SECTION AV
AUDIO, VISUAL & NAVIGATION SYSTEM

CONTENTS

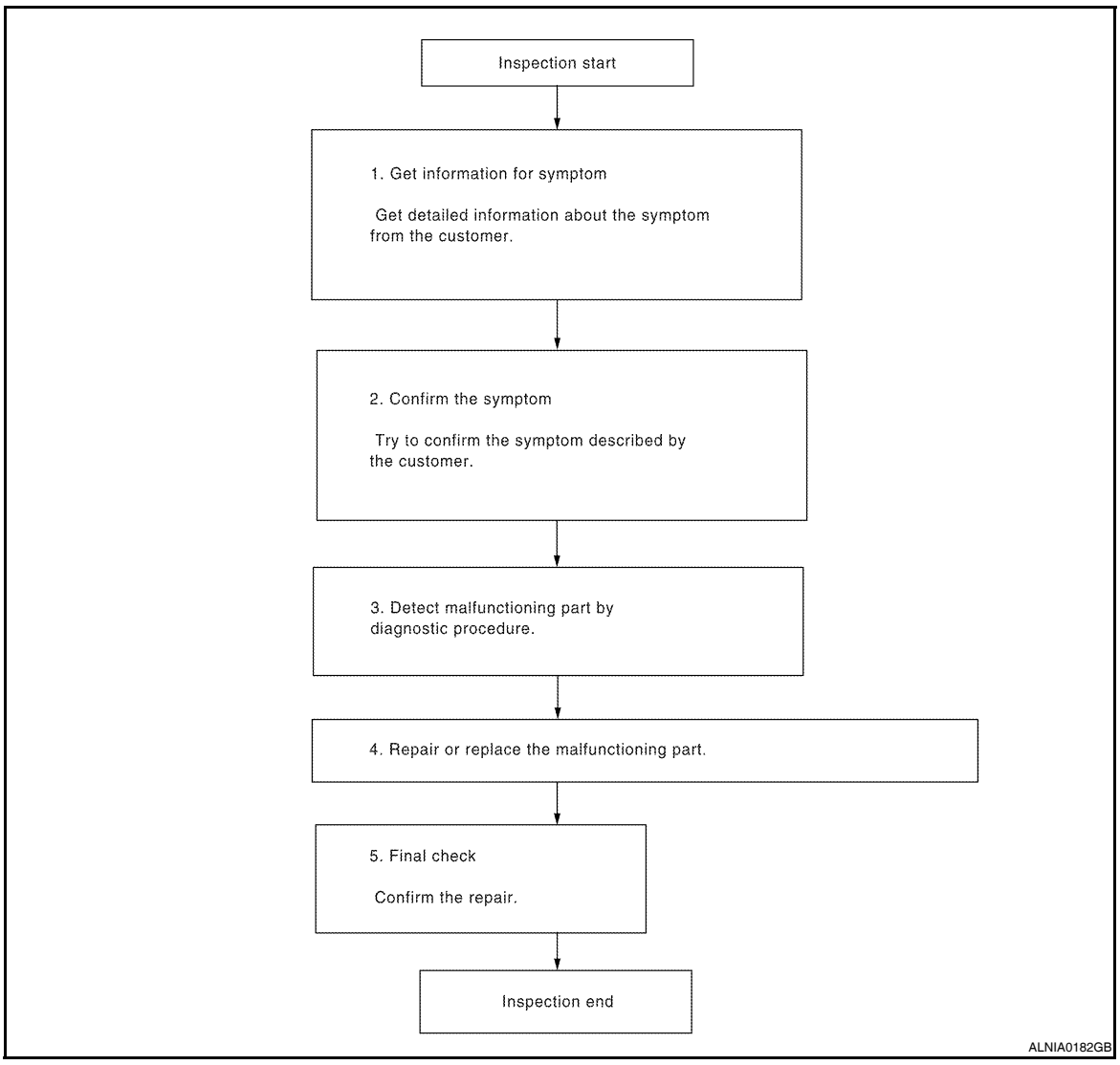
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000003789680

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?

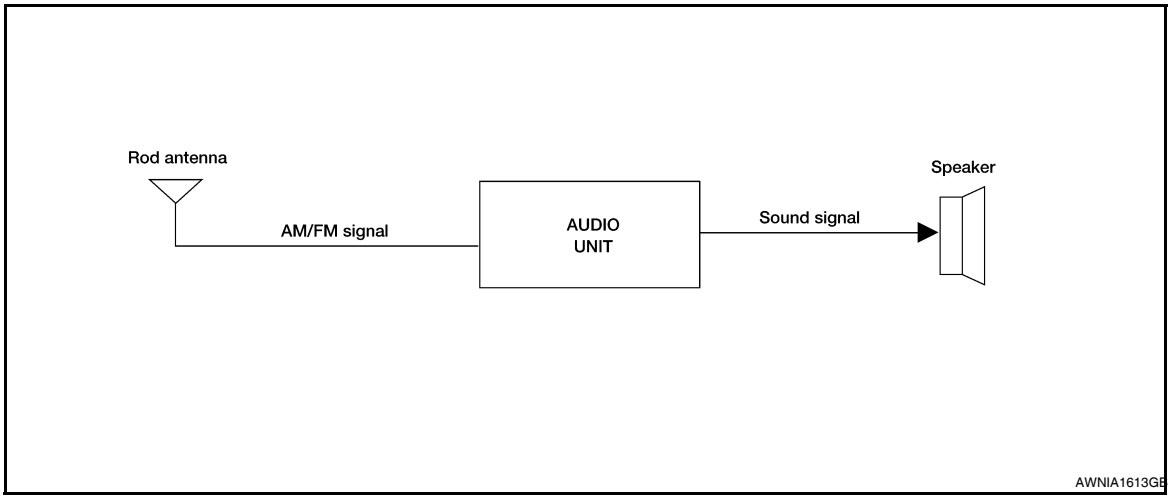
YES >> Inspection End.
NO >> GO TO 2.

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram

INFOID:0000000003789681



System Description

INFOID:0000000003789682

AUDIO SYSTEM

The audio system consists of the following components

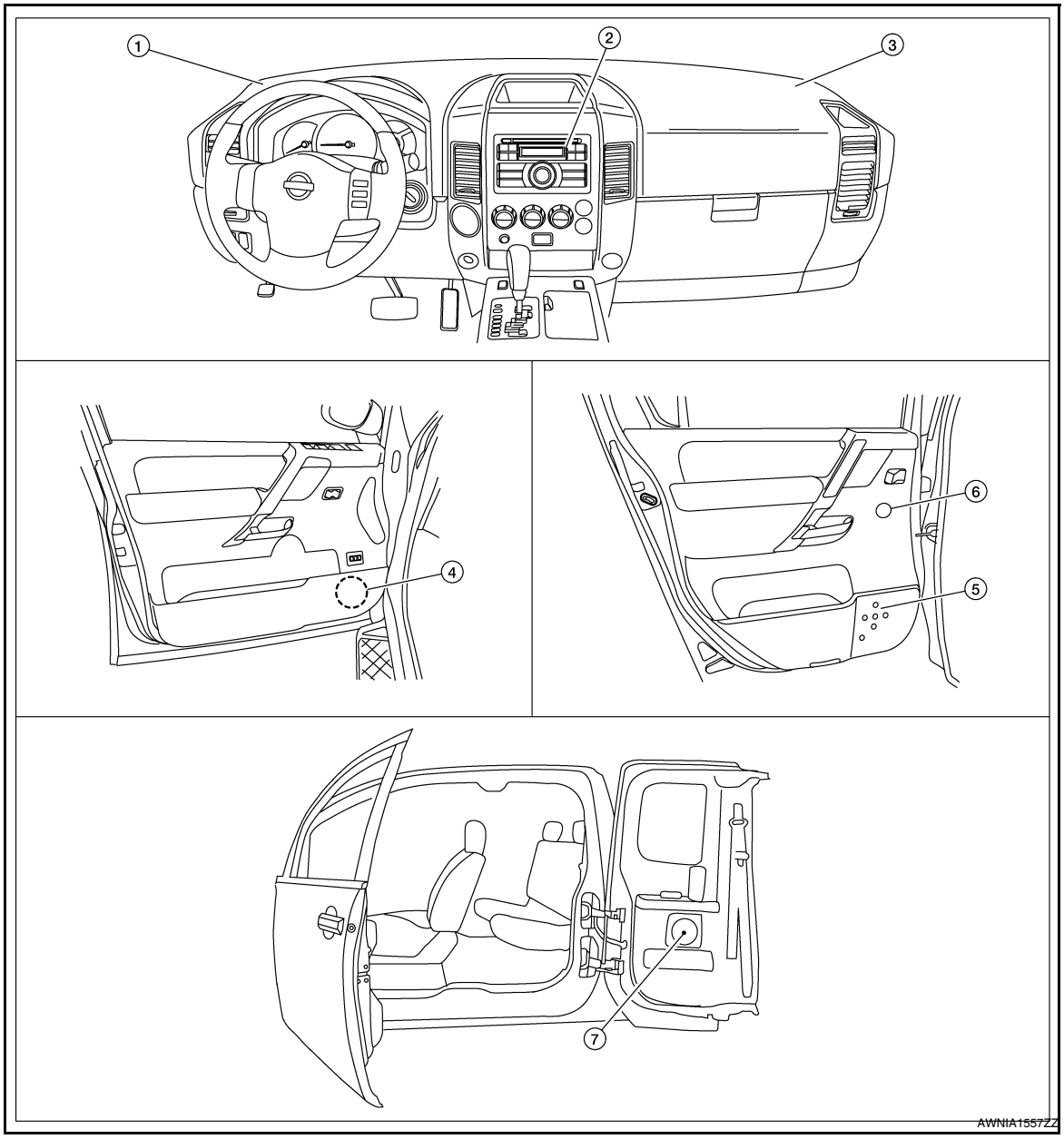
- Audio unit
- Rod antenna
- Front door speakers
- Front tweeters (if equipped)
- Rear door speakers (if equipped)
- Rear door tweeters (crew cab, if equipped)

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 (if equipped), rear door speakers (if equipped) and rear door tweeters (crew cab, if equipped).

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

Component Parts Location

INFOID:0000000003789683



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

Component Description

INFOID:0000000003789684

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

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000003789685

1.CHECK FUSES

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

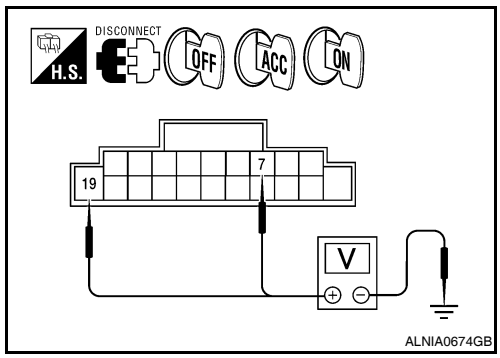
Unit	Terminals	Signal name	Fuse No.
Audio unit	19	Battery power	31
	7	Ignition switch ACC or ON	4

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:0000000003789686

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

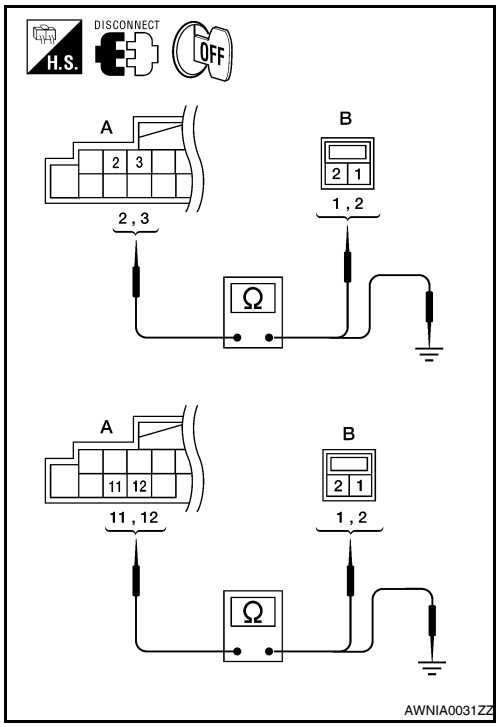
Diagnosis Procedure

INFOID:0000000003789687

1.HARNESS CHECK

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

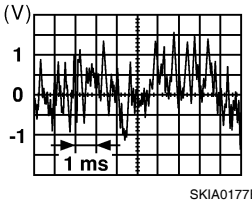
A		—	Continuity
Connector	Terminal		
M168	2	Ground	No
	3		
	11		
	12		

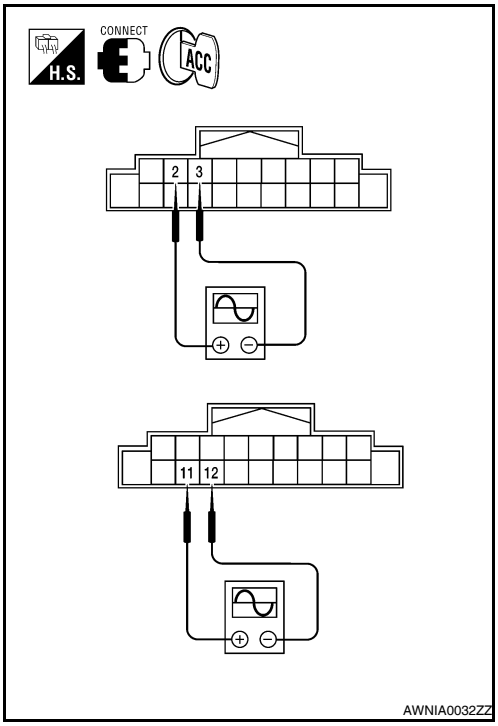
Are continuity results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.FRONT SPEAKER SIGNAL CHECK

1. Connect audio unit connector M168 and front 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-III 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 speaker. Refer to AV-36, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-34, "Removal and Installation".

FRONT TWEETER

Description

INFOID:0000000003789688

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

Diagnosis Procedure

INFOID:0000000003789689

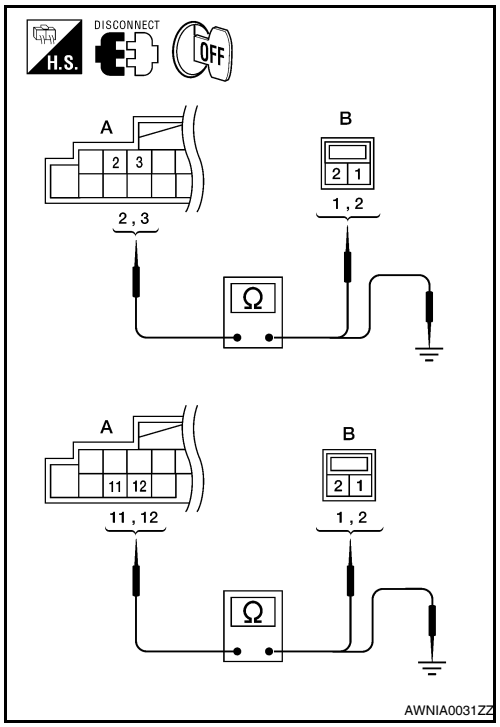
1.HARNESS CHECK

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		



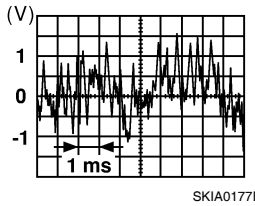
Are the continuity results as specified?

YES >> GO TO 2.

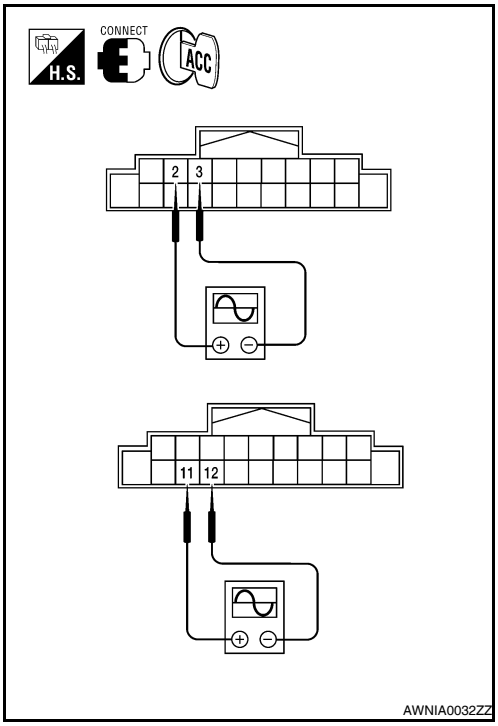
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.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-III or oscilloscope.

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

SKIA0177E



AWNIA0032ZZ

Is the audio signal voltage as specified?

YES >> Replace the suspect front tweeter. Refer to AV-35, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-34, "Removal and Installation".

REAR DOOR SPEAKER

Description

INFOID:0000000003789690

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

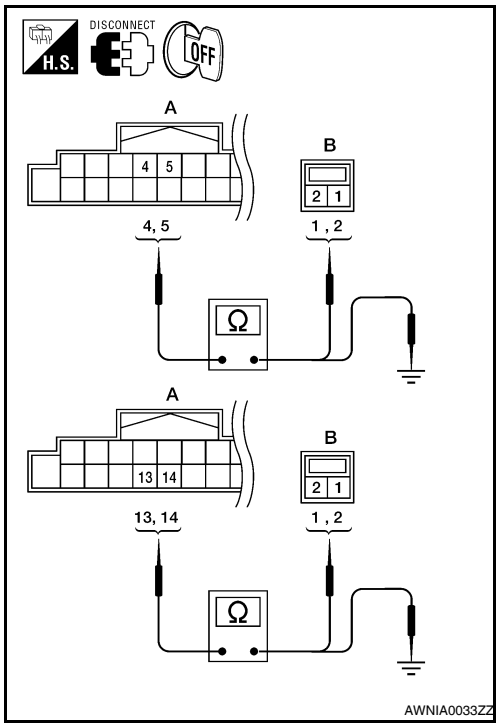
Diagnosis Procedure

INFOID:0000000003789691

1.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.

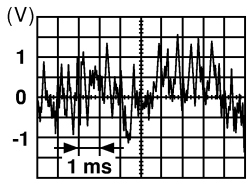
A		—	Continuity
Connector	Terminal		
M168	4	Ground	No
	5		
	13		
	14		

Are the continuity results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.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-III or oscilloscope.

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

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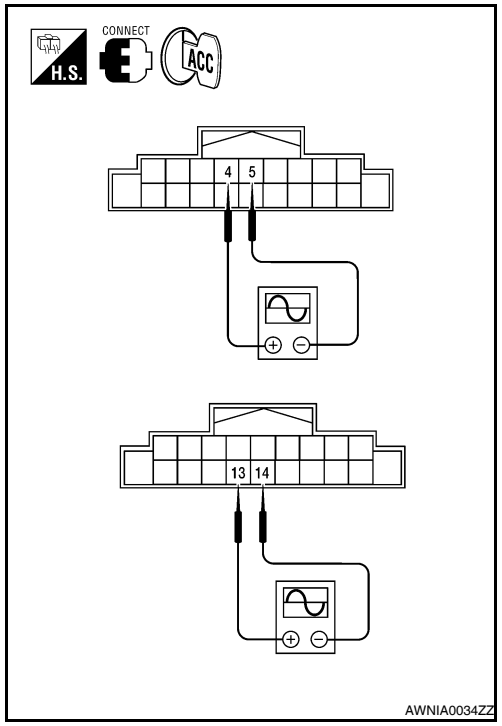

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Is the audio signal voltage as specified?

YES >> Replace the suspect rear door speaker. Refer to AV-36, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-34, "Removal and Installation".

REAR DOOR TWEETER

Description

INFOID:0000000003789692

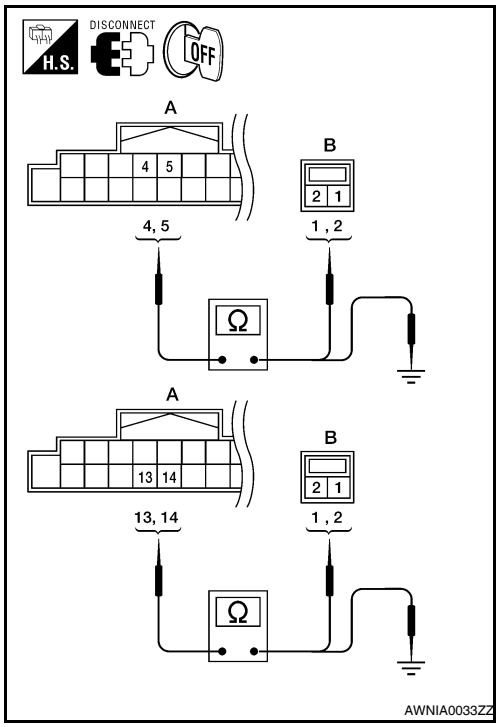
The audio unit sends audio signals to the rear door tweeters using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000003789693

1.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.

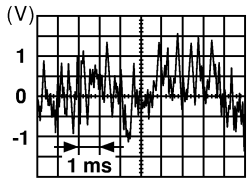
A		—	Continuity
Connector	Terminal		
M168	4	Ground	No
	5		
	13		
	14		

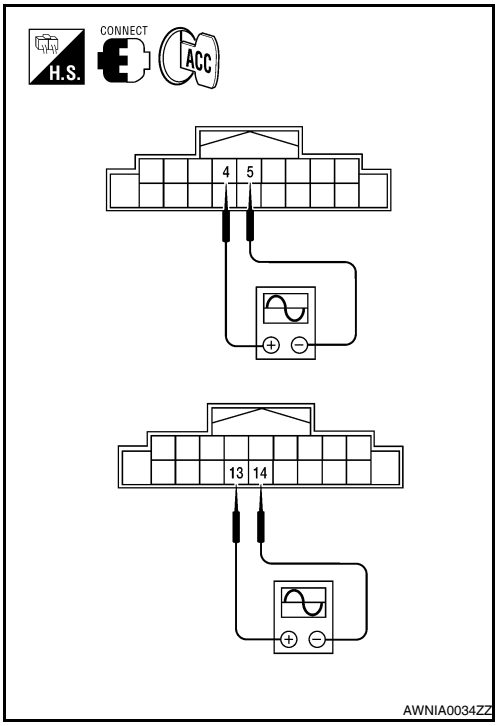
Are the continuity results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.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-III or oscilloscope.

(+)		(-)	Condition	Reference signal
Connector	Terminal	Terminal		
M168	4	5	Receive audio signal	 SKIA0177E
	13	14		



AWNIA0034ZZ

Is the audio signal voltage as specified?

YES >> Replace the suspect rear door tweeter. Refer to AV-37, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-34, "Removal and Installation".

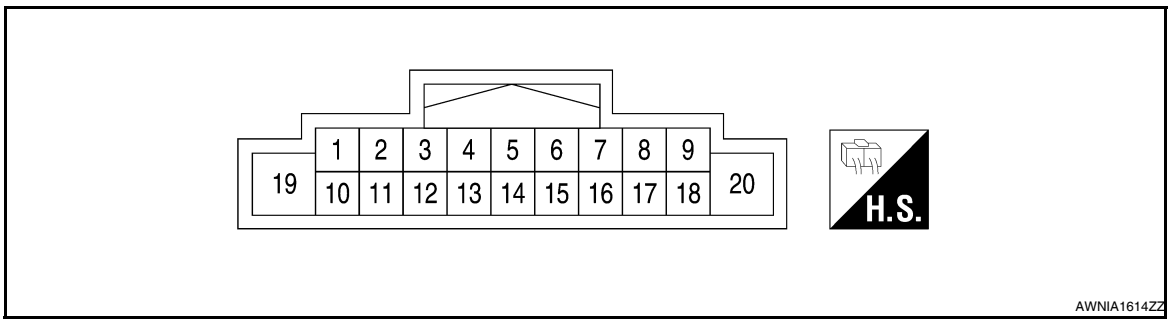
ECU DIAGNOSIS

AUDIO UNIT

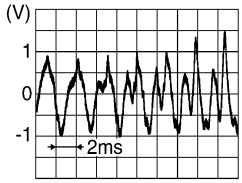
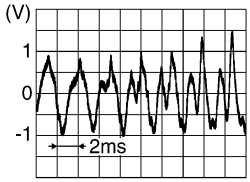
Reference Value

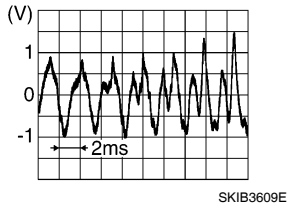
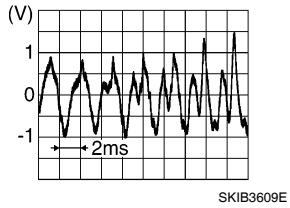
INFOID:0000000003789694

TERMINAL LAYOUT



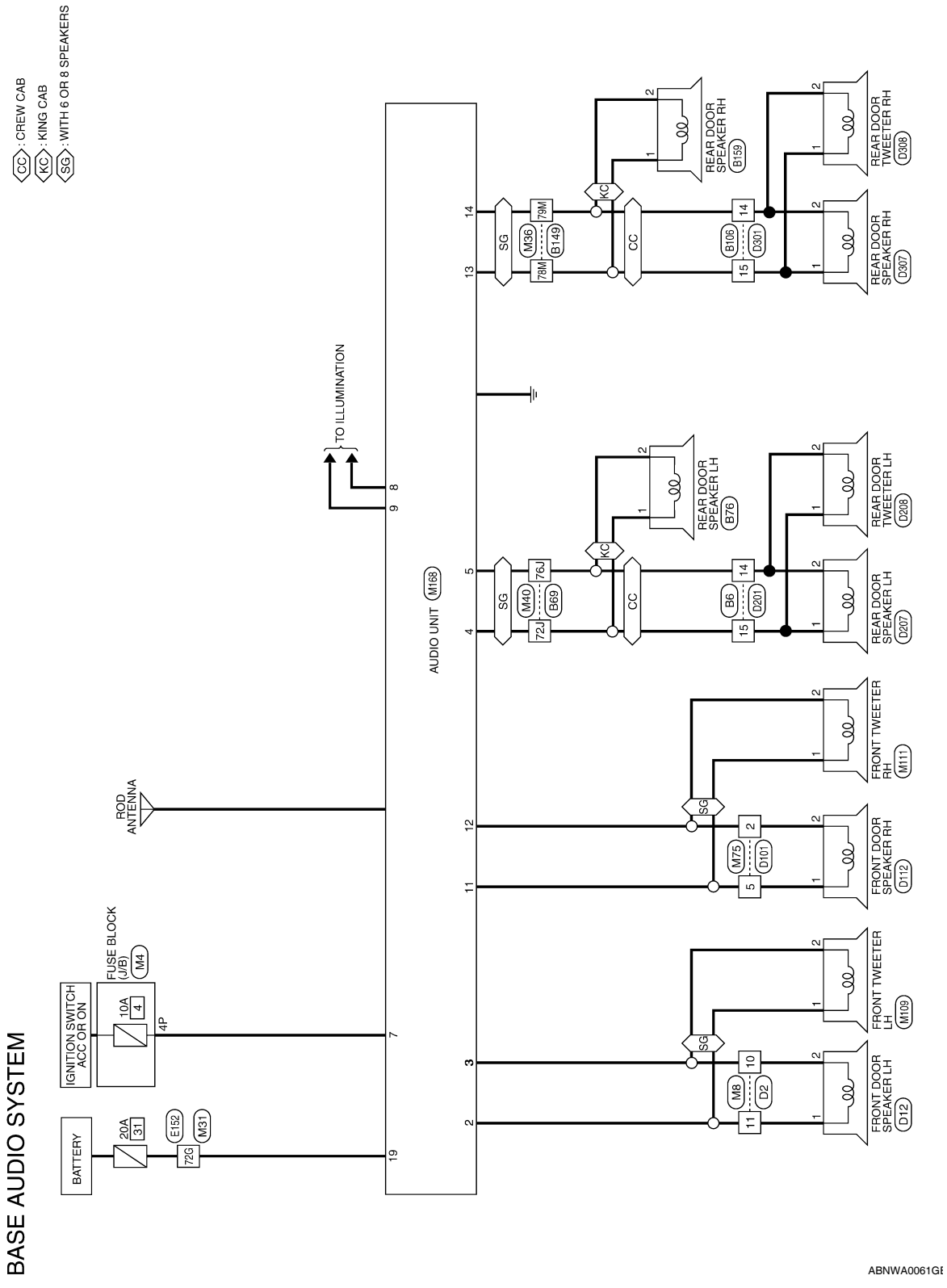
PHYSICAL VALUES

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
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC or ON	—	Battery voltage

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
11 (W/B)	12 (L/B)	Sound signal front door speaker and front tweeter RH (if equipped)	Output	Ignition switch ON	Voice output	 SKIB3609E
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

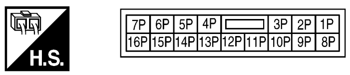
Wiring Diagram

INFOID:0000000003789695



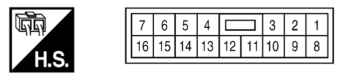
BASE AUDIO SYSTEM CONNECTORS

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



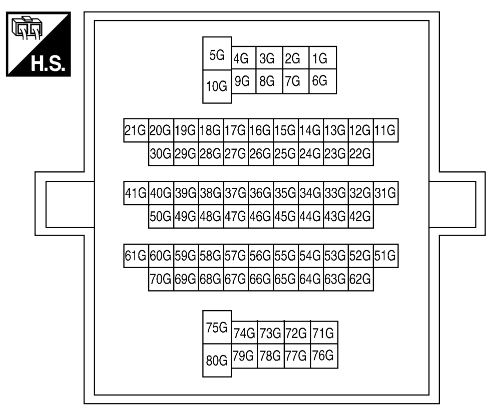
Terminal No.	Color of Wire	Signal Name
4P	V	–

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



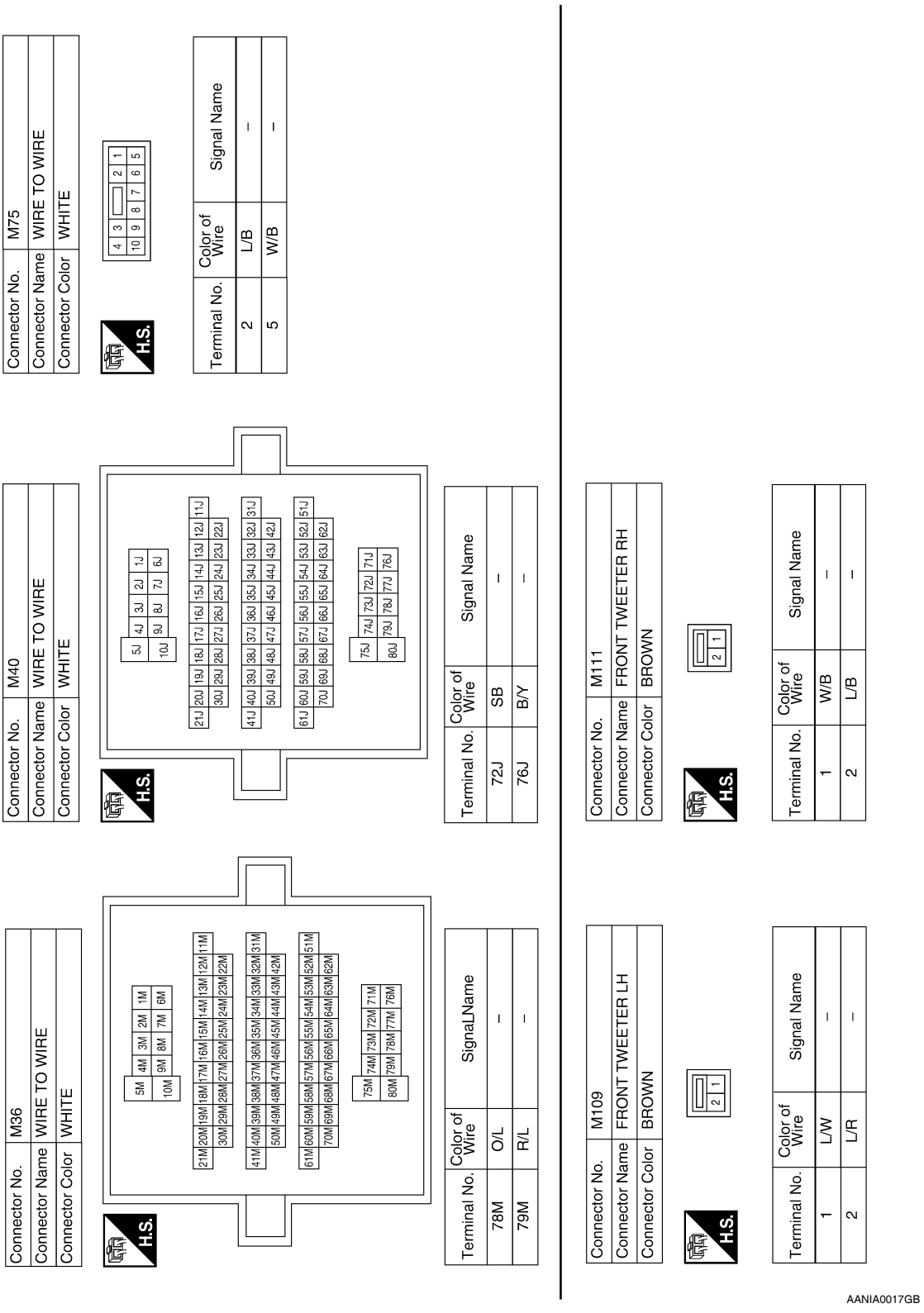
Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

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



Terminal No.	Color of Wire	Signal Name
72G	Y	–

AANIA0016GB



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

H.S.

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

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.

