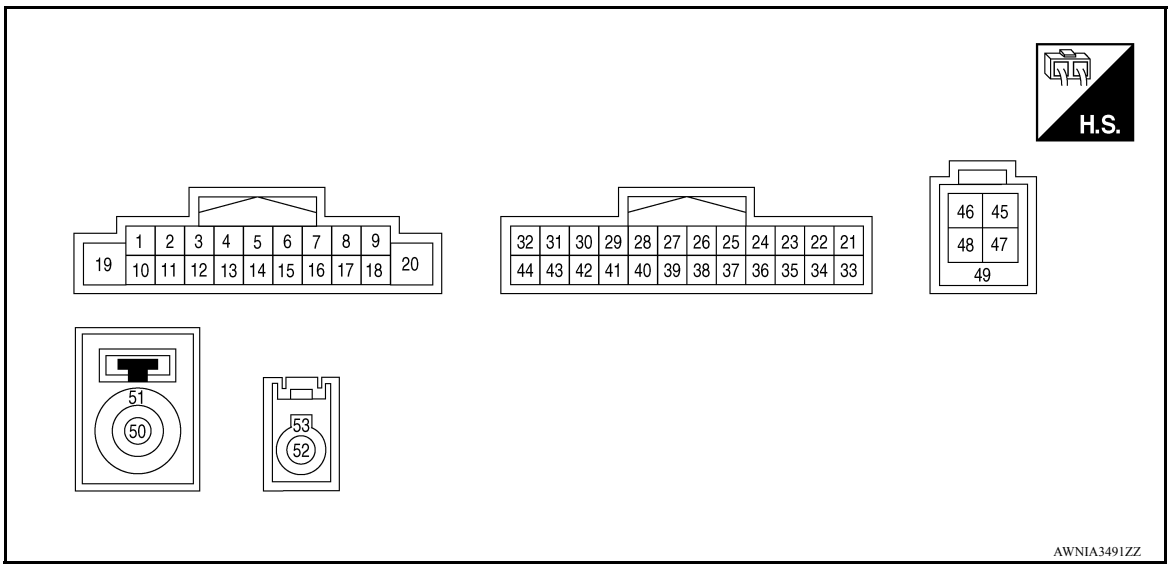
ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

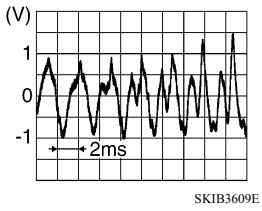
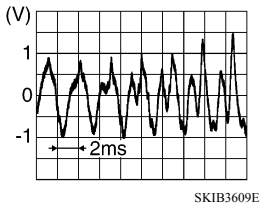
Reference Value

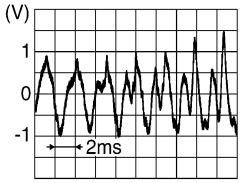
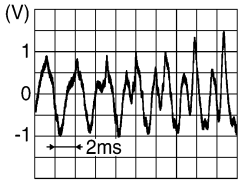
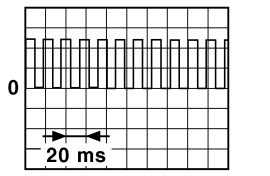
INFOID:0000000009876599

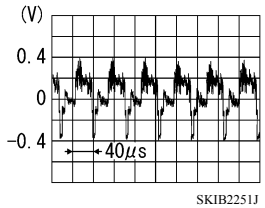
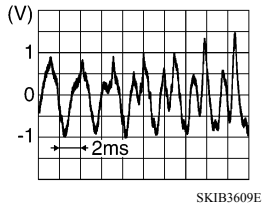
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
1 (G/W)	Ground	Amp. ON signal	Output	ACC	—	Battery voltage
2 (Y)	3 (BR)	Sound signal front speaker LH	Output	ON	Sound output	
4 (BR)	5 (B/R)	Sound signal rear speaker LH	Output	ON	Sound output	
6 (R)	15 (L)	Steering switch signal A	Input	Ignition switch ON	Press and hold SOURCE switch.	0V
					Press and hold △ switch.	1.0V
					Press and hold ▽ switch.	2.0V
					Press and hold switch.	3.0V
					Except for above.	5.0V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
7 (V)	Ground	ACC power supply	Input	ACC	—	Battery voltage
8 (L)	—	CAN (H)	Input/ Output	—	—	—
9 (R/L)	44 (BR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
10	—	Shield	—	—	—	—
11 (W)	12 (B)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E
13 (L)	14 (B/W)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
16 (G)	15 (L)	Steering switch signal B	Input	Ignition switch ON	Press and hold – switch	0V
					Press and hold + switch	1.0V
					Press and hold switch	2.0V
					Except for above	5.0V
17 (P)	—	CAN (L)	Input/ Output	—	—	—
18 (W/R)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (B)	Ground	Ground	—	ON	—	0 V
23[1] (SB)	—	MR output	—	—	—	—
23[2] (R/L)	—	MR output	—	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
28 (G/W)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
					Selector lever in any position other than R (reverse)	0 V
30 (W)	—	Audio L	Input	—	—	—
31 (R)	—	Audio ground	—	—	—	—
32 (B)	—	Audio R	Input	—	—	—
33 (B)	Ground	Rear view camera video signal ground	—	ON	—	0 V
34 (W)	—	Rear view camera ON	—	—	—	—
36 (R)	35 (Shield)	Camera image signal	Input	ON	When camera image is displayed	 SKIB2251J
37 (G/R)	Ground	Ignition power supply	Input	ON or START	—	Battery voltage
42 (W)	Ground	Microphone power supply	Output	ON	—	5.0 V
43 (B)	41 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 SKIB3609E
45 (G)	—	USB ground	—	—	—	—
46 (R)	—	USB D– signal	—	—	—	—
47 (L)	—	USB D+ signal	—	—	—	—
48 (W)	—	V BUS signal	—	—	—	—
49	—	Shield	—	—	—	—
50 (B)	—	GPS antenna signal	—	—	—	—
51 (B)	—	Shield	—	—	—	—
52 (B)	—	Satellite antenna signal	—	—	—	—
53 (B)	—	Shield	—	—	—	—

[1]: without rear entertainment system

[2]: with rear entertainment system

DTC Index

INFOID:0000000009876600

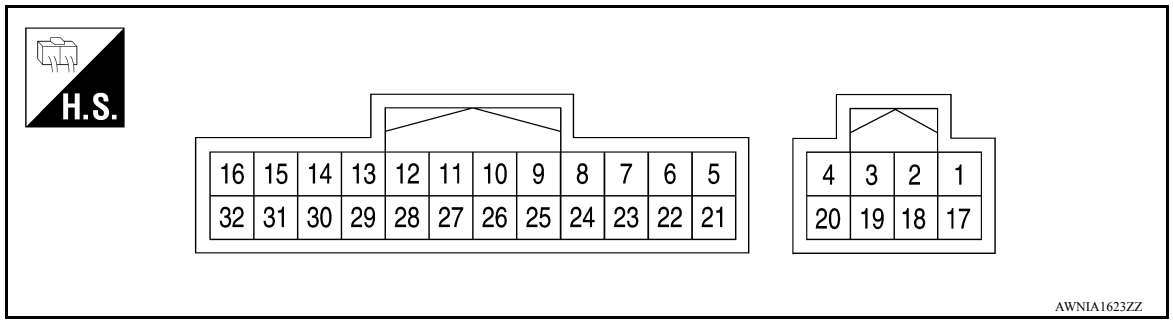
CONSULT Display	Reference Page
U1000: CAN COMM CIRCUIT	AV-290, "DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-291, "DTC Logic"
U1217: BLUETOOTH MODULE	AV-292, "DTC Logic"
U1229: iPod CERTIFICATION	AV-293, "DTC Logic"
U122F: Digital broadcasting connection error	AV-294, "DTC Logic"
U1244: GPS ANTENNA CONN	AV-295, "DTC Logic"
U1258: XM ANTENNA CONN	AV-296, "DTC Logic"
U1263: USB OVERCURRENT	AV-297, "DTC Logic"
U1265: AMP ON TERMINAL	AV-298, "DTC Logic"
U12AA: Configuration Error	AV-299, "DTC Logic"
U12AB: FM Antenna error	AV-300, "DTC Logic"
U12AC: Display Temperature too High	AV-301, "DTC Logic"
U12AD: ECU Temperature too High	AV-302, "DTC Logic"
U12AE: Internal Amplifier temperature Warning	AV-303, "DTC Logic"
U12AF: CD Mechanism Temperature Warning	AV-304, "DTC Logic"
U12B0: Supply Voltage Goes below 9V > 20s	AV-305, "DTC Logic"
U12B1: Supply Voltage Goes High > 16V for 20s	AV-306, "DTC Logic"
U1310: CONTROL UNIT (AV)	AV-307, "DTC Logic"

AUDIO AMP

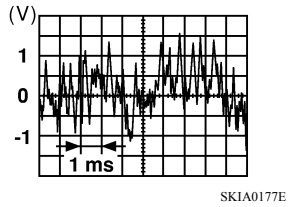
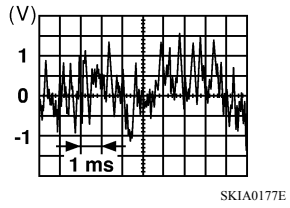
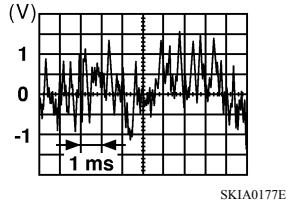
Reference Value

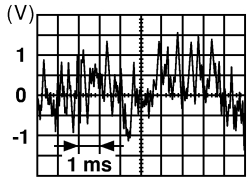
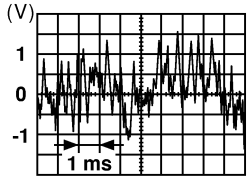
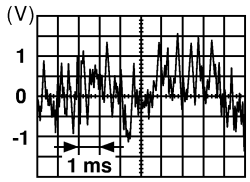
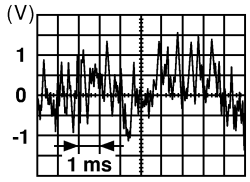
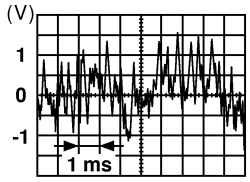
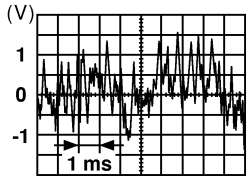
INFOID:0000000009876601

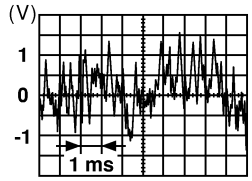
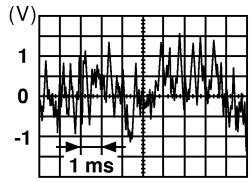
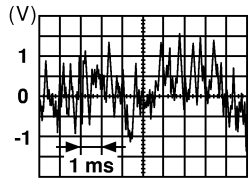
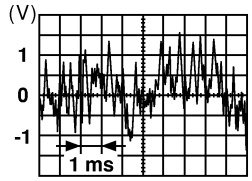
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (wire color) +	Terminal (wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
1 (Y)	Ground	Battery	Input	–	–	Battery voltage
2 (W)	18 (B)	Subwoofer	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
3 (BR/W)	19 (BR)	Subwoofer	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
4 (B)	Ground	Ground	–	Ignition switch ON	–	–
9 (G/W)	Ground	Amp. ON signal	Input	Ignition switch ON	–	More than 6.5V
10 (L/W)	26 (L/B)	Center speaker	Output	Ignition switch ON	Receive audio signal	 SKIA0177E

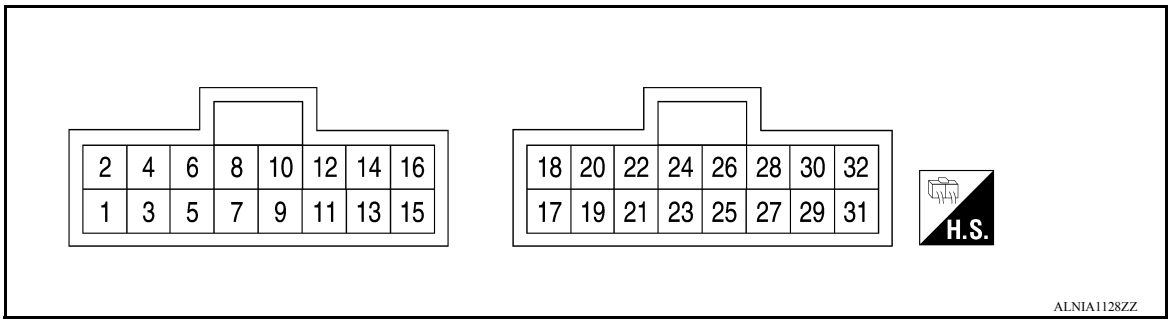
Terminal (wire color) +	Terminal (wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
11 (SB)	27 (B/Y)	Rear door speaker LH and rear door tweeter LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
12 (O/L)	28 (R/L)	Rear door speaker RH and rear door tweeter RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
13 (W/B)	29 (L/B)	Front door tweeter RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
14 (L/W)	30 (L/R)	Front tweeter LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
15 (L/W)	31 (L/R)	Front door speaker LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
16 (W/B)	32 (L/B)	Front door speaker RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
17 (Y/G)	Ground	Battery	Input	–	–	Battery voltage
20 (B)	Ground	Ground	–	Ignition switch ON	–	–

Terminal (wire color) +	Terminal (wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
21 (W)	5 (B)	Audio sound signal front RH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E
22 (Y)	6 (BR)	Audio sound signal front LH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E
23 (L)	7 (B/W)	Audio sound signal rear RH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E
24 (BR)	8 (B/R)	Audio sound signal rear LH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E

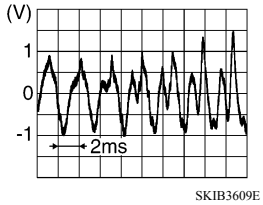
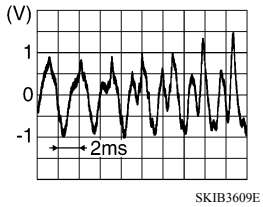
DVD PLAYER

Reference Value

INFOID:0000000010621046



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (B)	2 (W)	DVD audio signal LH	Output	Ignition switch ON	With operation of the DVD player	
3 (R)	4 (G)	DVD audio signal RH	Output	Ignition switch ON	With DVD player operation	
9 (S/B)	Ground	Audio ON	Output	Ignition switch ON	With DVD player operation	Battery voltage
10 (BR)	Ground	Illumination control	Input	Ignition switch ON	With lighting switch in 1st or 2nd position	Varies between 0 and Battery voltage
11 (S/B)	Ground	Family entertainment system enable	Input	Ignition switch ON	With DVD player operation	Battery voltage
12 (R/L)	Ground	Illumination power	Input	Ignition switch ON	With lighting switch in 1st or 2nd position	Battery voltage
15 (V)	Ground	ACC power	Input	Ignition switch ACC or ON	—	Battery voltage
16 (Y)	Ground	Battery power	Input	—	—	Battery voltage