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

Terminal No.	Signal Name
72G	–

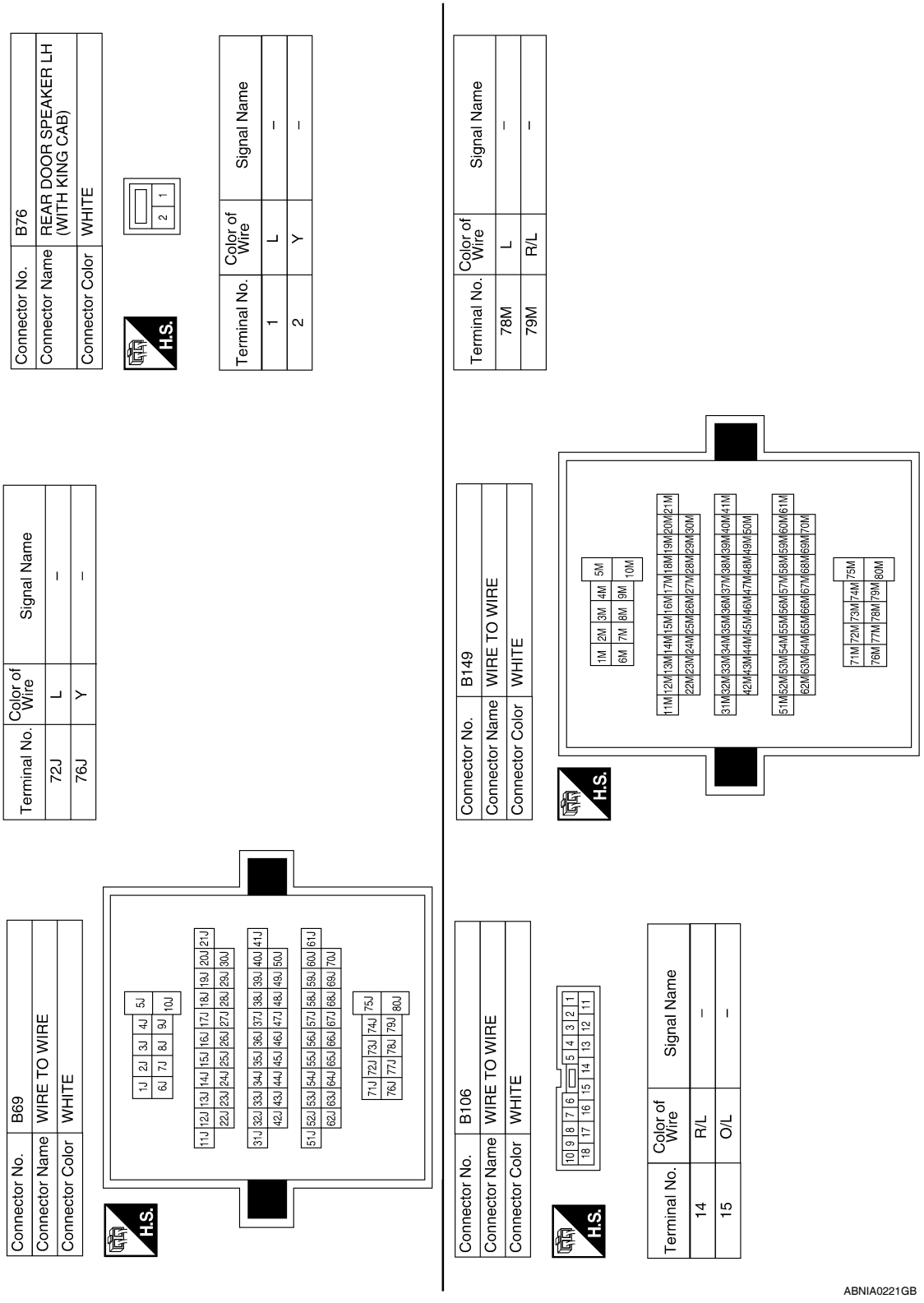
Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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	–

ABNIA0292GB


Connector No. B76
Connector Name REAR DOOR SPEAKER LH (WITH KING CAB)
Connector Color WHITE
H.S.
2 1
Terminal No. Color of Wire Signal Name
1 L –
2 Y –
Terminal No. Color of Wire Signal Name
72J L –
76J Y –
Connector No. B69
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
Connector No. B149
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1M 2M 3M 4M 5M
6M 7M 8M 9M 10M
11M 12M 13M 14M 15M 16M 17M 18M 19M 20M 21M
22M 23M 24M 25M 26M 27M 28M 29M 30M
31M 32M 33M 34M 35M 36M 37M 38M 39M 40M 41M
42M 43M 44M 45M 46M 47M 48M 49M 50M
51M 52M 53M 54M 55M 56M 57M 58M 59M 60M 61M
62M 63M 64M 65M 66M 67M 68M 69M 70M
71M 72M 73M 74M 75M
76M 77M 78M 79M 80M
Terminal No. Color of Wire Signal Name
78M L –
79M R/L –
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 –
ABNIA0221GB

Connector No.	B159
Connector Name	REAR DOOR SPEAKER RH (WITH KING CAB)
Connector Color	WHITE

H.S.

2	1

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

ABNIA0222GB

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	–

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.	D207
Connector Name	REAR DOOR SPEAKER LH (WITH CREW CAB)
Connector Color	WHITE

H.S.

2	1

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

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

H.S.

2	1

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

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

H.S.

2	1

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

ABNIA0223GB

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000003789696

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	• Audio unit power circuit • Audio unit	• AV-12
All speakers do not sound	• Audio unit • Audio unit power circuit	• AV-12
One or several speakers do not sound	• Front door speaker • Front tweeter (if equipped) • Rear door tweeter (crew cab, if equipped) • Rear door speaker (if equipped)	• AV-13 • AV-15 • AV-17 • AV-19

CD

Symptom	Possible cause	Reference page
CD cannot be inserted.	Audio unit	AV-12
CD cannot be ejected.		
The CD cannot be played.		
The sound skips, stops suddenly, or is distorted.		

NORMAL OPERATING CONDITION

Description

INFOID:0000000003789697

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

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

INFOID:0000000003789698

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:

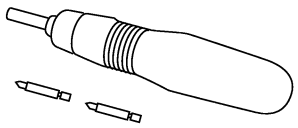
- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal 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.**

PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000003789699

Tool name	Description
Power tool  PBIC0191E	Loosening bolts and nuts

ON-VEHICLE REPAIR

AUDIO UNIT

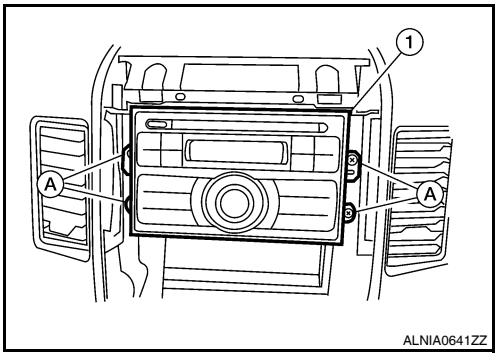
Removal and Installation

INFOID:0000000003789700

AUDIO UNIT

Removal

1. Disconnect the battery negative terminal.
2. Remove the cluster lid C. Refer to IP-14, "Removal and Installation".
3. Remove the audio unit screws (A), using power tool.
4. Pull out the audio unit (1) and disconnect the audio unit connectors.



Installation

Installation is in the reverse order of removal.

FRONT TWEETER

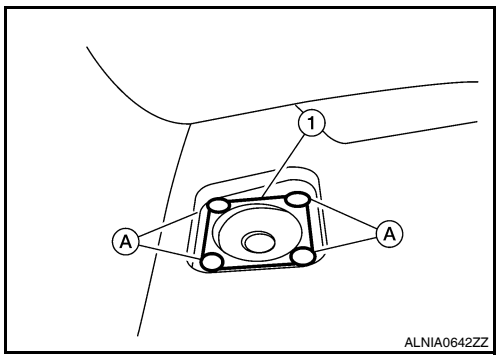
Removal and Installation

INFOID:0000000003789701

FRONT TWEETER

Removal

1. Remove the front tweeter grille. Refer to IP-11, "Removal and Installation".
2. Remove the front tweeter clips (C103) (A).
3. Disconnect the front tweeter connector and remove the front tweeter (1).



Installation

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

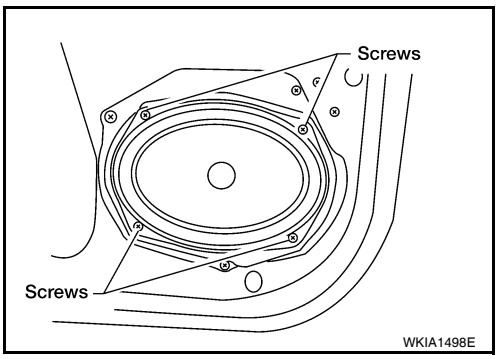
Removal and Installation

INFOID:0000000003789702

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 connector and remove the front door speaker.



Installation

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

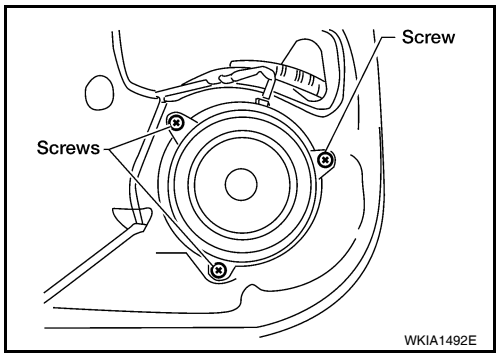
Removal and Installation

INFOID:0000000003789703

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 and remove the rear door speaker.



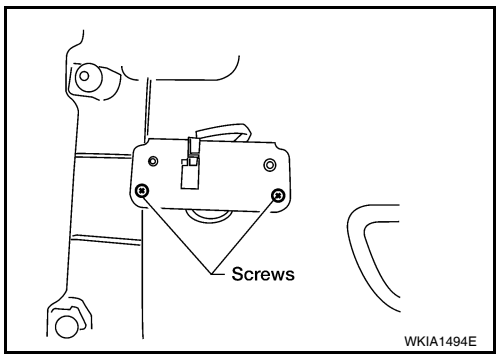
Installation

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" - Crew Cab.
2. Remove the rear door tweeter screws and remove the rear door tweeter.
3. Disconnect the rear door tweeter connector.



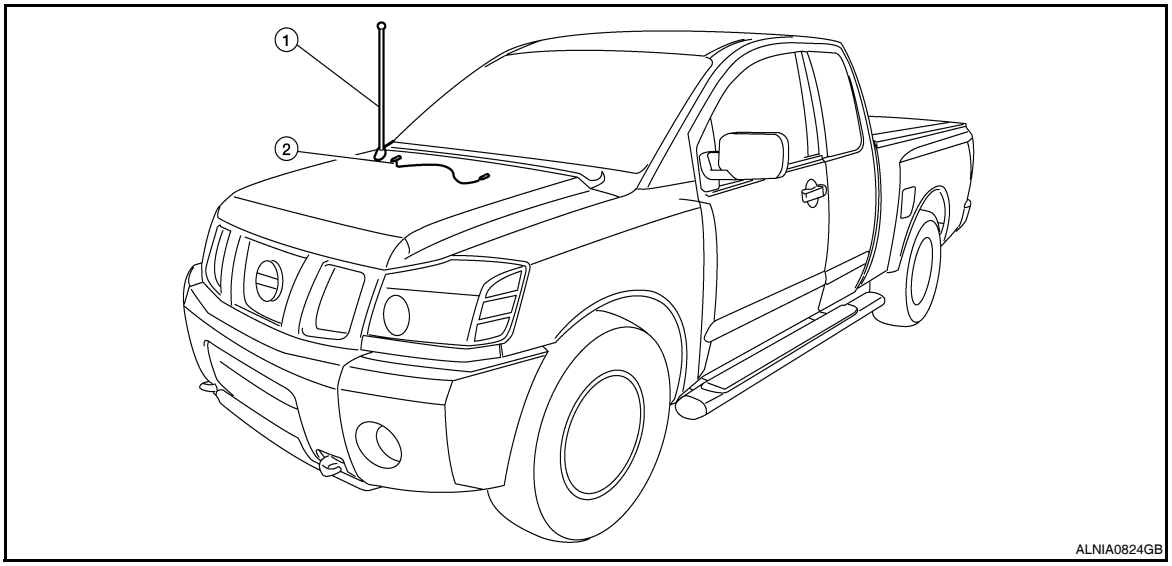
Installation

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:0000000003789704



1. Antenna
2. Main feeder cable

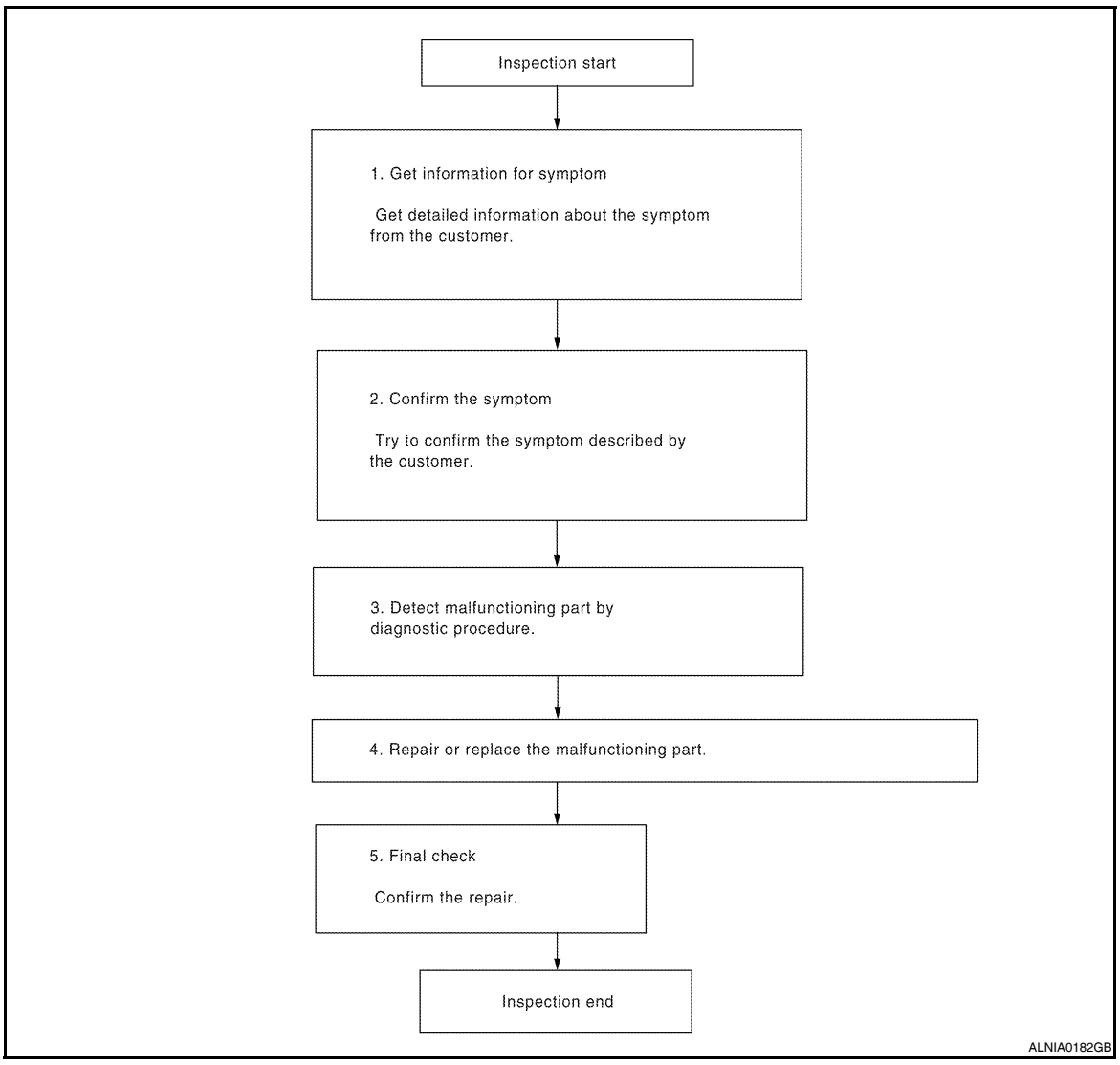
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000003789705

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?

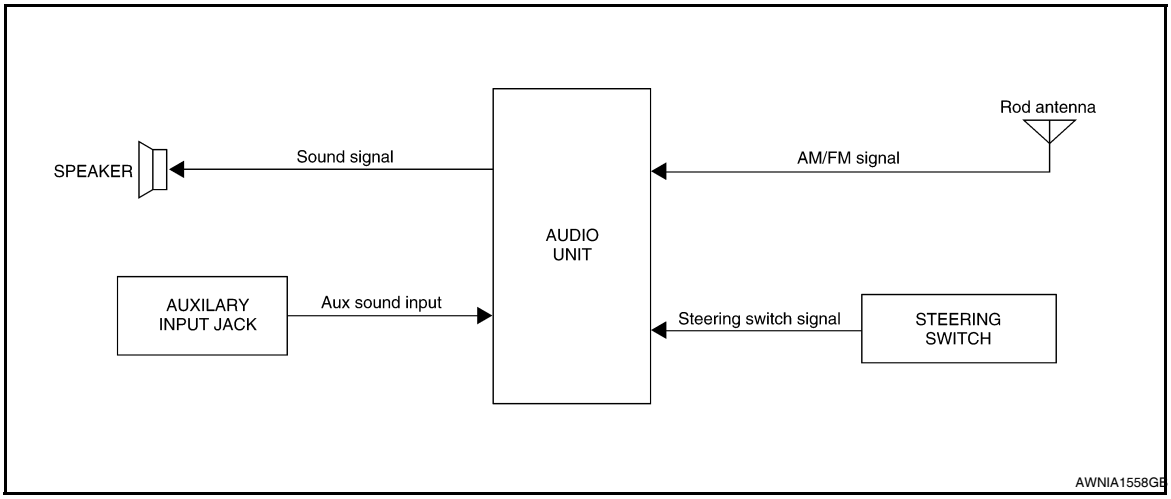
YES >> Inspection End.
NO >> GO TO 2.

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram

INFOID:0000000003789706



System Description

INFOID:0000000003789707

AUDIO SYSTEM

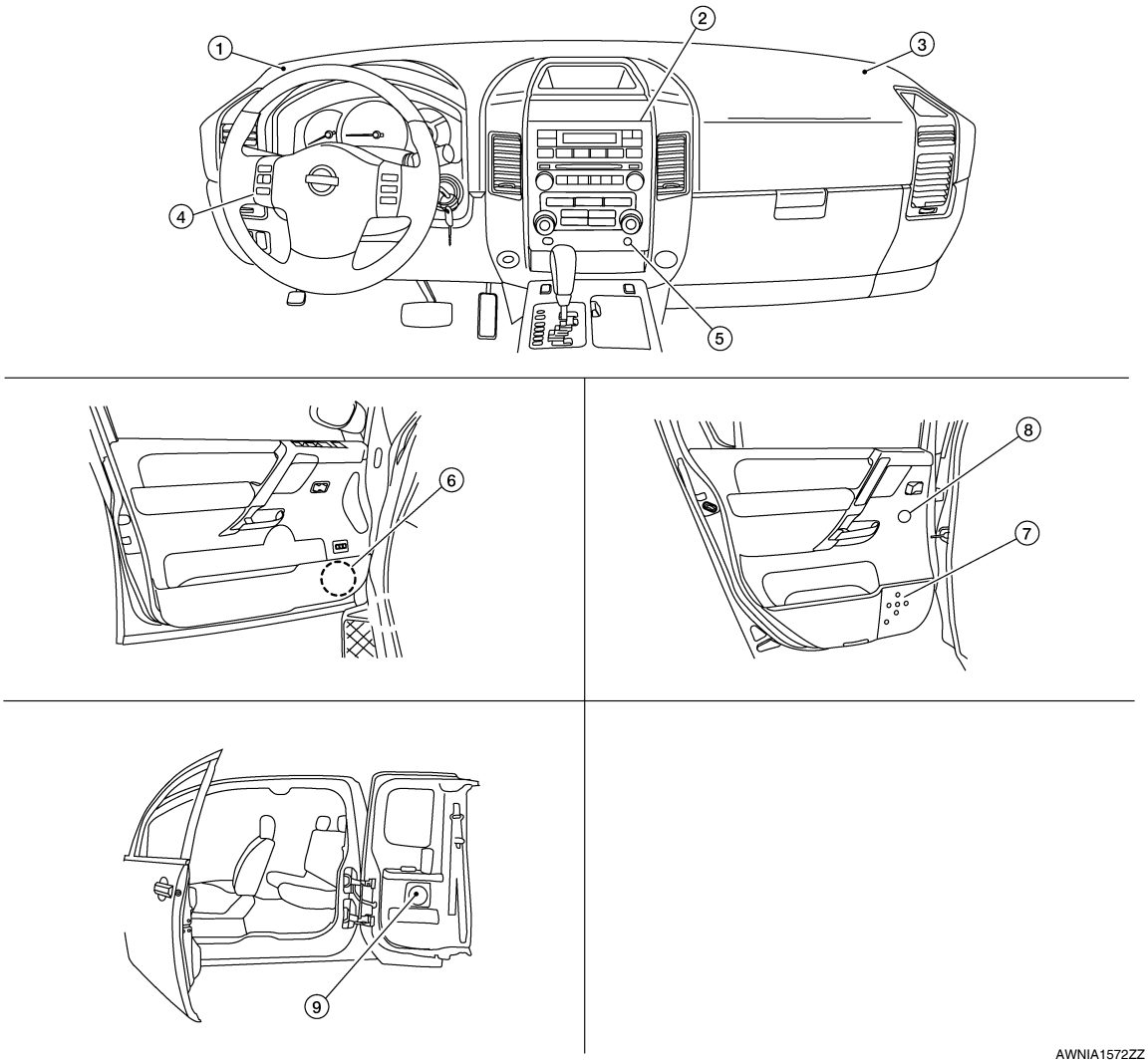
The audio system consists of the following components

- Audio unit
- Rod antenna
- Steering wheel audio control switches
- 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:0000000003789708



1. Front tweeter LH M109
2. Audio unit M165, M166, M167
3. Front tweeter RH M111
4. Steering wheel audio control switches
5. Aux jack M104
6. Front door speaker LH D12 RH D112
7. Rear door speaker (crew cab) LH D207 RH D307
8. Rear door tweeter (crew cab) LH D208 RH D308
9. Rear door speaker (king cab) LH B76 RH B159

Component Description

INFOID:0000000003789709

Part name	Description
Audio unit	Controls audio system and satellite radio system functions
Steering wheel audio control switches	• Audio operation can be operated • Steering switch signal is output to the audio unit
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

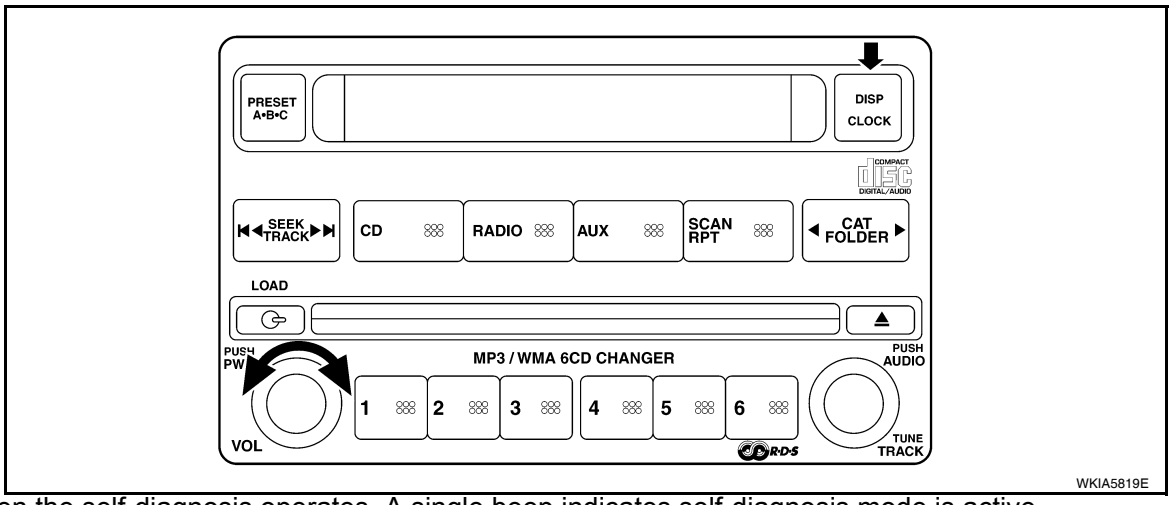
Part name	Description
Rear door speakers	• Outputs audio signal from audio unit • Outputs high, mid and low range sounds
Rear door tweeters (crew cab)	• Outputs audio signal from audio unit • Outputs high range sounds

DIAGNOSIS SYSTEM (AUDIO UNIT)
AV SWITCH
AV SWITCH : Component Function Check

INFOID:0000000004237162

STARTING THE SELF-DIAGNOSIS MODE

1. Turn ignition switch from OFF to ACC.
2. Press and hold the “DISP/CLOCK” switch and turn the volume control dial clockwise or counterclockwise for 30 clicks or more.



Then the self-diagnosis operates. A single beep indicates self-diagnosis mode is active.

3. Initially, all display segments will be illuminated.
4. Press each switch. When each switch is pressed, its name and communication code will be displayed
   NOTE:
   CD player LOAD and EJECT buttons are not included in this test and will not change the display when pressed.

DIAGNOSIS FUNCTION

- It can check for continuity of the switches by sounding the beep when each audio unit switch and steering switch is pressed.
- It can check for continuity of harness between audio unit switch and steering switch.

EXITING THE SELF-DIAGNOSIS MODE

Turn ignition switch OFF. Then the self-diagnosis ends.

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000003789715

1.CHECK FUSES

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

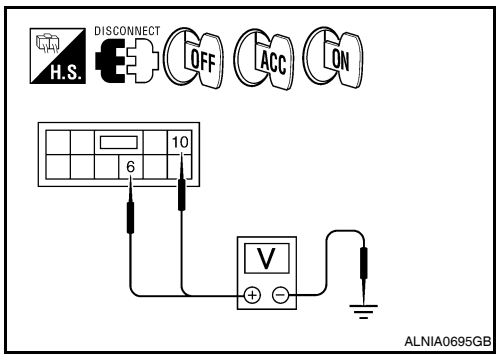
Unit	Terminals	Signal name	Fuse No.
Audio unit	6	Battery power	31
	10	Ignition switch ACC or ON	4

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



(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M165	6	Ground	0V	Battery voltage	Battery voltage
	10	Ground	Battery voltage	Battery voltage	Battery voltage

Are the voltage results as specified?

YES >> GO TO 3.
NO >> • Check connector housing 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:0000000003789720

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

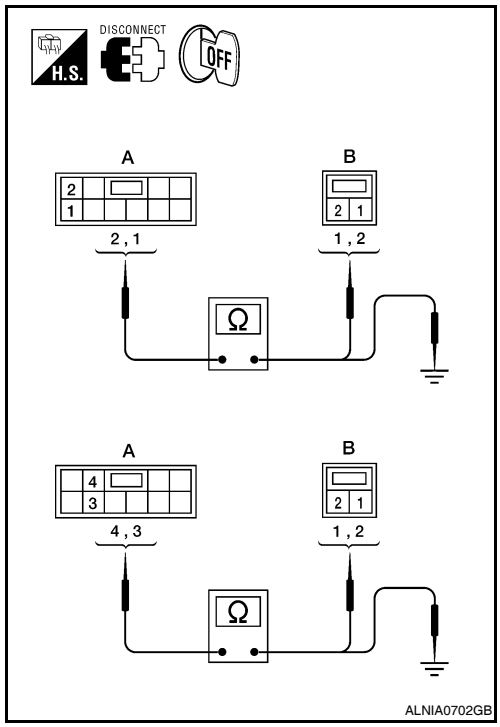
Diagnosis Procedure

INFOID:0000000003789721

1.HARNESS CHECK

1. Disconnect audio unit connector M165 and suspect speaker connector.
2. Check continuity between audio unit harness connector M165 (A) and suspect speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M165	1	D12	2	Yes
	2		1	
	3	D112	2	
	4		1	



3. Check continuity between audio unit harness connector M165 (A) and ground.

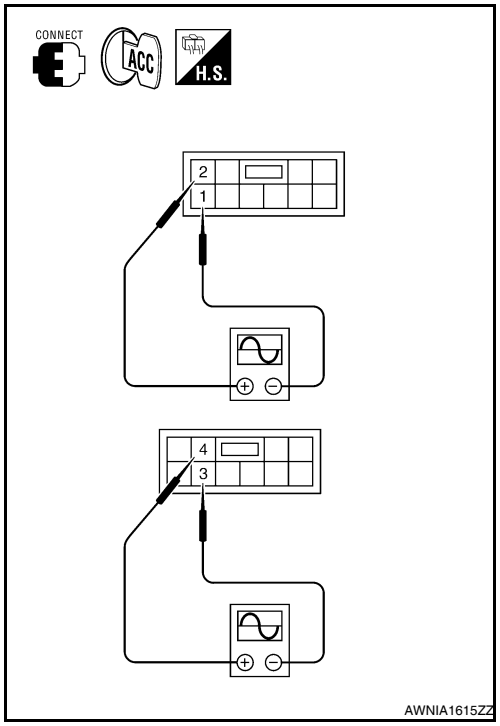
A		—	Continuity
Connector	Terminal		
M165	1	Ground	No
	2		
	3		
	4		

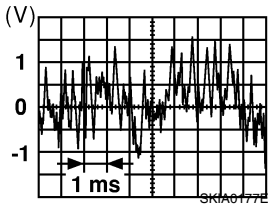
Are continuity test results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.FRONT SPEAKER SIGNAL CHECK

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



Connector	Terminal (+)	Terminal (-)	Condition	Reference signal
M165	2	1	Receive audio signal	
	4	3		

Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to AV-72, "Removal and Installation".

NO >> Replace the audio unit. Refer to AV-70, "Removal and Installation".

FRONT TWEETER

Description

INFOID:0000000003789722

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

Diagnosis Procedure

INFOID:0000000003789723

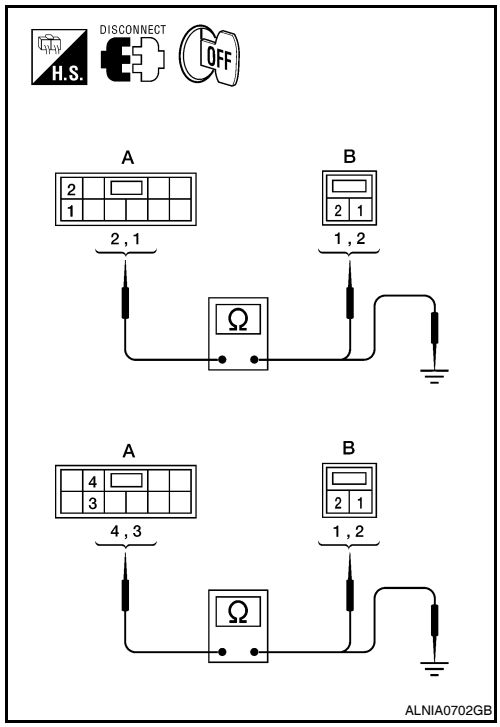
1.HARNESS CHECK

1. Disconnect audio unit connector M165 and suspect tweeter connector.
2. Check continuity between audio unit harness connector M165 (A) and suspect tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M165	1	M109	2	Yes
	2		1	
	3	M111	2	
	4		1	

3. Check continuity between audio unit harness connector M165 (A) and ground.

A		—	Continuity
Connector	Terminal		
M165	1	Ground	No
	2		
	3		
	4		



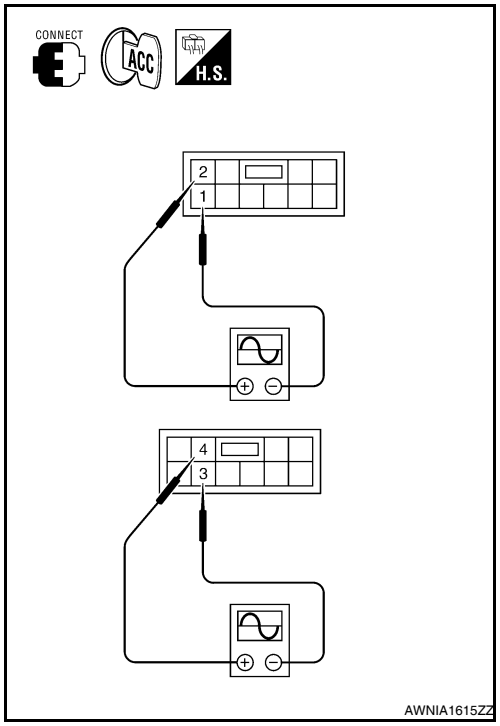
Are continuity test results as specified?

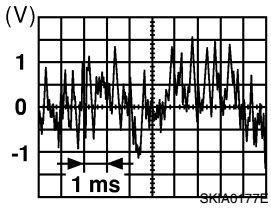
YES >> GO TO 2.

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

2.FRONT TWEETER SIGNAL CHECK

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



Connector	Terminal (+)	Terminal (-)	Condition	Reference signal
M165	2	1	Receive audio signal	
	4	3		

Is audio signal voltage as specified?

YES >> Replace suspect tweeter. Refer to AV-71, "Removal and Installation".

NO >> Replace the audio unit. Refer to AV-70, "Removal and Installation".

REAR DOOR SPEAKER

Description

INFOID:0000000003789724

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

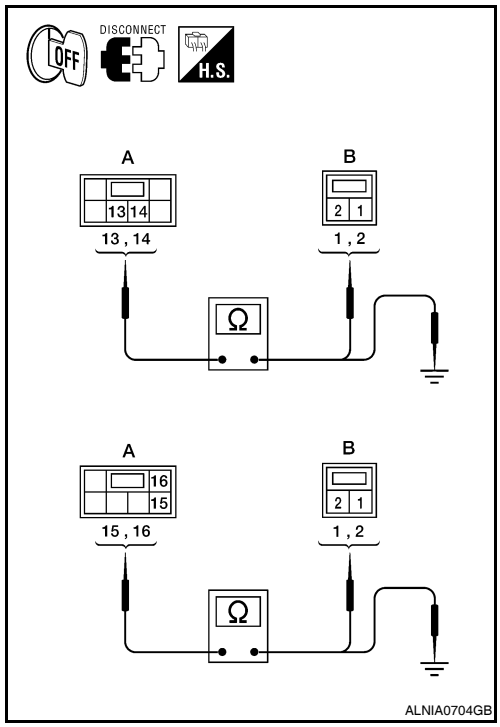
Diagnosis Procedure

INFOID:0000000003789725

1.HARNESS CHECK

1. Disconnect audio unit connector M166 and suspect speaker connector.
2. Check continuity between audio unit harness connectors M166 (A) and suspect speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M166	13	D207 (crew cab) B76 (king cab)	2	Yes
	14		1	
	15	D307 (crew cab) B159 (king cab)	2	
	16		1	



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3. Check continuity between audio unit harness connectors M166 (A) and ground.

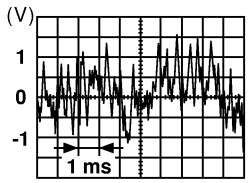
Connector	Terminal	-	Continuity
M166	13	Ground	No
	14		
	15		
	16		

Are the continuity test results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.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 M166 terminals with CONSULT-III or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M166	14	13	Receive audio signal	
	16	15		

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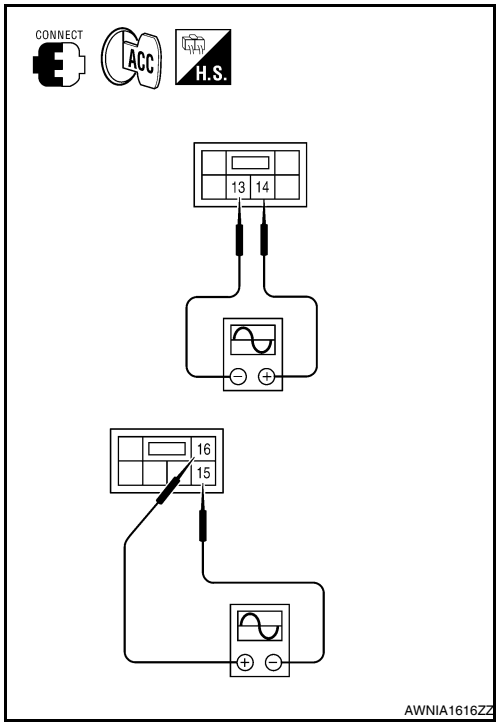


AWNIA1616ZZ

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to AV-73, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-70, "Removal and Installation".

REAR DOOR TWEETER

Description

INFOID:0000000003789726

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

Diagnosis Procedure

INFOID:0000000003789727

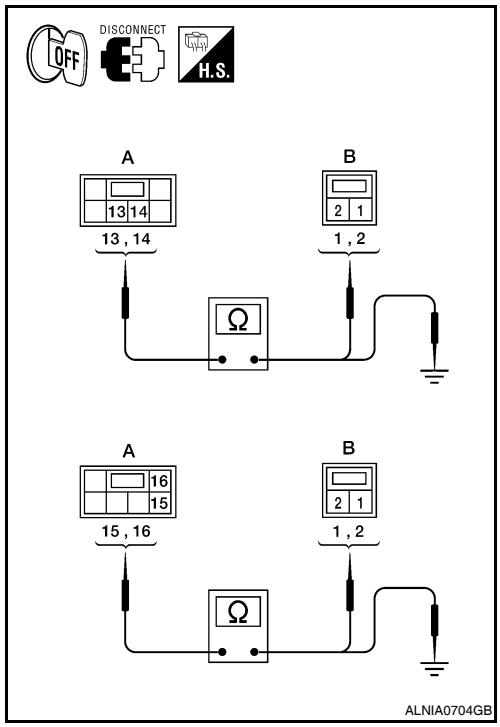
1.HARNESS CHECK

1. Disconnect audio unit connector M166 and suspect tweeter connector.
2. Check continuity between audio unit harness connectors M166 (A) and suspect tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M166	13	D208	2	Yes
	14		1	
	15	D308	2	
	16		1	

3. Check continuity between audio unit harness connectors M166 (A) and ground.

Connector	Terminal	-	Continuity
M166	13	Ground	No
	14		
	15		
	16		



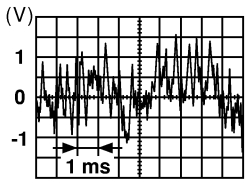
Are the continuity test results as specified?

YES >> GO TO 2.

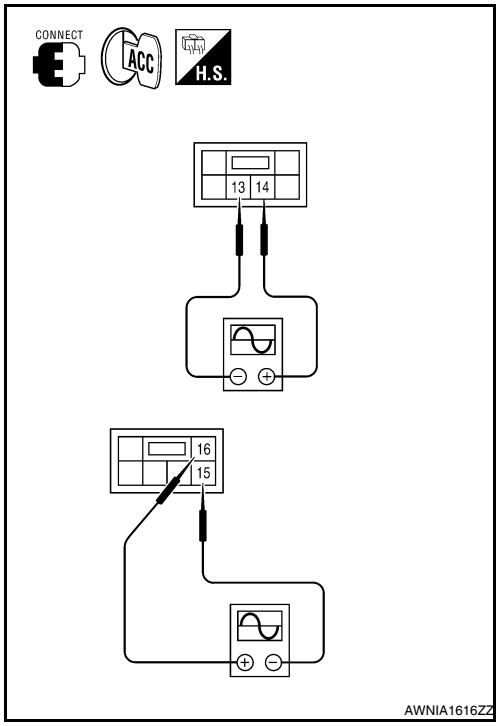
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.REAR DOOR TWEETER SIGNAL CHECK

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

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M166	14	13	Receive audio signal	
	16	15		

SKIA0177E



AWNIA1616ZZ

Are audio signal voltage readings as specified?

YES >> Replace suspect tweeter. Refer to AV-73, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-70, "Removal and Installation".

STEERING SWITCH

Description

INFOID:0000000003789728

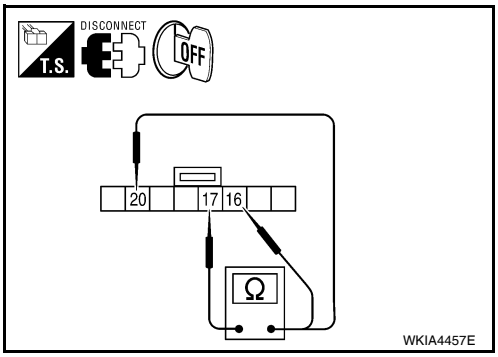
When one of the steering wheel audio control switches is pushed, the resistance in the steering wheel audio control switch circuit changes depending on which button is pushed.

Diagnosis Procedure

INFOID:0000000003789729

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect steering wheel audio control switch connector M102.
3. Check resistance between steering switch connector terminals.



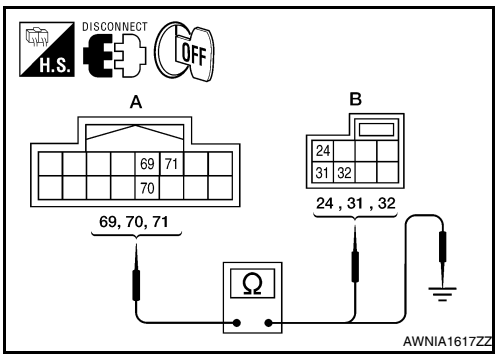
Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
16	17	Seek (down)	Depress ▽ switch.	165
		Volume (down)	Depress VOL down switch.	487
		Power	Depress PWR switch.	0
20	17	Seek (up)	Depress △ switch.	165
		Volume (up)	Depress VOL up switch.	487
		Mode	Depress MODE switch.	0

Do the steering wheel audio control switches check OK?

YES >> GO TO 2.
NO >> Replace steering wheel audio control switch. Refer to AV-74, "Removal and Installation".

2.CHECK HARNESS

1. Disconnect audio unit connector M167 and spiral cable connector M169.
2. Check continuity between audio unit harness connector M167 (A) and spiral cable harness connector M169 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M167	69	M169	24	Yes
	70		32	
	71		31	

3. Check continuity between audio unit connector M167 (A) and ground.

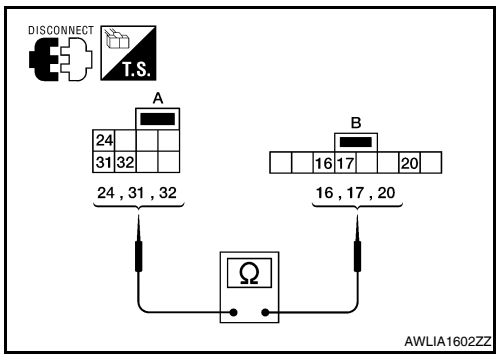
A		—	Continuity
Connector	Terminal		
M167	69	Ground	No
	70		
	71		

Are the continuity results as specified?

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

3.SPIRAL CABLE CHECK

1. Disconnect spiral cable connector M102.
2. Check continuity between spiral cable harness connector M169 (A) and M102 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M169	24	M102	20	Yes
	31		17	
	32		16	

Does the spiral cable check OK?

YES >> Inspection End.
NO >> Replace spiral cable. Refer to SR-6, "Removal and Installation".

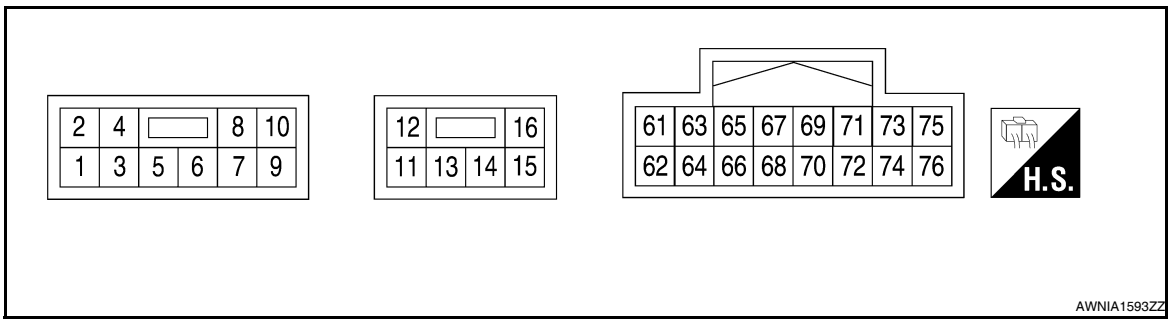
ECU DIAGNOSIS

AUDIO UNIT

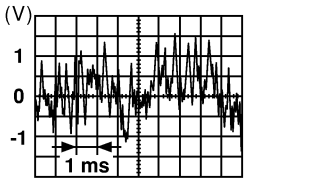
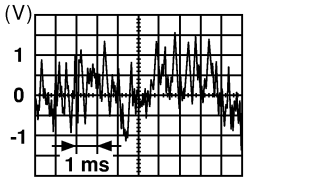
Reference Value

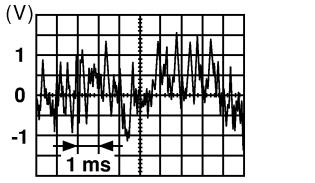
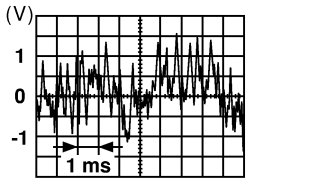
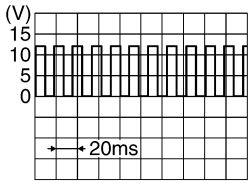
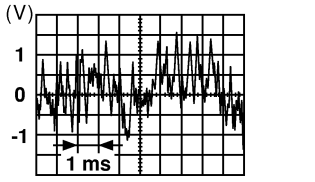
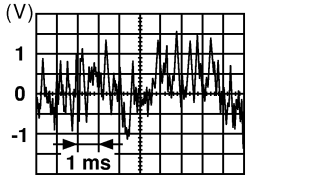
INFOID:0000000003789734

TERMINAL LAYOUT



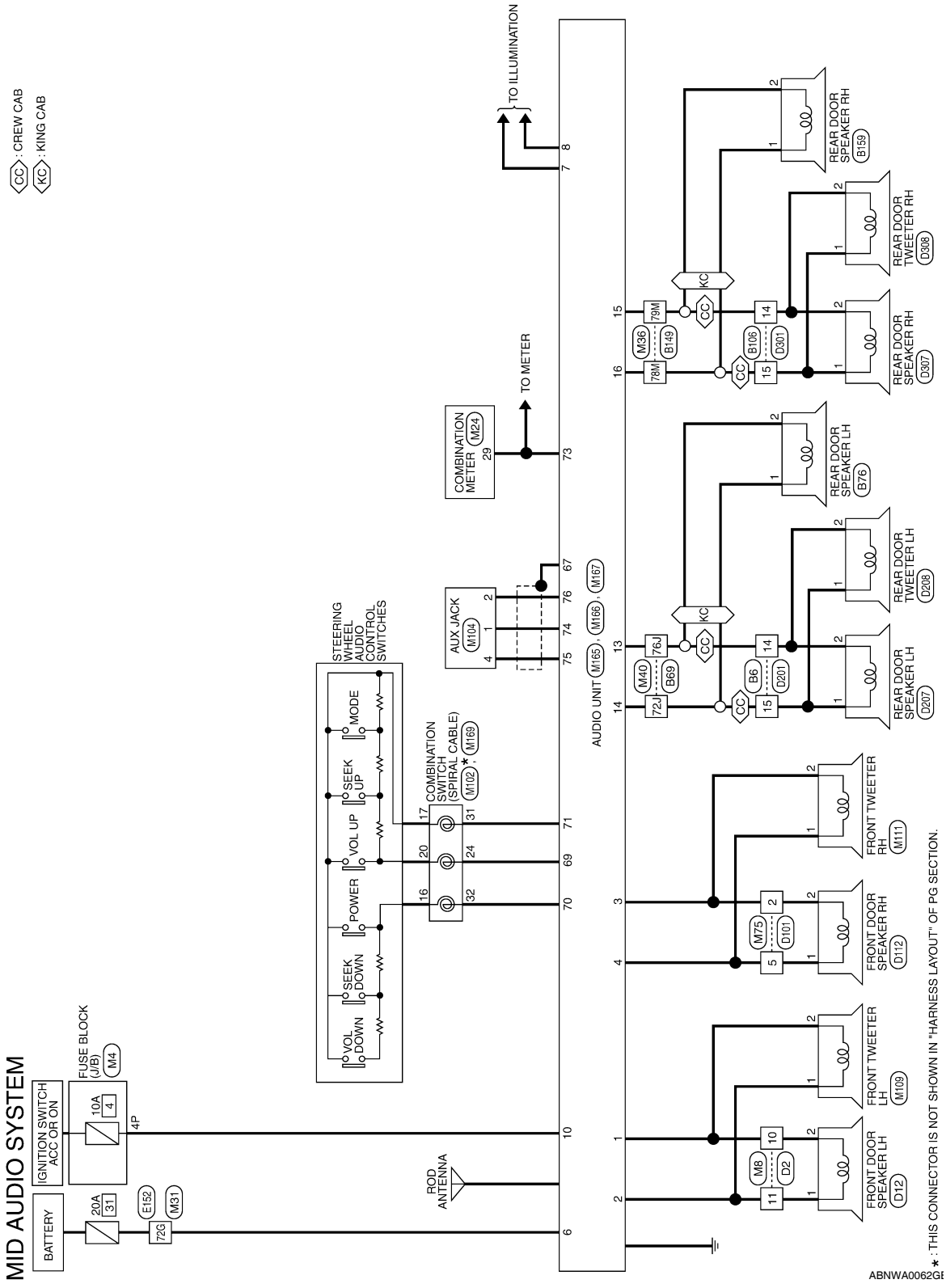
PHYSICAL VALUES

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	–					
2 (L/W)	1 (L/R)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
4 (W/B)	3 (L/B)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
6 (Y)	Ground	Battery power	Input	–	–	Battery voltage
7 (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
8 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch is in 1st position.	Battery voltage
					Lighting switch is OFF.	0V
10 (V)	Ground	ACC signal	Input	Ignition switch ON	–	Battery voltage

Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
14 (SB)	13 (B/Y)	Audio sound signal rear LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
16 (O/L)	15 (R/L)	Audio sound signal rear RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
67	–	Shield	–	Ignition switch ON	–	0V
69 (R)	Ground	Remote control A	Output	Ignition switch ON	Audio unit ON	5V
70 (G)	Ground	Remote control B	Output	Ignition switch ON	Audio unit ON	5V
71 (L)	Ground	Remote control ground	–	–	–	0V
73 (W/R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 mph)	 PKIA1935E
74 (W)	Ground	Auxiliary audio input RH (+)	Input	Ignition switch ON	Receive audio signal (AUX input)	 SKIA0177E
75 (R)	Ground	Auxiliary audio input LH (+)	Input	Ignition switch ON	Receive audio signal (AUX input)	 SKIA0177E
76 (B)	–	Shield	–	–	–	0V

Wiring Diagram

INFOID:0000000003789735



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.

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		

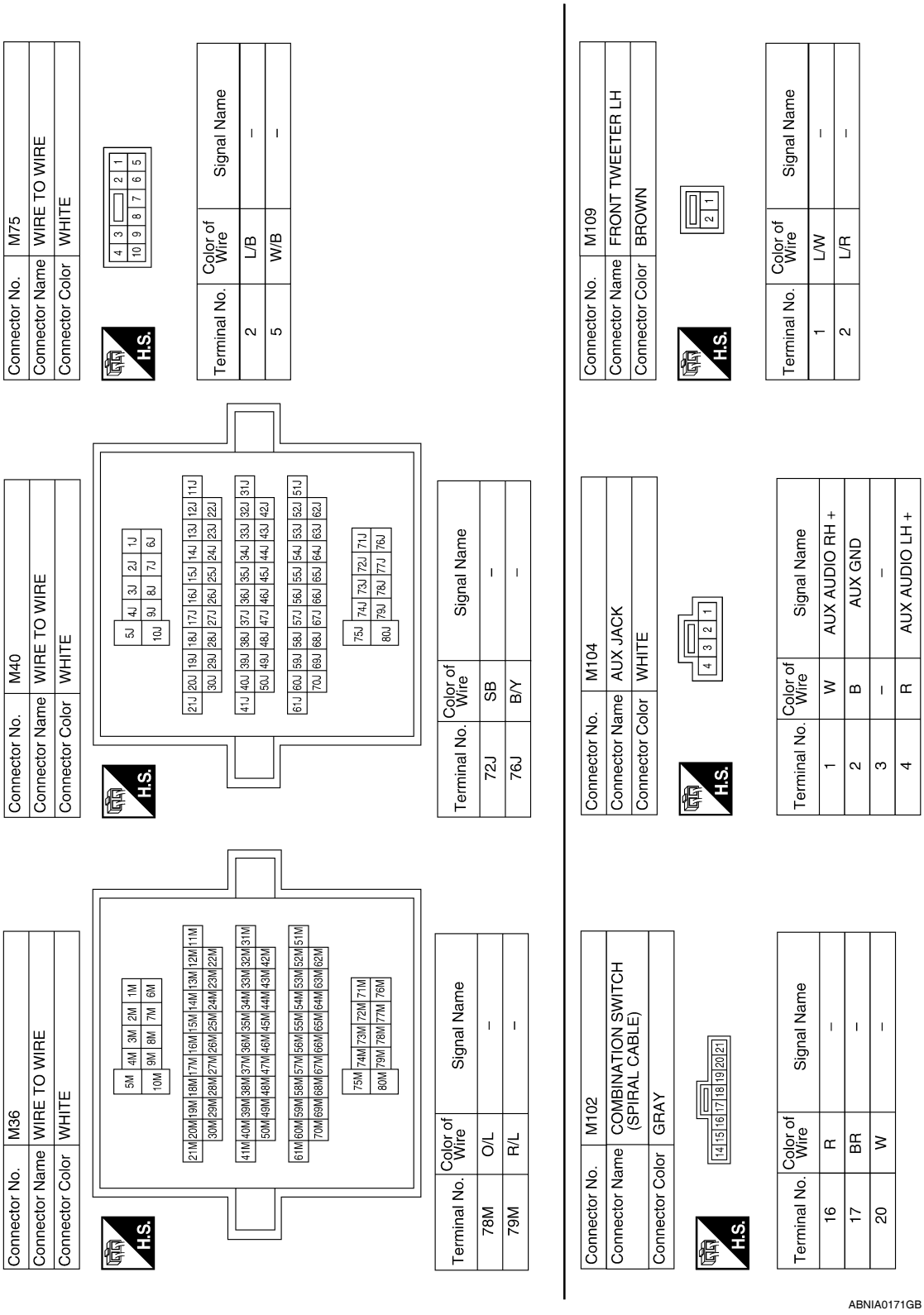
41G	40G	39G	38G	37G	36G	35G	34G	33G	32G	31G
50G	49G	48G	47G	46G	45G	44G	43G	42G		

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

75G	74G	73G	72G	71G
80G	79G	78G	77G	76G

Terminal No.	Color of Wire	Signal Name
72G	Y	–

ABNIA0293GB


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. M109
Connector Name FRONT TWEETER LH
Connector Color BROWN
H.S.
Terminal No. Color of Wire Signal Name
1 L/W –
2 L/R –
Connector No. M40
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
72J SB –
76J B/Y –
Connector No. M104
Connector Name AUX JACK
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
1 W AUX AUDIO RH +
2 B AUX GND
3 – –
4 R AUX AUDIO LH +
Connector No. M36
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
78M O/L –
79M R/L –
Connector No. M102
Connector Name COMBINATION SWITCH (SPIRAL CABLE)
Connector Color GRAY
H.S.
Terminal No. Color of Wire Signal Name
16 R –
17 BR –
20 W –
ABNIA0171GB

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/R	–

Connector No.	M165
Connector Name	AUDIO UNIT (WITH MID AUDIO SYSTEM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L/R	FR SP LH-
2	L/W	FR SP LH+
3	L/B	FR SP RH-
4	W/B	FR SP RH+
5	–	–
6	Y	BACK UP
7	BR	ILL CONT
8	R/L	LIGHT SW
9	–	–
10	V	ACC

Connector No.	M166
Connector Name	AUDIO UNIT (WITH MID AUDIO SYSTEM)
Connector Color	WHITE

H.S.

12	16
11	13	14	15
---	---	---	---

Terminal No.	Color of Wire	Signal Name
11	–	–
12	–	–
13	B/Y	RR SP LH-
14	SB	RR SP LH+
15	R/L	RR SP RH-
16	O/L	RR SP RH+

Connector No.	M167
Connector Name	AUDIO UNIT (WITH MID AUDIO SYSTEM)
Connector Color	WHITE

H.S.

61	63	65	67	69	71	73	75
62	64	66	68	70	72	74	76

Terminal No.	Color of Wire	Signal Name
61	–	–
62	–	–
63	–	–
64	–	–
65	–	–
66	–	–

Terminal No.	Color of Wire	Signal Name
67	SHIELD	AUX JACK SHIELD
68	–	–
69	R	REMOTE CONT A
70	G	REMOTE CONT B
71	L	REMOTE CONT GND
72	–	–
73	W/R	SPEED SIG SSV
74	W	AUX R+
75	R	AUX L+
76	B	AUX GND

Connector No.	M169
Connector Name	COMBINATION SWITCH (SPIRAL CABLE) (WITHOUT BLUETOOTH)
Connector Color	GRAY

H.S.

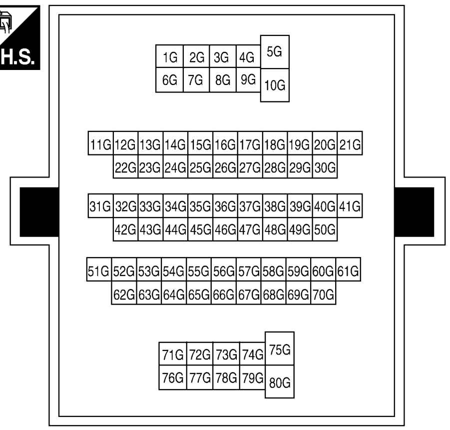
24	25	26	27
31	32	33	34

Terminal No.	Color of Wire	Signal Name
24	R	STRG SW A (UP)
31	L	STRG SW C (GND)
32	G	STRG SW B (DOWN)

ABNIA0172GB

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

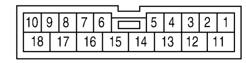
H.S.



Terminal No.	Color of Wire	Signal Name
72G	Y	–

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

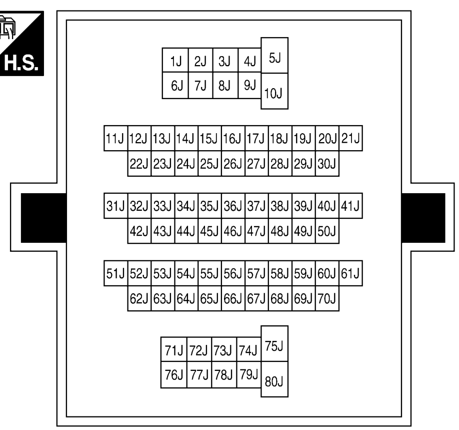
H.S.



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

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

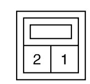
H.S.



Terminal No.	Color of Wire	Signal Name
72J	SB	–
76J	B/Y	–

Connector No.	B76
Connector Name	REAR DOOR SPEAKER LH (WITH KING CAB)
Connector Color	WHITE

H.S.



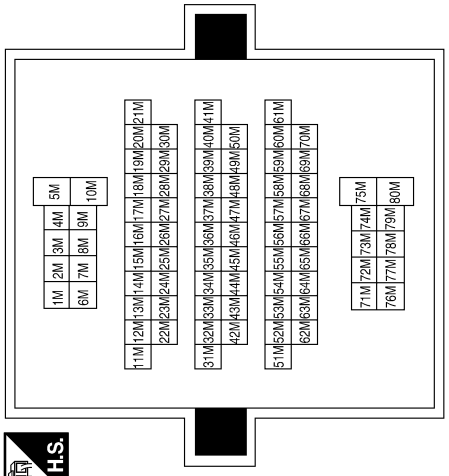
Terminal No.	Color of Wire	Signal Name
1	SB	–
2	B/Y	–

ABNIA0173GB

Terminal No.	Color of Wire	Signal Name
78M	O/L	–
79M	R/L	–

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

H.S.



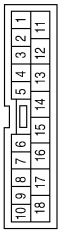
Connector No.	D12
Connector Name	FRONT DOOR SPEAKER LH
Connector Color	WHITE

H.S.

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

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

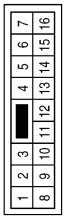
H.S.



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

Connector No.	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.	B159
Connector Name	REAR DOOR SPEAKER RH (WITH KING CAB)
Connector Color	WHITE

H.S.

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

ABNIA0174GB

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	–
15	SB	–

Connector No.	D207
Connector Name	REAR DOOR SPEAKER LH (WITH CREW CAB)
Connector Color	WHITE

H.S.

2	1

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

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	–

ABNIA0175GB

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	–

Connector No.	D307
Connector Name	REAR DOOR SPEAKER RH (WITH CREW CAB)
Connector Color	WHITE

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

ABNIA0294GB

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000003789738

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	• Audio unit power circuit • Audio unit	• AV-45 • AV-70
Steering switch does not operate	• Steering switch • Audio unit	• AV-54 • AV-70
All speakers do not sound	• Audio unit • Audio unit power circuit	• AV-70 • AV-45
One or several speakers do not sound	• Front door speaker • Front tweeter • Rear door speaker • Rear door tweeter (crew cab)	• AV-46 • AV-48 • AV-50 • AV-52

CD

Symptom	Possible cause	Reference page
CD cannot be inserted.	Audio unit	AV-70
CD cannot be ejected.		
The CD cannot be played.		
The sound skips, stops suddenly, or is distorted.		

NORMAL OPERATING CONDITION

Description

INFOID:0000000003789739

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 (crew cab) • 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

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

INFOID:0000000003789740

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:

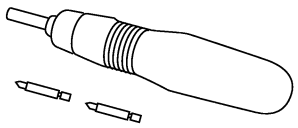
- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal 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.**

PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000003789741

Tool name	Description
Power tool  PBIC0191E	Loosening bolts and nuts

ON-VEHICLE REPAIR

AUDIO UNIT

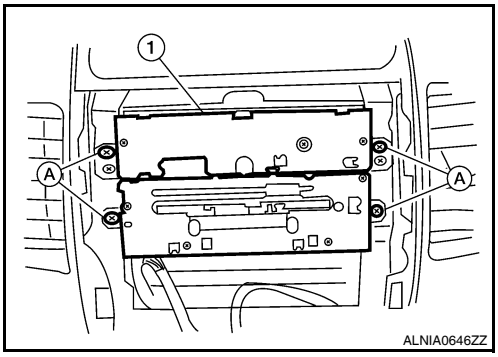
Removal and Installation

INFOID:0000000003789742

AUDIO UNIT

Removal

1. Disconnect the battery negative terminal.
2. Remove the cluster lid C. Refer to IP-14, "Removal and Installation".
3. Remove the audio unit screws (A), using power tool.
4. Pull out the audio unit (1) and disconnect the audio unit connectors.

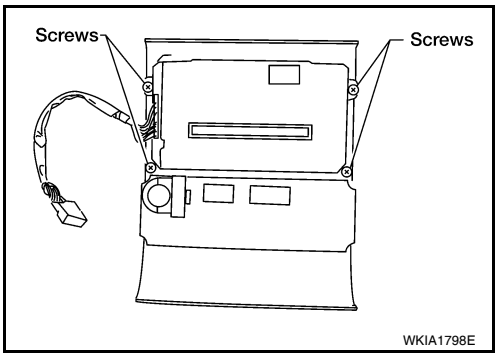


Installation
Installation is in the reverse order of removal.

AV SWITCH

Removal

1. Disconnect battery negative terminal.
2. Remove the cluster lid C. Refer to IP-14, "Removal and Installation".
3. Remove the AV switch screws.
4. Carefully remove the AV switch.



Installation
Installation is in the reverse order of removal.

FRONT TWEETER

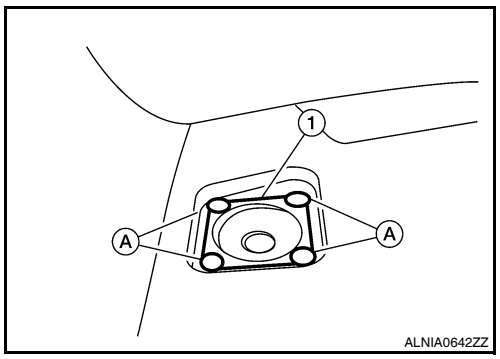
Removal and Installation

INFOID:0000000003789743

FRONT TWEETER

Removal

1. Remove the front tweeter grille. Refer to IP-11, "Removal and Installation".
2. Remove the front tweeter clips (C103) (A).
3. Disconnect the front tweeter connector and remove the front tweeter (1).



Installation

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

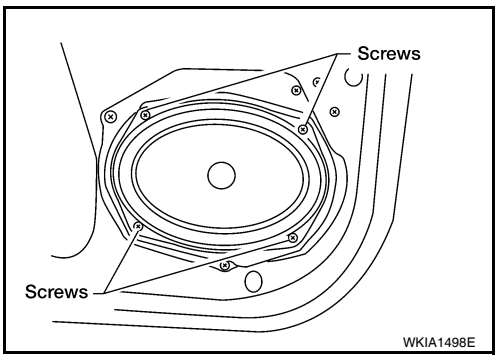
Removal and Installation

INFOID:0000000003789744

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 connector and remove the front door speaker.



Installation

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

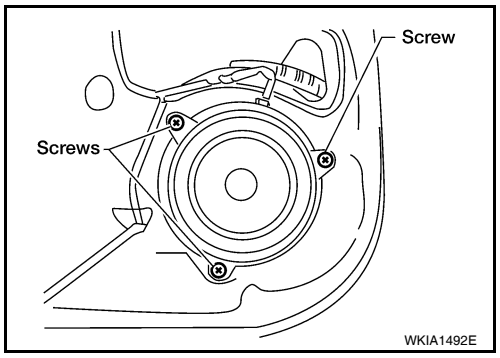
Removal and Installation

INFOID:0000000003789745

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 and remove the rear door speaker.



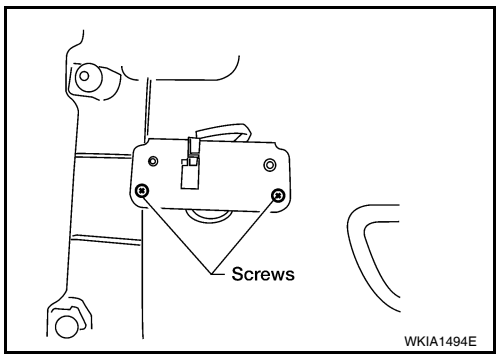
Installation

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" - Crew Cab.
2. Remove the rear door tweeter screws and remove the rear door tweeter.
3. Disconnect the rear door tweeter connector.



Installation

Installation is in the reverse order of removal.

STEERING SWITCH

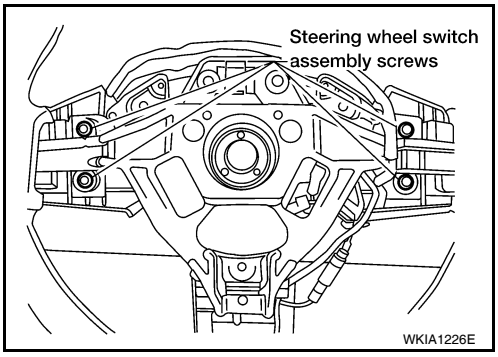
Removal and Installation

INFOID:0000000003789746

STEERING WHEEL AUDIO CONTROL SWITCHES

Removal

1. Remove the steering wheel. Refer to ST-11, "Removal and Installation".
2. Remove the steering wheel rear cover screws and remove the steering wheel rear cover.
3. Remove the steering wheel switch assembly screws and remove the steering wheel switches.