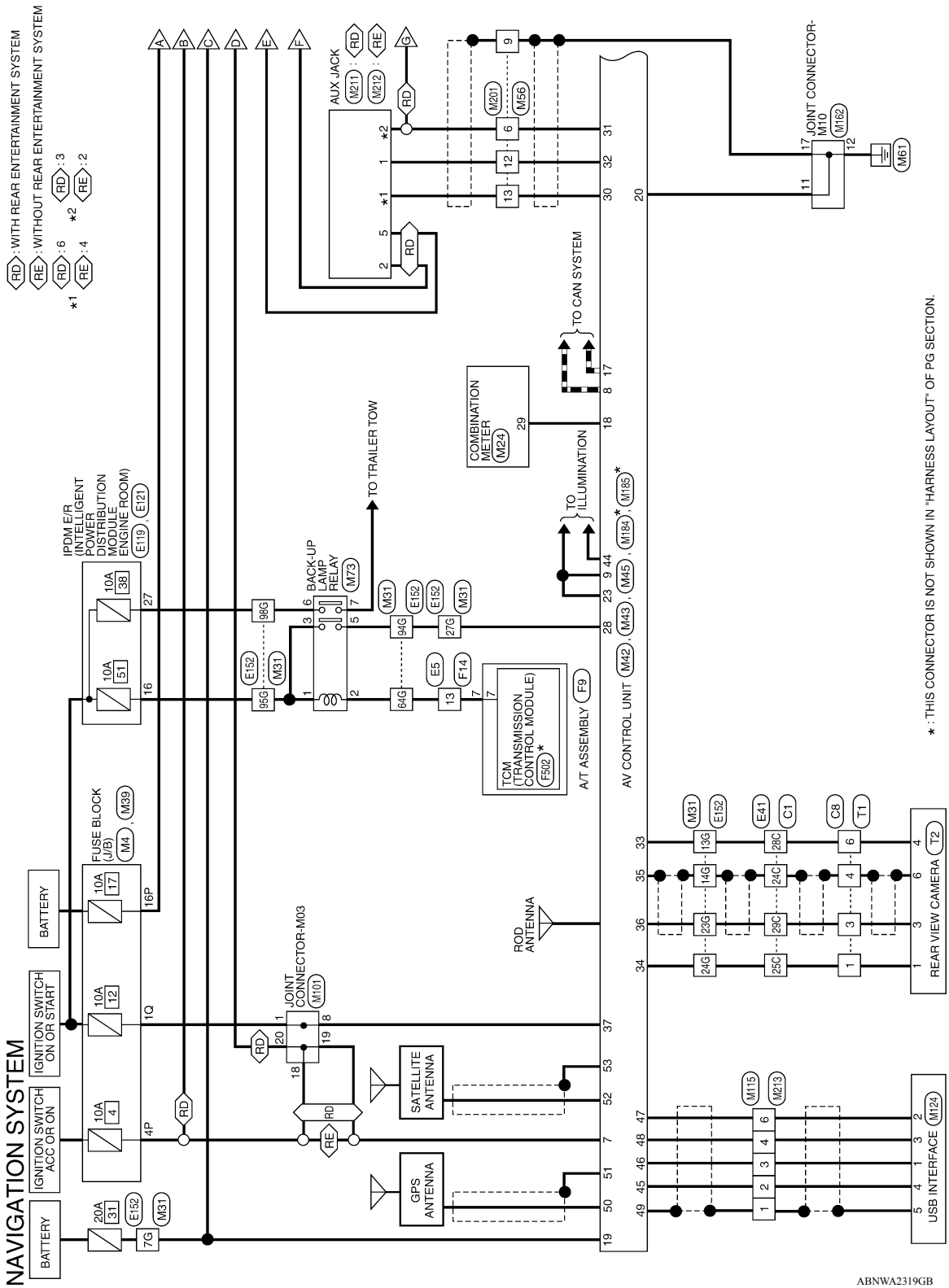
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
17 (R)	Ground	Common	—	Ignition switch ON	—	0V
18 (B)	Ground	DVD audio signal L	Output	—	—	—
19 (B/W)	Ground	Ground	—	Ignition switch ON	—	0V
20 (W)	Ground	DVD audio signal R	Outputt	—	—	—
21 (G/Y)	Ground	Switch power	Output	Ignition switch ON	With DVD player operation	5V
22 (B)	Ground	Ground	—	Ignition switch ON	—	0V
23 (B/W)	Ground	VTR (+)	Output	Ignition switch ON	With DVD player operation	—
24 (L)	Ground	VTR (-)	Output	Ignition switch ON	With DVD player operation	—
26	—	Shield	—	—	—	—
27 (B/Y)	Ground	Ground	—	Ignition switch ON	—	0V
28 (Y)	—	Data receive	Input	—	—	—
29 (BR)	—	Data transmit	Output	—	—	—
31 (SB)	Ground	Battery power	Output	—	—	Battery voltage
32 (BR)	Ground	Battery power	Output	—	—	Battery voltage

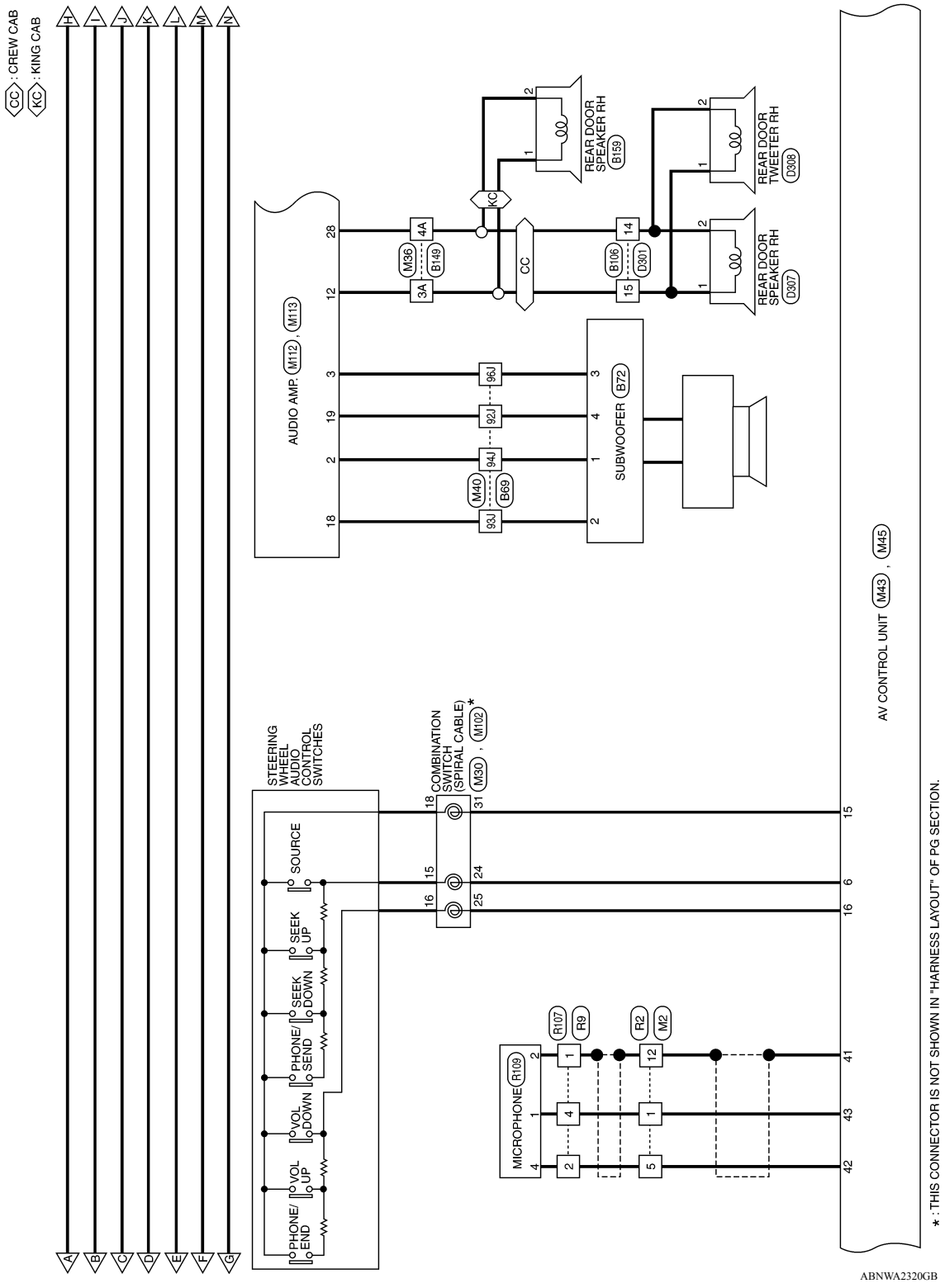
WIRING DIAGRAM

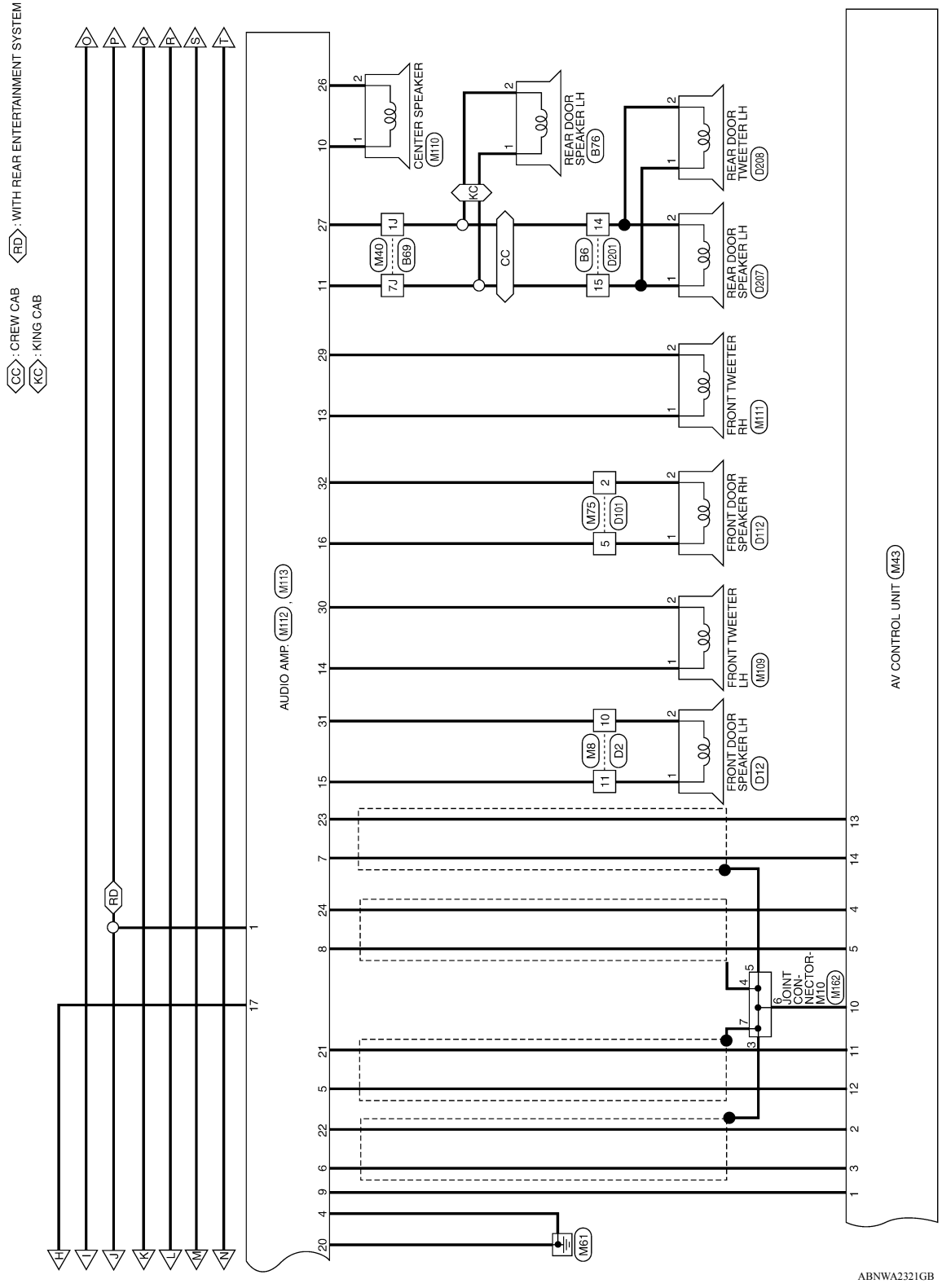
NAVIGATION SYSTEM

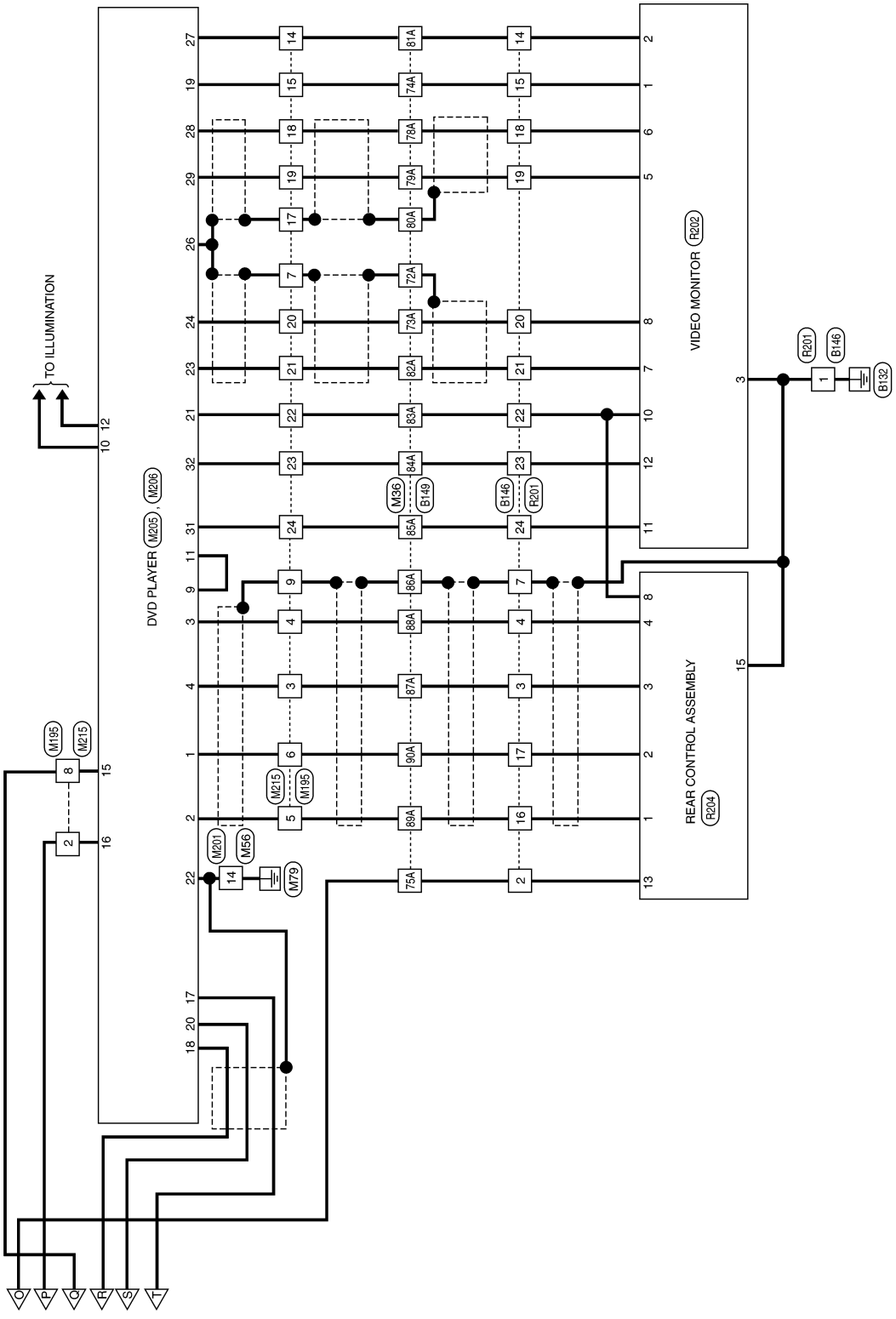
Wiring Diagram

INFOID:0000000009876602




CC : CREW CAB
KC : KING CAB
AUDIO AMP. (M112), (M113)
REAR DOOR SPEAKER RH B159
REAR DOOR TWEETER RH D308
REAR DOOR SPEAKER RH D307
SUBWOOFER B72
STEERING WHEEL AUDIO CONTROL SWITCHES
SOURCE
SEEK UP
SEEK DOWN
PHONE/ SEND
VOL DOWN
VOL UP
PHONE/ END
COMBINATION SWITCH (SPIRAL CABLE)* (M102), (M30)
MICROPHONE R109
AV CONTROL UNIT (M43), (M45)
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.
ABNWA2320GB


RD : WITH REAR ENTERTAINMENT SYSTEM
CC : CREW CAB
KC : KING CAB
AUDIO AMP. M112 M113
AV CONTROL UNIT M43
CENTER SPEAKER M110
REAR DOOR SPEAKER LH B76
REAR DOOR TWEETER LH D208
REAR DOOR SPEAKER LH D207
FRONT TWEETER RH M111
FRONT DOOR SPEAKER RH D112
FRONT TWEETER LH M109
FRONT DOOR SPEAKER LH D12
JOINT CONNECTOR-M10 M162
M61
ABNWA2321GB



ABNWA2322GB

NAVIGATION SYSTEM CONNECTORS

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	B	– (WITH NAVI)
5	W	– (WITH NAVI)
12	SHIELD	– (WITH NAVI)

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
4P	V	–
16P	Y/G	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
29	W/R	SPEED OUT

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

H.S.

24	25	26	27
31	32	33	34

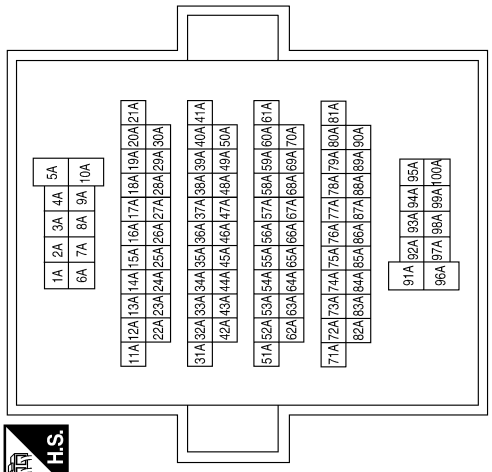
Terminal No.	Color of Wire	Signal Name
24	R	– (WITH NAVI)
25	G	– (WITH NAVI)
31	L	– (WITH NAVI)

ABNIA6314GB

Terminal No.	Color of Wire	Signal Name
86A	SHIELD	–
87A	G	–
88A	R	–
89A	W	–
90A	B	–

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

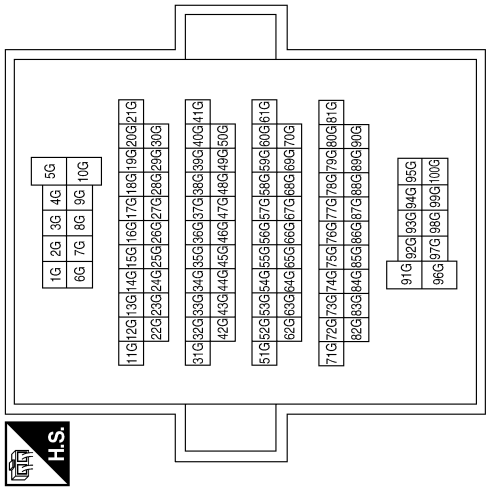
H.S.