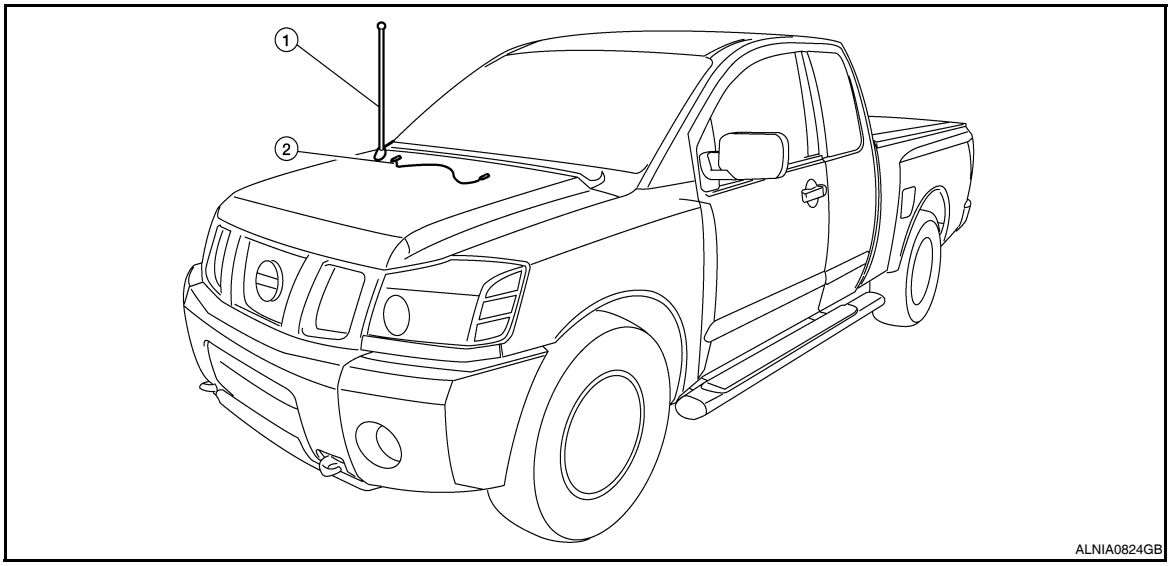
Installation

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:0000000003789748



1. Antenna
2. Main feeder cable

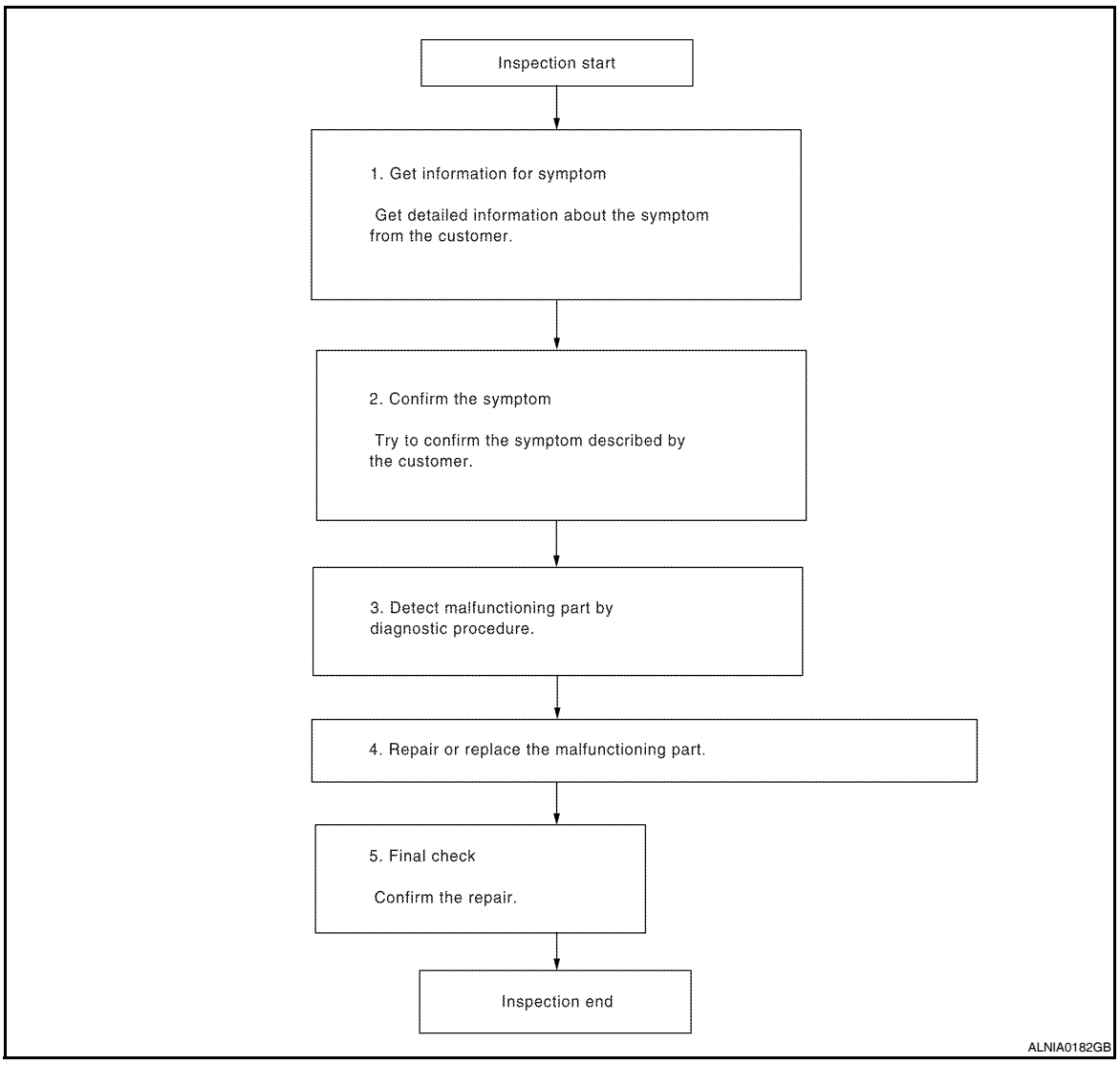
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000003789751

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?

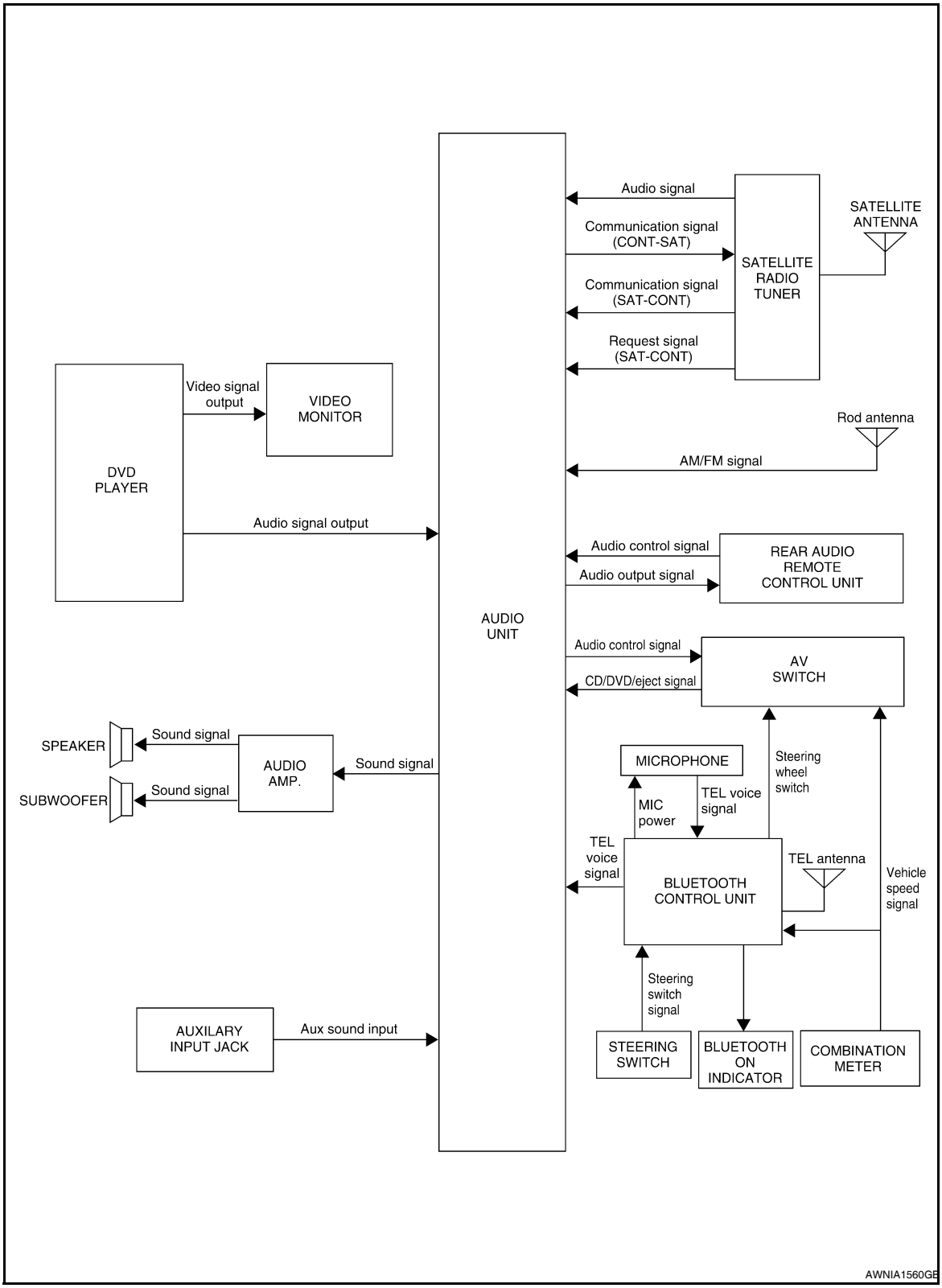
YES >> Inspection End.
NO >> GO TO 2.

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram

INFOID:0000000003789752



System Description

INFOID:0000000003789753

AUDIO SYSTEM

The audio system consists of the following components
- Audio unit
- Audio amp.
- Rod antenna
- Steering wheel audio control switches
- AV switch
- Rear audio remote control unit
- Front door speakers
- Front tweeters
- Center speaker
- Rear door speakers
- Rear door tweeters (crew cab)
- Subwoofer

When the audio system is on, radio signals are received by the rod antenna. The audio unit then sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the front door speakers, front tweeters, center speaker, rear door speakers, rear door tweeters (crew cab) and the sub-woofer.
Refer to Owner's Manual for audio system operating instructions.

SATELLITE RADIO SYSTEM

The satellite radio system consists of the following components
- Satellite antenna
- Satellite radio tuner

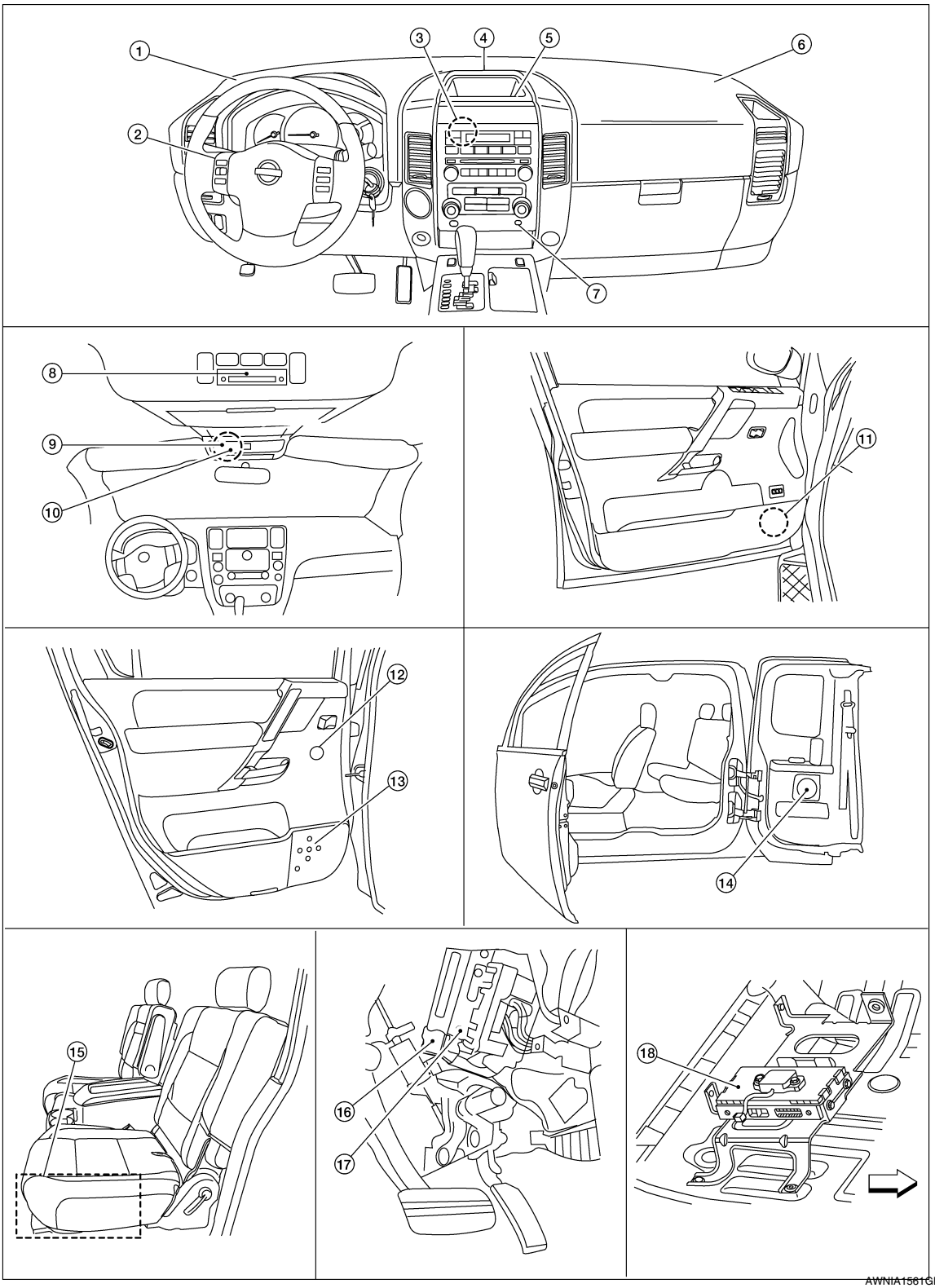
When the satellite radio system is on, radio signals are supplied to the satellite radio tuner from the satellite antenna. The satellite radio tuner then sends audio signals to the audio unit.
Refer to Owner's Manual for satellite radio system operating instructions.

SPEED SENSITIVE VOLUME SYSTEM

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

Component Parts Location

INFOID:0000000003789754



⇦ :FRONT

1. Front tweeter LH M109
2. Steering wheel audio control switches
3. Audio unit M42, M43, M44, M46, M164
4. Center speaker M110
5. AV switch M98
6. Front tweeter RH M111
7. Aux jack M104
8. Rear audio remote control unit R204
9. Microphone R109

10. Bluetooth ON indicator R105
11. Front door speaker LH D12 RH D112
12. Rear door tweeter (crew cab) LH D208 RH D308
13. Rear door speaker (crew cab) LH D207 RH D307
14. Rear door speaker (king cab) LH B76 RH B159
15. Subwoofer B72 (under driver's seat)
16. Audio amp M112, M113 (view behind instrument panel above accelerator pedal)
17. Satellite radio tuner M41, M129
18. Bluetooth control unit B142, B143 (view with passenger front seat removed)

Component Description

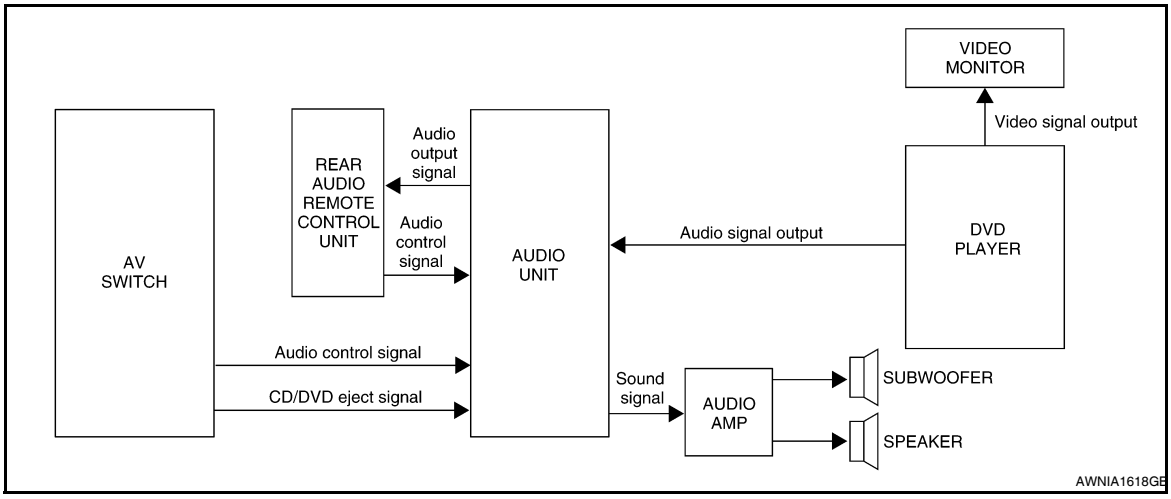
INFOID:0000000003789755

Part name	Description
Audio unit	Controls audio system and satellite radio system functions
Audio amp.	Receives power (amp ON) and audio signals from Audio unit and outputs audio signals to each speaker.
Steering wheel audio control switches	• Audio operation can be operated • Steering switch signal is output to audio unit
Front door speakers	• Outputs audio signal from audio amp. • Outputs high, mid and low range sounds
Front tweeters	• Outputs audio signal from audio amp. • Outputs high range sounds
Center speaker	• Outputs audio signal from audio amp. • Outputs high range sounds
Rear door speakers	• Outputs audio signal from audio amp. • Outputs high, mid and low range sounds
Rear door tweeters (crew cab)	• Outputs audio signal from audio amp. • Outputs high range sounds
Subwoofer	• Outputs audio signal from audio amp. • Outputs low range sounds
Satellite radio tuner	• Receives radio signals from satellite antenna • Sends audio signals to Audio unit
Satellite antenna	Audio signal (satellite radio) is received and output to Audio unit.

DVD PLAYER

System Diagram

INFOID:0000000003789756



System Description

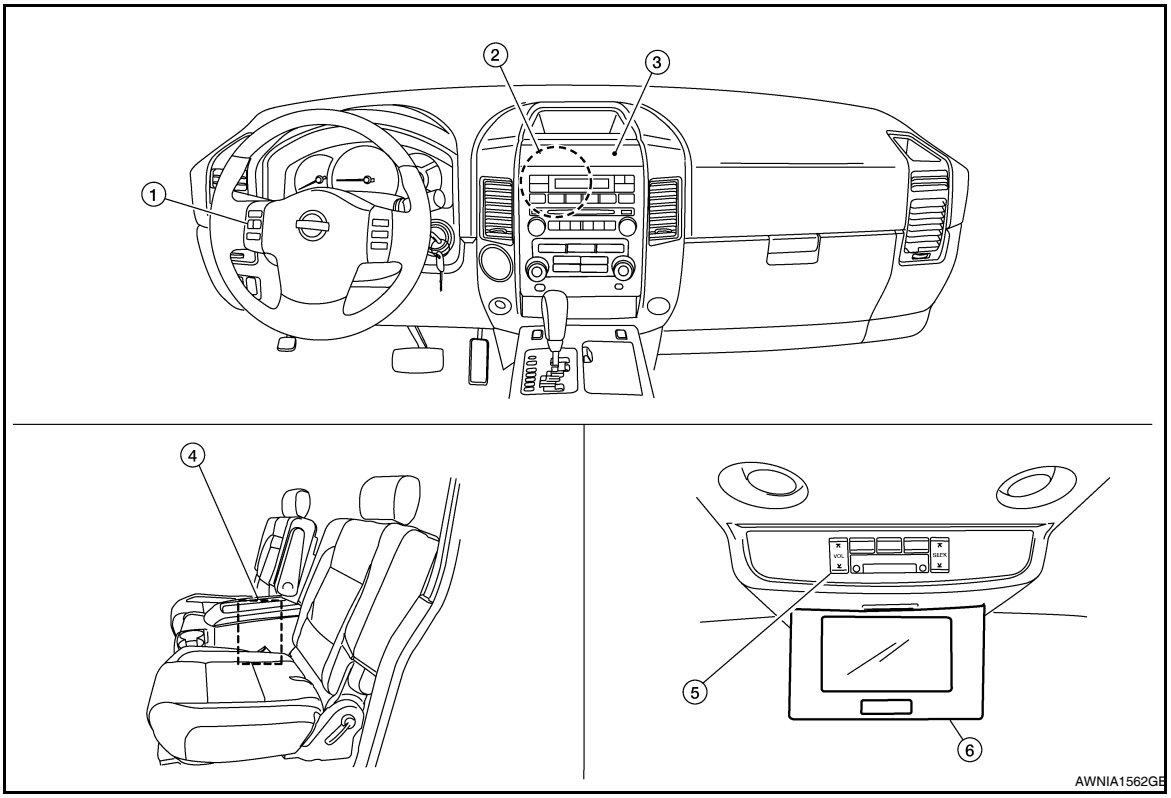
INFOID:0000000003789757

The DVD entertainment system consists of the following components
- Audio unit
- DVD player
- Video monitor
- AV switch
- Steering wheel audio control switches
- Rear audio remote control unit
- Audio amp.
- Front tweeters
- Front door speakers
- Center speaker
- Rear door tweeters (crew cab)
- Rear door speakers
- Subwoofer

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 Audio unit. 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.

Component Parts Location

INFOID:0000000003789758



1. Steering wheel audio control switches
2. Audio unit M42, M43, M44, M46, M164
3. AV switch M98
4. DVD player M205, M206 (located in center console)
5. Rear audio remote control unit R204
6. Video monitor R202

Component Description

INFOID:0000000003789759

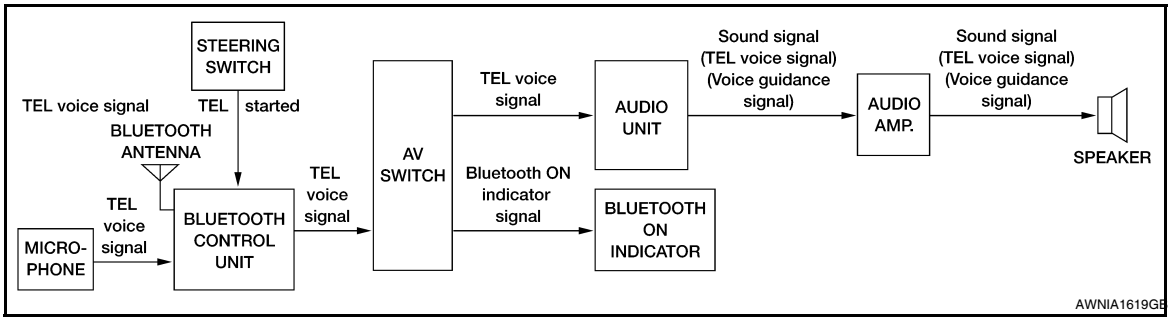
Part name	Description
DVD player	• Outputs DVD video to video monitor • Outputs DVD audio to the audio unit
Video monitor	• Receives and displays the DVD video signal
Audio unit	• Controls audio system and DVD entertainment system functions
Audio amp.	• Recieves audio signals from the audio unit • Outputs amplified audio signals to the speakers
AV switch	• All audio operations can be operated • Switch signal is output to the audio unit
Rear audio remote control unit	• Audio and DVD functions can be operated • Switch signal is output to the audio unit • Receives audio signal from audio unit for headphones
Steering wheel audio control switches	• Audio operation can be operated • Steering switch signal (operation signal) is output to audio unit
Front door speakers	• Outputs audio signal from audio amp. • Outputs high, mid and low range sounds
Front tweeters	• Outputs audio signal from audio amp. • Outputs high range sounds
Center speaker	• Outputs audio signal from audio amp. • Outputs high, mid and low range sounds

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

HANDS-FREE PHONE SYSTEM

System Diagram

INFOID:0000000003789760



System Description

INFOID:0000000003789761

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

NOTE:

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

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

BLUETOOTH CONTROL UNIT

When the ignition switch is turned to ACC or ON, the Bluetooth control unit will power up. During power up, the Bluetooth control unit is initialized and performs various self checks. Initialization may take up to 10 seconds. If a phone is present in the vehicle and paired with the Bluetooth control unit, Nissan Voice Recognition will then become active. Bluetooth telephone functions can be turned off using the Nissan Voice Recognition system.

STEERING WHEEL AUDIO CONTROL SWITCHES

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

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

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

MICROPHONE

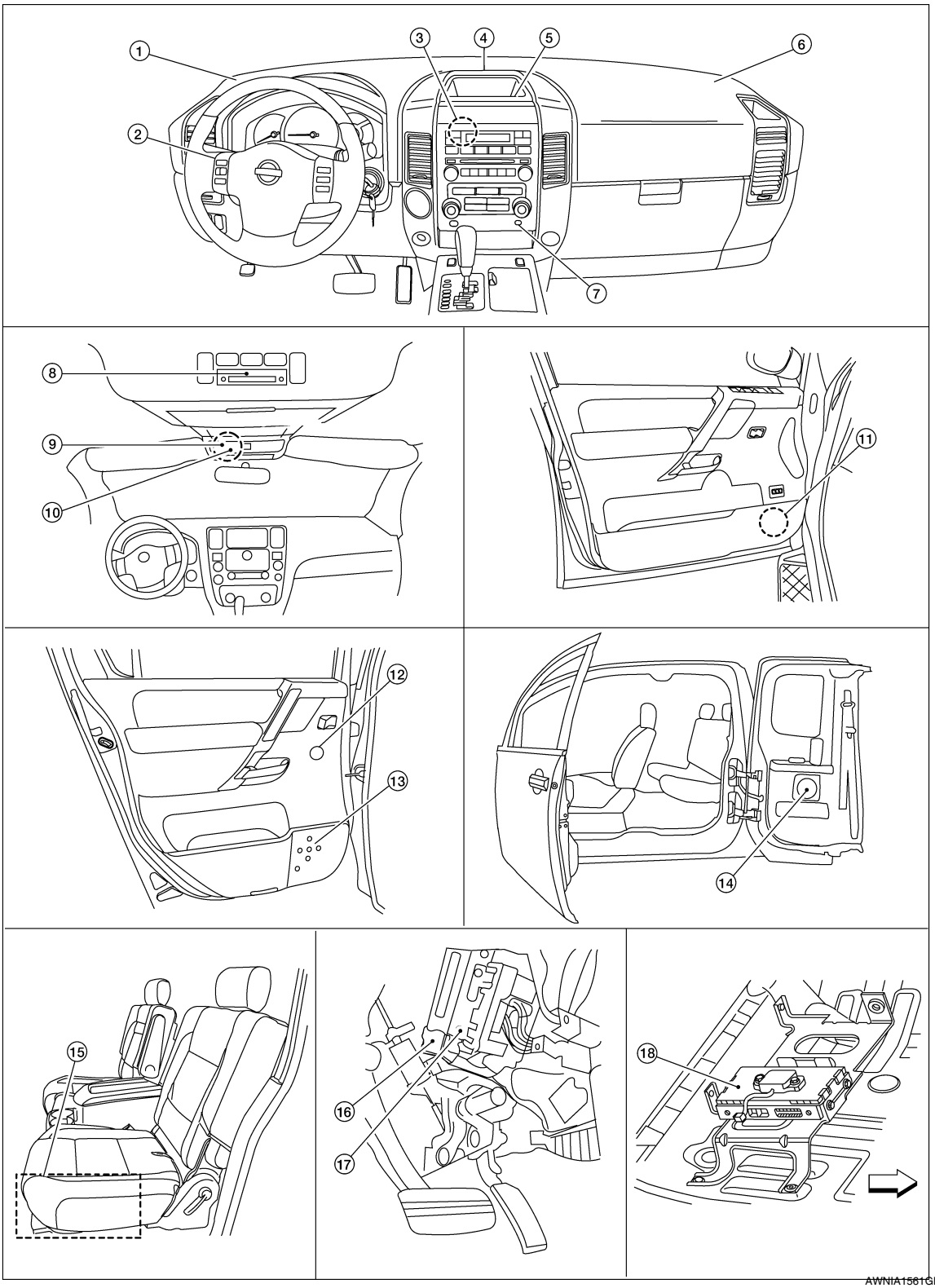
The microphone is located in the roof console assembly. The microphone sends a signal to the Bluetooth control unit. The microphone can be actively tested during self-diagnosis.

AUDIO UNIT

The audio unit receives signals from the Bluetooth control unit and sends audio signals to the audio amp. then on to the speakers.

Component Parts Location

INFOID:0000000004160660



⇦ :FRONT

1. Front tweeter LH M109
2. Steering wheel audio control switches
3. Audio unit M42, M43, M44, M46, M164
4. Center speaker M110
5. AV switch M98
6. Front tweeter RH M111
7. Aux jack M104
8. Rear audio remote control unit R204
9. Microphone R109

10. Bluetooth ON indicator R105
11. Front door speaker LH D12 RH D112
12. Rear door tweeter (crew cab) LH D208 RH D308
13. Rear door speaker (crew cab) LH D207 RH D307
14. Rear door speaker (king cab) LH B76 RH B159
15. Subwoofer B72 (under driver's seat)
16. Audio amp M112, M113 (view behind instrument panel above accelerator pedal)
17. Satellite radio tuner M41, M129
18. Bluetooth control unit B142, B143 (view with passenger front seat removed)

Component Description

INFOID:0000000003789763

Part name	Description
Audio unit	• Receives telephone voice signal from Bluetooth control unit • Sends telephone voice and voice guidance signals to the speakers
Audio amp.	• Recieves audio signals from the audio unit • Outputs amplified audio signals to the speakers.
Front door speaker	Receives telephone voice and voice guidance signals from the audio amp.
Front tweeter	
Center speaker	
Steering wheel audio control switches	• Start a voice recognition session • Answer and end telephone calls • Adjust the volume level
Microphone	Sends voice signals to Bluetooth control unit
Bluetooth control unit	Controls hands-free phone functions
Bluetooth antenna	Sends telephone voice signal to Bluetooth control unit
Bluetooth ON indicator	Controlled by the Bluetooth control unit

DIAGNOSIS SYSTEM (AUDIO UNIT)

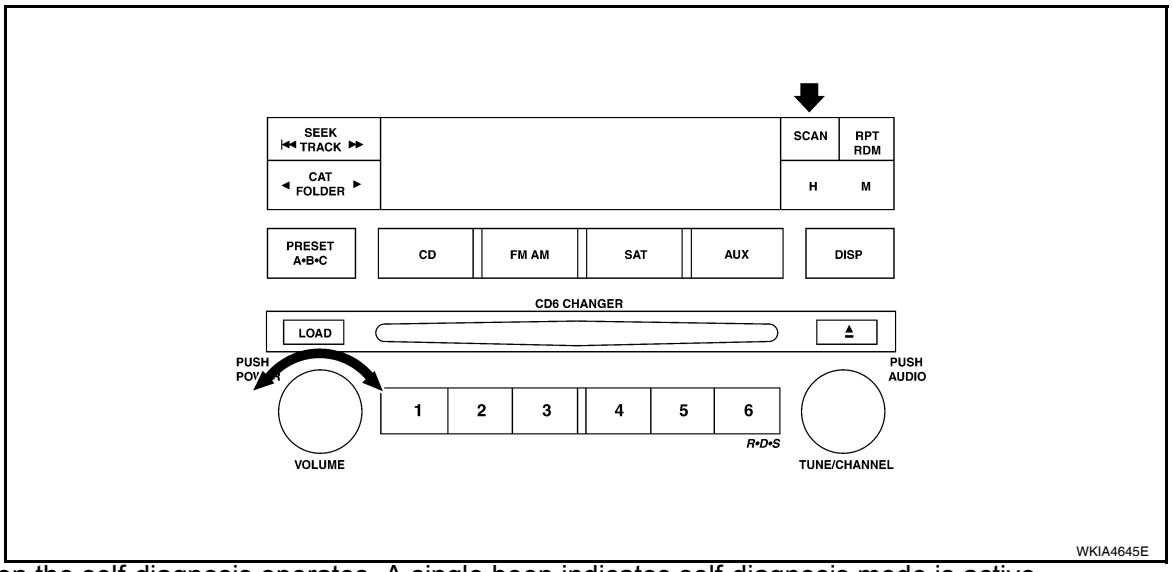
AV SWITCH

AV SWITCH : Component Function Check

INFOID:0000000003789764

STARTING THE SELF-DIAGNOSIS MODE

1. Turn ignition switch from OFF to ACC.
2. Press and hold the “SCAN” switch and turn the volume control dial clockwise or counterclockwise for 30 clicks or more.



Then the self-diagnosis operates. A single beep indicates self-diagnosis mode is active.

3. Initially, all display segments will be illuminated.
4. Press each switch. When each switch is pressed, its name and communication code will be displayed

NOTE:

CD player LOAD and EJECT buttons are not included in this test and will not change the display when pressed.

DIAGNOSIS FUNCTION

- It can check for continuity of the switches by sounding the beep when each AV switch and steering switch is pressed.
- It can check for continuity of harness between AV switch and steering switch.

EXITING THE SELF-DIAGNOSIS MODE

Turn ignition switch OFF. Then the self-diagnosis ends.

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description

INFOID:0000000003789765

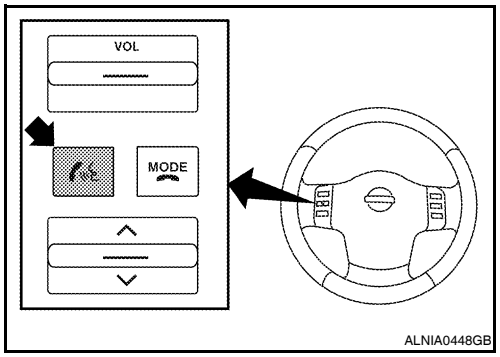
The Bluetooth control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

BLUETOOTH CONTROL UNIT INITIALIZATION CHECKS

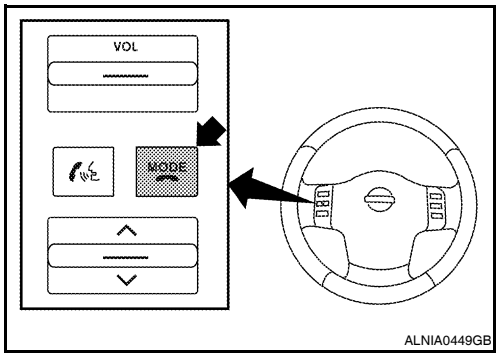
- Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switches [SEND( )/END(MODE)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth inquiry check

OPERATION PROCEDURE

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



4. While the prompt is playing, press and hold the steering wheel audio control switch MODE button until you hear the “Diagnostics mode” prompt. The Bluetooth system will sound a 5 second beep.
5. While the beep is sounding, press and hold the steering wheel audio control switch MODE button again until you hear prompts.
6. The Bluetooth system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician. Refer to AV-89, "Work Flow".
7. After the failure records are reported, an interactive microphone test will be performed. Follow the voice prompt. If the microphone test fails refer to AV-89, "Work Flow".
8. Self-diagnosis mode is complete when the voice prompt says “All diagnostic functions completed”.



Work Flow

INFOID:0000000003789766

Failure Message	Action
“Internal failure”	Replace Bluetooth control unit. Refer to AV-180, "Removal and Installation".
“Bluetooth antenna open”	1. Inspect harness connection. 2. Replace Bluetooth antenna. Refer to AV-179, "Removal and Installation".
“Bluetooth antenna shorted”	
“Phone/Send for Hands Free System is stuck”	Check steering wheel audio control switches. Refer to AV-115, "Description".
“Phone/End for the Hands Free System is stuck”	
“Microphone test” (failed interactive test)	1. Inspect harness between Bluetooth control unit and microphone. 2. Replace microphone. Refer to AV-178, "Removal and Installation".

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000003789767

1.CHECK FUSES

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

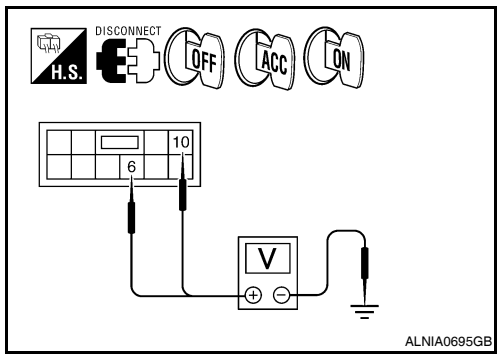
Unit	Terminals	Signal name	Fuse No.
Audio unit	6	Battery power	31
	10	Ignition switch ACC or ON	4

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



(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M43	6	Ground	0V	Battery voltage	Battery voltage
	10	Ground	Battery voltage	Battery voltage	Battery voltage

Are the voltage results as specified?

YES >> GO TO 3.
NO >> • Check connector housing 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.

AV SWITCH

AV SWITCH : Diagnosis Procedure

INFOID:0000000003789768

1.CHECK FUSE

Check that the fuses for the AV switch are not blown.

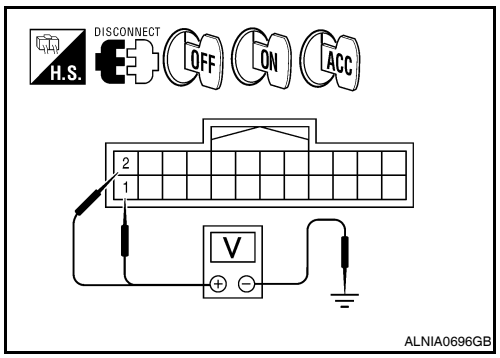
Unit	Terminal	Signal name	Fuse No.
AV switch	1	Battery	31
	2	Ignition switch ACC or ON	4

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 AV switch connector M98.
2. Check voltage between the AV switch connector M98 and ground.



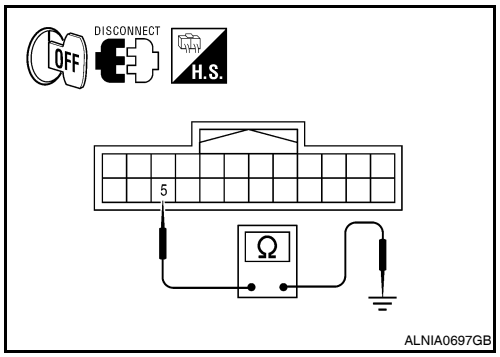
(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M98	1	Ground	Battery voltage	Battery voltage	Battery voltage
	2	Ground	0V	Battery voltage	Battery voltage

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. Check continuity between AV switch harness connector M98 and ground.



Connector	Terminal	—	Continuity
M98	5	Ground	Yes

Are the continuity results as specified?

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

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000003789769

1.CHECK FUSES

Check that the following fuses of the satellite radio tuner (factory installed) are not blown.

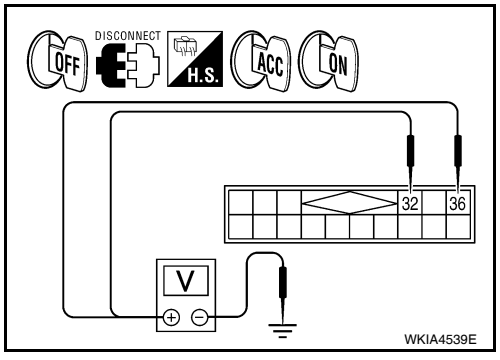
Unit	Terminals	Signal name	Fuse No.
Satellite radio tuner (factory installed)	32	Battery power	31
	36	Ignition switch ACC or ON	4

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. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41.
3. Check voltage between the satellite radio tuner (factory installed) and ground.



(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M41	32	Ground	Battery voltage	Battery voltage	Battery voltage
	36		0V	Battery voltage	Battery voltage

Are the voltage readings as specified?

YES >> GO TO 3.

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

3.GROUND CIRCUIT CHECK

Inspect satellite radio tuner (factory installed) case ground.

Does case ground pass inspection?

YES >> Inspection End.
NO >> Repair satellite radio tuner (factory installed) case ground.

DVD PLAYER

DVD PLAYER : Diagnosis Procedure

INFOID:0000000003789770

1.CHECK FUSE

Check that the following fuses for the DVD player are not blown.

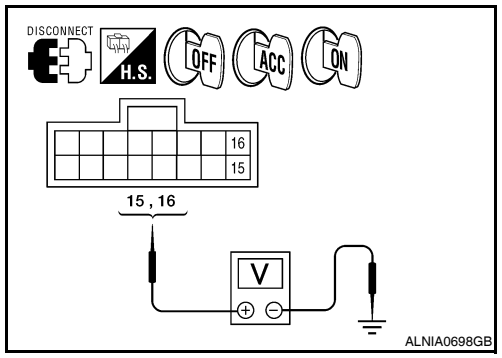
Unit	Terminal	Signal name	Fuse No.
DVD player	16	Battery power	31
	15	Ignition switch ACC or ON	4

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.



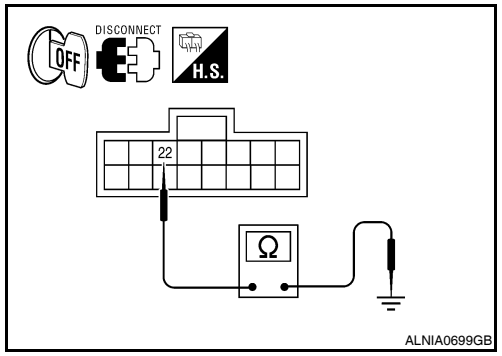
(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M205	16	Ground	Battery voltage	Battery voltage	Battery voltage
	15		0V	Battery voltage	Battery voltage

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. 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 DVD player ground.

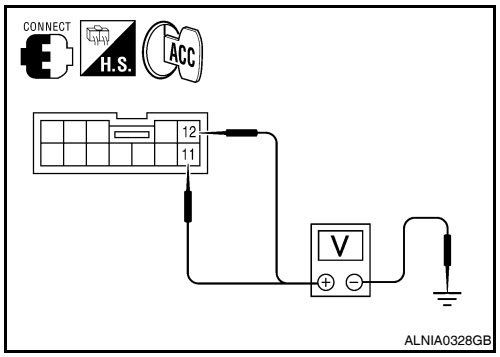
VIDEO MONITOR

VIDEO MONITOR : Diagnosis Procedure

INFOID:0000000003789771

1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch to ACC.
2. Check voltage between video monitor harness connector R202 and ground.



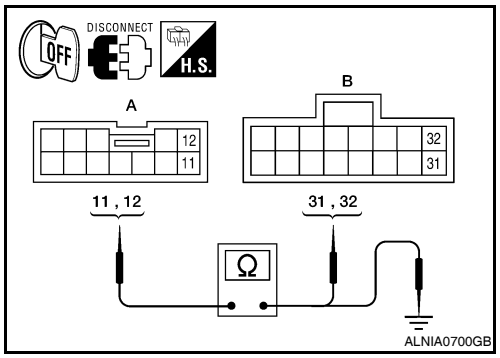
(+)		(-)	Value (Approx.)
Connector	Terminal		
R202	11	Ground	Battery voltage
	12		

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.

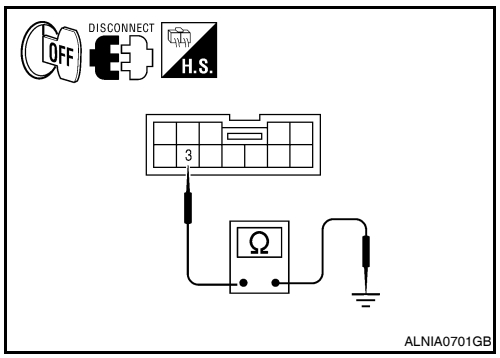
A		—	Continuity
Connector	Terminal		
R202	11	Ground	No
	12		

Are continuity test results as specified?

YES >> Check DVD player power and ground supply. Refer to AV-92, "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.

AUDIO AMP

AUDIO AMP : Diagnosis Procedure

INFOID:0000000003789772

1.CHECK FUSE

Check that the audio amp. fuses are not blown.

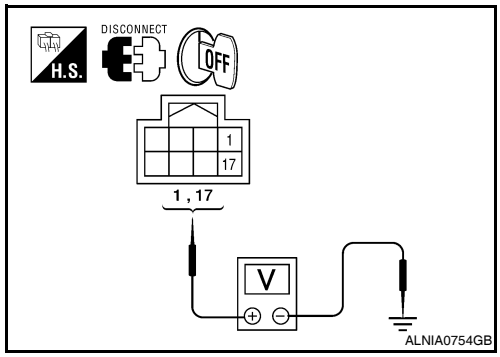
Unit	Terminal	Signal name	Fuse No.
Audio amp.	1	Battery power	31
	17		17

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.



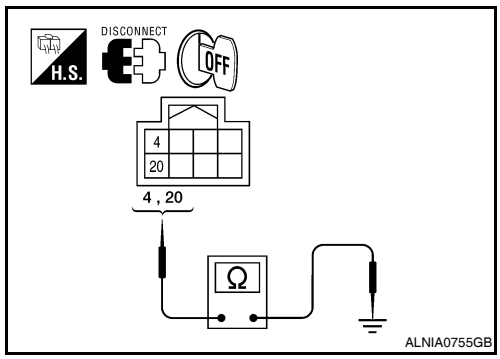
(+)		(-)	Voltage (approx.)
Connector	Terminal		
M112	1	Ground	Battery voltage
	17		

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:0000000003789773

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

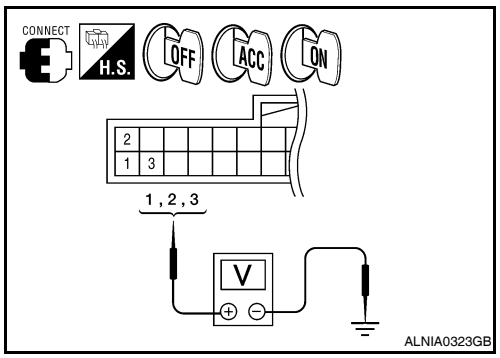
Is inspection result OK?

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	



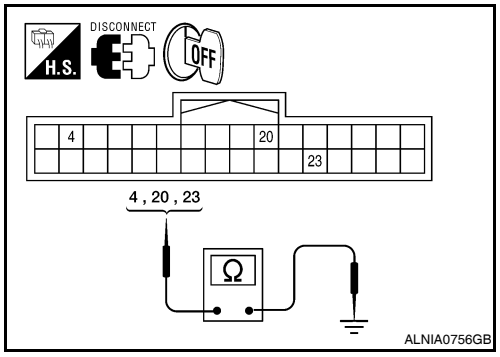
Is battery voltage present as specified?

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
	20		
	23		



Are continuity results as specified?

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

MICROPHONE

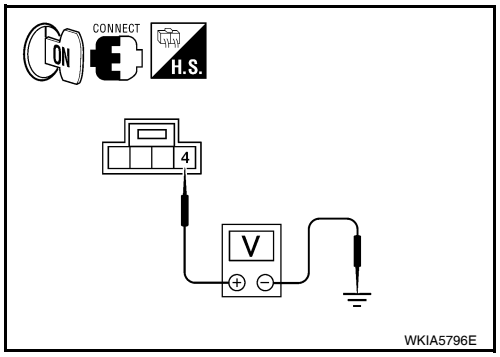
MICROPHONE : Diagnosis Procedure

INFOID:0000000003789774

1.CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

1. Turn ignition switch ON.
2. Check voltage between microphone harness connector R109 terminal 4 and ground.

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



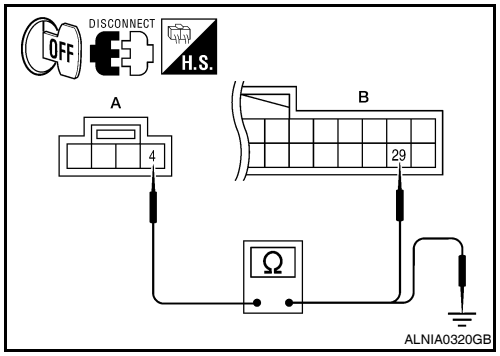
Is approximately 5V present?

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 (A) terminal 4 and Bluetooth control unit harness connector B142 (B) terminal 29.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
R109	4	B142	29	Yes



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

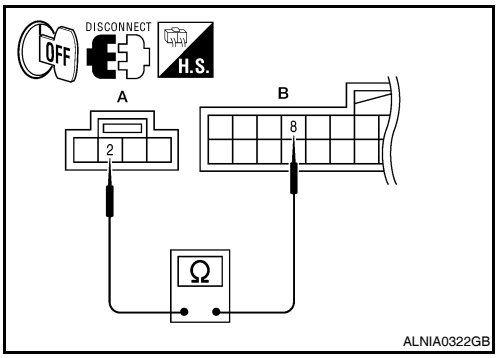
A		—	Continuity
Connector	Terminal		
R109	4	Ground	No

Are the continuity test results as specified?

YES >> Replace the Bluetooth control unit. Refer to AV-180, "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 (A) terminal 2 and Bluetooth control unit harness connector B142 (B) terminal 8.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
R109	2	B142	8	Yes

Does continuity exist?

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

FRONT DOOR SPEAKER

Description

INFOID:0000000003789775

The audio unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the front door speakers using the audio signal circuits.

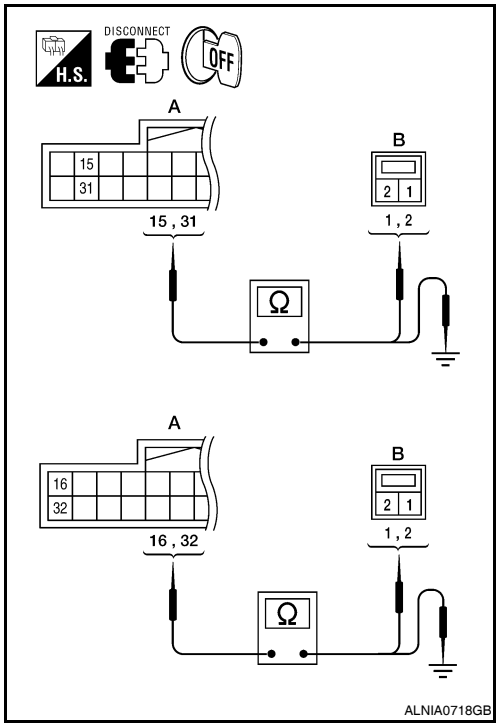
Diagnosis Procedure

INFOID:0000000003789776

1.SPEAKER HARNESS CHECK

1. Disconnect audio amp. connector M113 and suspect speaker connector.
2. Check continuity between audio amp. harness connector M113 (A) and suspect 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.

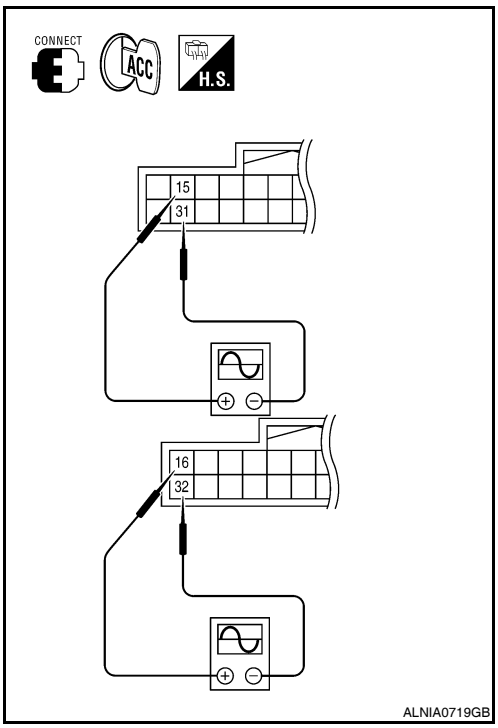
A		—	Continuity
Connector	Terminal		
M113	15	Ground	No
	31		
	16		
	32		

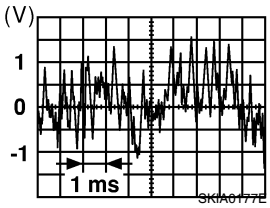
Are continuity test results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.FRONT DOOR SPEAKER SIGNAL CHECK

1. Connect audio amp. connector M113 and suspect 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-III or oscilloscope.



Connector	Terminal (+)	Terminal (-)	Condition	Reference signal
M113	15	31	Receive audio signal	
	16	32		

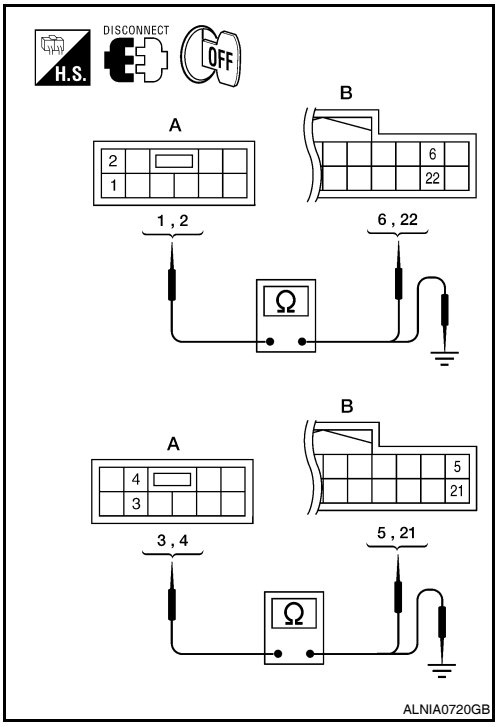
Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to AV-168, "Removal and Installation".

NO >> GO TO 3.

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M43 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M43 (A) and audio amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M113	6	Yes
	2		22	
	3		5	
	4		21	

3. Check continuity between audio unit harness connector M43 (A) and ground.

A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

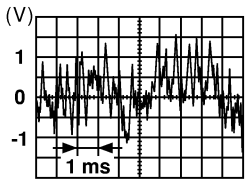
Are continuity test results as specified?

YES >> GO TO 4.

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

4. 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 M43 terminals with CONSULT-III or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M43	2	1	Receive audio signal	
	4	3		

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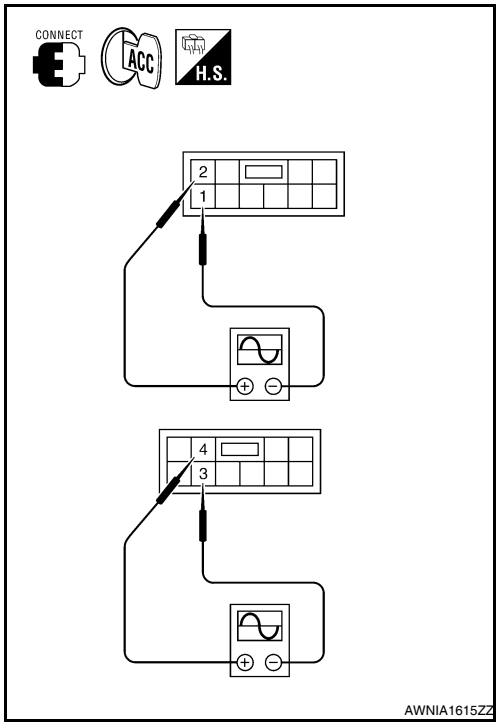

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Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to AV-174, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-165, "Removal and Installation".

FRONT TWEETER

Description

INFOID:0000000003789777

The audio unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the tweeters using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000003789778

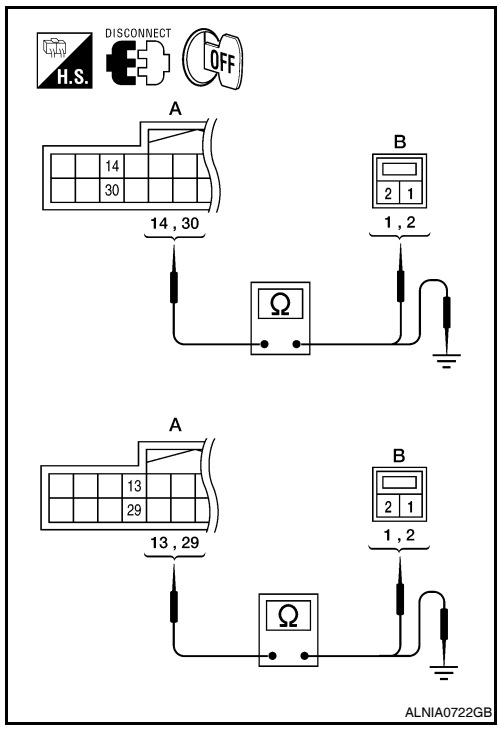
1.HARNESS CHECK

1. Disconnect audio amp. connector M113 and suspect tweeter connector.
2. Check continuity between audio amp. harness connector M113 (A) and suspect 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		

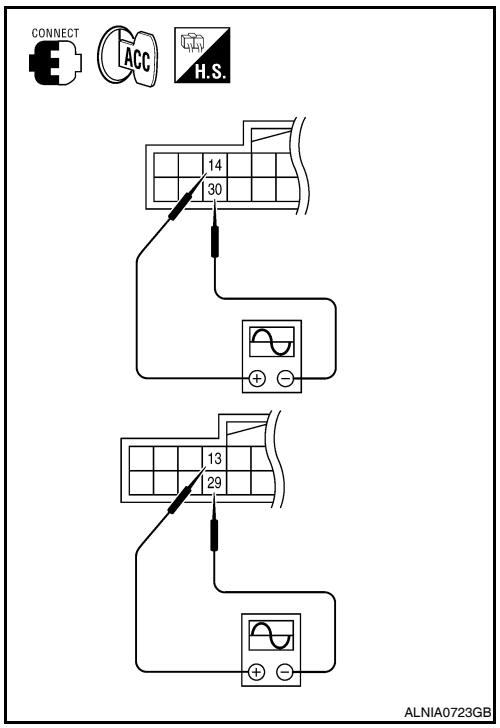


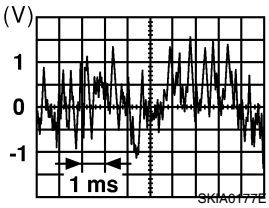
Are continuity test results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.FRONT TWEETER SIGNAL CHECK

1. Connect audio amp. connector M113 and suspect 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-III or oscilloscope.



Connector	Terminal (+)	Terminal (-)	Condition	Reference signal
M113	14	30	Receive audio signal	
	13	29		

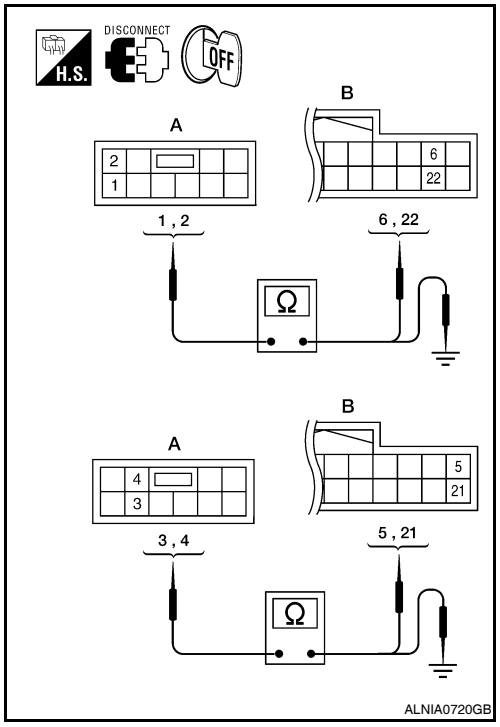
Is audio signal voltage as specified?

YES >> Replace suspect tweeter. Refer to AV-166, "Removal and Installation".

NO >> GO TO 3.

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M43 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M43 (A) and audio amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M113	6	Yes
	2		22	
	3		5	
	4		21	

3. Check continuity between audio unit harness connector M43 (A) and ground.

A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

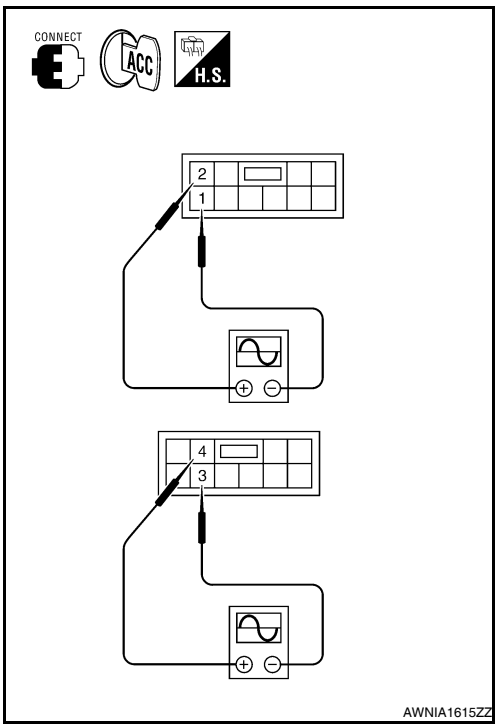
Are continuity test results as specified?

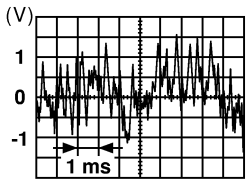
YES >> GO TO 4.

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

4. 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 M43 terminals with CONSULT-III or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M43	2	1	Receive audio signal	 SKIA0177E
	4	3		

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to AV-174, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-165, "Removal and Installation".

CENTER SPEAKER

Description

INFOID:0000000003789779

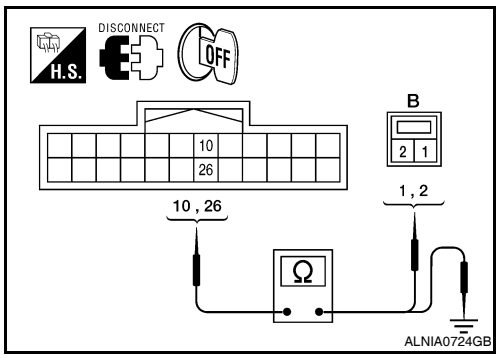
The audio unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the center speaker using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000003789780

1.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.

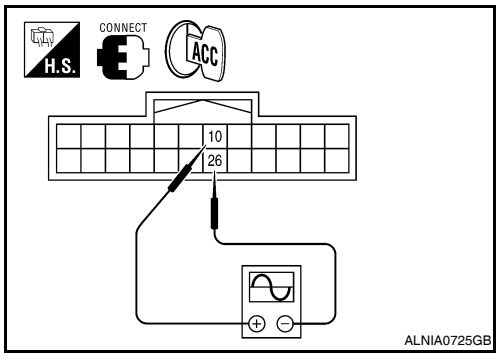
A		—	Continuity
Connector	Terminal		
M113	10	Ground	No
	26		

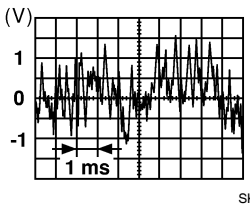
Are continuity test results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.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-III or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	10	26	Receive audio signal	

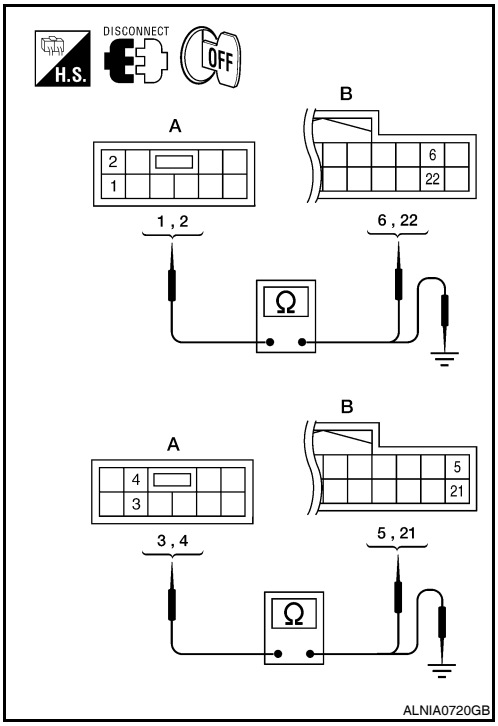
SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace center speaker. Refer to AV-167, "Removal and Installation".
NO >> GO TO 3.

3.PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M43 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M43 (A) and audio amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M113	6	Yes
	2		22	
	3		5	
	4		21	

3. Check continuity between audio unit harness connector M43 (A) and ground.

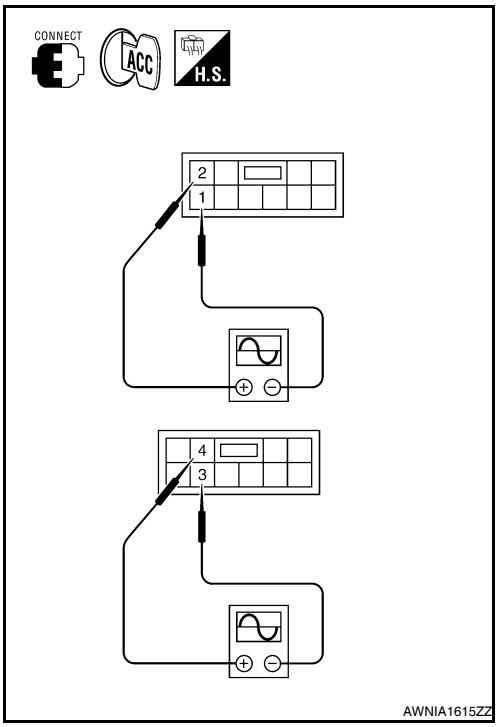
A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

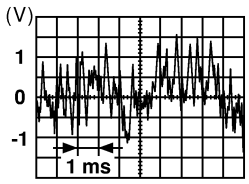
Are continuity test results as specified?

YES >> GO TO 4.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

4. 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 M43 terminals with CONSULT-III or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	2	1	Receive audio signal	
	4	3		

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to AV-174, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-165, "Removal and Installation".

REAR DOOR SPEAKER

Description

INFOID:0000000003789781

The audio unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the rear door speakers using the audio signal circuits.

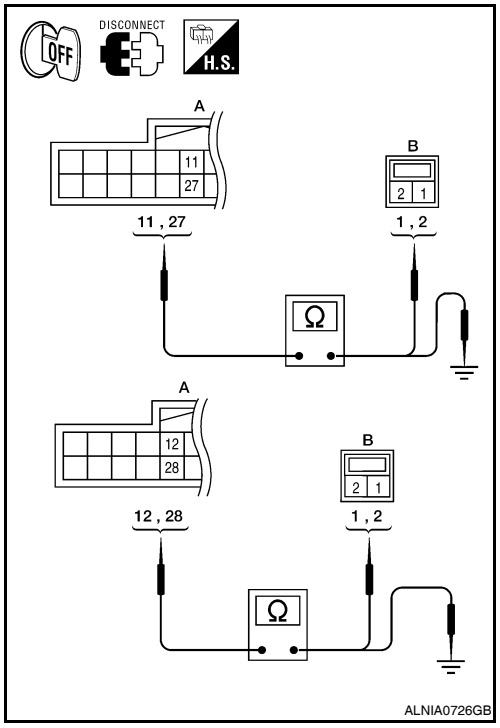
Diagnosis Procedure

INFOID:0000000003789782

1.SPEAKER HARNESS CHECK

1. Disconnect audio amp. connectors M113 and suspect speaker connector.
2. Check continuity between audio amp. harness connectors M113 (A) and suspect 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.

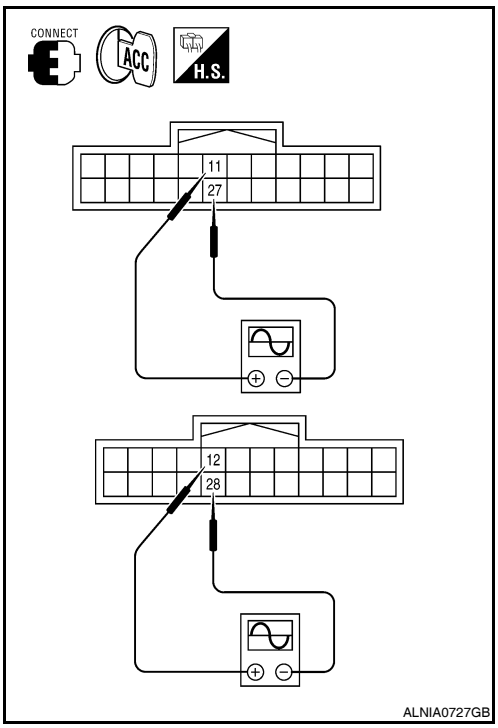
Connector	Terminal	-	Continuity
M113	11	Ground	No
	27		
	12		
	28		

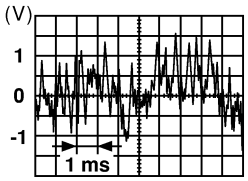
Are the continuity test results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.SPEAKER SIGNAL CHECK

1. Connect audio amp. connectors and suspect 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-III or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	11	27	Receive audio signal	
	12	28		

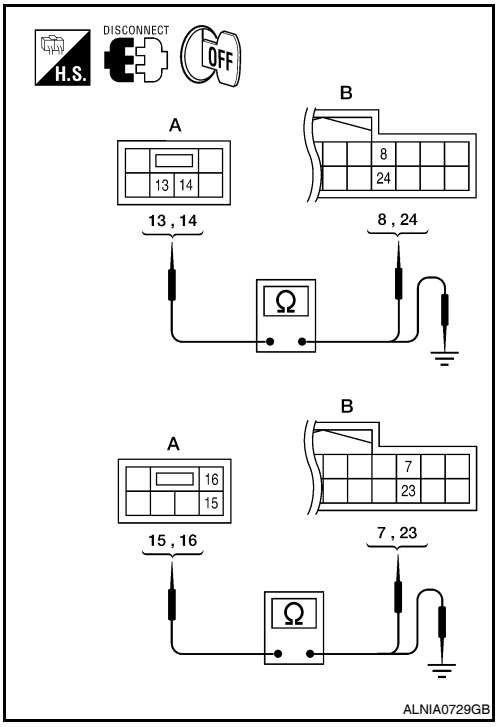
SKIA0177E

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to AV-169, "Removal and Installation".
NO >> GO TO 3.

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M44 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	M113	8	Yes
	14		24	
	15		7	
	16		23	

3. Check continuity between audio unit harness connector M44 (A) and ground.

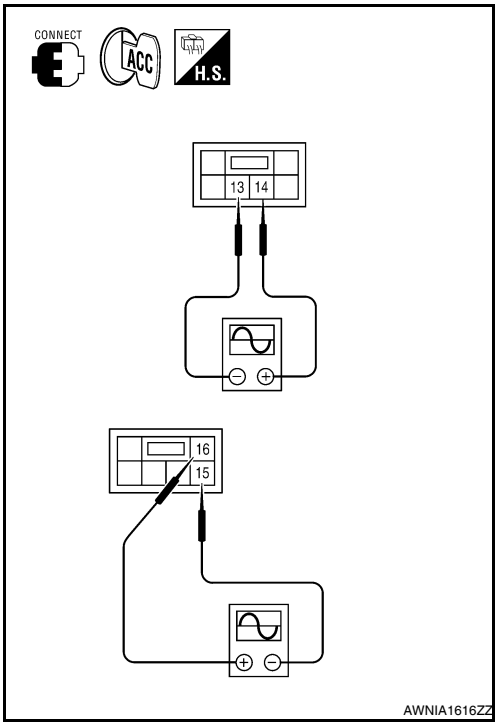
A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		

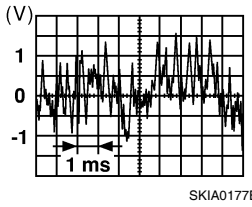
Are the continuity test results as specified?