Terminal No.	Color of Wire	Signal Name
3A	O/L	–
4A	R/L	–
72A	SHIELD	–
73A	L	–
74A	B/W	–
75A	R	–
78A	Y	–
79A	BR	–
80A	SHIELD	–
81A	B/Y	–
82A	B/W	–
83A	G/Y	–
84A	BR	–
85A	SB	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
7G	Y	–
13G	B	–
14G	SHIELD	–
23G	R	–
24G	W	–
27G	G/W	–
64G	R	–
94G	G/W	–
95G	G	–
98G	W/B	–

ABNIA6315GB

Terminal No.	Color of Wire	Signal Name
1J	B/Y	–
7J	SB	–
92J	BR	–
93J	B	–
94J	W	–
96J	BR/W	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
6	R	STRG SW A
7	V	ACC
8	L	CAN-H
9	R/L	ILL (+), LIGHT SW
10	SHIELD	PRE AMP SHIELD
11	W	FR SP RH+
12	B	FR SP RH-
13	L	RR SP RH+
14	B/W	RR SP RH-
15	L	STRG SW GND
16	G	STRG SW B
17	P	CAN-L
18	W/R	SPEED SIG
19	Y	BAT
20	B	GND

Connector No.	M43
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	G/W	AMP ON
2	Y	FR SP LH+
3	BR	FR SP LH-
4	BR	RR SP LH+
5	B/R	RR SP LH-

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1Q	G/R	–

Connector No.	M42
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM)
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
45	W	V BUS
46	G	USD GND
47	L	USB D +
48	R	USB D -
49	SHIELD	SHIELD

ABNIA6316GB

Connector No.	M45
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM)
Connector Color	WHITE

H.S.

32	31	30	29	28	27	26	25	24	23	22	21
44	43	42	41	40	39	38	37	36	35	34	33

Terminal No.	Color of Wire	Signal Name
21	–	–
22	–	–
23	SB	MR OUTPUT (WITHOUT REAR ENTERTAINMENT SYSTEM)
23	R/L	MR OUTPUT (WITH REAR ENTERTAINMENT SYSTEM)
24	–	–
25	–	–
26	–	–
27	–	–
28	G/W	REVERSE SIGNAL

Terminal No.	Color of Wire	Signal Name
29	–	–
30	W	AUDIO L
31	R	AUDIO GND
32	B	AUDIO R
33	B	GND
34	W	CAMERA ON
35	SHIELD	COMP-
36	R	COMP+
37	G/R	IGN
38	–	–
39	–	–
40	–	–
41	SHIELD	MIC GND
42	W	MIC VCC
43	B	MIC SIGNAL
44	BR	ILL (-)

Connector No.	M56
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
6	R	–
9	SHIELD	–
12	B	–
13	W	–
14	B	–

Connector No.	M101
Connector Name	JOINT CONNECTOR-M03
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	G/R	–
8	G/R	–
18	V	–
19	V	–
20	V	–

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

H.S.

4	3		2	1
10	9	8	7	6	5

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

Connector No.	M73
Connector Name	BACK-UP LAMP RELAY
Connector Color	BROWN

H.S.

2	1
7	5
6	3

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	–
3	G	–
5	G/W	–
6	W/B	–
7	Y/R	–

ABNIA6317GB

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

H.S.

21 20 19 18 17 16 15 14

Terminal No.	Color of Wire	Signal Name
15	B	–
16	R	–
18	BR	–

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

H.S.

2 1

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

Connector No.	M110
Connector Name	CENTER SPEAKER
Connector Color	BROWN

H.S.

2 1

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

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

H.S.

2 1

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

Connector No.	M112
Connector Name	AUDIO AMP.
Connector Color	WHITE

H.S.

4 3 2 1
20 19 18 17

Terminal No.	Color of Wire	Signal Name
1	Y	BAT
2	W	WOOFER 1+
3	BR/W	WOOFER 2+
4	B	GND
17	Y/G	BAT
18	B	WOOFER 1-
19	BR	WOOFER 2-
20	B	GND

ABNIA6318GB

Connector No.	M115
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

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

Connector No.	M185
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM)
Connector Color	–

H.S.

Terminal No.	Color of Wire	Signal Name
52	B	SAT ANT
53	B	SAT SHIELD

Terminal No.	Color of Wire	Signal Name
13	W/B	FR RH TW+
14	L/W	FR LH TW+
15	L/W	FR LH OUT+
16	W/B	FR RH OUT+
21	W	FR RH IN+
22	Y	FR LH IN+
23	L	RR RH IN+
24	BR	RR LH IN+
25	–	–
26	L/B	CIR OUT-
27	B/Y	RR LH OUT-
28	R/L	RR RH OUT-
29	L/B	FR RH TW-
30	L/R	FR LH TW-
31	L/R	FR LH OUT-
32	L/B	FR RH OUT-

Connector No.	M184
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM)
Connector Color	–

H.S.

Terminal No.	Color of Wire	Signal Name
50	B	GPS ANT
51	B	GPS SHIELD

Connector No.	M113
Connector Name	AUDIO AMP.
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
5	B	FR RH IN-
6	BR	FR LH IN-
7	B/W	RR RH IN-
8	B/R	RR LH IN-
9	G/W	AMP ON
10	L/W	CIR OUT+
11	SB	RR LH OUT+
12	O/L	RR RH OUT+

Connector No.	M162
Connector Name	JOINT CONNECTOR-M10
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
3	SHIELD	–
4	SHIELD	–
5	SHIELD	–
6	SHIELD	–
7	SHIELD	–
11	B	–
12	B	–
17	SHIELD	–

ABNIA6319GB

Connector No.	M195
Connector Name	WIRE TO WIRE
Connector Color	BROWN

Terminal No.	Color of Wire	Signal Name
2	Y	–
3	G	–
4	R	–
5	W	–
6	B	–
7	SHIELD	–
8	V	–
9	SHIELD	–
14	B/Y	–
15	B/W	–

Terminal No.	Color of Wire	Signal Name
17	SHIELD	–
18	Y	–
19	BR	–
20	L	–
21	B/W	–
22	G/Y	–
23	BR	–
24	SB	–

Connector No.	M201
Connector Name	WIRE TO WIRE
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
6	R	–
9	SHIELD	–
12	B	–
13	W	–
14	B	–

Connector No.	M205
Connector Name	DVD PLAYER
Connector Color	GRAY

Terminal No.	Color of Wire	Signal Name
1	B	FES L+ OUTPUT
2	W	FES L- OUTPUT
3	R	FES R+ OUTPUT
4	G	FES R- OUTPUT
5	–	–

Terminal No.	Color of Wire	Signal Name
6	–	–
7	–	–
8	–	–
9	S/B	AUDIO ON
10	BR	ILL-
11	S/B	FES ENABLE
12	R/L	LIGHTING SW
13	–	–
14	–	–
15	V	ACC
16	Y	B+

ABNIA6320GB

Connector No.	M206
Connector Name	DVD PLAYER
Connector Color	BLUE

H.S.

18	20	22	24	26	28	30	32
17	19	21	23	25	27	29	31

Terminal No.	Color of Wire	Signal Name
17	R	FES OUTPUT COMMON
18	B	FES L+ OUTPUT
19	B/W	GND
20	W	FES R+ OUTPUT
21	G/Y	SW POWER +5V
22	B	GND
23	B/W	VTR+
24	L	VTR-
25	–	–
26	SHIELD	VTR SHIELD

Connector No.	M212
Connector Name	AUX JACK (WITHOUT REAR ENTERTAINMENT SYSTEM)
Connector Color	WHITE

H.S.

4	3	2	1

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

Terminal No.	Color of Wire	Signal Name
27	B/Y	GND
28	Y	DATA RX
29	BR	DATA TX
30	–	–
31	SB	+B
32	BR	+B

Connector No.	M213
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

1		
3	2	
5	4	
7	6	

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

Connector No.	M211
Connector Name	AUX JACK (WITH REAR ENTERTAINMENT SYSTEM)
Connector Color	WHITE

H.S.

1	2	3	4	5	6

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

Connector No.	M214
Connector Name	USB INTERFACE
Connector Color	GRAY

H.S.

5	1	2	3	4

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

ABNIA6321GB

Connector No.	M215
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	Y	–
3	G	–
4	R	–
5	W	–
6	B	–
7	SHIELD	–
8	V	–
9	SHIELD	–
14	B/Y	–
15	B/W	–

Terminal No.	Color of Wire	Signal Name
17	SHIELD	–
18	Y	–
19	BR	–
20	L	–
21	B/W	–
22	G/Y	–
23	BR	–
24	SB	–

Connector No.	E5
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
13	R	–

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
16	G	REVERSE LAMP

Terminal No.	Color of Wire	Signal Name
24C	SHIELD	–
25C	W	–
28C	B	–
29C	R	–

Connector No.	E41
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

1C		2C	3C	4C		5C
6C	7C	8C		9C	10C	11C
12C	13C	14C	15C	16C	17C	18C	19C	20C	21C
22C	23C	24C	25C	26C	27C	28C	29C	30C	31C
32C	33C	34C	35C	36C	37C	38C	39C	40C	41C
42C	43C	44C					45C	46C	47C
48C			49C	50C	51C				52C

ABNIA6322GB

Terminal No.	Color of Wire	Signal Name
7G	Y	–
13G	B	–
14G	SHIELD	–
23G	R	–
24G	W	–
27G	G/W	–
64G	R	–
94G	G/W	–
95G	G	–
98G	W/B	–

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

H.S.

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

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

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

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

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

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

Connector No.	F502
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	GRAY

H.S.

10	9	8	7	6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
7	O	REV LAMP RLY

Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

29	28		27	26	25
36	35	34	33	32	31	30

Terminal No.	Color of Wire	Signal Name
27	W/B	T TOW REV LAMP

Connector No.	F14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
13	R	–

Connector No.	F9
Connector Name	A/T ASSEMBLY (FLOOR SHIFT)
Connector Color	GREEN

H.S.

5	4	3	2	1
10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
7	R	–

ABNIA6323GB

Connector No.	C1
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

5C		4C	3C	2C		1C
11C	10C	9C		8C	7C	6C
21C	20C	19C	18C	17C	16C	15C	14C	13C	12C
31C	30C	29C	28C	27C	26C	25C	24C	23C	22C
41C	40C	39C	38C	37C	36C	35C	34C	33C	32C
47C	46C	45C				44C	43C	42C
52C				51C	50C	49C		48C

Terminal No.	Color of Wire	Signal Name
24C	SHIELD	–
25C	W	–
28C	B	–
29C	R	–

Connector No.	C8
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

3	2	1
6	5	4

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

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	B/Y	–
15	SB	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1J	B/Y	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
7J	SB	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
92J	BR	–
93J	B	–
94J	W	–
96J	BR/W	–

ABNIA6324GB

Connector No.	B72
Connector Name	SUBWOOFER
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	BR/W	–
4	BR	–

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

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	SB	– (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	B/Y	– (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	–

Terminal No.	Color of Wire	Signal Name
17	B	–
18	L	–
19	G	–
20	L	–
21	W	–
22	G/Y	–
23	BR	–
24	SB	–

Connector No.	B146
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	B	–
2	R	–
3	G	–
4	R	–
7	SHIELD	–
14	B/Y	–
15	B/W	–
16	W	–

ABNIA6325GB

Terminal No.	Color of Wire	Signal Name
87A	G	–
88A	R	–
89A	W	–
90A	B	–

Terminal No.	Color of Wire	Signal Name
3A	O/L	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
4A	R/L	–
72A	SHIELD	–
73A	L	–
74A	B/W	–
75A	R	–
78A	L	–
79A	G	–
80A	SHIELD	–
81A	B/Y	–
82A	W	–
83A	G/Y	–
84A	BR	–
85A	SB	–
86A	SHIELD	–

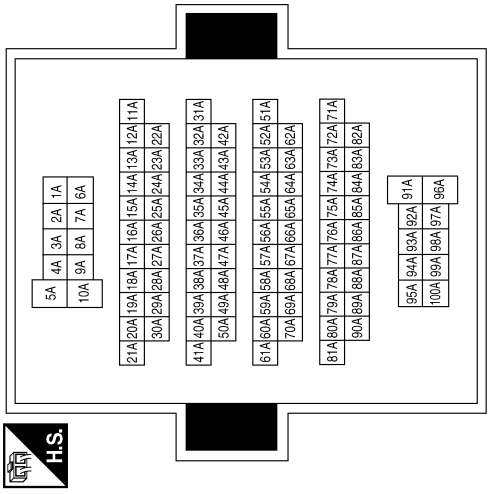
Connector No.	T2
Connector Name	REAR VIEW CAMERA
Connector Color	GRAY

H.S.

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

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

H.S.



Connector No.	T1
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

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

Connector No.	B159
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE

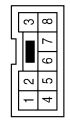
H.S.

Terminal No.	Color of Wire	Signal Name
1	O/L	– (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	R/L	–

ABNIA6326GB

Connector No.	R107
Connector Name	WIRE TO WIRE
Connector Color	WHITE

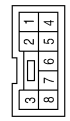
H.S.



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

Connector No.	R9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

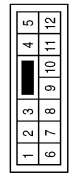
H.S.



Terminal No.	Color of Wire	Signal Name
1	SHIELD	– (WITH NAVI)
2	R/W	–
4	B	–

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

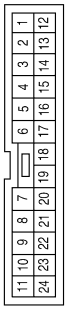


Terminal No.	Color of Wire	Signal Name
1	B	– (WITH NAVI)
5	R/W	– (WITH NAVI)
12	SHIELD	– (WITH NAVI)

Terminal No.	Color of Wire	Signal Name
19	G	–
20	L	–
21	W	–
22	G/Y	–
23	BR	–
24	SB	–

Connector No.	R201
Connector Name	WIRE TO WIRE
Connector Color	BROWN

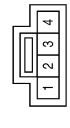
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	R	–
3	G	–
4	R	–
7	SHIELD	–
14	B/Y	–
15	B/W	–
16	W	–
17	B	–
18	L	–

Connector No.	R109
Connector Name	MICROPHONE
Connector Color	WHITE

H.S.



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

ABNIA6327GB

Connector No.	R202
Connector Name	VIDEO MONITOR
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B/W	GND
2	B/Y	GND
3	B	ID
4	–	–
5	G	DATA RX
6	L	DATA TX
7	W	VIDEO IN+
8	L	VIDEO IN-
9	–	–
10	G/Y	SW POWER +5V

Terminal No.	Color of Wire	Signal Name
11	SB	FILTERED BATT
12	BR	FILTERED BATT

Connector No.	R204
Connector Name	REAR CONTROL ASSEMBLY
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	G	–
4	R	–
8	G/Y	–
13	R	–
15	B	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

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

H.S.

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

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

H.S.

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

ABNIA6328GB

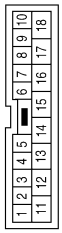
Connector No.	D112
Connector Name	FRONT DOOR SPEAKER RH
Connector Color	WHITE

H.S.

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

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

H.S.



Terminal No.	Color of Wire	Signal Name
14	Y	– (WITH NAVI OR MID AUDIO SYSTEM)
15	L	– (WITH NAVI OR MID AUDIO SYSTEM)

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	– (WITH NAVI OR MID AUDIO SYSTEM)
2	Y	– (WITH NAVI OR MID AUDIO SYSTEM)

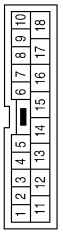
Connector No.	D208
Connector Name	REAR DOOR TWEETER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	B/Y	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	L	– (WITH NAVI OR MID AUDIO SYSTEM)

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	– (WITH NAVI OR MID AUDIO SYSTEM)
2	R/L	–

ABNIA6329GB

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

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

ABNIA6330GB

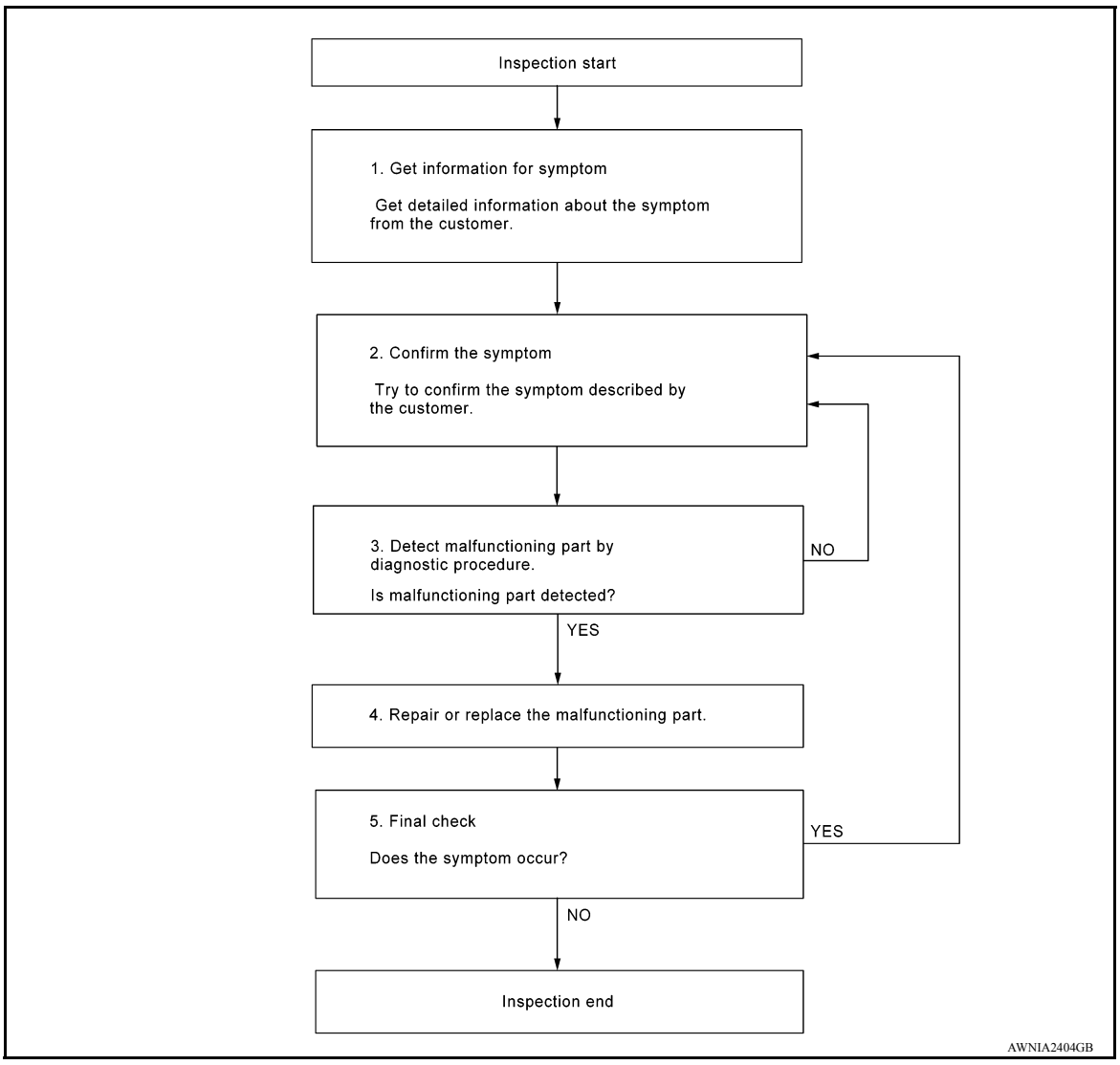
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000009876603

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-338, "Symptom Table".