YES >> GO TO 4.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

4. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector M44 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M44 terminals with CONSULT-III or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M44	14	13	Receive audio signal	
	16	15		

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-174, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-165, "Removal and Installation".

REAR DOOR TWEETER

Description

INFOID:0000000003789783

The audio unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the rear door tweeters using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000003789784

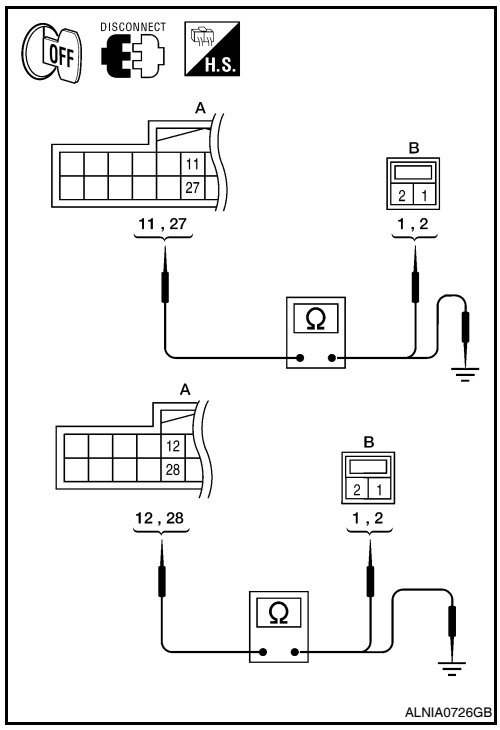
1.TWEETER HARNESS CHECK

1. Disconnect audio amp. connectors M113 and suspect tweeter connector.
2. Check continuity between audio amp. harness connectors M113 (A) and suspect 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		

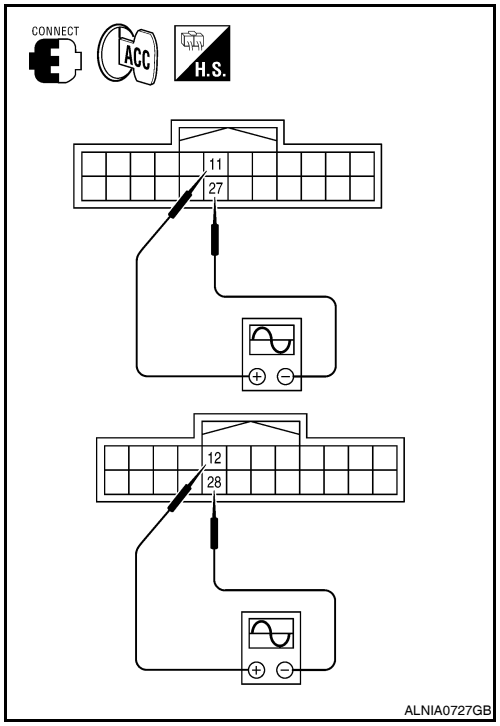


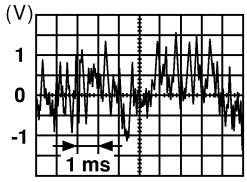
Are the continuity test results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.TWEETER SIGNAL CHECK

1. Connect audio amp. connectors and suspect 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-III or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	11	27	Receive audio signal	
	12	28		

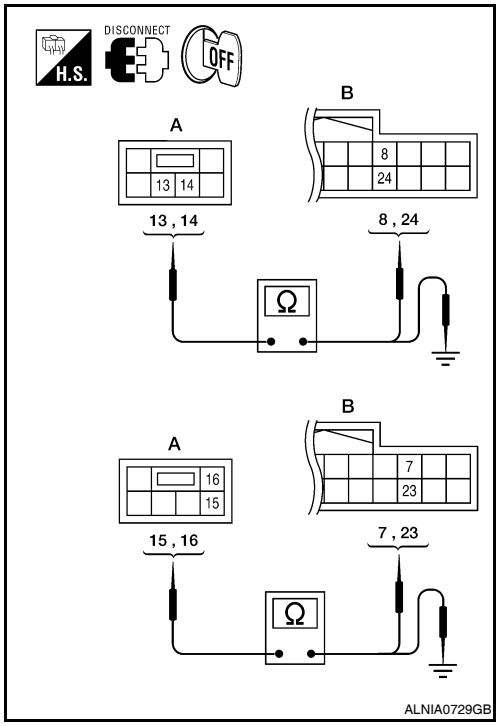
SKIA0177E

Are audio signal voltage readings as specified?

YES >> Replace suspect tweeter. Refer to AV-169, "Removal and Installation".
NO >> GO TO 3.

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M44 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	M113	8	Yes
	14		24	
	15		7	
	16		23	

3. Check continuity between audio unit harness connector M44 (A) and ground.

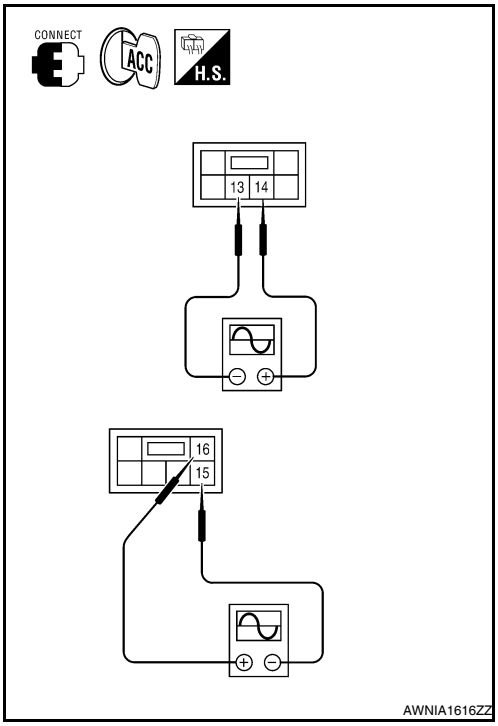
A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		

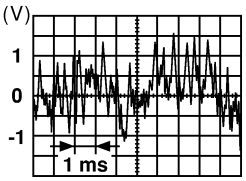
Are the continuity test results as specified?

YES >> GO TO 4.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

4. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector M44 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M44 terminals with CONSULT-III or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M44	14	13	Receive audio signal	
	16	15		

SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-174, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-165, "Removal and Installation".

SUBWOOFER

Description

INFOID:0000000003789785

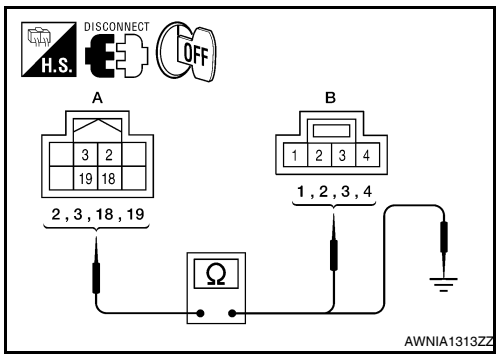
The audio unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the subwoofer using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000003789786

1.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.

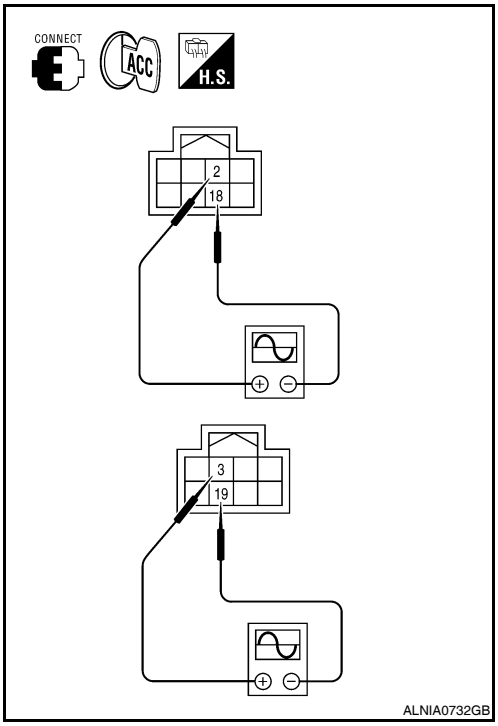
A		—	Continuity
Connector	Terminal		
M112	2	Ground	No
	3		
	18		
	19		

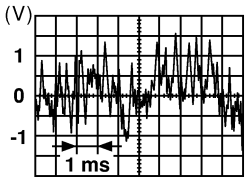
Are the continuity test results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.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-III or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M112	2	18	Receive audio signal	
	3	19		

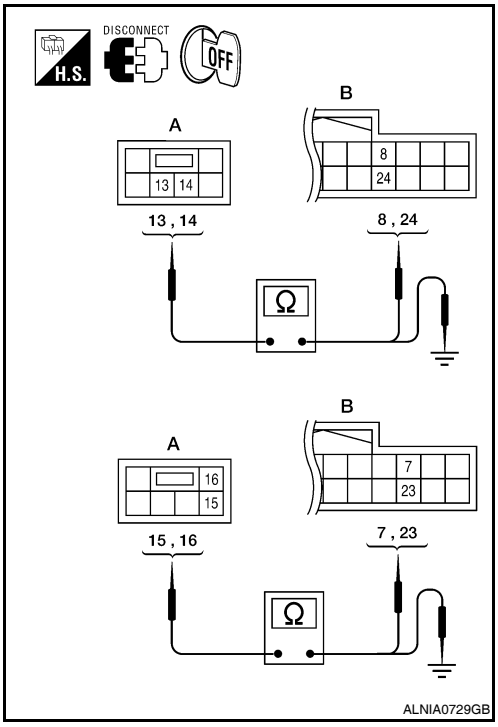
SKIA0177E

Is the audio signal voltage as specified?

YES >> Replace subwoofer. Refer to AV-170, "Removal and Installation".
NO >> GO TO 3.

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M44 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	M113	8	Yes
	14		24	
	15		7	
	16		23	

3. Check continuity between audio unit harness connector M44 (A) and ground.

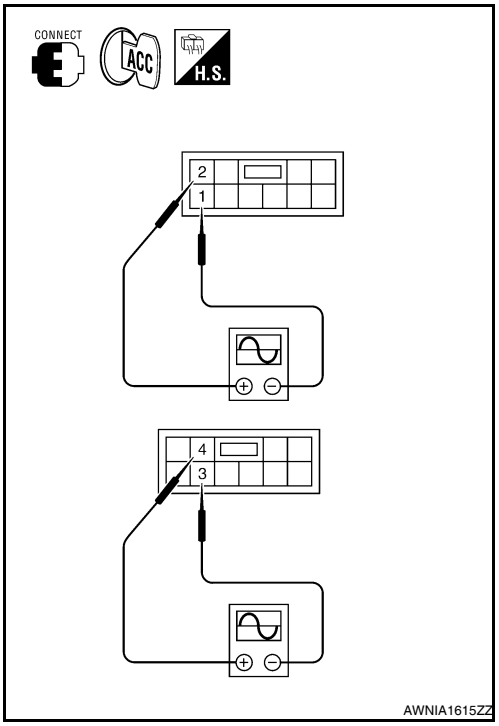
A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		

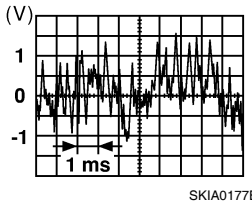
Are the continuity test results as specified?

YES >> GO TO 4.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

4. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector M44 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M44 terminals with CONSULT-III or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M44	14	13	Receive audio signal	
	16	15		

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-174, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-165, "Removal and Installation".

AMP ON SIGNAL CIRCUIT

Description

INFOID:0000000003789787

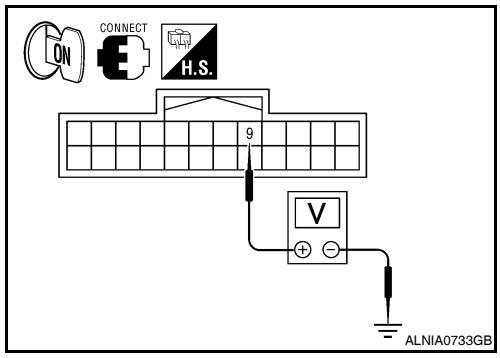
When the audio system is turned on, a voltage signal is supplied from the audio unit to the audio amp. When this signal is received, the audio amp. will turn on.

Diagnosis Procedure

INFOID:0000000003789788

1.CHECK AMP ON SIGNAL

1. Turn audio system ON.
2. Check voltage between audio amp. harness connector M113 terminal 9 and ground.



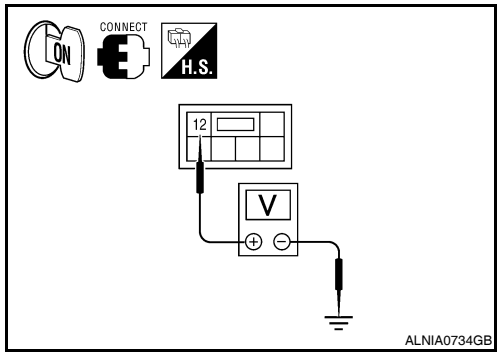
(+)		(-)	Voltage (approx.)
Connector	Terminal		
M113	9	Ground	More than 6.5V

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 M44 terminal 12 and ground.



(+)		(-)	Voltage (approx.)
Connector	Terminal		
M44	12	Ground	More than 6.5V

Is inspection result normal?

YES >> Repair harness or connector.
NO >> Replace audio unit. Refer to AV-165, "Removal and Installation".

STEERING SWITCH

Description

INFOID:0000000003789789

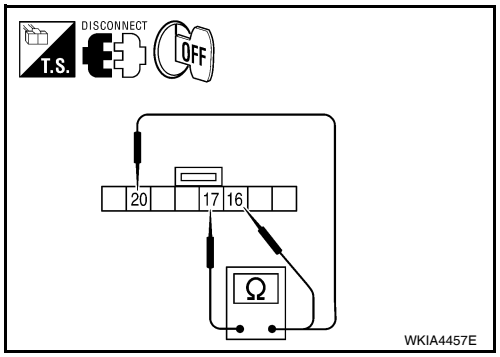
When one of the steering wheel audio control switches is pushed, the resistance in the steering wheel audio control switch circuit changes depending on which button is pushed.

Diagnosis Procedure

INFOID:0000000003789790

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect steering wheel audio control switch connector M102.
3. Check resistance between steering switch connector terminals.



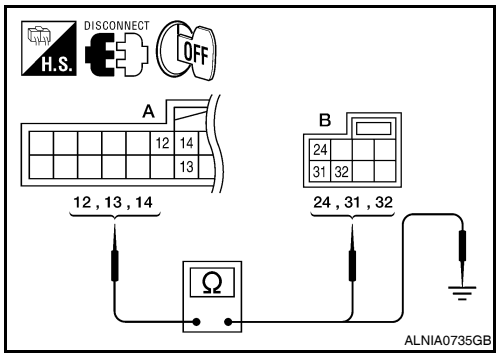
Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
16	17	Seek (down)	Depress ▽ switch.	165
		Volume (down)	Depress VOL down switch.	487
		Phone/Send	Depress MODE switch.	0
20	17	Seek (up)	Depress △ switch.	165
		Volume (up)	Depress VOL up switch.	487
		Mode/End (with Bluetooth)	Depress switch.	0

Do the steering wheel audio control switches check OK?

YES >> GO TO 2.
NO >> Replace steering wheel audio control switch. Refer to AV-171, "Removal and Installation".

2. CHECK HARNESS

1. Disconnect Bluetooth control unit connector B142 and spiral cable connector M30.
2. Check continuity between Bluetooth control unit harness connector B142 (A) and spiral cable harness connector M30 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
B142	12	M30	24	Yes
	13		32	
	14		31	

3. Check continuity between Bluetooth control unit connector B142 (A) and ground.

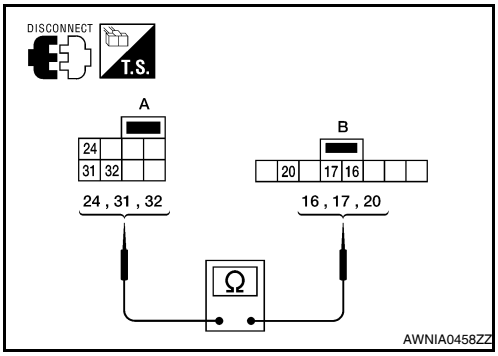
A		—	Continuity
Connector	Terminal		
B142	12	Ground	No
	13		
	14		

Are the continuity results as specified?

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

3. SPIRAL CABLE CHECK

Check continuity between spiral cable harness connector M30 (A) and M102 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M102	20	Yes
	31		17	
	32		16	

Does the spiral cable check OK?

YES >> Inspection End.
NO >> Replace spiral cable. Refer to SR-6, "Removal and Installation".

COMMUNICATION SIGNAL CIRCUIT
SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:0000000003789791

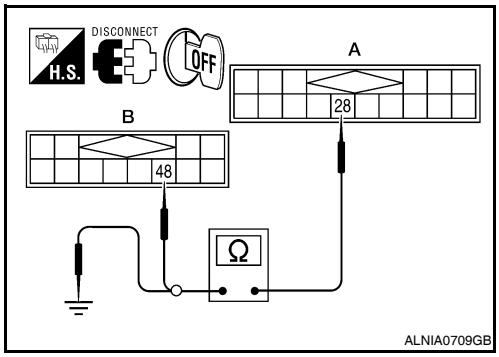
Communication signals are exchanged between the audio unit and satellite radio tuner using the communication circuits.

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000003789792

1.CHECK HARNESS - REQ1

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and audio unit harness connector M42 (B) terminal 48.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	28	M42	48	Yes

4. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and ground.

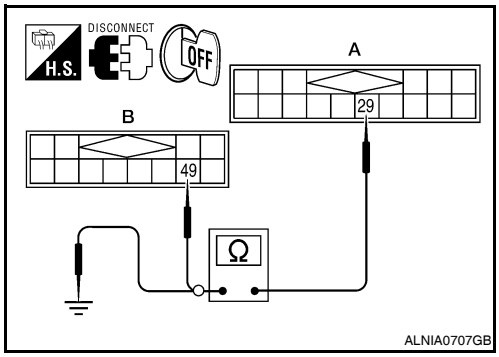
A		—	Continuity
Connector	Terminal		
M41	28	Ground	No

Are continuity results as specified?

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

2.CHECK HARNESS - TXD

1. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 29 and audio unit harness connector M42 (B) terminal 49.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	29	M42	49	Yes

2. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 29 and ground.

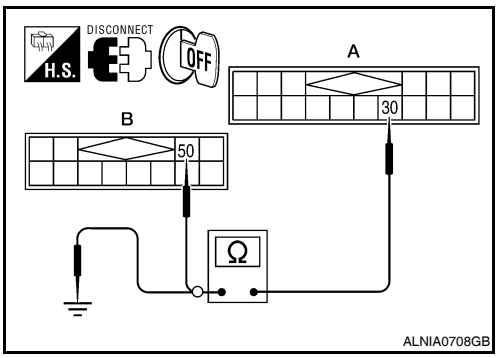
A		—	Continuity
Connector	Terminal		
M41	29	Ground	No

Are continuity results as specified?

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

3.CHECK HARNESS - RXD

1. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and audio unit harness connector M42 (B) terminal 50.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	30	M42	50	Yes

2. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and ground.

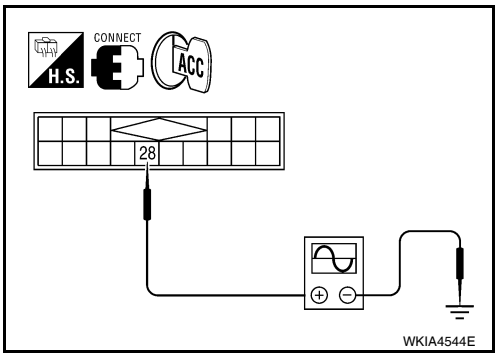
A		—	Continuity
Connector	Terminal		
M41	30	Ground	No

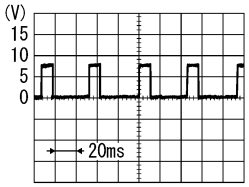
Are continuity results as specified?

YES >> GO TO 4.
NO >> Repair harness or connector.

4. CHECK REQ1 SIGNAL

1. Connect satellite radio tuner (factory installed) connector and audio unit connector.
2. Turn ignition switch to ACC
3. Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 28 and ground with CONSULT-III or oscilloscope.



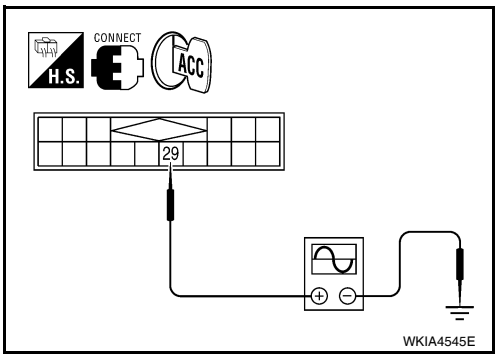
(+)		(-)	Reference signal
Connector	Terminal		
M41	28	Ground	

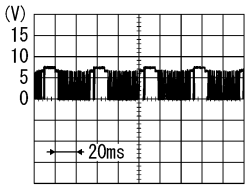
Are voltage readings as specified?

YES >> GO TO 5.
NO >> Replace audio unit. Refer to AV-165, "Removal and Installation".

5. CHECK TXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 29 and ground with CONSULT-III or oscilloscope.



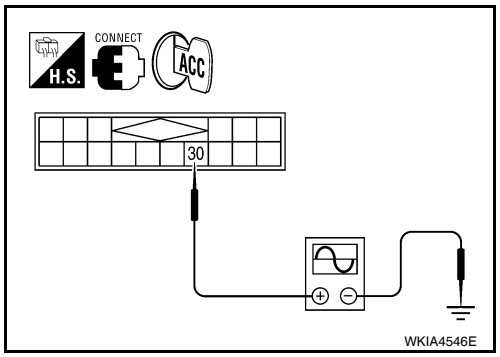
(+)		(-)	Reference signal
Connector	Terminal		
M41	29	Ground	

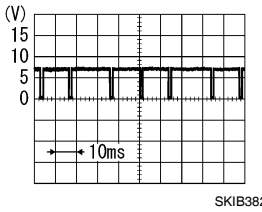
Are the voltage readings as specified?

YES >> GO TO 6.
NO >> Replace satellite radio tuner. Refer to AV-177, "Removal and Installation".

6. CHECK RXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 30 and ground with CONSULT-III or oscilloscope.



(+)		(-)	Reference signal
Connector	Terminal		
M41	30	Ground	

Are the voltage readings as specified?

YES >> Replace satellite radio tuner. Refer to AV-177, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-165, "Removal and Installation".

SOUND SIGNAL CIRCUIT
SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:0000000003789793

Left and right channel audio signals are supplied from the satellite radio tuner to the audio unit through the sound signal circuits.

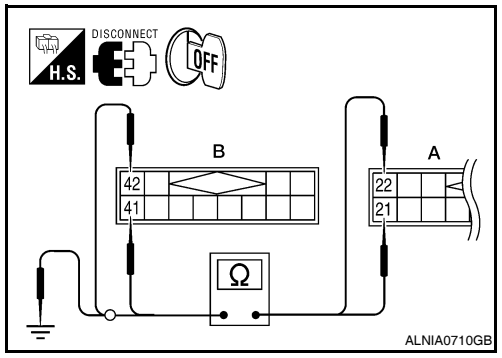
SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000003789794

LEFT CHANNEL

1.CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and audio unit connector M42 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	21	M42	41	Yes
	22		42	

4. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and ground.

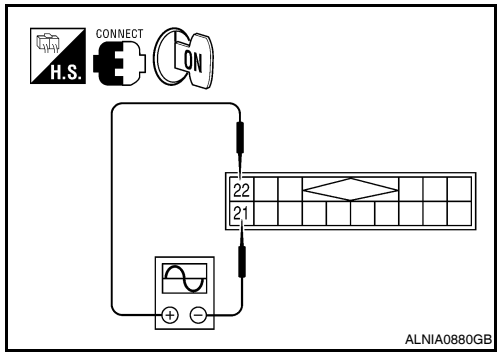
A		—	Continuity
Connector	Terminal		
M41	21	Ground	No
	22		

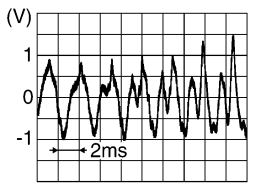
Are continuity results as specified?

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

2.CHECK LEFT CHANNEL AUDIO SIGNAL

1. Connect satellite radio tuner (factory installed) and audio unit.
2. Turn ignition switch ON.
3. Check signal between satellite radio tuner (factory installed) connector M41 terminals 21 and 22 with CONSULT-III or oscilloscope.



Connector	(+)	(-)	Reference signal
	Terminals		
M41	22	21	

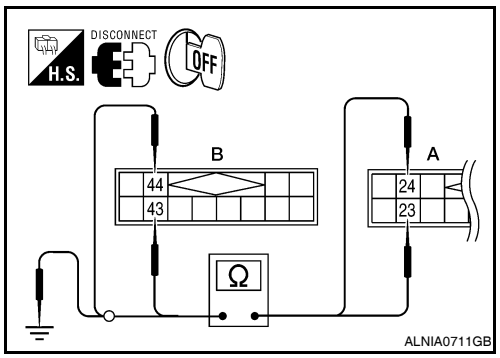
Are voltage readings as specified?

YES >> Replace audio unit. Refer to AV-165, "Removal and Installation".
NO >> Replace satellite radio tuner. Refer to AV-177, "Removal and Installation".

RIGHT CHANNEL

1.CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) M41 (A) and audio unit M42 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	23	M42	43	Yes
	24		44	

4. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and ground.

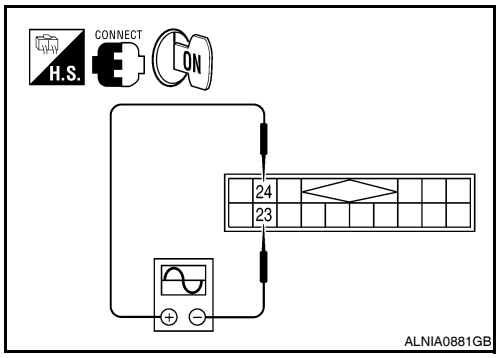
A		—	Continuity
Connector	Terminal		
M41	23	Ground	No
	24		

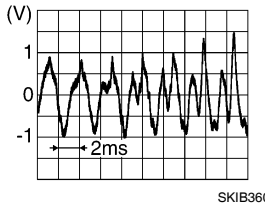
Are continuity results as specified?

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

2.CHECK RIGHT CHANNEL AUDIO SIGNAL

1. Connect satellite radio tuner (factory installed) and audio unit.
2. Turn ignition switch ON.
3. Check signal between satellite radio tuner (factory installed) connector M41 terminals 23 and 24 with CONSULT-III or oscilloscope.



Connector	(+)	(-)	Reference signal
	Terminals		
M41	24	23	

Are voltage readings as specified?

YES >> Replace audio unit. Refer to AV-165, "Removal and Installation".
NO >> Replace satellite radio tuner. Refer to AV-177, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000003789795

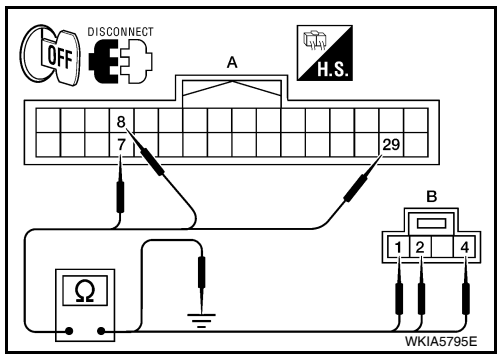
Voice signals are transmitted from the microphone to the Bluetooth control unit using the microphone signal circuits.

Diagnosis Procedure

INFOID:0000000003789796

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.

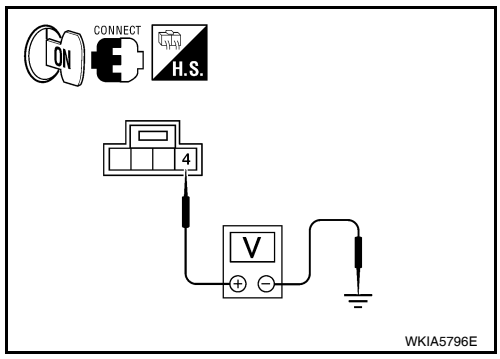
A		—	Continuity
Connector	Terminal		
B142	7	Ground	No
	8		
	29		

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.



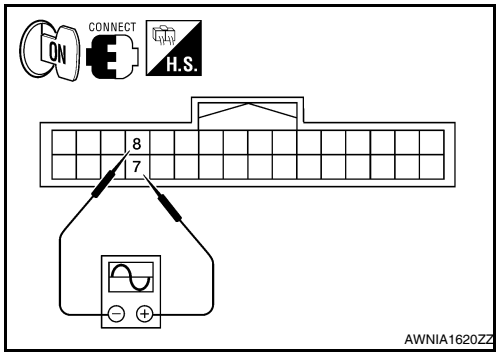
(+)		(-)	Value (Approx.)
Connector	Terminal		
R109	4	Ground	5V

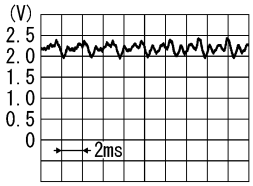
Is voltage reading approx. 5 volts?

YES >> GO TO 3.
NO >> Replace Bluetooth control unit. Refer to AV-180, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

Check signal between Bluetooth control unit harness connector B142 terminals 7 and 8 with CONSULT-III or and oscilliscope.



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-180, "Removal and Installation".
NO >> Replace microphone. Refer to AV-178, "Removal and Installation".