>> GO TO 3

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5

5. FINAL CHECK

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

Was the repair confirmed?

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

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:0000000009876604

BEFORE REPLACEMENT

When replacing AV control unit, save or print current vehicle specification with CONSULT configuration before replacement.

NOTE:

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing AV control unit.

AFTER REPLACEMENT

CAUTION:

When replacing AV control unit, you must perform “After Replace ECU” with CONSULT.

- **Complete the procedure of “After Replace ECU” in order.**
- **If you set incorrect “After Replace ECU”, incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure

INFOID:0000000009876605

1. SAVING VEHICLE SPECIFICATION

(P)-CONSULT

Enter “Re/Programming, Configuration” and perform “Before Replace ECU” to save or print current vehicle specification.

NOTE:

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing AV control unit.

>> GO TO 2.

2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to AV-353, "Removal and Installation".

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

(P)CONSULT

1. Enter "Re/Programming, Configuration".
2. If “Before Replace ECU” operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press “Confirm” to write vehicle specification. Refer to AV-288, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".
3. If “Before Replace ECU” operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to AV-288, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

>> GO TO 4.

4. OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines) are normal.

>> Work End.

CONFIGURATION (AV CONTROL UNIT)

CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:0000000009876606

Vehicle specification needs to be written with CONSULT because it is not written after replacing AV control unit.
Configuration has three functions as follows:

Function	Description
"Before Replace ECU"	• Reads the vehicle configuration of current AV control unit. • Saves the read vehicle configuration.
"After Replace ECU"	Writes the vehicle configuration with manual selection.
"Select Saved Data List"	Writes the vehicle configuration with saved data.

CAUTION:
- **When replacing AV control unit, you must perform “Select Saved Data List” or "After Replace ECU" with CONSULT.**
- **Complete the procedure of “Select Saved Data List” or "After Replace ECU" in order.**
- **If you set incorrect “Select Saved Data List” or "After Replace ECU", incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **Never perform “Select Saved Data List” or "After Replace ECU" except for new AV control unit.**

CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:0000000009876607

1.WRITING MODE SELECTION

CONSULT
Select “Reprogramming, Configuration” of AV control unit.

When writing saved data>>GO TO 2.
When writing manually>>GO TO 3.

2.PERFORM “SAVED DATA LIST”

CONSULT
Automatically “Operation Log Selection” window will display if “Before Replace ECU” was performed. Select applicable file from the “Save Data List” and press “Confirm”.

>> Work End.

3.PERFORM “AFTER REPLACE ECU” OR “MANUAL CONFIGURATION”

CONSULT
1. Select “After Replace ECU” or “Manual Configuration”.
2. Identify the correct model and configuration list. Refer to AV-289, "CONFIGURATION (AV CONTROL UNIT) : Configuration List".
3. Confirm and/or change setting value for each item.
   CAUTION:
   Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.
4. Select “Next”.
   CAUTION:
   Make sure to select “Next”, confirm each setting value and press “OK” even if the indicated configuration of brand new AV control unit is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model can not be memorized.
5. When "Completed", select "End".

>> GO TO 4.

4.OPERATION CHECK

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

>> Work End.

CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:0000000009876608

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

MANUAL SETTING ITEM	
Items	Setting value
SOUND SYSTEM	BASE ⇔ BOSE
CAMERA SYSTEM	NONE/AVM ⇔ REAR CAMERA

⇔: Items which confirm vehicle specifications

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Logic

INFOID:0000000009876609

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CAN COMM CIRCUIT [U1000]	AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

Diagnosis Procedure

INFOID:0000000009876610

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Perform Self Diagnostic Result for MULTI AV.

Is CAN COMM CIRCUIT displayed?

YES >> Refer to LAN-14, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-42, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000009876611

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	Error during CAN controller hardware initialization (VCAN).	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-353, "Removal and Installation".

U1217 AV CONTROL UNIT

DTC Logic

INFOID:0000000009876612

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
BLUETOOTH MODULE [U1217]	Connection failure to the internal Bluetooth® sub unit is detected.	Replace AV control unit if malfunction occurs constantly. Refer to AV-353, "Removal and Installation".

U1229 AV CONTROL UNIT

DTC Logic

INFOID:0000000009876613

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
iPod CERTIFICATION [U1229]	iPod authentication chip error.	Replace AV control unit if malfunction occurs constantly. Refer to AV-353, "Removal and Installation".

U122F AV CONTROL UNIT

DTC Logic

INFOID:0000000009876614

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Digital broadcasting connection error [U122F]	Communication error with digital audio broadcast module internal to AV control unit.	Replace AV control unit if malfunction occurs constantly. Refer to AV-353, "Removal and Installation".

U1244 GPS ANTENNA

DTC Logic

INFOID:0000000009876615

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
GPS ANTENNA CONN [U1244]	Open or short to ground is detected in GPS antenna connection.	• GPS antenna disconnection. • Open or short to ground in GPS antenna signal circuit.

Diagnosis Procedure

INFOID:0000000009876616

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.GPS ANTENNA INSPECTION

Visually inspect the GPS antenna and antenna feeder. Refer to AV-364, "Removal and Installation".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect AV control unit connector M184.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal 50 and ground.

AV control unit terminal	Ground	Voltage
(+)	(–)	
50	—	5.0 V

Is inspection result normal?

YES >> Replace GPS antenna. Refer to AV-364, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-353, "Removal and Installation".

U1258 SATELLITE RADIO ANTENNA

DTC Logic

INFOID:0000000009876617

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
XM ANTENNA CONN [U1258]	Open or short to ground is detected in satellite antenna connection.	• Satellite antenna disconnection. • Open or short to ground in satellite antenna signal circuit.

Diagnosis Procedure

INFOID:0000000009876618

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.SATELLITE ANTENNA INSPECTION

Visually inspect the satellite antenna and antenna feeder. Refer to AV-364, "Removal and Installation".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect AV control unit connector M185.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal 52 and ground.

AV control unit terminal	Ground	Voltage
(+)	(−)	
52	—	5.0 V

Is inspection result normal?

YES >> Replace satellite radio antenna. Refer to AV-364, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-353, "Removal and Installation".

U1263 USB

DTC Logic

INFOID:0000000009876619

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
USB OVERCURRENT [U1263]	Overcurrent in USB harness is detected.	• Device connected to USB interface. • Harness between the AV control unit and USB interface.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. If there is a device connected to the USB interface, disconnect it.
2. Turn ignition switch ON and wait for 2 seconds or more.
3. Perform Self Diagnostic Result for MULTI AV.

Is DTC U1263 displayed?

YES >> Refer to AV-297, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000009876620

1.CHECK USB INTERFACE HARNESS

Visually inspect USB interface harness. Refer to AV-363, "Removal and Installation".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace USB interface harness. Refer to AV-363, "Removal and Installation".

2.CHECK USB INTERFACE HARNESS

Check USB interface harness. Refer to AV-337, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-353, "Removal and Installation".
NO >> Replace USB interface harness. Refer to AV-363, "Removal and Installation".

U1265 AUDIO AMP.

DTC Logic

INFOID:0000000009876621

CONSULT Display	DTC Detection Condition	Possible Cause
AMP ON TERMINAL [U1265]	Open or short to ground is detected in audio amp. ON signal circuit.	Open or short to ground in audio amp. ON signal circuit.

Diagnosis Procedure

INFOID:0000000009876622

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND AUDIO AMP.

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M43 and audio amp. connector M113.
3. Check continuity between AV control unit connector M43 and audio amp. connector M113.

AV control unit		Audio amp.		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M113	9	Yes

4. Check continuity between AV control unit connector M43 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M43	1	—	No

Is the inspection result normal?

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

2.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector M43.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M43 and ground.

AV control unit		Ground	Voltage (Approx.)
(+)		(–)	
Connector	Terminal		
M43	1	—	Battery voltage

Is the inspection result normal?

YES >> Replace audio amp. Refer to AV-360, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-353, "Removal and Installation".

U12AA CONFIGURATION ERROR

DTC Logic

INFOID:0000000009876623

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Configuration Error [U12AA]	AV control unit is not properly configured or configuration is corrupt.	Configuration data needs to be written. Refer to AV-288, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

Diagnosis Procedure

INFOID:0000000009876624

1.PERFORM CONFIGURATION

When U12AA is detected, configuration data must be written.

>> Write configuration data with CONSULT. Refer to AV-288, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

U12AB ANTENNA

DTC Logic

INFOID:0000000009876625

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
FM Antenna error [U12AB]	Open or short to ground is detected in rod antenna connection.	• Rod antenna disconnection. • Open or short to ground in antenna feeder.

Diagnosis Procedure

INFOID:0000000009876626

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.ROD ANTENNA INSPECTION

Visually inspect the rod antenna and antenna feeder. Refer to AV-361, "Location of Antenna".

Is inspection result normal?

YES >> Replace AV control unit. Refer to AV-353, "Removal and Installation".
NO >> Repair or replace malfunctioning components.

U12AC AV CONTROL UNIT

DTC Logic

INFOID:0000000009876627

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Display Temperature too High [U12AC]	Display temperature has exceeded maximum temperature. Display is switched OFF to avoid irreversible damage.	Replace AV control unit if malfunction occurs constantly. Refer to AV-353, "Removal and Installation".

U12AD AV CONTROL UNIT

DTC Logic

INFOID:0000000009876628

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ECU Temperature too High [U12AD]	AV control unit temperature has exceeded maximum temperature.	Replace AV control unit if malfunction occurs constantly. Refer to AV-353, "Removal and Installation".

U12AE AV CONTROL UNIT

DTC Logic

INFOID:0000000009876629

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Internal Amplifier temperature Warning [U12AE]	Internal amplifier temperature has exceeded maximum temperature.	Replace AV control unit if malfunction occurs constantly. Refer to AV-353, "Removal and Installation".

U12AF AV CONTROL UNIT

DTC Logic

INFOID:0000000009876630

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CD Mechanism Temperature Warning [U12AF]	CD drive temperature has exceeded maximum temperature. CD drive is switched OFF to avoid irreversible damage.	Replace AV control unit if malfunction occurs constantly. Refer to AV-353, "Removal and Installation".

U12B0 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:0000000009876631

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Supply Voltage Goes below 9V > 20s [U12B0]	AV control unit supply voltage exceeds lower limits.	• Charging system malfunction. • AV control unit power supply or ground circuits.

Diagnosis Procedure

INFOID:0000000009876632

1.CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to CHG-4, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-7, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning components.

2.CHECK AV CONTROL UNIT POWER SUPPLY AND GROUND CIRCUITS

Perform the AV control unit power supply and ground circuit diagnosis procedure. Refer to AV-308, "AV CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-353, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U12B1 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:0000000009876633

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Supply Voltage Goes High > 16V for 20s [U12B1]	AV control unit supply voltage exceeds upper limits.	Charging system malfunction.

Diagnosis Procedure

INFOID:0000000009876634

1.CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to CHG-4, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-7, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-353, "Removal and Installation".
NO >> Repair or replace the malfunctioning components.

U1310 AV CONTROL UNIT

DTC Logic

INFOID:0000000009876635

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (AV) [U1310]	Error during CAN controller hardware initialization (MCAN).	Replace AV control unit if malfunction occurs constantly. Refer to AV-353, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT
AV CONTROL UNIT
AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009876636

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	4 (10A)
19	Battery power supply	31 (20A)
37	Ignition power supply	12 (10A)

Are the fuses blown?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connectors M43 and M45.
3. Check voltage between AV control unit connector M43, M45 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M43	19	—	Ignition switch: OFF	Battery voltage
	7		Ignition switch: ON	
M45	37			

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between AV control unit connector M43 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M43	20	—	Yes

Is the inspection result normal?

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

AUDIO AMP.
AUDIO AMP. : Diagnosis Procedure

INFOID:0000000009876637

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.CHECK FUSE

Check that the audio amp. fuses are not blown.

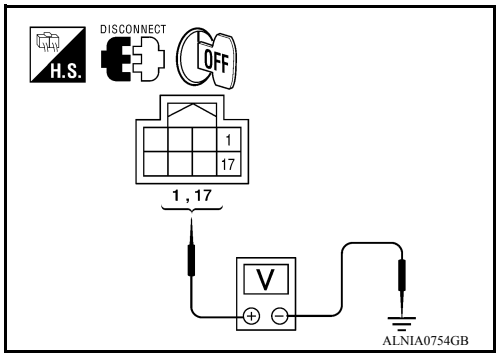
Unit	Terminal	Signal name	Fuse No.
Audio amp.	1	Battery power	31
	17		17

Are the fuses OK?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio amp. connector.
3. Check voltage between audio amp. harness connector M112 and ground.



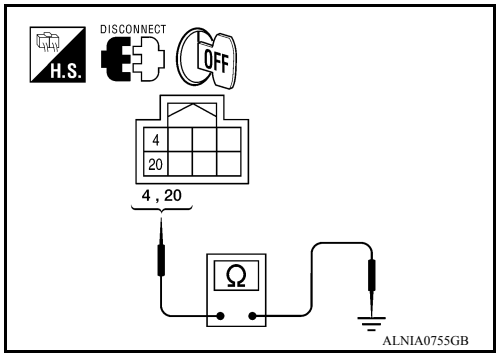
(+)		(-)	Voltage (approx.)
Connector	Terminal		
M112	1	Ground	Battery voltage
	17		

Is battery voltage present?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio amp. connector.
3. Check continuity between audio amp. harness connector M112 and ground.



Connector	Terminal	—	Continuity
M112	4	Ground	Yes
	20		

Does continuity exist?

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

DVD PLAYER

DVD PLAYER : Diagnosis Procedure

INFOID:0000000010621044

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses for the DVD player are not blown.

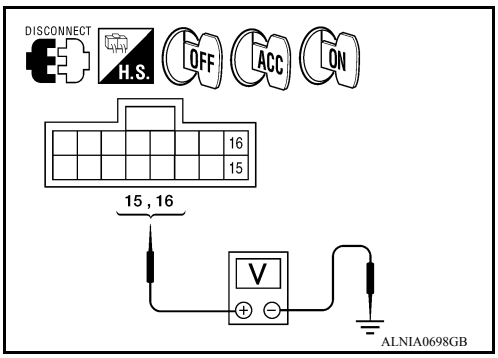
Unit	Terminal	Signal name	Fuse No.
DVD player	16	Battery power	31
	15	Ignition switch ACC or ON	4

Is the fuse OK?

YES >> GO TO 2.
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect DVD player connector M205.
2. Check voltage between the DVD player connector M205 and ground.



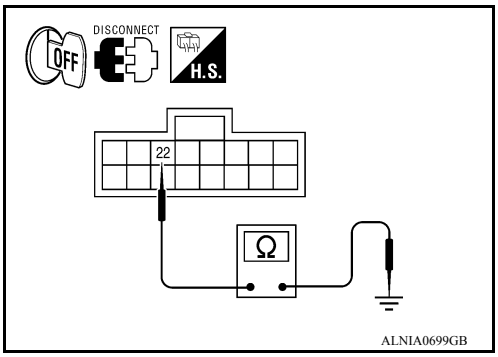
(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M205	16	Ground	Battery voltage	Battery voltage	Battery voltage
	15		0V	Battery voltage	Battery voltage

Are the voltage results as specified?

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

3.GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Disconnect DVD player connector M206.
3. Check continuity between DVD player harness connector M206 terminal 22 and ground.



Connector	Terminal	—	Continuity
M206	22	Ground	Yes

Are the continuity results as specified?

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

VIDEO MONITOR

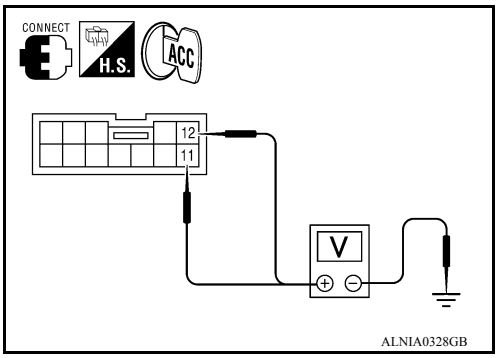
VIDEO MONITOR : Diagnosis Procedure

INFOID:0000000010621045

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch to ACC.
2. Check voltage between video monitor harness connector R202 and ground.



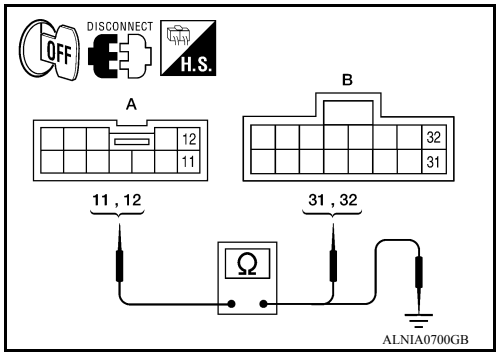
(+)		(-)	Value (Approx.)
Connector	Terminal		
R202	11	Ground	12V
	12		

Does specified voltage exist?

YES >> GO TO 3.
NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the video monitor connector R202 and the DVD player connector M206.
3. Check continuity between the video monitor harness connector R202 (A) and the DVD player connector M206 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
R202	11	M206	31	Yes
	12		32	

4. Check continuity between video monitor harness connector R202 (A) and ground.

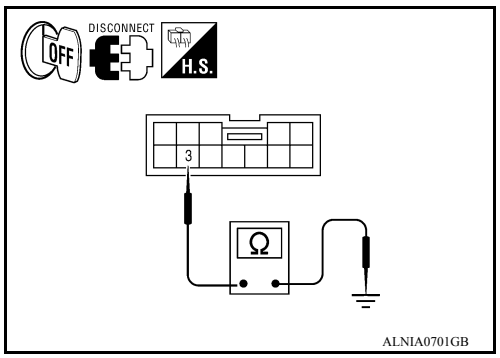
A		—	Continuity
Connector	Terminal		
R202	11	Ground	No
	12		

Are continuity test results as specified?

YES >> Refer to AV-309, "DVD PLAYER : Diagnosis Procedure".
NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect video monitor connector.
3. Check continuity between video monitor harness connector R202 and ground.



Connector	Terminal	—	Continuity
R202	3	Ground	Yes

Does continuity exist?

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

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000009876638

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

2.SPEAKER HARNESS CHECK

1. Disconnect audio amp. connector M113 and suspect front door speaker connector.
2. Check continuity between audio amp. harness connector M113 and suspect front door speaker harness connector.

Connector	Terminal	Connector	Terminal	Continuity
M113	15	D12	1	Yes
	31		2	
	16	D112	1	
	32		2	

3. Check continuity between audio amp. harness connector M113 and ground.

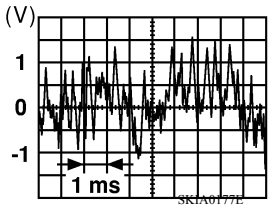
Connector	Terminal	—	Continuity
M113	15	Ground	No
	31		
	16		
	32		

Are continuity test results as specified?

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

3.FRONT DOOR SPEAKER SIGNAL CHECK

1. Connect audio amp. connector M113 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio amp. harness connector M113 terminals with CONSULT or oscilloscope.

Connector	Terminal (+)	Terminal (-)	Condition	Reference signal
M113	15	31	Receive audio signal	
	16	32		

Is audio signal voltage as specified?

YES >> Replace suspect front door speaker. Refer to AV-232, "Removal and Installation".
NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect AV control unit connector M43 and audio amp. connector M113.
2. Check continuity between AV control unitharness connector M43 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M43	3	M113	6	Yes
	2		22	
	12		5	
	11		21	

3. Check continuity between AV control unitharness connector M43 and ground.

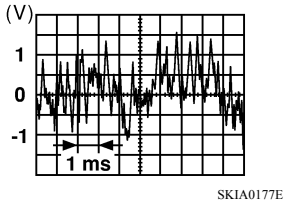
Connector	Terminal	—	Continuity
M43	3	Ground	No
	2		
	12		
	11		

Are continuity test results as specified?

YES >> GO TO 5.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

5. PRE-AMP SIGNAL CHECK

1. Connect AV control unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M43 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	2	3	Receive audio signal	 SKIA0177E
	11	12		

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to AV-360, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-353, "Removal and Installation".

FRONT TWEETER

Diagnosis Procedure

INFOID:0000000009876639

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

2.HARNESS CHECK

1. Disconnect audio amp. connector M113 and suspect front tweeter connector.
2. Check continuity between audio amp. harness connector M113 and suspect front tweeter harness connector.

Connector	Terminal	Connector	Terminal	Continuity
M113	14	M109	1	Yes
	30		2	
	13	M111	1	
	29		2	

3. Check continuity between audio amp. harness connector M113 and ground.

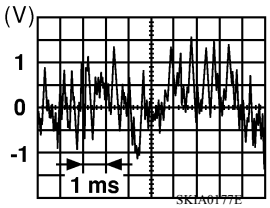
Connector	Terminal	—	Continuity
M113	14	Ground	No
	30		
	13		
	29		

Are continuity test results as specified?

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

3.FRONT TWEETER SIGNAL CHECK

1. Connect audio amp. connector M113 and suspect front tweeter connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio amp. harness connector M113 terminals with CONSULT or oscilloscope.

Connector	Terminal (+)	Terminal (-)	Condition	Reference signal
M113	14	30	Receive audio signal	
	13	29		

Is audio signal voltage as specified?

YES >> Replace suspect front tweeter. Refer to AV-354, "Removal and Installation".
NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect AV control unit connector M43 and audio amp. connector M113.
2. Check continuity between AV control unit harness connector M43 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M43	3	M113	6	Yes
	2		22	
	12		5	
	11		21	

3. Check continuity between AV control unit harness connector M43 and ground.

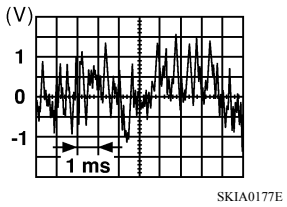
Connector	Terminal	—	Continuity
M43	3	Ground	No
	2		
	12		
	11		

Are continuity test results as specified?

YES >> GO TO 5.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

5. PRE-AMP SIGNAL CHECK

1. Connect AV control unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M43 terminals with CONSULT or oscilloscope.

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

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to AV-360, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-353, "Removal and Installation".

CENTER SPEAKER

Diagnosis Procedure

INFOID:0000000009876640

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.CONNECTOR CHECK

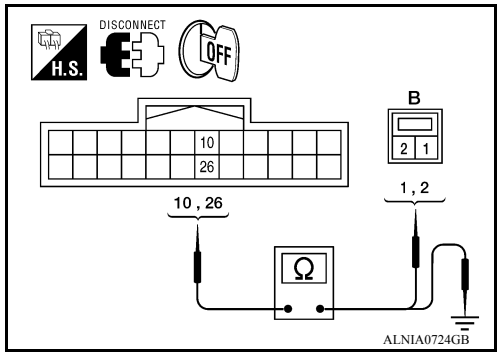
Check the audio amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

2.CENTER SPEAKER HARNESS CHECK

1. Disconnect audio amp. connector M113 and center speaker connector M110.
2. Check continuity between audio amp. harness connector M113 (A) and center speaker harness connector M110 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	10	M110	1	Yes
	26		2	

3. Check continuity between audio amp. harness connector M113 (A) and ground.

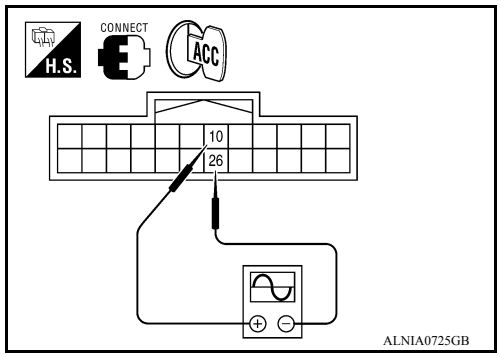
A		—	Continuity
Connector	Terminal		
M113	10	Ground	No
	26		

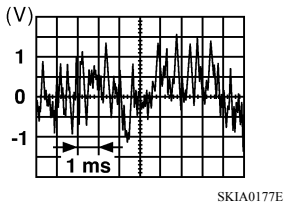
Are continuity test results as specified?

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

3.CENTER SPEAKER SIGNAL CHECK

1. Connect audio amp. connector M113 and center speaker connector M110.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio amp. harness connector M113 terminals with CONSULT or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M113	10	26	Receive audio signal	

SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace center speaker. Refer to AV-355, "Removal and Installation" .
NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect AV control unit connector M43 and audio amp. connector M113.
2. Check continuity between AV control unit harness connector M43 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M43	3	M113	6	Yes
	2		22	
	12		5	
	11		21	

3. Check continuity between AV control unit harness connector M43 and ground.

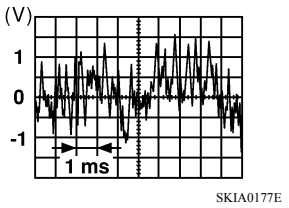
Connector	Terminal	—	Continuity
M43	3	Ground	No
	2		
	12		
	11		

Are continuity test results as specified?

YES >> GO TO 5.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

5. PRE-AMP SIGNAL CHECK

1. Connect AV control unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M43 terminals with CONSULT or oscilloscope.

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

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to AV-360, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-353, "Removal and Installation".

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000009876641

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

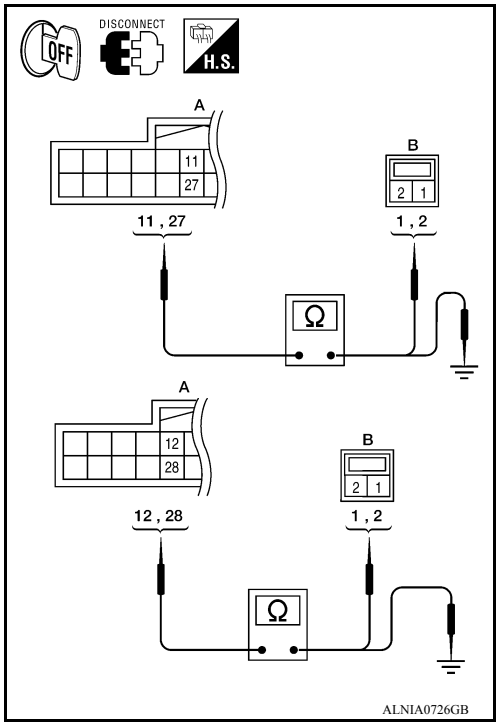
Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

2.SPEAKER HARNESS CHECK

1. Disconnect audio amp. connectors M113 and suspect rear door speaker connector.
2. Check continuity between audio amp. harness connectors M113 (A) and suspect rear door speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	11	D207 (crew cab) B76 (king cab)	1	Yes
	27		2	
	12	D307 (crew cab) B159 (king cab)	1	
	28		2	



3. Check continuity between audio amp. harness connectors M113 (A) and ground.

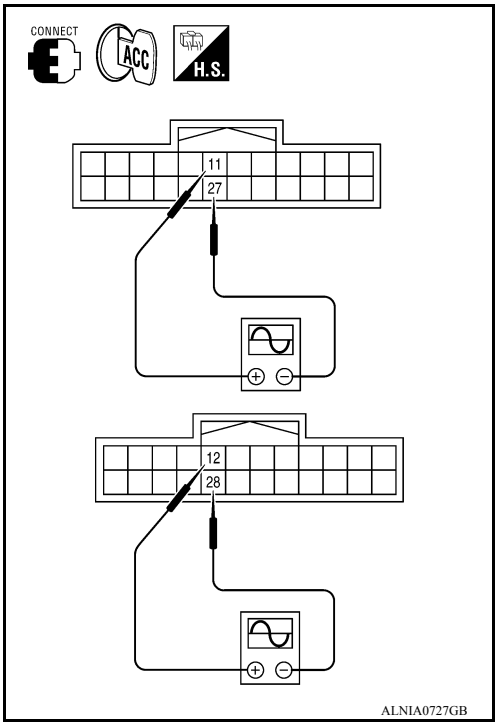
Connector	Terminal	-	Continuity
M113	11	Ground	No
	27		
	12		
	28		

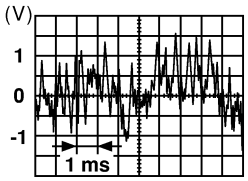
Are the continuity test results as specified?

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

3.SPEAKER SIGNAL CHECK

1. Connect audio amp. connectors and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio amp. harness connectors M113 terminals with CONSULT or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	11	27	Receive audio signal	
	12	28		

Are audio signal voltage readings as specified?

YES >> Replace suspect rear door speaker. Refer to AV-233, "Removal and Installation".

NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect AV control unit connector M43 and audio amp. connector M113.
2. Check continuity between AV control unit harness connector M43 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M43	5	M113	8	Yes
	4		24	
	14		7	
	13		23	

3. Check continuity between AV control unit harness connector M43 and ground.

Connector	Terminal	—	Continuity
M43	5	Ground	No
	4		
	14		
	13		

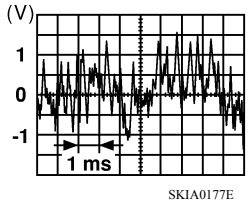
Are the continuity test results as specified?

YES >> GO TO 5.

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

5. PRE-AMP SIGNAL CHECK

1. Connect AV control unit connector M43 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M43 terminals with CONSULT or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M43	4	5	Receive audio signal	
	13	14		

SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-360, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-353, "Removal and Installation".

REAR DOOR TWEETER

Diagnosis Procedure

INFOID:0000000009876642

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio amp. and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminal and connector.

2.TWEETER HARNESS CHECK

1. Disconnect audio amp. connectors M113 and suspect rear door tweeter connector.
2. Check continuity between audio amp. harness connectors M113 and suspect rear door tweeter harness connector.

Connector	Terminal	Connector	Terminal	Continuity
M113	11	D208	1	Yes
	27		2	
	12	D308	1	
	28		2	

3. Check continuity between audio amp. harness connectors M113 and ground.

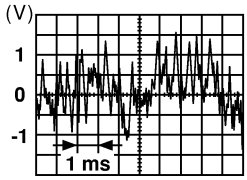
Connector	Terminal	-	Continuity
M113	11	Ground	No
	27		
	12		
	28		

Are the continuity test results as specified?

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

3.TWEETER SIGNAL CHECK

1. Connect audio amp. connectors and suspect rear door tweeter connector.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio amp. harness connectors M113 terminals with CONSULT or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M113	11	27	Receive audio signal	 SKIA0177E
	12	28		

Are audio signal voltage readings as specified?

YES >> Replace suspect rear door tweeter. Refer to AV-357, "Removal and Installation".
NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect AV control unit connector M43 and audio amp. connector M113.
2. Check continuity between AV control unit harness connector M43 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M43	5	M113	8	Yes
	4		24	
	14		7	
	13		23	

3. Check continuity between AV control unit harness connector M43 and ground.

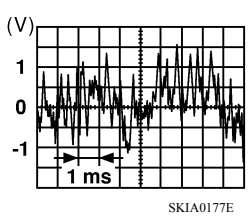
Connector	Terminal	—	Continuity
M43	5	Ground	No
	4		
	14		
	13		

Are the continuity test results as specified?

YES >> GO TO 5.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

5. PRE-AMP SIGNAL CHECK

1. Connect AV control unit connector M43 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M43 terminals with CONSULT or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M43	4	5	Receive audio signal	 SKIA0177E
	13	14		

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-360, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-353, "Removal and Installation".

SUBWOOFER

Description

INFOID:0000000009876643

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

Diagnosis Procedure

INFOID:0000000009876644

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio amp. and subwoofer 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.SUBWOOFER HARNESS CHECK

1. Disconnect audio amp. connector M112 and subwoofer connector B72.
2. Check continuity between audio amp. harness connector M112 and subwoofer harness connector B72.

Connector	Terminal	Connector	Terminal	Continuity
M112	2	B72	1	Yes
	3		3	
	18		2	
	19		4	

3. Check continuity between audio amp. harness connector M112 and ground.

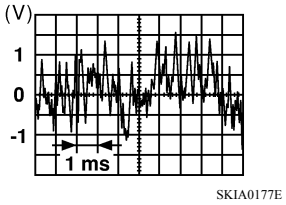
A		—	Continuity
Connector	Terminal		
M112	2	Ground	No
	3		
	18		
	19		

Are the continuity test results as specified?

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

3.SUBWOOFER SIGNAL CHECK

1. Connect audio amp. connector M112 and subwoofer connector B72.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio amp. harness connector M112 terminals with CONSULT or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M112	2	18	Receive audio signal	
	3	19		

SKIA0177E

Is the audio signal voltage as specified?