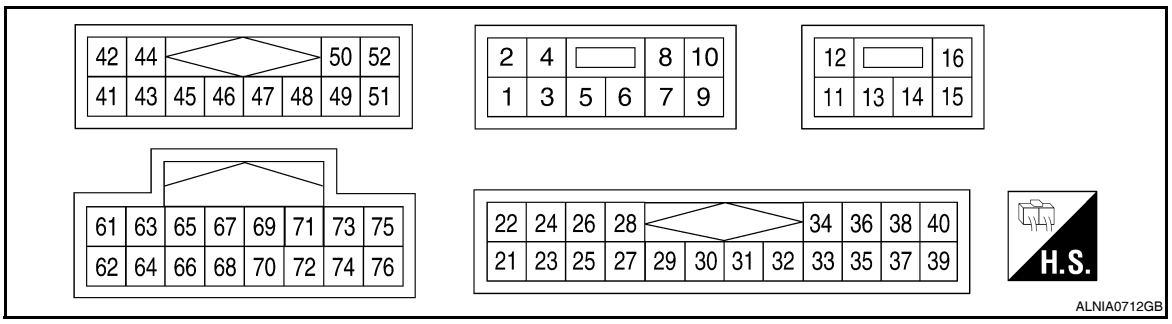
ECU DIAGNOSIS

AUDIO UNIT

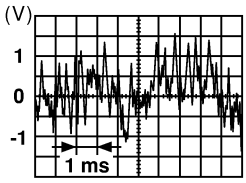
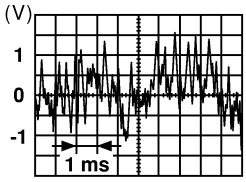
Reference Value

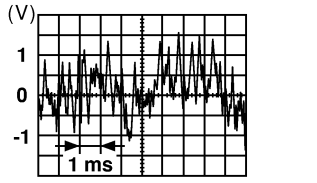
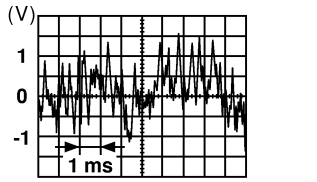
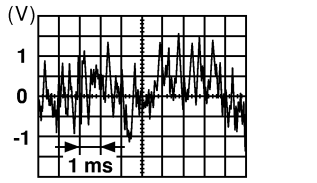
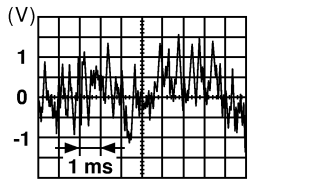
INFOID:0000000003789797

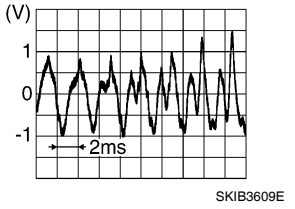
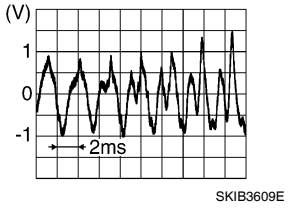
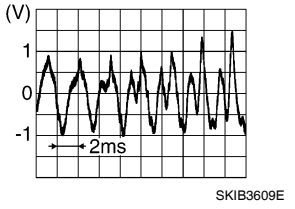
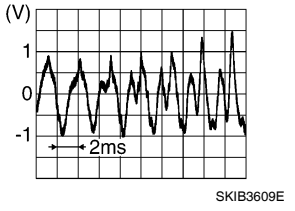
TERMINAL LAYOUT

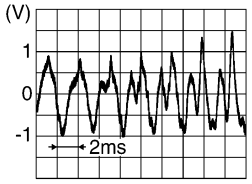
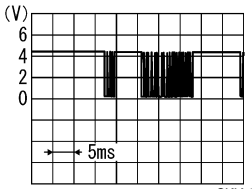
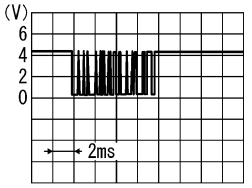
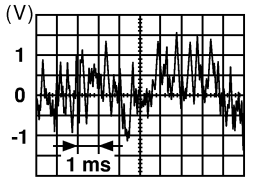


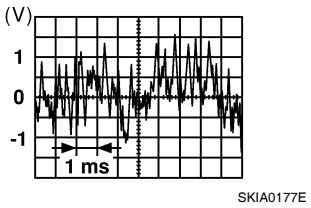
PHYSICAL VALUES

Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
2 (W)	1 (B)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
4 (Y)	3 (BR)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
6 (Y)	Ground	Battery power	Input	–	–	Battery voltage
7 (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
8 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch is in 1st position.	Battery voltage
					Lighting switch is OFF.	0V
9	–	Shield	–	–	–	0V
10 (V)	Ground	ACC signal	Input	Ignition switch ON	–	Battery voltage
12 (G/W)	Ground	Amp ON signal	Output	Ignition switch ON	–	More than 6.5V

Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
14 (BR)	13 (B/R)	Audio sound signal rear LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
16 (L)	15 (B/W)	Audio sound signal rear RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
21 (V)	Ground	Remote control A	Output	Ignition switch ON	Audio unit ON	5V
22 (P)	Ground	Remote control B	Output	Ignition switch ON	Audio unit ON	5V
23 (BR/Y)	Ground	Remote control C	Output	Ignition switch ON	Audio unit ON	5V
24 (L)	Ground	Remote control D	Output	Ignition switch ON	Audio unit ON	5V
25 (LG)	Ground	Remote control ground	–	–	–	0V
27 (O/L)	26 (O)	Audio sound signal LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
29 (W)	28 (W/L)	Audio sound signal RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
30	–	Shield	–	–	–	0V
31 (O)	Ground	Remote control enable signal	Output	Ignition switch ON	Audio unit ON	5V
32 (V)	Ground	Remote control switch power supply	Output	Ignition switch ON	Audio unit ON	12V

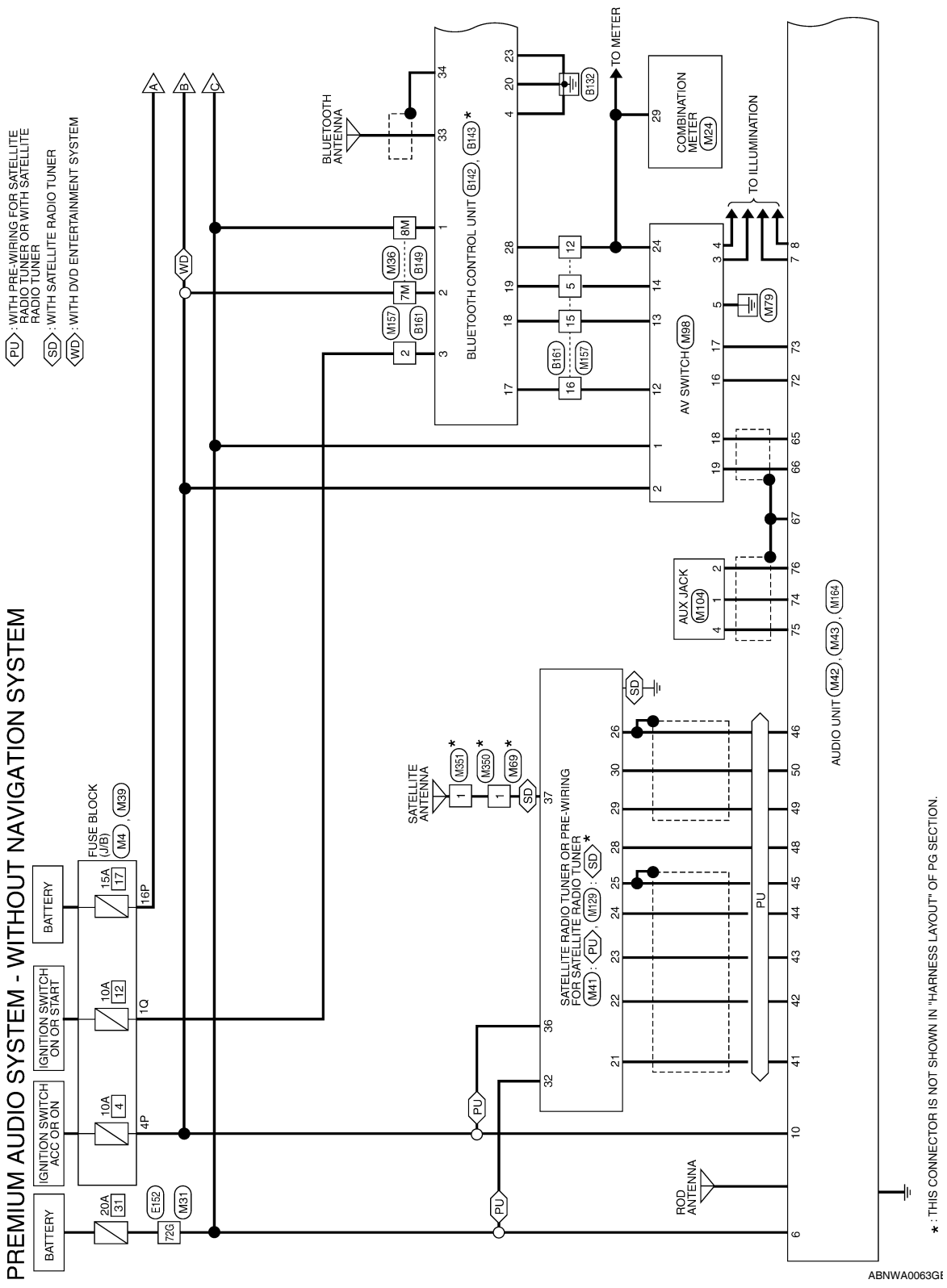
Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
35 (B)	34 (W)	Family entertainment system left channel audio input	Input	Ignition switch ON	DVD operating	 SKIB3609E
37 (R)	36 (G)	Family entertainment system right channel audio input	Input	Ignition switch ON	DVD operating	 SKIB3609E
39 (Y/L)	Ground	Family entertainment system enable	Output	Ignition switch ON	DVD operating	12V
40 (L/W)	Ground	Audio ON	Input	Ignition switch ON	DVD operating	12V
42 (R)	41 (G)	Satellite radio audio signal LH	Input	Ignition switch ON	Satellite radio tuner operating	 SKIB3609E
44 (W)	43 (B)	Satellite radio audio signal RH	Input	Ignition switch ON	Satellite radio tuner operating	 SKIB3609E
45	–	Ground	–	–	–	0V
46	–	Data ground	–	–	–	0V
48 (L)	–	REQ (SAT→AV control unit)	Input	Ignition switch ON	–	—
49 (O/L)	–	RX (SAT→AV control unit)	Input	Ignition switch ON	–	—
50 (W/L)	–	TX (AV control unit→SAT)	Input	Ignition switch ON	–	—

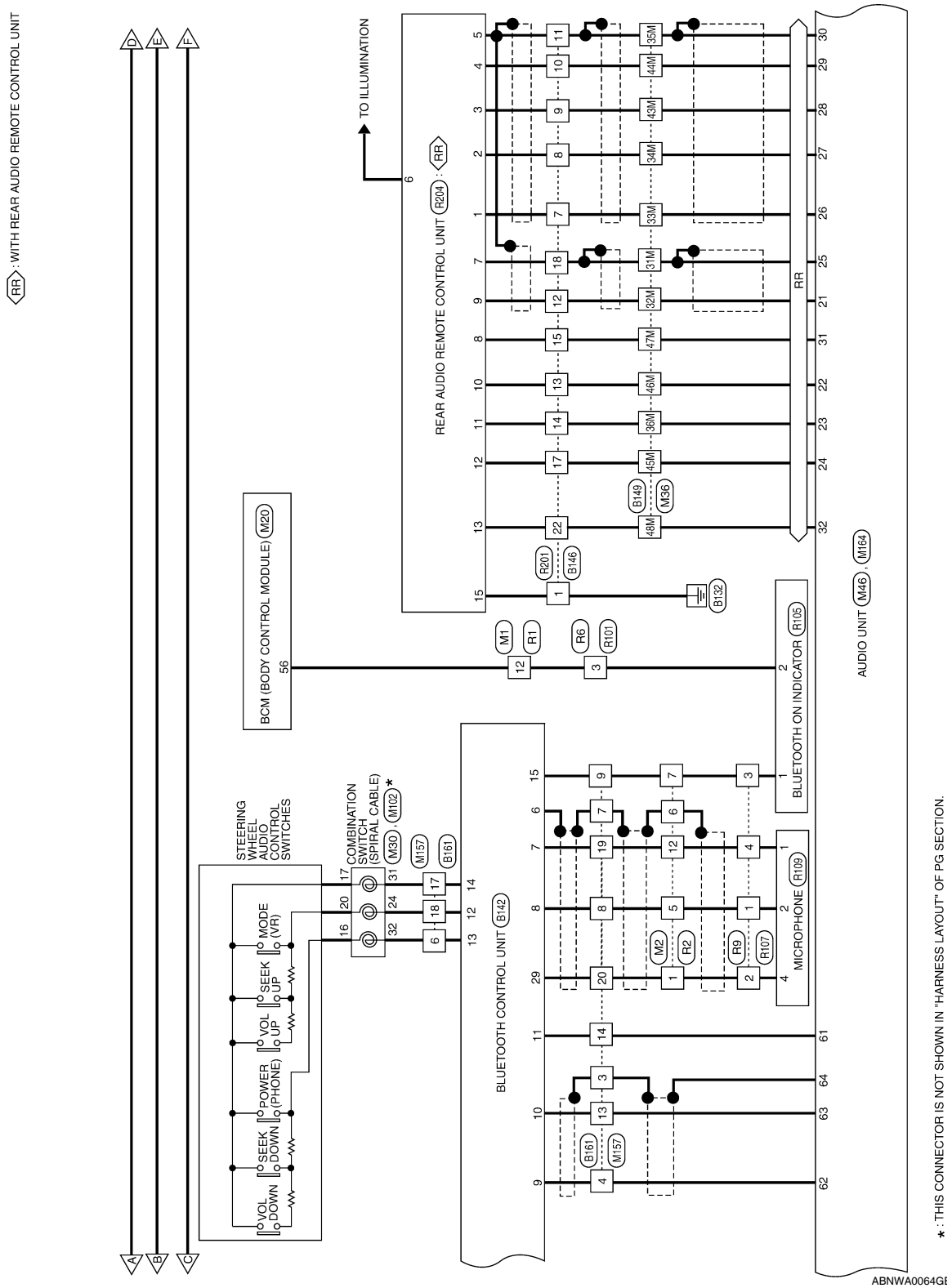
Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
62 (G)	61 (Y)	Tel audio sig	Input	Ignition switch ON	Bluetooth control unit sends audio signal	 SKIB3609E
63 (R)	–	Mute control	–	–	–	–
64	–	Shield	–	Ignition switch ON	–	0V
65 (O/L)	Ground	Audio RX	Input	Ignition switch ON	Operate audio volume	 SKIA4403E
66 (W/L)	Ground	Audio TX	Output	Ignition switch ON	Operate audio volume	 SKIA4402E
67	–	Shield	–	Ignition switch ON	–	0V
72 (W/B)	Ground	CD eject signal	Input	Ignition switch ON	Operate EJECT button	0V → 5V
73 (Y/B)	Ground	CD load signal	Input	Ignition switch ON	Operate LOAD button	0V → 5V
74 (W)	Ground	Auxiliary audio input RH (+)	Input	Ignition switch ON	Receive audio signal (AUX input)	 SKIA0177E

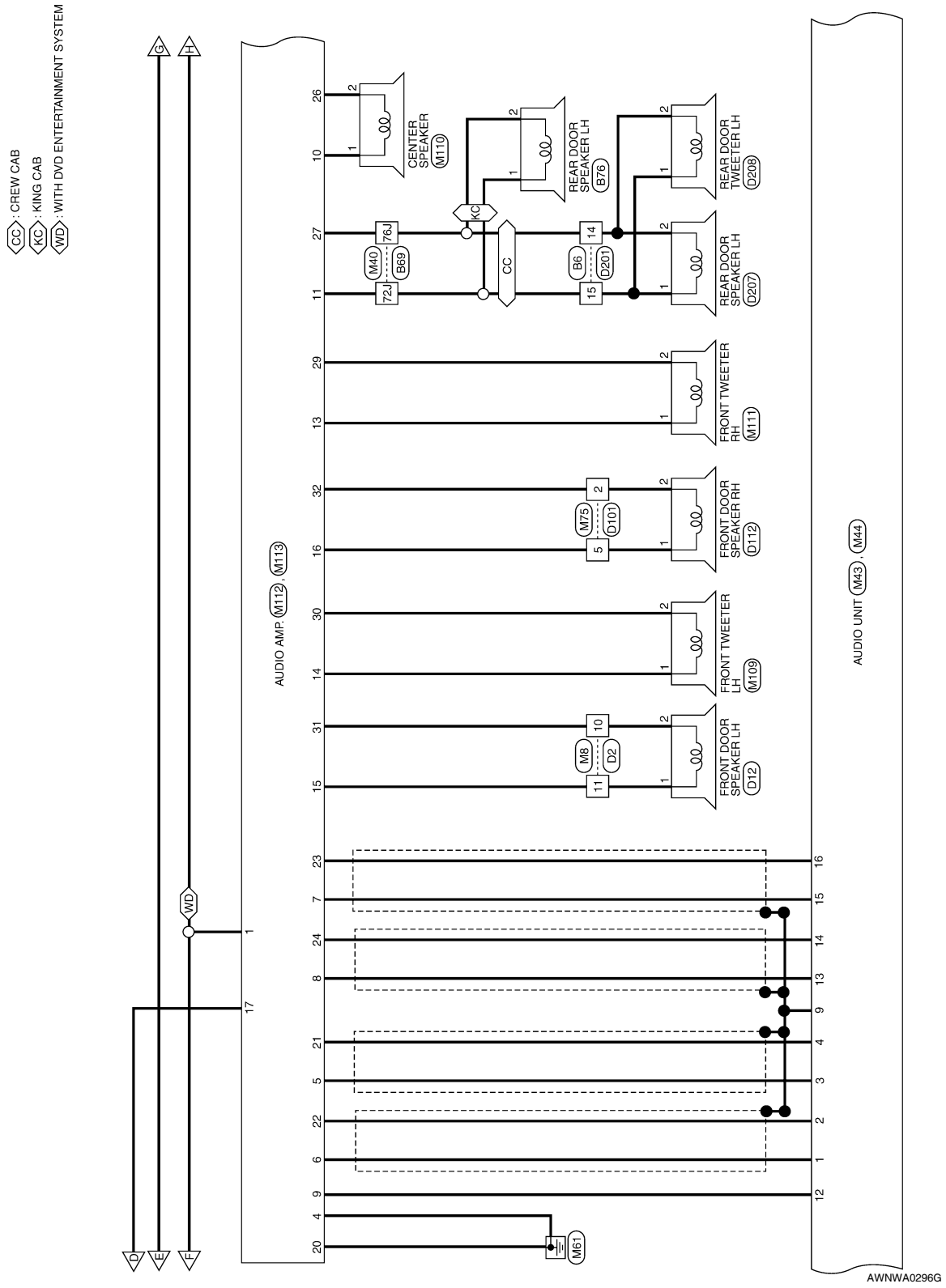
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	–					
75 (R)	Ground	Auxiliary audio input LH (+)	Input	Ignition switch ON	Receive audio signal (AUX input)	 SKIA0177E
76 (B)	–	Shield	–	–	–	0V

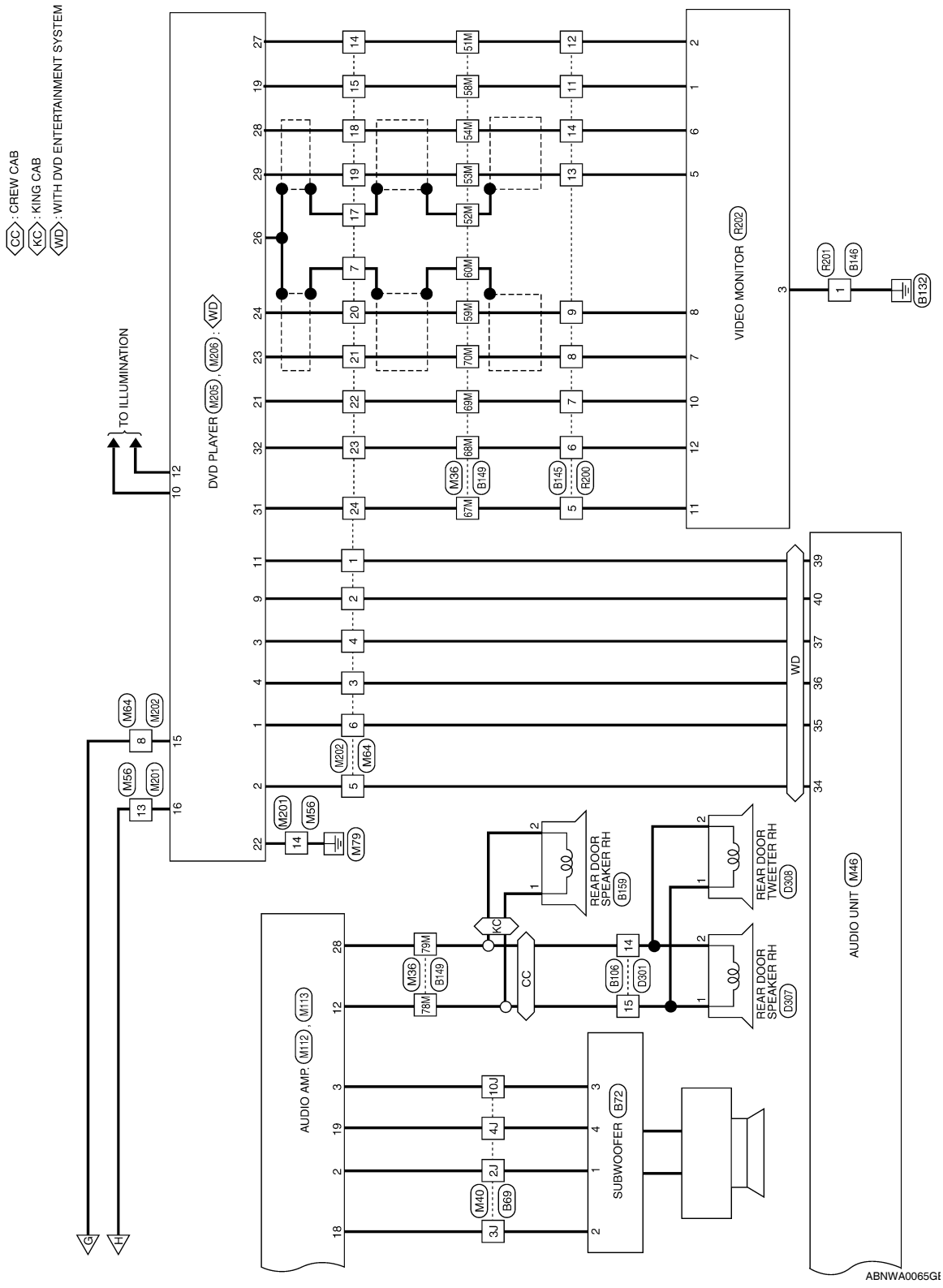
Wiring Diagram

INFOID:0000000003789798




RR : WITH REAR AUDIO REMOTE CONTROL UNIT
TO ILLUMINATION
REAR AUDIO REMOTE CONTROL UNIT R204 : RR
BCM (BODY CONTROL MODULE) M20
BLUETOOTH CONTROL UNIT B142
BLUETOOTH ON INDICATOR R105
MICROPHONE R109
AUDIO UNIT M46 , M164
STEERING WHEEL AUDIO CONTROL SWITCHES
VOL DOWN
SEEK DOWN
POWER (PHONE)
VOL UP
SEEK UP
MODE (VR)
COMBINATION SWITCH (SPIRAL CABLE) M30 , M102 *
RR
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.
ABNWA0064GB


CC : CREW CAB
KC : KING CAB
WD : WITH DVD ENTERTAINMENT SYSTEM
AUDIO AMP. (M112), (M113)
AUDIO UNIT (M43), (M44)
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)
M40
76J
72J
B69
B6
14
15
D201
M75
2
5
D101
M8
10
11
D2
M61
KC
CC
WD
G
H
D
E
F
AWNWA0296G


CC : CREW CAB
KC : KING CAB
WD : WITH DVD ENTERTAINMENT SYSTEM
TO ILLUMINATION
DVD PLAYER M205, M206 : WD
VIDEO MONITOR R202
AUDIO AMP. M112, M113
SUBWOOFER B72
REAR DOOR SPEAKER RH B159
REAR DOOR TWEETER RH D308
REAR DOOR SPEAKER RH D307
AUDIO UNIT M46
WD
KC
CC
ABNWA0065GB

PREMIUM AUDIO SYSTEM CONNECTORS - WITHOUT NAVIGATION SYSTEM

Connector No.	M1
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
12	R/G	–

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	–
5	R/L	–
6	SHIELD	–
7	GR	–
12	B	–

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.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

56	57	58	59	60	61	62	63	64
65	66	67	68	69	70

Terminal No.	Color of Wire	Signal Name
56	R/G	BATTERY SAVER OUTPUT

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

AANIA0019GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
24	R/G	STRG SW A (UP)
31	Y/R	STRG SW C (GND)
32	G/W	STRG SW B (DOWN)

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

H.S.

Terminal No.	Color of Wire	Signal Name
72G	Y	–

Terminal No.	Color of Wire	Signal Name
48M	V	–
51M	B/Y	–
52M	SHIELD	–
53M	BR	–
54M	Y	–
58M	B/W	–
59M	L	–
60M	SHIELD	–
67M	SB	–
68M	BR	–
69M	G/Y	–
70M	B/W	–
78M	O/L	–
79M	R/L	

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

H.S.

Terminal No.	Color of Wire	Signal Name
7M	V	–
8M	Y	–
31M	LG	–
32M	V	–
33M	O	–
34M	O/L	–
35M	SHIELD	–
36M	BR/Y	–
43M	W/L	–
44M	W	–
45M	L	–
46M	P	–
47M	O	–

ABNIA0176GB

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

H.S.

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

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

Connector No.	M40
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			
				75J	74J	73J	72J	71J				
				80J	79J	78J	77J	76J				

Terminal No.	Color of Wire	Signal Name
2J	W	–
3J	B	–
4J	BR	–
10J	BR/W	–
72J	SB	–
76J	B/Y	–

Terminal No.	Color of Wire	Signal Name
21	G	SAT LCH(-)
22	R	SAT LCH(+)
23	B	SAT RCH(-)
24	W	SAT RCH(+)
25	SHIELD	EARTH SIG
26	SHIELD	DATA EARTH
27	–	–
28	L	REQ1 (SAT-COMBI)
29	O/L	TXD (SAT-COMBI)
30	W/L	RXD (COMBI-SAT)
31	–	–
32	Y	BACKUP
33	–	–
34	–	–
35	–	–
36	V	ACC

Connector No.	M41
Connector Name	SATELLITE RADIO TUNER OR PRE-WIRING FOR SATELLITE RADIO TUNER
Connector Color	WHITE

H.S.

22	24	26			32	34	36	
21	23	25	27	28	29	30	31	33	35

ABNIA0177GB

Connector No.	M42
Connector Name	AUDIO UNIT (WITH PREMIUM AUDIO SYSTEM)
Connector Color	WHITE

H.S.

42	44		50	52
41	43	45	46	47	48	49	51

Terminal No.	Color of Wire	Signal Name
41	G	L(-)
42	R	L(+)
43	B	R(-)
44	W	R(+)
45	SHIELD	EARTH
46	SHIELD	DATA EARTH
47	–	–
48	L	REQ (CD-COMBI)
49	O/L	RX (CD-COMBI)
50	W/L	TX (COMBI-CD)
51	–	–
52	–	–

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

H.S.

2	4		8	10
1	3	5	6	7	9

Terminal No.	Color of Wire	Signal Name
1	B	FR SP LH-
2	W	FR SP LH+
3	BR	FR SP RH-
4	Y	FR SP RH+
5	–	–
6	Y	BACK UP
7	BR	ILL CONT
8	R/L	LIGHT SW
9	SHIELD	CASE GND
10	V	ACC

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

H.S.

12		16
11	13	14	15

Terminal No.	Color of Wire	Signal Name
11	–	–
12	G/W	AMP ON
13	B/R	RR SP LH-
14	BR	RR SP LH+
15	B/W	RR SP RH-
16	L	RR SP RH+

Connector No.	M46
Connector Name	AUDIO UNIT (WITH PREMIUM AUDIO SYSTEM)
Connector Color	WHITE

H.S.

22	24	26	28		34	36	38	40
21	23	25	27	29	30	31	32	33	35	37	39

Terminal No.	Color of Wire	Signal Name
21	V	REMOTE A
22	P	REMOTE B
23	BR/Y	REMOTE C
24	L	REMOTE D
25	LG	REMOTE GND
26	O	L CH OUTPUT (-)
27	O/L	L CH OUTPUT (+)
28	W/L	R CH OUTPUT (-)
29	W	R CH OUTPUT (+)

Terminal No.	Color of Wire	Signal Name
30	SHIELD	SHIELD
31	O	ENABLE
32	V	SWITCH B (+)
33	–	–
34	W	FES L CH IP (-)
35	B	FES L CH IP (+)
36	G	FES R CH IP (-)
37	R	FES R CH IP (+)
38	–	–
39	Y/L	FES ENABLE
40	L/W	AUDIO ON

ABNIA0178GB

Terminal No.	Color of Wire	Signal Name
7	SHIELD	–
8	V	–
14	B/Y	–
15	B/W	–
17	SHIELD	–
18	Y	–
19	BR	–
20	L	–
21	B/W	–
22	G/Y	–
23	BR	–
24	SB	–

Connector No.	M64
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	Y/L	–
2	L/W	–
3	G	–
4	R	–
5	W	–
6	B	–

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
13	Y	–
14	B	–

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.	M69
Connector Name	WIRE TO WIRE
Connector Color	VIOLET

H.S.

1

Terminal No.	Color of Wire	Signal Name
1	B	–

ABNIA0296GB

Connector No.	M98
Connector Name	AV SWITCH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	Y	+B
2	V	ACC
3	R/L	ILL+
4	BR	ILL CONTROL
5	B	GND
6	–	–
7	–	–
8	–	–

Connector No.	M104
Connector Name	AUX JACK
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	W	AUX AUDIO RH +
2	B	AUX GND
3	–	–
4	R	AUX AUDIO LH +

Terminal No.	Color of Wire	Signal Name
9	–	–
10	–	–
11	–	–
12	R	REMOTE CONT A
13	G	REMOTE CONT B
14	L	REMOTE CONT C
15	–	–
16	W/B	EJECT
17	Y/B	LOAD
18	O/L	TX
19	W/L	RX
20	–	–
21	–	–
22	–	–
23	–	–
24	W/R	8 PULSE

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.	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
16	R	–
17	BR	–
20	W	–

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	–

ABNIA0179GB

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

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	BR	FR RH IN-
6	B	FR LH IN-
7	BW	RR RH IN-
8	B/R	RR LH IN-
9	G/W	AMP ON
10	L/W	CTR OUT+
11	SB	RR LH OUT+
12	O/L	RR RH OUT+
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	Y	FR RH IN+
22	W	FR LH IN+
23	L	RR RH IN+
24	BR	RR LH IN+
25	–	–
26	L/B	CTR 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-

ABNIA0180GB

Connector No.	M129
Connector Name	SATELLITE RADIO TUNER
Connector Color	VIOLET

H.S.

Terminal No.	Color of Wire	Signal Name
37	B	–

Connector No.	M157
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
13	R	–
14	Y	–
15	G/O	–
16	V	–
17	Y/R	–
18	R/G	–
19	B	–
20	R/W	–

Connector No.	M164
Connector Name	AUDIO UNIT (WITH PREMIUM AUDIO SYSTEM - WITHOUT NAVI)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
61	Y	TEL SIG INPUT (-)
62	G	TEL SIG INPUT (+)
63	R	TEL SIG ON TRIG
64	SHIELD	TEL SIG GND
65	O/L	RX (DCU-H/U)
66	W/L	TX (H/U-DCU)
67	SHIELD	SHIELD
68	–	–

Terminal No.	Color of Wire	Signal Name
69	–	–
70	–	–
71	–	–
72	W/B	EJECT
73	Y/B	LOAD
74	W	AUX R+
75	R	AUX L+
76	B	AUX EARTH

ABNIA0181GB

Terminal No.	Color of Wire	Signal Name
8	V	–
14	B/Y	–
15	B/W	–
17	SHIELD	–
18	Y	–
19	BR	–
20	L	–
21	B/W	–
22	G/Y	–
23	BR	–
24	SB	–

Terminal No.	Color of Wire	Signal Name
10	BR	ILL-
11	Y/L	FES_ENABLE
12	R/L	LIGHTING_SW
13	–	–
14	–	–
15	V	ACC
16	Y	B+

Connector No.	M202
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

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

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	–	–
6	–	–
7	–	–
8	–	–
9	L/W	AUDIO_ON

Connector No.	M201
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
13	Y	–
14	B	–

Connector No.	M205
Connector Name	DVD PLAYER
Connector Color	GRAY

H.S.

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

AANIA0020GB

Connector No.	M206
Connector Name	DVD PLAYER
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
17	–	–
18	–	–
19	B/W	GND
20	–	–

Terminal No.	Color of Wire	Signal Name
21	G/Y	SW_POWER +5V
22	B	GND
23	B/W	VTR+
24	L	VTR-
25	–	–
26	SHIELD	SHIELD
27	B/Y	GND
28	Y	DATA_RX
29	BR	DATA TX
30	–	–
31	SB	+B
32	BR	+B

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
72G	Y	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

AANIA0021GB

Terminal No.	Color of Wire	Signal Name
2J	W	–
3J	B	–
4J	BR	–
10J	BR/W	–
72J	L	–
76J	Y	–

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

H.S.

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.	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.	B76
Connector Name	REAR DOOR SPEAKER LH (WITH KING CAB)
Connector Color	WHITE

H.S.

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

Connector No.	B72
Connector Name	SUBWOOFER
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	WOOFER+1
2	B	WOOFER-1
3	BR/W	WOOFER+2
4	BR	WOOFER-2

ABNIA0182GB

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

Terminal No.	Color of Wire	Signal Name
13	G/W	LADDER IN 2
14	Y/R	LADDER IN GND
15	GR	LED IND 1
16	–	–
17	V	LADDER OUT 1
18	G/O	LADDER OUT 2
19	R/B	LADDER OUT GND
20	B	CONT1
21	–	–
22	–	–
23	B	CONT4
24	–	–
25	–	–
26	–	–
27	–	–
28	W/R	SPEED SIGNAL
29	R/W	MIC POWER
30	–	–
31	–	–
32	–	–

Connector No.	B143
Connector Name	BLUETOOTH ANTENNA
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.	B145
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	SB	
6	BR	–
7	G/Y	–
8	W	–
9	L	–
11	B/W	–
12	B/Y	–
13	G	–
14	L	–

ABNIA0183GB

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	–
7	B	–
8	G	–
9	R	–
10	W	–
11	SHIELD	–
12	V	–
13	P	–
14	BR/Y	–
15	O	–
17	L	–
18	LG	–
22	V	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
7M	V	–
8M	Y	–
31M	LG	–
32M	V	–
33M	B	–
34M	G	–
35M	SHIELD	–
36M	BR/Y	–
43M	R	–
44M	W	–
45M	L	–
46M	P	–
47M	O	–
48M	V	–

Terminal No.	Color of Wire	Signal Name
51M	B/Y	–
52M	SHIELD	–
53M	G	–
54M	L	–
58M	B/W	–
59M	L	–
60M	SHIELD	–
67M	SB	–
68M	BR	–
69M	G/Y	–
70M	W	–
78M	L	–
79M	R/L	–

ABNIA0184GB

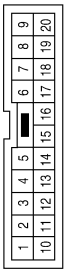
Connector No.	B159
Connector Name	REAR DOOR SPEAKER RH (WITH KING CAB)
Connector Color	WHITE

H.S.

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

Connector No.	B161
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



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

Terminal No.	Color of Wire	Signal Name
6	G/W	–
7	SHIELD	–
8	R/L	–
9	GR	–
12	W/R	–
13	R	–
14	Y	–
15	G/O	–
16	V	–
17	Y/R	–
18	R/G	–
19	B	–
20	R/W	–

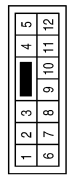
Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

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

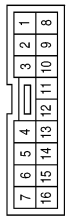
H.S.



Terminal No.	Color of Wire	Signal Name
1	R/W	–
5	R/L	–
6	SHIELD	–
7	GR	–
12	B	–

Connector No.	R6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



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

ABNIA0185GB

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

H.S.

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

Connector No.	R101
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Connector No.	R105
Connector Name	BLUETOOTH ON INDICATOR
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	GR	LED 1 (AMBER)
2	R/G	LED POWER
3	R/L	DAYNIGHT ILL SIG
4	–	–

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	–
3	GR	–
4	B	–

Connector No.	R109
Connector Name	MICROPHONE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	MIC OUT (+)
2	R/L	MIC OUT (-)
3	–	–
4	R/W	MIC POWER

Connector No.	R200
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
5	SB	–
6	BR	–
7	G/Y	–
8	W	–
9	L	–
11	B/W	–
12	B/Y	–
13	G	–
14	L	–

ABNIA0186GB

Connector No.	R201
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
7	B	–
8	G	–
9	R	–
10	W	–
11	SHIELD	–
12	V	–
13	P	–
14	BR/Y	–
15	O	–
17	L	–
18	LG	–
22	V	–

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
11	SB	FILTERED BAT
12	BR	FILTERED BAT

Connector No.	R204
Connector Name	REAR AUDIO REMOTE CONTROL UNIT
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	L CH INPUT-
2	G	L CH INPUT+
3	R	R CH INPUT-
4	W	R CH INPUT+
5	SHIELD	SHIELD
6	R/L	ILL
7	LG	REMOTE GND
8	O	ENABLE
9	V	REMOTE A
10	P	REMOTE B
11	BR/Y	REMOTE C
12	L	REMOTE D
13	V	SWITCH +B
14	–	–
15	B	GND
16	–	–

ABNIA0187GB

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

H.S.

1	2	3	4
5	6	7	8	9	10
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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
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Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

Connector No.	D207
Connector Name	REAR DOOR SPEAKER LH (WITH CREW CAB)
Connector Color	WHITE

H.S.

2	1

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

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

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	–

ABNIA0188GB

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	–

Connector No.	D307
Connector Name	REAR DOOR SPEAKER RH (WITH CREW CAB)
Connector Color	WHITE

H.S.

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

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

H.S.