YES >> Replace subwoofer. Refer to AV-358, "Removal and Installation".
NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect AV control unit connector M43 and audio amp. connector M113.
2. Check continuity between AV control unit harness connector M43 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M43	5	M113	8	Yes
	4		24	
	14		7	
	13		23	

3. Check continuity between AV control unit harness connector M43 and ground.

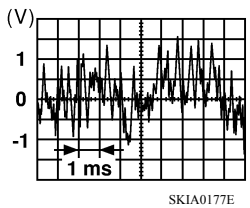
Connector	Terminal	—	Continuity
M43	5	Ground	No
	4		
	14		
	13		

Are the continuity test results as specified?

YES >> GO TO 5.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

5. PRE-AMP SIGNAL CHECK

1. Connect AV control unit connector M43 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between AV control unit harness connector M43 terminals with CONSULT or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M43	4	5	Receive audio signal	
	13	14		

SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-360, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-353, "Removal and Installation".

AMP ON SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000009876645

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.CHECK AMP ON SIGNAL

1. Turn audio system ON.
2. Check voltage between audio amp. harness connector M113 terminal 9 and ground.

(+)		(-)	Voltage (approx.)
Connector	Terminal		
M113	9	Ground	More than 6.5V

Is inspection result normal?

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

2.CHECK AMP ON SIGNAL (AV CONTROL UNIT)

Check voltage between AV control unit harness connector M43 terminal 1 and ground.

(+)		(-)	Voltage (approx.)
Connector	Terminal		
M43	1	Ground	More than 6.5V

Is inspection result normal?

YES >> Repair harness or connector.
NO >> Replace AV control unit. Refer to AV-353, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000009876646

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CHECK REVERSE INPUT SIGNAL

1. Turn ignition switch ON.
2. Shift the selector lever to R (reverse).
3. Check voltage between AV control unit connector M45 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M45	28	—	Selector lever in R (reverse)	Battery Voltage

Is inspection result normal?

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

2.CHECK CAMERA POWER SUPPLY CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M45 and rear view camera connector T2.
3. Check continuity between AV control unit connector M45 and rear view camera connector T2.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M45	34	T2	1	Yes

4. Check continuity between AV control unit connector M45 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M45	34		No

Is inspection result normal?

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

3.CHECK CAMERA POWER SUPPLY VOLTAGE

1. Connect AV control unit connector M45 and rear view camera connector T2.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check voltage between AV control unit connector M45 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M45	34	—	Selector lever is in “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-353, "Removal and Installation".

4.CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M45 and rear view camera connector.
3. Check continuity between AV control unit connector M45 and rear view camera connector T2.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M45	36	T2	3	Yes

4. Check continuity between AV control unit connector M45 terminal 36 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M45	36		No

Is inspection result normal?

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

5.CHECK CAMERA GROUND CIRCUIT CONTINUITY

Check continuity between AV control unit connector M45 and rear view camera connector T2.

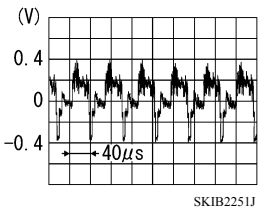
AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M45	33	T2	4	Yes

Is inspection result normal?

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

6.CHECK CAMERA IMAGE SIGNAL

1. Connect AV control unit connector M45 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check signal between AV control unit connector M45 and ground.

AV control unit (+)		Ground (−)	Condition	Reference value
Connector	Terminal			
M45	36	—	Camera image displayed.	

Is inspection result normal?

YES >> Replace AV control unit. Refer to AV-353, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-367, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000009876647

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M45 and microphone connector R109.
3. Check continuity between AV control unit connector M45 and microphone connector R109.

AV control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M45	41	R109	2	Yes
	42		4	
	43		1	

4. Check continuity between AV control unit connector M45 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M45	41	—	No
	42		
	43		

Is inspection result normal?

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

2.CHECK MICROPHONE VCC VOLTAGE

1. Connect AV control unit connector M45.
2. Turn ignition switch ON.
3. Check voltage between terminals of AV control unit connector M45.

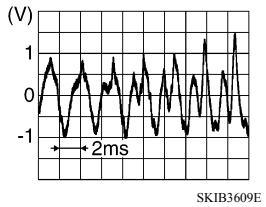
AV control unit connector		Voltage (Approx.)
(+)	(−)	
Terminal	Terminal	
42	41	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace AV control unit. Refer to AV-353, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of AV control unit connector M45.

AV control unit connector		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
42	43	Speak into microphone.	

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-353, "Removal and Installation".
NO >> Replace microphone. Refer to AV-366, "Removal and Installation".

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000009876648

Regarding Wiring Diagram information, refer to AV-264, "Wiring Diagram".

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Disconnect combination switch connector M102.
2. Check resistance between combination switch connector terminals.

Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
16	18	Volume (down)	Depress − switch.	1
		Volume (up)	Depress + switch.	121
		Phone end	Depress switch.	321
15	18	Source	Depress SOURCE switch.	1
		Seek (up)	Depress △ switch.	121
		Seek (down)	Depress ▽ switch.	321
		Phone/Send	Depress switch.	723

Do the steering wheel audio control switches check OK?

YES >> GO TO 2.
NO >> Replace steering wheel audio control switch. Refer to AV-359, "Removal and Installation".

2.CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M43 and combination switch connector M30.
3. Check continuity between AV control unit harness connector M43 and combination switch harness connector M30.

AV control unit		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M43	6	M30	24	Yes
	15		31	
	16		25	

4. Check continuity between AV control unit connector M43 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M43	6	Ground	No
	15		
	16		

Are the continuity results as specified?

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

3.SPIRAL CABLE CHECK

Check continuity between combination switch harness connectors M30 and M102.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M102	15	Yes
	31		18	
	25		16	

Does the spiral cable check OK?

YES >> Inspection End.
NO >> Replace spiral cable. Refer to SR-13, "Removal and Installation".

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000009876649

Regarding Wiring Diagram information, refer to AV-172, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M42 and USB interface connector M124.
3. Check continuity between AV control unit connector M42 and USB interface connector M124.

AV control unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M42	48	M124	3	Yes
	45		4	
	47		2	
	46		1	
	49		5	

4. Check continuity between AV control unit connector M42 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M42	48	Ground	No
	47		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-363, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:0000000009876650

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	AV control unit	Malfunction in AV control unit. Refer to AV-253, "On Board Diagnosis Function".

Symptoms	Check items	Probable malfunction location
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-264, "Wiring Diagram". • Amp ON signal circuit malfunction. Refer to AV-330, "Diagnosis Procedure". • Audio amp. power supply and ground circuits malfunction. Refer to AV-308, "AUDIO AMP. : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear door speaker LH, rear door speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and audio amp. Refer to: - AV-312, "Diagnosis Procedure" (front door speaker). - AV-315, "Diagnosis Procedure" (front tweeter). - AV-318, "Diagnosis Procedure" (center speaker). - AV-321, "Diagnosis Procedure" (rear door speaker). - AV-324, "Diagnosis Procedure" (rear door tweeter). - AV-327, "Diagnosis Procedure" (sub-woofer). • Sound signal circuit malfunction between audio amp. and speaker. Refer to: - AV-312, "Diagnosis Procedure" (front door speaker). - AV-315, "Diagnosis Procedure" (front tweeter). - AV-318, "Diagnosis Procedure" (center speaker). - AV-321, "Diagnosis Procedure" (rear door speaker). - AV-324, "Diagnosis Procedure" (rear door tweeter). - AV-327, "Diagnosis Procedure" (sub-woofer). • Malfunction in speaker. Refer to: - AV-356, "Removal and Installation" (front door speaker). - AV-354, "Removal and Installation" (front tweeter). - AV-355, "Removal and Installation" (center speaker). - AV-357, "Removal and Installation" (rear door speaker). - AV-357, "Removal and Installation" (rear door tweeter). - AV-358, "Removal and Installation" (sub-woofer). • Malfunction in AV control unit. Refer to AV-253, "On Board Diagnosis Function". • Malfunction in audio amp. Replace Audio amp. Refer to AV-360, "Removal and Installation".

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	• Malfunction in AV control unit. Refer to AV-253, "On Board Diagnosis Function". • Malfunction in audio amp. Replace audio amp. Refer to AV-360, "Removal and Installation".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear door speaker LH, rear door speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and audio amp. Refer to: - AV-312, "Diagnosis Procedure" (front door speaker). - AV-315, "Diagnosis Procedure" (front tweeter). - AV-318, "Diagnosis Procedure" (center speaker). - AV-321, "Diagnosis Procedure" (rear door speaker). - AV-324, "Diagnosis Procedure" (rear door tweeter). - AV-327, "Diagnosis Procedure" (sub-woofer). • Sound signal circuit malfunction between audio amp. and speaker. Refer to: - AV-312, "Diagnosis Procedure" (front door speaker). - AV-315, "Diagnosis Procedure" (front tweeter). - AV-318, "Diagnosis Procedure" (center speaker). - AV-321, "Diagnosis Procedure" (rear door speaker). - AV-324, "Diagnosis Procedure" (rear door tweeter). - AV-327, "Diagnosis Procedure" (sub-woofer). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-356, "Removal and Installation" (front door speaker). - AV-354, "Removal and Installation" (front tweeter). - AV-355, "Removal and Installation" (center speaker). - AV-357, "Removal and Installation" (rear door speaker). - AV-357, "Removal and Installation" (rear door tweeter). - AV-358, "Removal and Installation" (sub-woofer). • Malfunction in AV control unit. Refer to AV-253, "On Board Diagnosis Function". • Malfunction in audio amp. Replace audio amp. Refer to AV-360, "Removal and Installation".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna or antenna feeder. Refer to AV-361, "Location of Antenna".

Symptoms	Check items	Probable malfunction location
No radio reception or poor reception.	• Other audio sounds are normal. • Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	• Antenna amp. ON signal circuit malfunction. Refer to AV-255, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-361, "Location of Antenna".
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result. Refer to AV-254, "CONSULT Function".	• Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis. Refer to AV-296, "Diagnosis Procedure". • Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. Refer to AV-296, "Diagnosis Procedure".
	There is no malfunction in the CONSULT self diagnosis result. Refer to AV-254, "CONSULT Function".	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-361, "Location of Antenna".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

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

a. Using the website's search engine, find out if the customer's phone is on the approved list.

b. If the customer's phone is NOT on the approved list:
   Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.

c. If the feature related to the customer's concern shows as "N" (not compatible):
   Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".

d. If the feature related to the customer's concern shows as "Y" (compatible):
   Perform diagnosis as per the following table.

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	Malfunction in AV control unit. Replace AV control unit. Refer to AV-353, "Removal and Installation".
Hands-free phone cannot be established.	• Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.	
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-333, "Diagnosis Procedure".
The system cannot be operated.	• The voice recognition can be controlled. • Steering switch's +, −, and ↩ switch works, but 📞 does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-359, "Removal and Installation".
	Steering switch's 📞, +, −, and ↩ switches do not work.	Steering switch signal circuit malfunction. Refer to AV-335, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-335, "Diagnosis Procedure".

RELATED TO NAVIGATION

Symptoms	Check items	Probable malfunction location
Navigation system is inoperative.	Navigation malfunction.	• Malfunction in SD card. • Malfunction in AV control unit. Refer to AV-253, "On Board Diagnosis Function".
	Steering switches malfunction.	Steering switch signal circuit malfunction. Refer to AV-335, "Diagnosis Procedure".
	Voice activated control malfunction.	Microphone signal circuit malfunction. Refer to AV-333, "Diagnosis Procedure". Steering switch signal circuit malfunction. Refer to AV-335, "Diagnosis Procedure".

RELATED TO REAR VIEW CAMERA

Symptoms	Check items	Probable malfunction location
Rear view camera is inoperative.	Reverse signal circuit malfunction.	Reverse signal circuit malfunction between BCM and AV control unit. Refer to AV-331, "Diagnosis Procedure".
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and AV control unit. Refer to AV-331, "Diagnosis Procedure".
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-367, "Removal and Installation".

DVD PLAYER

Symptom	Possible cause	Reference page
DVD player inoperative	• DVD player power and ground circuit • DVD player	• AV-309 • AV-369
No sound when playing a DVD	• Audio signal circuits • AV control unit • DVD player	• AV-255 • AV-255 • AV-369
Video monitor is inoperative/does not display properly	• Power supply and ground circuits • Video out circuit • DVD player • Video monitor	• AV-310 • AV-262 • AV-369 • AV-369
Rear control assembly is inoperative/does not operate properly	• DVD player • Rear control assembly	• AV-369 • AV-368
Headphones inoperative	• Headphone batteries • Headphone audio signal circuits from AV control unit • AV control unit • Rear control assembly	• AV-255 • AV-353 • AV-368

NORMAL OPERATING CONDITION

Description

INFOID:0000000009876651

RELATED TO NOISE

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).
The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction.

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

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

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

Type of Noise and Possible Cause

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” in AV-338, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. **NOTE:** While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.

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

RELATED TO NAVIGATION

Basic Operation

Symptom	Cause	Remedy
No image is shown.	Display brightness adjustment is set fully to DARK side.	Adjust the display brightness.
No guide sound is heard. Audio guide volume is too low or too high.	Volume control is set to OFF, MIN or MAX.	Adjust the audio guide volume.
	Audio guidance is not available while the vehicle is driving on a dark pink route.	System is not malfunctioning.
Screen is too dark. Motion of the image is too slow.	Temperature inside the vehicle is low.	Wait until the temperature inside the vehicle reaches the proper temperature.
Small black or bright spots appear on the screen.	Symptom peculiar to a liquid crystal display (display unit).	System is not malfunction.

Vehicle Mark

Symptom	Cause	Remedy
Map screen and BIRDVIEW™ Name of the place vary with the screen.	Some thinning of the character data is done to prevent the display becoming to complex. In some cases and in some locations, the display contents may differ. The same place name, street name, etc. may not be displayed every time on account of the data processing.	System is not malfunctioning.
Vehicle mark is not positioned correctly.	Vehicle is transferred by ferry or by towing after its ignition switch is turned to OFF.	Drive the vehicle for a while in the GPS satellite signal receiving condition.
Screen will not switch to nighttime mode after the lighting switch is turned ON.	The daytime screen is selected by the "SWITCH SCREENS" when the last time the screen dimming setting is done. Switching between daytime/nighttime screen may be inhibited by the automatic illumination adjustment function.	Perform screen dimming and select the nighttime screen by "SWITCH SCREENS".
Map screen will not scroll in accordance with the vehicle travel.	Current location is not displayed.	Press "MAP" button to display the current location.
Vehicle mark will not be shown.	Current location is not displayed.	Press "MAP" button to display the current location.
Accuracy indicator (GPS satellite mark) on the map screen stays gray.	GPS satellite signal is intercepted because the vehicle is in or behind a building.	Move the vehicle out to an open space.
	GPS satellite signal cannot be received because an obstacle is placed on top of the instrument panel.	Do not place anything on top of the meter display (instrument panel).
	GPS satellites are not visible from current location.	Wait until GPS satellites are visible by moving the vehicle.

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

Destination, Passing Points and Menu Items Cannot be Selected/Set

Symptom	Cause	Remedy
Destination cannot be set.	Destination to be set is on an expressway.	Set the destination on an ordinary road.
Passing point is not searched when re-searching the route.	The vehicle has already passed the passing point, or the system judged so.	To include the passing points that have been passed into the route again, set the route again.
Route information will not be displayed.	Route searching has not been done.	Set the destination and perform route searching.
	Vehicle mark is not on the recommended route.	Drive on the recommended route.
	Route guide is turned OFF.	Turn route guide ON.
	Route information is not available on the dark pink route.	System is not malfunctioning.
After the route searching, no guide sign will appear as the vehicle goes near the entrance/exit to the toll road.	Vehicle mark is not on the recommended route. (On the display, only guide signs related to the recommended route will be shown.)	Drive on the recommended route.
Automatic route searching is not possible.	Vehicle is driving on a highway (gray route), or no recommended route is available.	Drive on a road to be searched. Or re–search the route manually. In this case, however, the whole route will be searched.
Performed automatic detour search (or detour search). However, the result is the same as that of the previous search.	Performed search with every conditions considered. However, the result is the same as that of the previous search.	System is not malfunctioning.
Passing points cannot be set.	More than five passing points were set.	Passing points can be set up to five. To stop at more than five points, perform sharing in several steps.
When setting the route, the starting point cannot be selected.	The current vehicle location is always set as the starting point of a route.	System is not malfunctioning.
Some menu items cannot be selected.	The vehicle is being driven.	Stop the vehicle at a safe place and then operate the system.

Voice Guide

Symptom	Cause	Remedy
Voice guide will not operate.	Note: Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction.	System is not malfunctioning.
	The vehicle is not on the recommended route.	Return to the recommended route or re-search the route.
	Voice guide is turned OFF.	Turn voice guide ON.
	Route guide is turned OFF.	Turn route guide ON.
Voice guide does not match the actual road pattern.	Voice guide may vary with the direction to which the vehicle is turn and the connection of the road to other roads.	Drive in conformity to the actual traffic rules.

Route Search

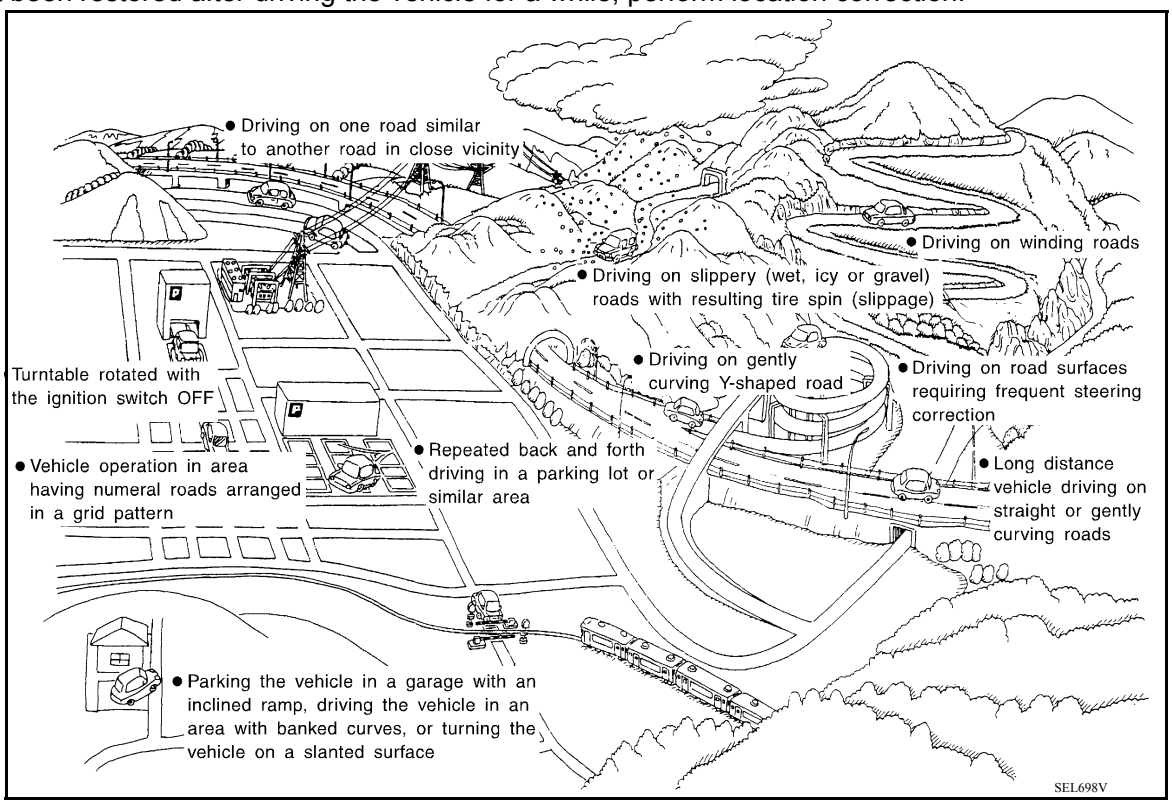
Symptom	Cause	Remedy
No route is shown.	No road to be searched is found around the destination.	Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads.
	Starting point and the destination are too close.	Set the destination at more distant point.
	Conditional traffic regulation (day of the week/ time of the day) is set at the area around the current location or the destination.	Turn the time-regulating search conditions OFF. Turn “Avoid regulation time” in the search conditions OFF.
Indicated route is intermittent.	In some areas, highways (gray routes) are not used for the search(Note)Therefore, the route to the current location or the passing points may be intermittent.	System is not malfunctioning.
When the vehicle has passed the recommended route, it is deleted from the screen.	A recommended route is controlled by each section. When the vehicle has passed the passing point 1, then the map data from the starting point up to the passing point 1 will be deleted. (The data may remain undeleted in some area.)	System is not malfunctioning.
Detouring route is recommended.	In some areas, highways (gray routes) are not used for the search. (Note). Therefore, detour route may be recommended.	Set the route closer to the basic route (gray route).
	A detour route may be shown when some traffic regulation (one-way traffic, etc.) is set at the area around the starting point or the destination.	Slightly move the starting point or the destination, or set the passing point on the route of your choice.
	In the area where highways (gray routes) are used for the search, left turn has priority around the current location and the destination (passing points). For this reason, the recommended route may be detouring.	System is not malfunctioning.
Landmarks on the map do not match the actual ones.	This can be happen due to omission or error in the map data.	As a rule, an updated map DVD-ROM will be released once a year. Wait until the latest map has become available.
Recommended route is far from the starting point, passing points, and destination.	Starting point, passing points, and destination of the route guide were set far from the desired points because route searching data around these area were not stored.	Reset the destination onto the road nearby. If this road is one of the highways (gray routes), an ordinary road nearby may be displayed as the recommended route.

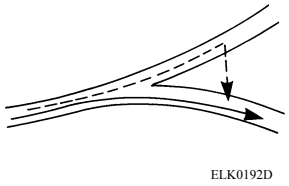
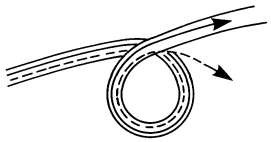
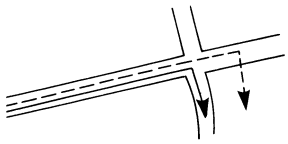
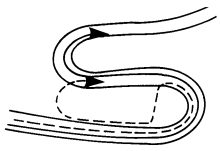
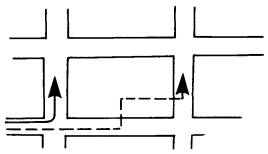
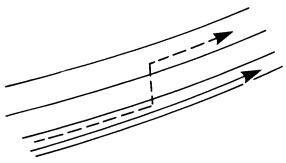
NOTE:

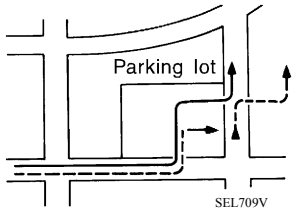
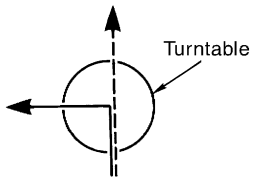
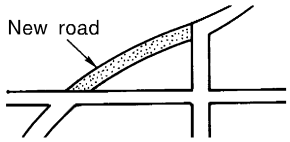
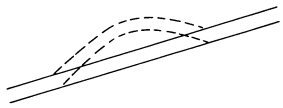
Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

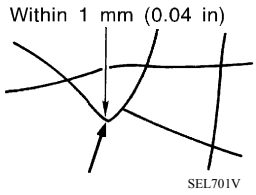
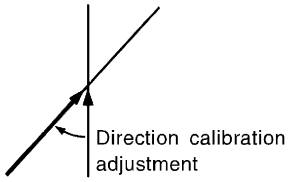
Examples of Current-Location Mark Displacement

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



Cause (condition) –: While driving ooo: Display		Driving condition	Remarks (correction, etc.)
Road configuration	Y–intersections  ELK0192D	At a Y intersection or similar gradual division of roads, an error in the direction of travel deduced by the sensor may result in the current-location mark appearing on the wrong road.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Spiral roads  ELK0193D	When driving on a large, continuous spiral road (such as loop bridge), turning angle error is accumulated and the vehicle mark may deviate from the correct location.	
	Straight roads  ELK0194D	When driving on a long, straight road and slow curve without stopping, map-matching does not work effectively enough and distance errors may accumulate. As a result, the vehicle mark may deviate from the correct location when the vehicle is turned at a corner.	
	Zigzag roads  ELK0195D	When driving on a zigzag road, the map may be matched to other roads in the similar direction nearby at every turn, and the vehicle mark may deviate from the correct location.	
	Roads laid out in a grid pattern  ELK0196D	When driving where roads are laid out in a grid pattern, or where many roads are running in the similar direction nearby, the map may be matched to them by mistake and the vehicle mark may deviate from the correct location.	
	Parallel roads  ELK0197D	When two roads are running in parallel (such as highway and sideway), the map may be matched to the other road by mistake and the vehicle mark may deviate from the correct location.	

Cause (condition) –: While driving ooo: Display		Driving condition	Remarks (correction, etc.)
Place	In a parking lot  SEL709V	When driving in a parking lot, or other location where there are no roads on the map, matching may place the vehicle mark on a nearby road. When the vehicle returns to the road, the vehicle mark may have deviated from the correct location. When driving in circle or turning the steering wheel repeatedly, direction errors accumulate, and the vehicle mark may deviate from the correct location.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Turntable  SEL710V	When the ignition switch is OFF, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a turntable with the ignition OFF.	
	Slippery roads	On snow, wet roads, gravel, or other roads where tires may slip easily, accumulated mileage errors may cause the vehicle mark to deviate from the correct road.	
	Slopes	When parking in sloped garages, when travelling on banked roads, or in other cases where the vehicle turns when tilted, an error in the turning angle will occur, and the vehicle mark may deviate from the road.	
Map data	Road not displayed on the map screen  SEL699V	When driving on new roads or other roads not displayed on the map screen, map matching does not function correctly and matches the location to a nearby road. When the vehicle returns to a road which is on the map, the vehicle mark may deviate from the correct road.	
	Different road pattern (Changed due to repair)  ELK0201D	If the road pattern stored in the map data and the actual road pattern are different, map matching does not function correctly and matches the location to a nearby road. The vehicle mark may deviate from the correct road.	
Vehicle	Use of tire chains	When tire chains are used, the mileage is not correctly detected, and the vehicle mark may deviate from the correct road.	Drive the vehicle for a while. If the distance still deviates, adjust it by using the distance adjustment function. (If the tire chain is removed, recover the original value.)

Cause (condition) –: While driving ooo: Display		Driving condition	Remarks (correction, etc.)
Precautions for driving	Just after the engine is started	If the vehicle is driven just after the engine is started when the gyroscope (angular speed sensor) correction is not completed, the vehicle can lose its direction and may have deviated from the correct location.	Wait for a short while before driving after starting the engine.
	Continuous driving without stopping	When driving long distances without stopping, direction errors may accumulate, and the current-location mark may deviate from the correct road.	Stop and adjust the orientation.
	Abusive driving	Spinning the wheels or engaging in other kinds of abusive driving may result in the system being unable perform correct detection, and may cause the vehicle mark to deviate from the correct road.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
How to correct location	Position correction accuracy  SEL701V	If the accuracy of location settings is poor, accuracy may be reduced when the correct road cannot be found, particularly in places where there are many roads.	Enter in the road displayed on the screen with an accuracy of approx. 1mm. Caution: Whenever possible, use detailed map for the correction.
	Direction when location is corrected  SEL702V	If the accuracy of location settings during correction is poor, accuracy may be reduced afterwards.	Perform direction correction.

Location Correction by Map-Matching is Slow

- The map-matching function needs to refer to the data of the surrounding area. It is necessary to drive some distance for the function to work.
- Because map-matching operates on this principle, when there are many roads running in similar directions in the surrounding area, no matching determination may be made. The location may not be corrected until some special feature is found.

Name of Road is Not Displayed

The current road name may not be displayed if there are no road names displayed on the map screen.

Contents of Display Differ for Birdview™ and the (Flat) Map Screen

Difference of the BIRDVIEW™ screen from the flat map screen are as follows.

- The current place name displays names which are primarily in the direction of vehicle travel.
- The amount of time before the vehicle travel or turn angle is updated on the screen is longer than for the (flat) map display.
- The conditions for display of place names, roads, and other data are different for nearby areas and for more distant areas.
- Some thinning of the character data is done to prevent the display becoming too complex. In some cases and in some locations, the display contents may differ.
- The same place name, street name, etc. may be displayed multiple times.

Vehicle Mark Shows a Position Which is Completely Wrong

In the following cases, the vehicle mark may appear on completely different position in the map depending on the GPS satellite signal receiving conditions. In this case, perform location correction and direction correction.

- When location correction has not been done
  - If the receiving conditions of the GPS satellite signal is poor, if the vehicle mark becomes out of place, it may move to a completely different location and not come back if location correction is not done. The position will be corrected if the GPS signal can be received.
- When the vehicle has traveled by ferry, or when the vehicle has been being towed

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

Vehicle Mark Jumps

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location.

• When map matching has been done
- If the current location and the vehicle mark are different when map matching is done, the vehicle mark may seem to jump. At this time, the location may be “corrected” to the wrong road or to a location which is not on a road.
• When GPS location correction has been done
- If the current location and the vehicle mark are different when the location is corrected using GPS measurements, the vehicle mark may seem to jump. At this time, the location may be “corrected” to a location which is not on a road.

Vehicle Mark is in a River or Sea

The navigation system moves the vehicle mark with no distinction between land and rivers or sea. If the vehicle mark is somehow out of place, it may appear that the vehicle is driving in a river or the sea.

Vehicle Mark Automatically Rotates

The system wrongly memorizes the rotating status as stopping when the ignition switch is turned ON with the turntable rotating. That causes the vehicle mark to rotate when the vehicle is stopped.

When Driving on Same Road, Sometimes Vehicle Mark is in Right Place and Sometimes it is in Wrong Place

The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Removal and Installation

INFOID:0000000009876652

REMOVAL

CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to AV-288, "CONFIGURATION (AV CONTROL UNIT) : Description".

1. Disconnect the battery negative terminal. Refer to PG-79, "Removal and Installation".
2. Remove the cluster lid C. Refer to IP-15, "Removal and Installation".
3. Remove the AV control unit.

a. Remove the AV control unit screws using power tool.
b. Pull the AV control unit out from the instrument panel.
c. Disconnect the harness connectors from the AV control unit.

INSTALLATION

CAUTION:

- **When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to AV-288, "CONFIGURATION (AV CONTROL UNIT) : Description".**

Installation is in the reverse order of removal.

FRONT TWEETER

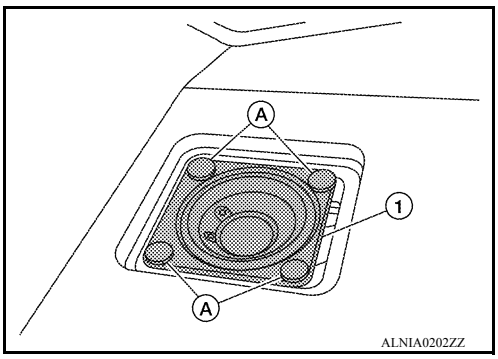
Removal and Installation

INFOID:0000000009876653

FRONT TWEETER

Removal

1. Remove the front tweeter grille. Refer to IP-11, "Removal and Installation".
2. Remove the front tweeter clips (A).
3. Disconnect the front tweeter harness connector.
4. Remove the front tweeter (1).



Installation

Installation is in the reverse order of removal.

CENTER SPEAKER

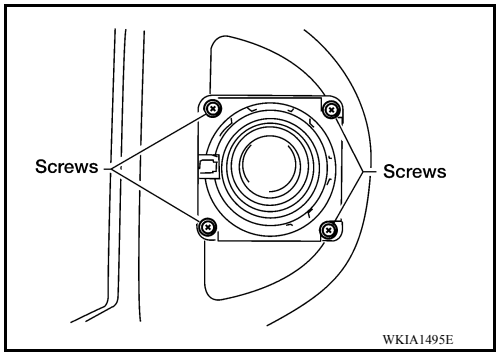
Removal and Installation

INFOID:0000000009876654

CENTER SPEAKER

Removal

1. Remove the center console. Refer to IP-20, "Removal and Installation".
2. Remove the cluster lid D. Refer to IP-15, "Removal and Installation".
3. Remove the center speaker screws.
4. Disconnect the center speaker harness connector.
5. Remove the center speaker.



Installation

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

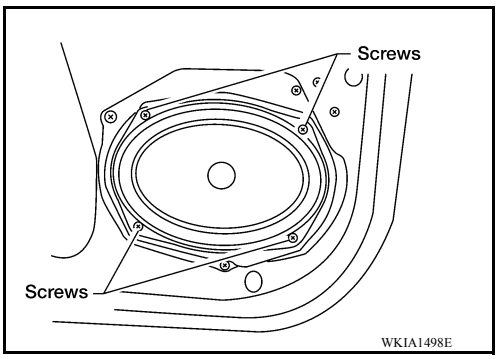
Removal and Installation

INFOID:0000000009876655

FRONT DOOR SPEAKER

Removal

1. Remove the front door finisher. Refer to INT-10, "Removal and Installation".
2. Remove the four front door speaker screws.
3. Disconnect the front door speaker harness connector.
4. Remove the front door speaker.



Installation

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

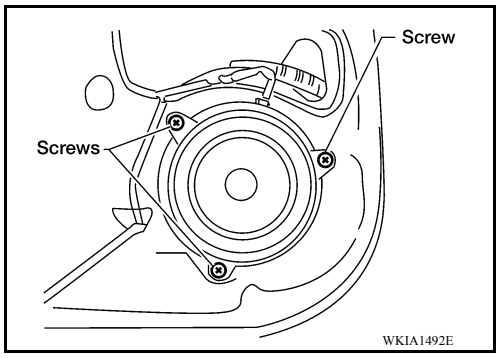
Removal and Installation

INFOID:0000000009876656

REAR DOOR SPEAKER

Removal

1. Remove the rear door finisher. Refer to INT-10, "Removal and Installation" (Crew Cab) or INT-10, "Removal and Installation" - King Cab.
2. Remove the three rear door speaker screws.
3. Disconnect the rear door speaker harness connector.
4. Remove the rear door speaker.



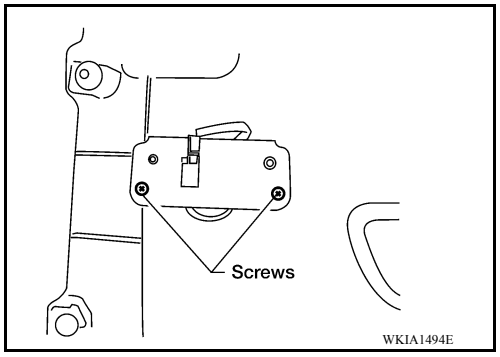
Installation

Installation is in the reverse order of removal.

REAR DOOR TWEETER

Removal

1. Remove the rear door finisher. Refer to INT-10, "Removal and Installation".
2. Remove the rear door tweeter screws.
3. Remove the rear door tweeter.
4. Disconnect the rear door tweeter harness connector.



Installation

Installation is in the reverse order of removal.

SUBWOOFER

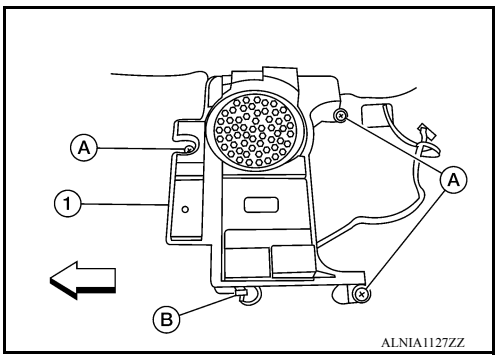
Removal and Installation

INFOID:0000000009876657

SUBWOOFER

Removal

1. Remove the LH front seat. Refer to SE-34, "Removal and Installation - Front Seat Assembly".
2. Disconnect the subwoofer harness connector (B).
   - ⇦: Vehicle front
3. Remove the subwoofer bolts (A).
4. Remove the subwoofer (1).



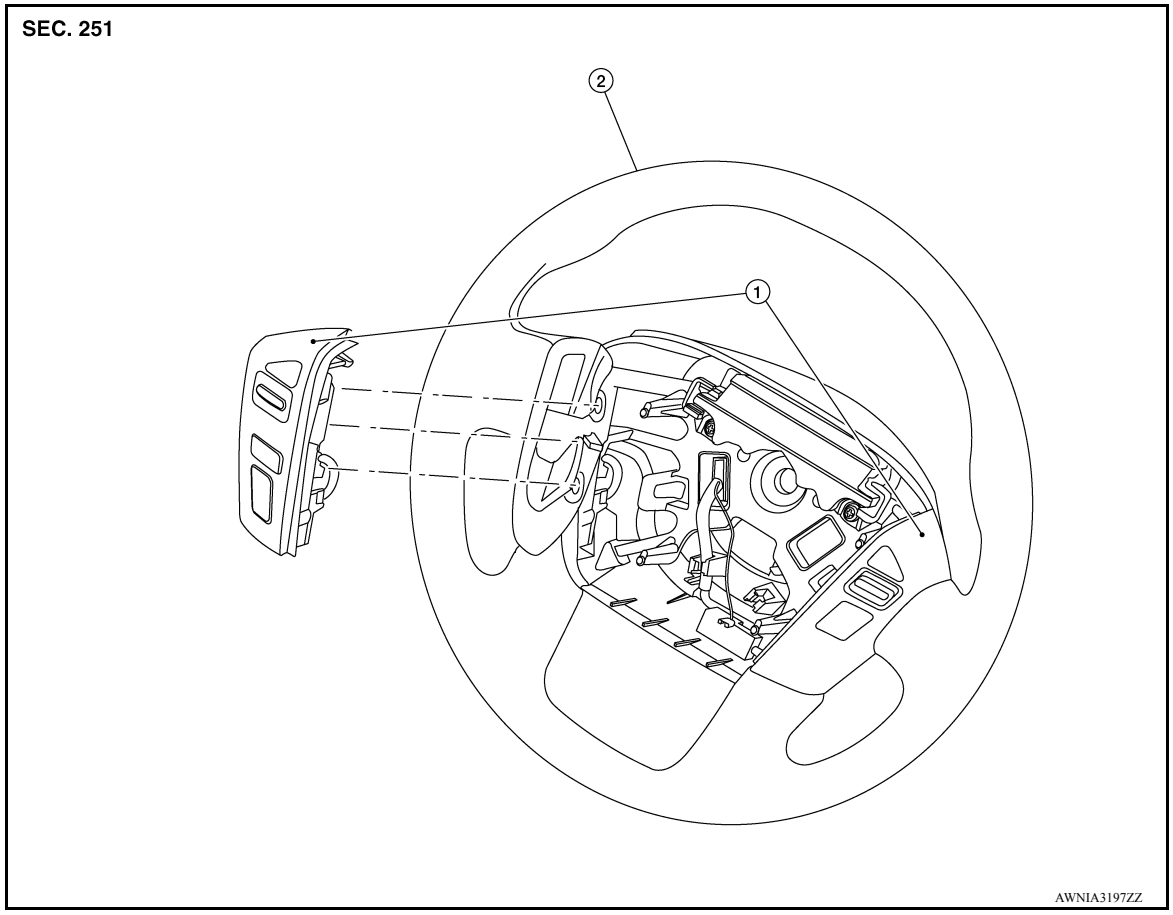
Installation

Installation is in the reverse order of removal.

STEERING SWITCH

Removal and Installation

INFOID:0000000010159267



1. Steering wheel audio control switches 2. Steering wheel

STEERING WHEEL AUDIO CONTROL SWITCHES

Removal

1. Remove the steering wheel. Refer to ST-22, "Removal and Installation".
2. Remove the steering wheel rear cover screws and the steering wheel rear cover.
3. Remove the steering wheel switch assembly screws and the steering wheel switches.

Installation

Installation is in the reverse order of removal.

AUDIO AMP.

Removal and Installation

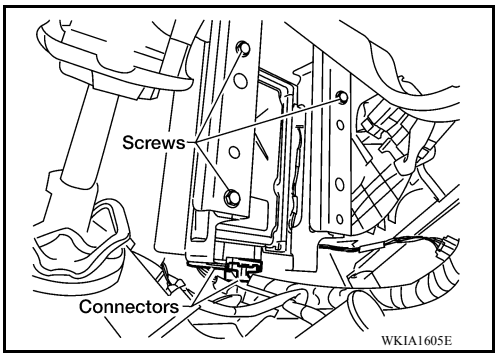
INFOID:0000000009876659

REMOVAL

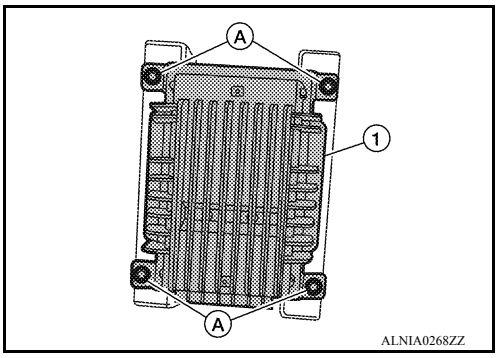
1. Remove the accelerator pedal. Refer to ACC-3, "Removal and Installation".
2. Remove the BCM. Refer to BCS-52, "Removal and Installation".
3. Remove the audio amp.

a. Disconnect the audio amp. harness connectors.

b. Remove the audio amp bracket screws and slide the audio amp and bracket assembly down.



4. Remove the audio amp. screws (A) and separate the audio amp. (1) from the bracket.



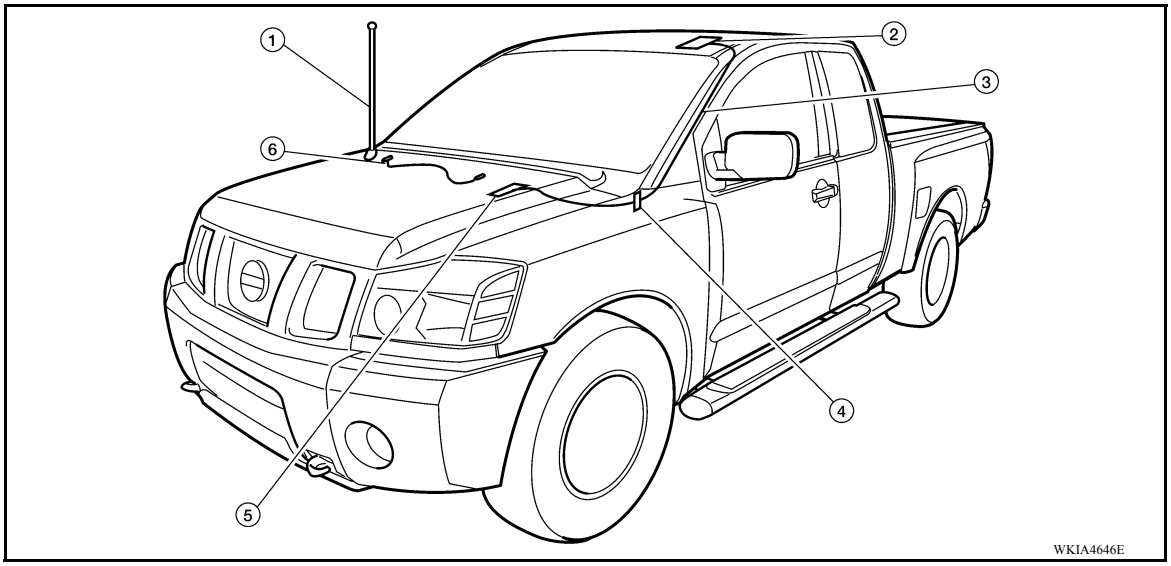
INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:0000000009876660



1. Antenna
2. Satellite antenna (if equipped, factory installed)
3. Satellite antenna feeder
4. Connectors
5. Satellite radio tuner
6. Main feeder cable

Removal and Installation

INFOID:0000000009876661

REMOVAL

1. Remove audio antenna rod.
2. Remove audio antenna rubber seal.
3. Remove fender protector RH. Refer to EXT-24, "Removal and Installation".
4. Remove audio antenna assembly bolts.
5. Disconnect the audio antenna feeder from the audio antenna assembly.
6. Remove audio antenna assembly from the vehicle.

INSTALLATION

Installation is in the reverse order of removal.

- Tighten audio antenna rod to specification.

Audio antenna rod : 3.5 N·m (0.36 kg-m, 31 in-lb)

CAUTION:

Always properly tighten the audio antenna rod during installation or the audio antenna rod may bend or break during vehicle operation.

AUXILIARY INPUT JACK

Removal and Installation

INFOID:0000000009876662

REMOVAL

1. Remove the center console. Refer to IP-20, "Removal and Installation".
2. Remove the auxiliary input jack.

INSTALLATION

Installation is in the reverse order of removal.

USB CONNECTOR

Removal and Installation

INFOID:0000000009876663

REMOVAL

1. Remove the center console assembly. Refer to IP-20, "Removal and Installation".
2. Push the pawl from the back of the center console to remove the USB interface.

INSTALLATION

Installation is in the reverse order of removal.

SATELLITE RADIO ANTENNA

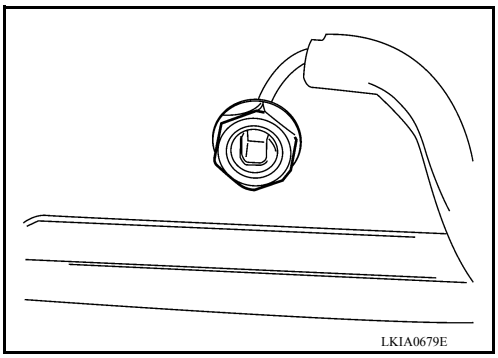
Removal and Installation

INFOID:0000000009876664

SATELLITE RADIO ANTENNA

Removal

1. Lower the headliner. Refer to INT-21, "Removal and Installation".
2. Disconnect the satellite radio antenna connector.
3. Remove the satellite radio antenna nut.
4. Remove the satellite radio antenna.



Installation

Installation is in the reverse order of removal.

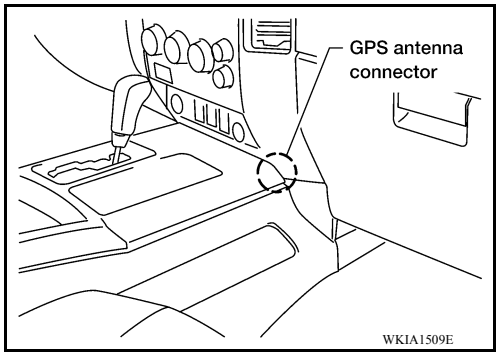
GPS ANTENNA

Removal and Installation

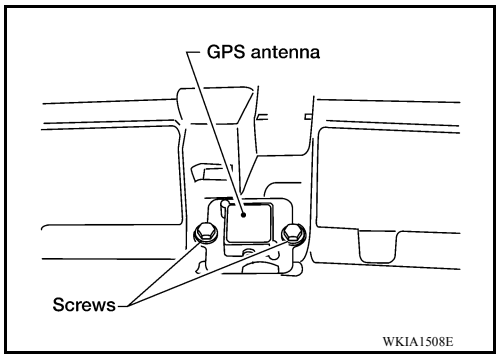
INFOID:0000000010159259

REMOVAL

1. Remove cluster lid C. Refer to IP-14, "Removal and Installation".
2. Disconnect center speaker.
3. Remove defroster grille. Refer to VTL-25, "Removal and Installation".
4. Disconnect GPS antenna connector.



5. Remove the GPS antenna.



INSTALLATION

Installation is in the reverse order of removal.

MICROPHONE

Removal and Installation

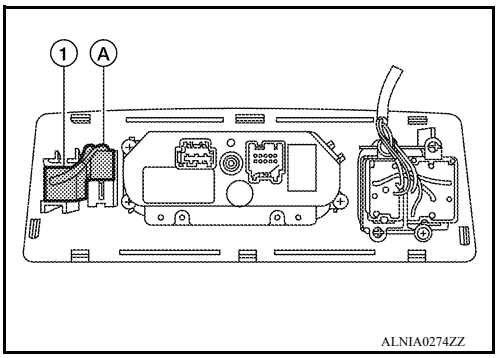
INFOID:0000000009876665

REMOVAL

1. Remove the front roof console finisher. Refer to INT-21, "Removal and Installation".
2. Remove the Bluetooth microphone (1)

a. Disconnect the Bluetooth microphone harness connector (A).

b. Detach the Bluetooth microphone (1) from the front roof console finisher.



INSTALLATION

Installation is in the reverse order of removal.

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000009876666

REMOVAL

1. Remove the tail gate handle. Refer to DLK-137, "Exploded View".
2. Remove the rear view camera screws and the rear view camera from the tail gate handle.

INSTALLATION

Installation is in the reverse order of removal.

REAR CONTROL SWITCH

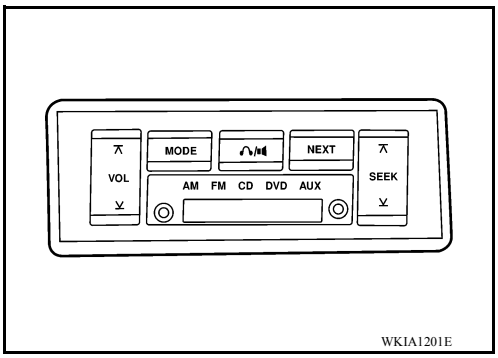
Removal and Installation

INFOID:0000000010621851

REAR AUDIO REMOTE CONTROL UNIT

Removal

1. Carefully remove the rear control switch from the rear roof console assembly using a suitable tool.
2. Disconnect the harness connector from rear control switch and remove.



Installation

Installation is in the reverse order of removal.

DVD ENTERTAINMENT SYSTEM

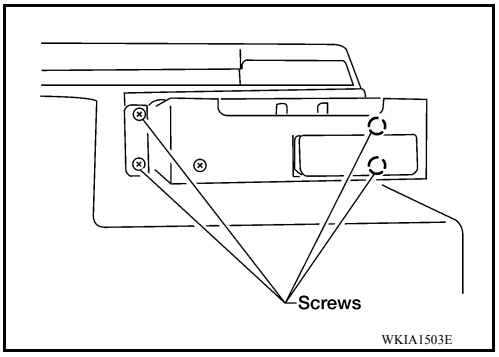
Removal and Installation

INFOID:0000000010621852

DVD PLAYER

Removal

1. Disconnect the battery negative terminal.Refer to PG-79, "Removal and Installation".
2. Remove the center console bin. Refer to IP-19, "Exploded View".
3. Remove the DVD player screws.



4. Remove the DVD player.

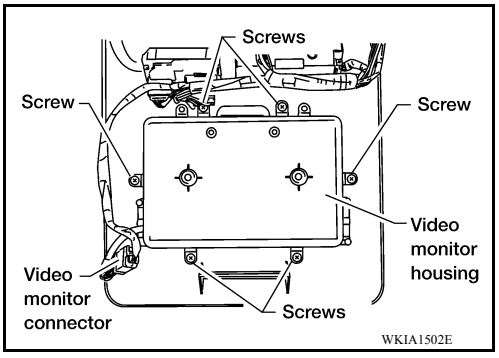
Installation

Installation is in reverse order of removal.

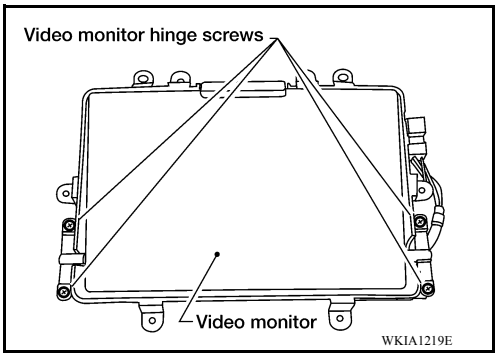
VIDEO MONITOR

Removal

1. Remove the rear roof console assembly. Refer to INT-21, "Removal and Installation".
2. Disconnect the harness connector from video monitor.
3. Remove the video housing screws.



4. Remove the video monitor and housing.
5. Remove the video monitor hinge screws and remove the video monitor.



Installation

Installation is in the reverse order of removal.