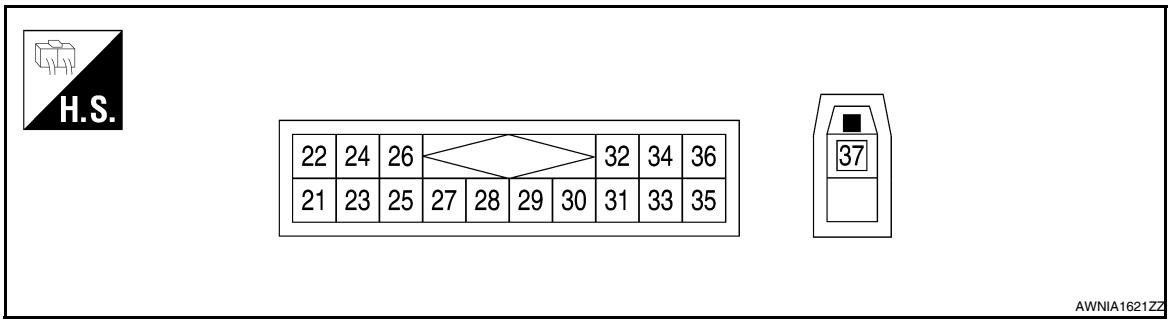
Terminal No.	Color of Wire	Signal Name
1	O/L	–
2	R/L	–

ABNIA0189GB

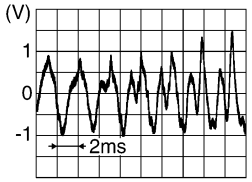
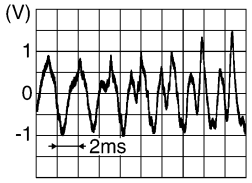
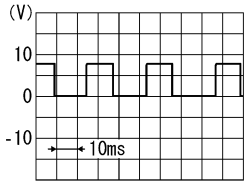
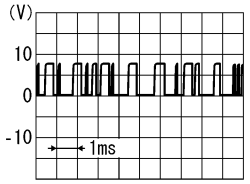
SATELLITE RADIO TUNER

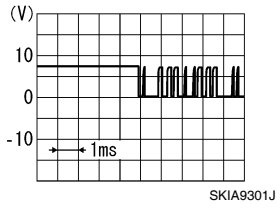
Reference Value

INFOID:0000000003789799



PHYSICAL VALUES

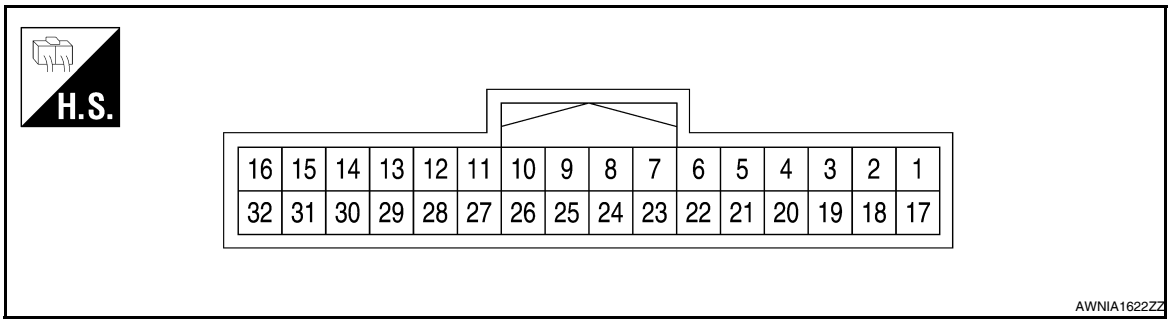
Terminal		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
22 (R)	21 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected	 SKIB3609E
24 (W)	23 (B)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	 SKIB3609E
25	—	Shield	—	—	—	—
26	—	Shield	—	—	—	—
28 (L)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9299J
29 (O/L)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9300J

Terminal		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
30 (W/L)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	 SKIA9301J
32 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
36 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
37 (B)	—	Satellite antenna	Input	—	—	—

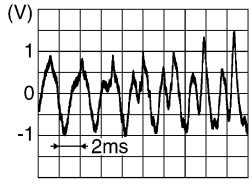
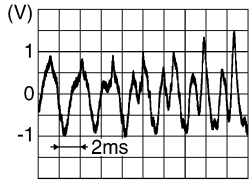
DVD PLAYER

Reference Value

INFOID:0000000003789800



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	 SKIB3609E
3 (R)	4 (G)	DVD audio signal RH	Output	Ignition switch ON	With DVD player operation	 SKIB3609E
9 (L/W)	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 (Y/L)	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

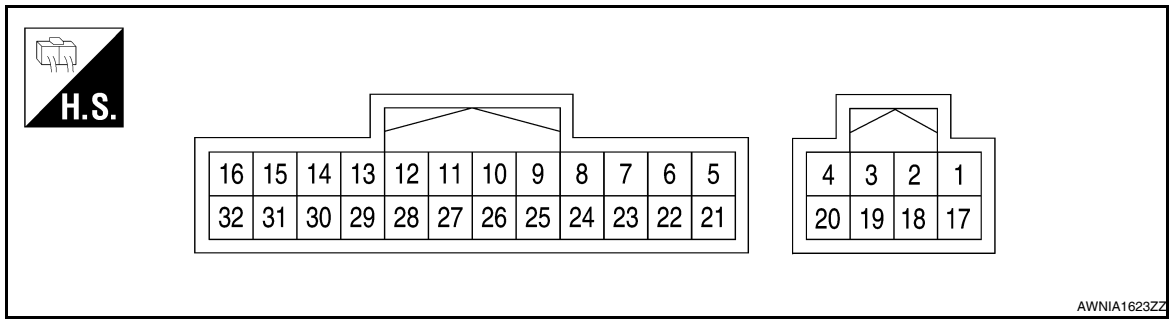
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
19 (B/W)	Ground	Ground	—	Ignition switch ON	—	0V
21 G/Y	Ground	Switch power	Output	Ignition switch ON	With DVD player operation	5V
22 (B)	Ground	Ground	—	Ignition switch ON	—	0V
23 (B/W)	Ground	VTR (+)	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

AUDIO AMP

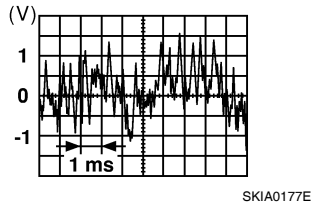
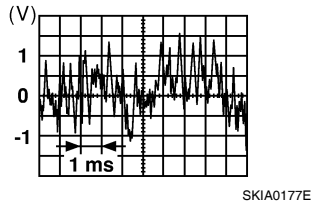
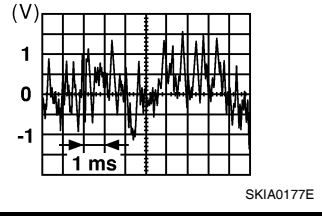
Reference Value

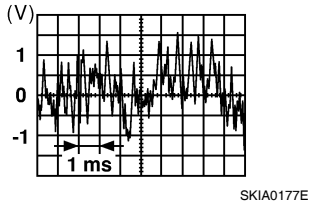
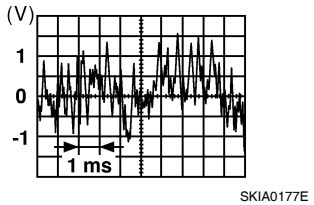
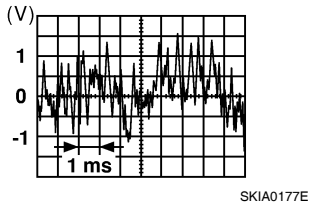
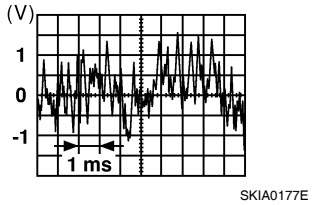
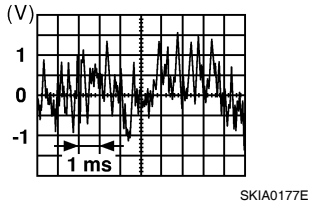
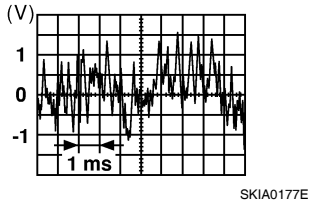
INFOID:0000000003789801

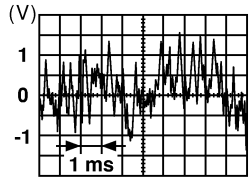
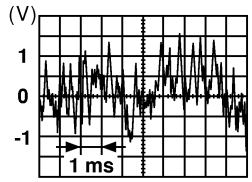
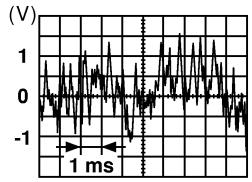
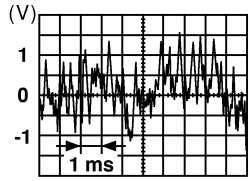
TERMINAL LAYOUT



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	–	–

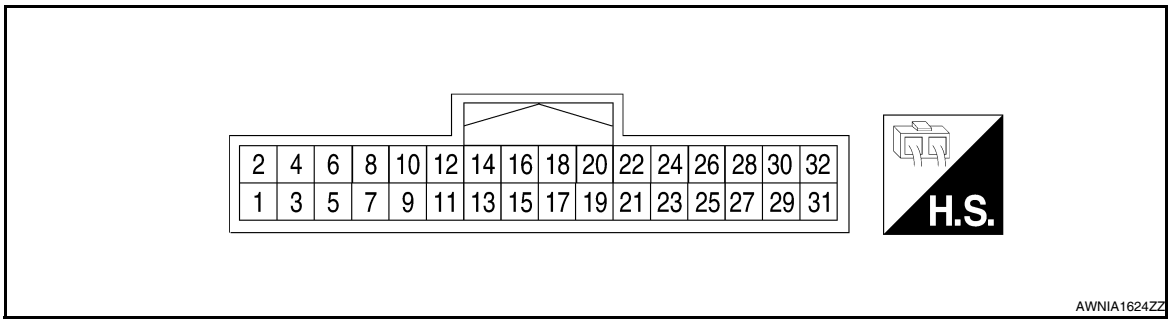
Terminal (wire color) +	Terminal (wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
21 (Y)	5 (BR)	Audio sound signal front RH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E
22 (W)	6 (B)	Audio sound signal front LH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E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

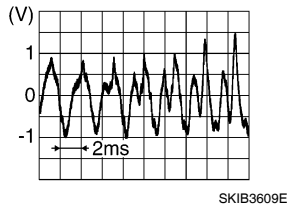
Reference Value

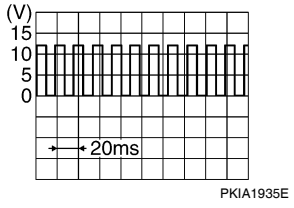
INFOID:0000000003789802

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	–	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	
11 (Y)	–	Mute control	–	–	–	–
12 (R/G)	14 (Y/R)	Steering switch signal A	Input	Ignition switch ON	Pressing switch	0V
					Pressing △ switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ output			
13 (G/W)	14 (Y/R)	Steering switch signal B	Input	Ignition switch ON	Pressing MODE switch	0V
					Pressing ▽ switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5 V
15 (GR)	Ground	LED power	Output	Ignition switch ON	–	Battery voltage
17 (V)	19 (R/B)	Steering switch signal A	Output	Ignition switch ON	Pressing switch	0V
					Pressing △ switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V
18 (G/O)	19 (R/B)	Steering switch signal B	Output	Ignition switch ON	Pressing MODE switch	0V
					Pressing ▽ switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5V
20 (B)	Ground	Ground	–	–	–	0V
23 (B)	Ground	Ground	–	–	–	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

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000003789803

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	• Audio unit power circuit • Audio unit	• AV-90 • AV-165
Steering switch does not operate	• Steering switch • Audio unit	• AV-115 • AV-90
All speakers do not sound	• Audio unit • Audio unit power circuit • Audio amp. ON signal • Audio amp. power/ground circuit • Audio amp.	• AV-90 • AV-90 • AV-114 • AV-93 • AV-174
One or several speakers do not sound	• Front door speaker • Front tweeter • Center speaker • Rear door speaker • Rear door tweeter (crew cab) • Subwoofer	• AV-97 • AV-100 • AV-103 • AV-105 • AV-108 • AV-111

CD

Symptom	Possible cause	Reference page
CD cannot be inserted.	Audio unit	AV-90
CD cannot be ejected.		
The CD cannot be played.		
The sound skips, stops suddenly, or is distorted.		

SATELLITE RADIO

Symptom	Possible cause	Reference page
Inoperative	• Satellite radio tuner power or ground circuit • Satellite radio tuner communication circuit • Satellite radio tuner	• AV-91 • AV-117 • AV-165
Right or left channel does not sound	• Satellite radio tuner right channel audio signal circuit • Satellite radio tuner left channel audio signal circuit • Satellite radio tuner	• AV-165

HANDS-FREE PHONE

Symptom	Possible cause	Reference page
Inoperative	• Bluetooth control unit power and ground circuit • Bluetooth control unit	• AV-94 • AV-89
Steering switch does not operate	• Steering switch • Bluetooth control unit	• AV-115 • AV-89
Voice activated control does not operate	• Microphone • Steering switch • Bluetooth control unit	• AV-122 • AV-115 • AV-89

DVD PLAYER

Symptom	Possible cause	Reference page
DVD player inoperative	• Power supply and ground circuits • DVD player	• AV-92
No sound when playing a DVD	• Audio signal circuits • Audio unit • DVD player	• AV-153 • AV-90 • AV-92
Video monitor is inoperative/does not display properly	• Power supply and ground circuits • Video out circuit • DVD player • Video monitor	• AV-92 • AV-153 • AV-92 • AV-92
DVD remote control is inoperative/does not operate properly	• DVD player • Rear audio remote control unit	• AV-92 • AV-172
Headphones inoperative	• Headphone batteries • Headphone audio signal circuits from audio unit • Audio unit • Rear audio remote control unit	• AV-124 • AV-124 • AV-172

NORMAL OPERATING CONDITION

Description

INFOID:0000000003789804

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 (crew cab) • 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

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

INFOID:0000000003789805

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:

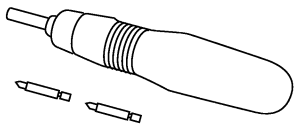
- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal 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.**

PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000003789806

Tool name	Description
Power tool  PBIC0191E	Loosening bolts and nuts

ON-VEHICLE REPAIR

AUDIO UNIT

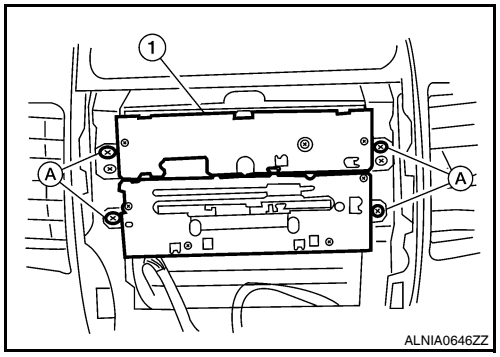
Removal and Installation

INFOID:0000000003789807

AUDIO UNIT

Removal

1. Disconnect the battery negative terminal.
2. Remove the cluster lid C. Refer to IP-14, "Removal and Installation".
3. Remove the audio unit screws (A), using power tool.
4. Pull out the audio unit (1) and disconnect the audio unit connectors.



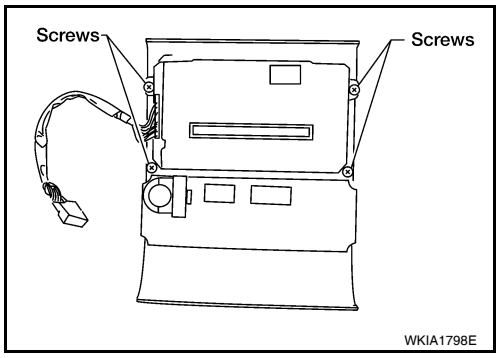
Installation

Installation is in the reverse order of removal.

AV SWITCH

Removal

1. Disconnect battery negative terminal.
2. Remove the cluster lid C. Refer to IP-14, "Removal and Installation".
3. Remove the AV switch screws.
4. Carefully remove the AV switch.



Installation

Installation is in the reverse order of removal.

FRONT TWEETER

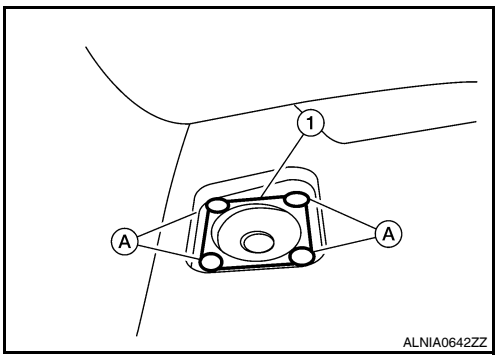
Removal and Installation

INFOID:0000000003789808

FRONT TWEETER

Removal

1. Remove the front tweeter grille. Refer to IP-11, "Removal and Installation".
2. Remove the front tweeter clips (C103) (A).
3. Disconnect the front tweeter connector and remove the front tweeter (1).



Installation

Installation is in the reverse order of removal.

CENTER SPEAKER

Removal and Installation

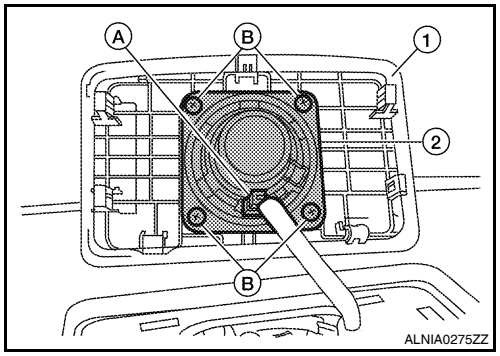
INFOID:0000000003789809

REMOVAL

CAUTION:

Use a suitable tool to prevent damage to the center speaker grille and the instrument panel.

1. Using a suitable tool, remove the center speaker grille finisher (1).
2. Disconnect the center speaker connector (A).
3. Remove the center speaker screws (B).
4. Remove the center speaker (2).



INSTALLATION

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

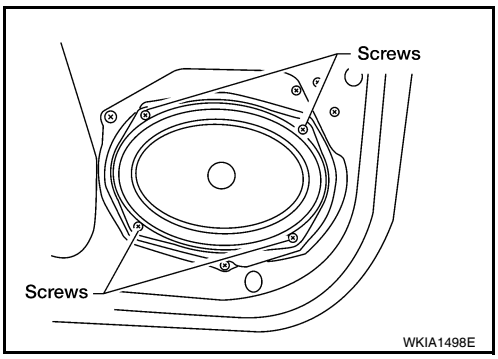
Removal and Installation

INFOID:0000000003789810

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 connector and remove the front door speaker.



Installation

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

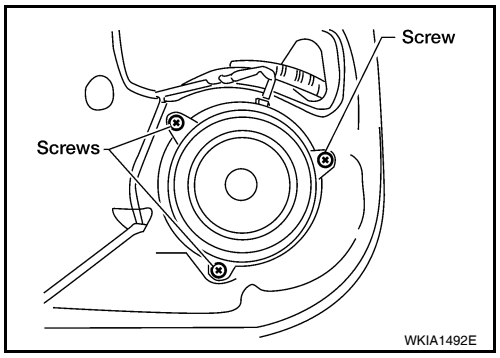
Removal and Installation

INFOID:0000000003789811

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 and remove the rear door speaker.



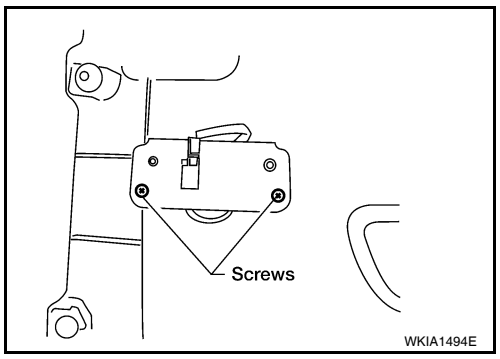
Installation

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" - Crew Cab.
2. Remove the rear door tweeter screws and remove the rear door tweeter.
3. Disconnect the rear door tweeter connector.



Installation

Installation is in the reverse order of removal.

WOOFER

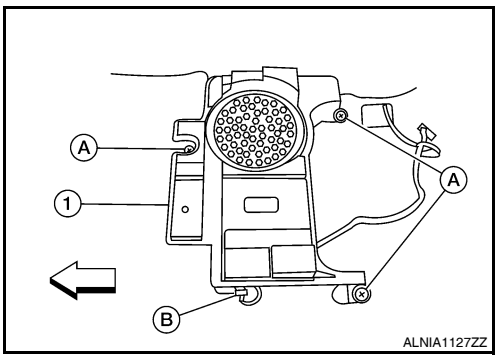
Removal and Installation

INFOID:0000000003789812

SUBWOOFER

Removal

1. Remove the front seat LH. Refer to SE-31, "Removal and Installation".
2. Disconnect the subwoofer 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

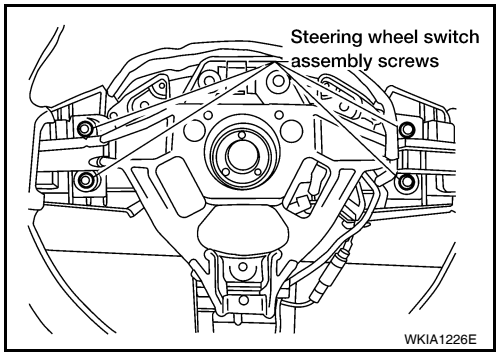
Removal and Installation

INFOID:0000000003789813

STEERING WHEEL AUDIO CONTROL SWITCHES

Removal

1. Remove the steering wheel. Refer to ST-11, "Removal and Installation".
2. Remove the steering wheel rear cover screws and remove the steering wheel rear cover.
3. Remove the steering wheel switch assembly screws and remove the steering wheel switches.



Installation

Installation is in the reverse order of removal.

REAR AUDIO REMOTE CONTROL UNIT

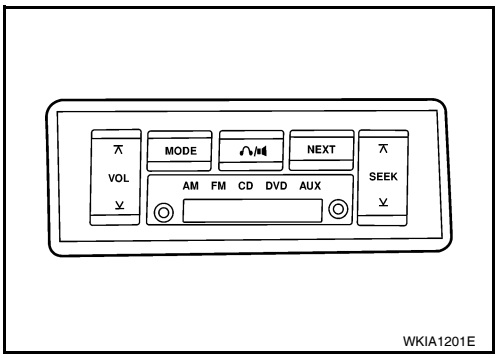
Removal and Installation

INFOID:0000000003789814

REAR AUDIO REMOTE CONTROL UNIT

Removal

1. Carefully remove the rear audio remote control unit from the rear roof console assembly.
   CAUTION:
   Wrap removal tool with clean shop cloth to prevent damage to the headliner.
2. Disconnect the connector and remove the rear audio remote control unit.



WKIA1201E

Installation

Installation is in the reverse order of removal.

DVD ENTERTAINMENT SYSTEM

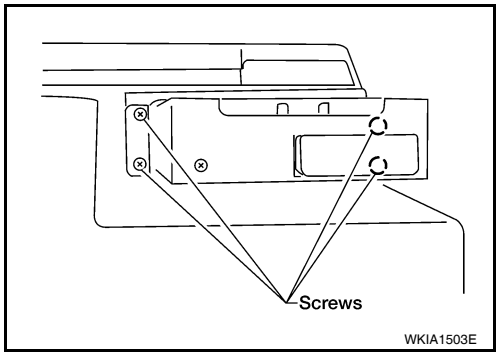
Removal and Installation

INFOID:0000000003789815

DVD PLAYER

Removal

1. Disconnect the battery negative terminal.
2. Remove the center console bin. Refer to IP-18, "Removal and Installation".
3. Remove the DVD player screws.



4. Remove the DVD player.

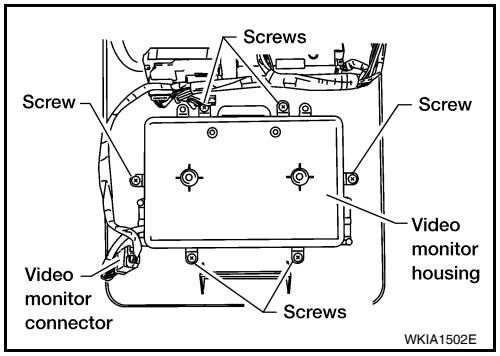
Installation

Installation is in reverse order of removal.

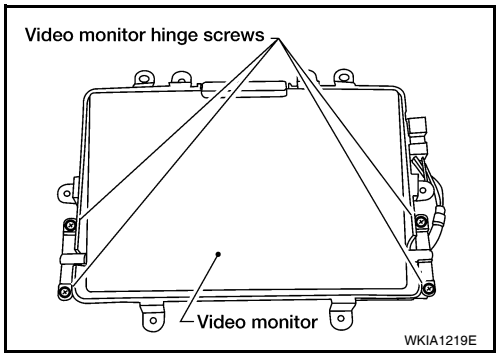
VIDEO MONITOR

Removal

1. Remove the rear roof console assembly. Refer to INT-21, "Removal and Installation".
2. Disconnect the video monitor connector.
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.

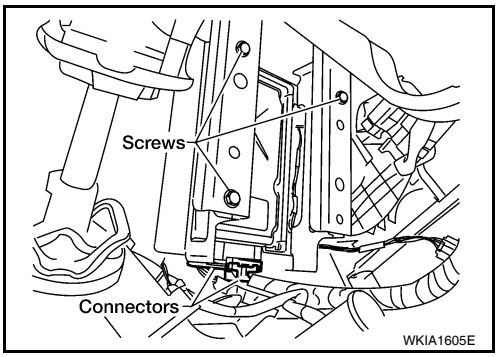
AUDIO AMP.

Removal and Installation

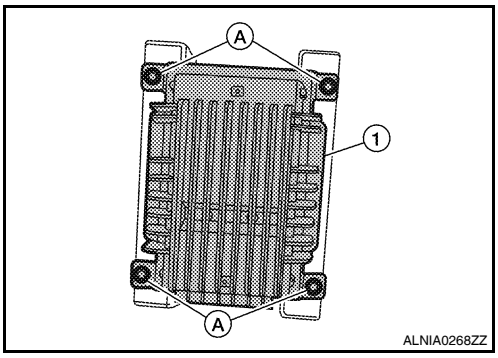
INFOID:0000000003789816

REMOVAL

1. Remove the BCM. Refer to BCS-53, "Removal and Installation".
2. Remove the accelerator pedal. Refer to ACC-3, "Removal and Installation".
3. Disconnect the audio amp. speaker amp. connectors.
4. Remove the audio amp. speaker amp. and bracket assembly screws and slide the audio amp. speaker amp. bracket assembly down.



5. Remove the audio amp. speaker amp.screws (A). then remove the audio amp. speaker amp. (1).



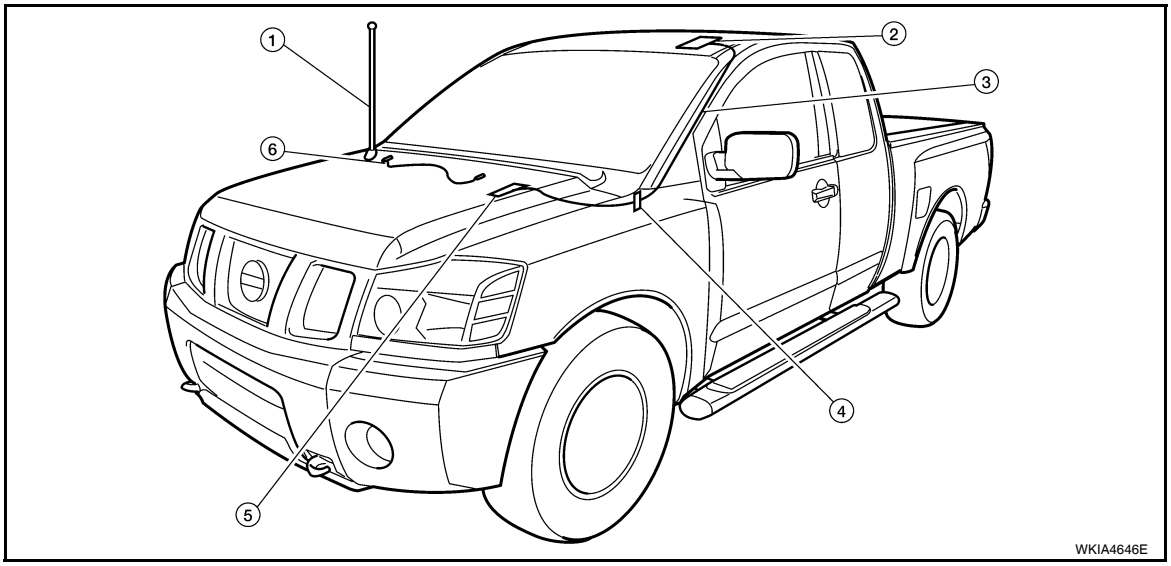
INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:0000000003789817



1. Antenna
2. Satellite antenna (if equipped, factory installed) M351
3. Satellite antenna feeder
4. M69, M350
5. Satellite radio tuner M129
6. Main feeder cable

SATELLITE RADIO ANTENNA

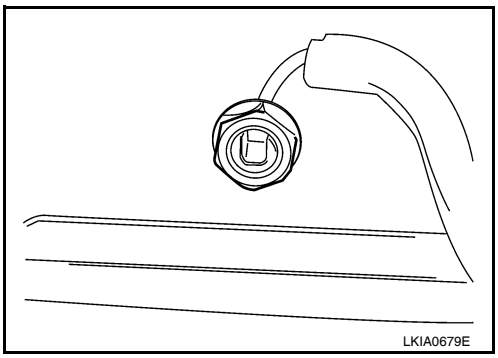
Removal and Installation

INFOID:0000000003789818

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.

SATELLITE RADIO TUNER

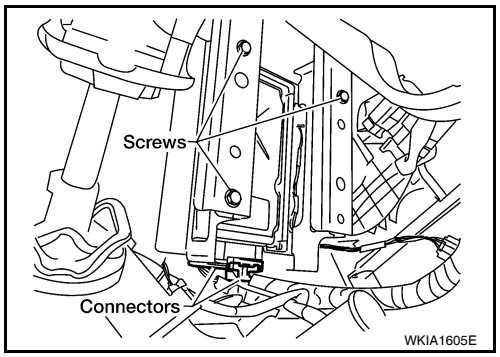
Removal and Installation

INFOID:0000000003789819

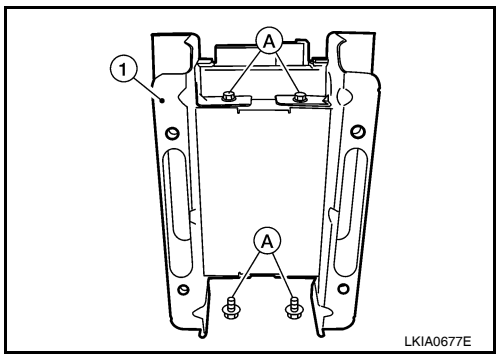
SATELLITE RADIO TUNER

Removal

1. Remove the accelerator pedal assembly. Refer to ACC-3, "Removal and Installation".
2. Remove the BCM. Refer to BCS-53, "Removal and Installation".
3. Disconnect the audio amp. and the satellite radio tuner connectors.
4. Remove the audio amp./satellite radio tuner bracket screws and slide the audio amp./satellite radio tuner bracket down.



5. Remove the satellite radio tuner screws (A) and remove the satellite radio tuner from the audio amp./satellite radio tuner bracket (1).



Installation

Installation is in the reverse order of removal.

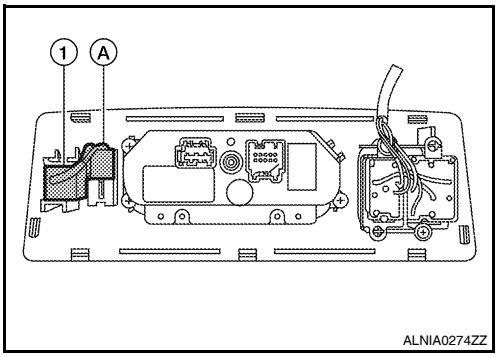
MICROPHONE

Removal and Installation

INFOID:0000000003789820

REMOVAL

1. Remove the front roof console finisher. Refer to XXXX.
2. Disconnect the Bluetooth microphone connector (A).
3. Detach the Bluetooth microphone (1) from the front roof console finisher and remove the Bluetooth microphone (1).



INSTALLATION

Installation is in the reverse order of removal.

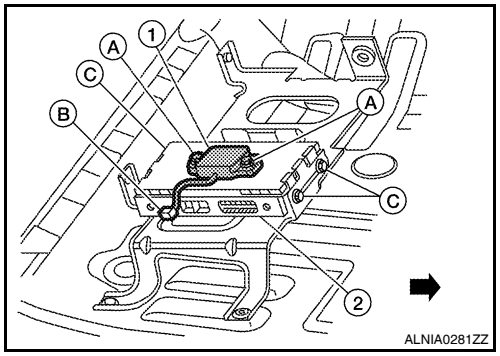
TEL ANTENNA

Removal and Installation

INFOID:0000000003789821

REMOVAL

1. Disconnect the battery negative terminal.
2. Slide the front passenger seat fully forward.
3. Remove the Bluetooth control unit kick shield screws and remove the Bluetooth control unit kick shield.
4. Remove the Bluetooth antenna screws (A), disconnect the Bluetooth antenna connector (B) and remove the Bluetooth antenna (1).
   - Bluetooth control unit screws (C)
   - Bluetooth control unit (2)
   - ⬅:Front of vehicle



INSTALLATION

Installation is in the reverse order of removal.

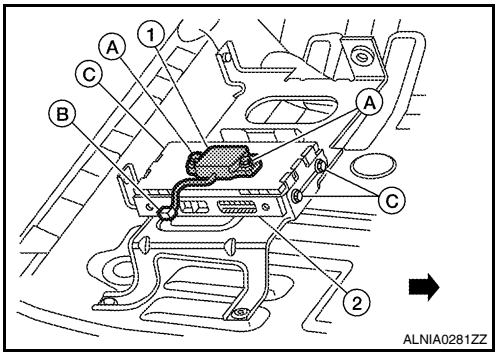
BLUETOOTH CONTROL UNIT

Removal and Installation

INFOID:0000000003789822

REMOVAL

1. Disconnect the negative battery terminal.
2. Slide the front passenger seat fully forward.
3. Remove the Bluetooth control unit kick shield screws and remove the Bluetooth control unit kick shield.
4. Remove the Bluetooth control unit screws (C), disconnect the Bluetooth control unit connectors and remove the Bluetooth control unit (2).
   - Bluetooth antenna (1)
   - Bluetooth antenna screws (A)
   - Bluetooth antenna connector (B)
   - ⬅:Front of vehicle



INSTALLATION

Installation is in the reverse order of removal.

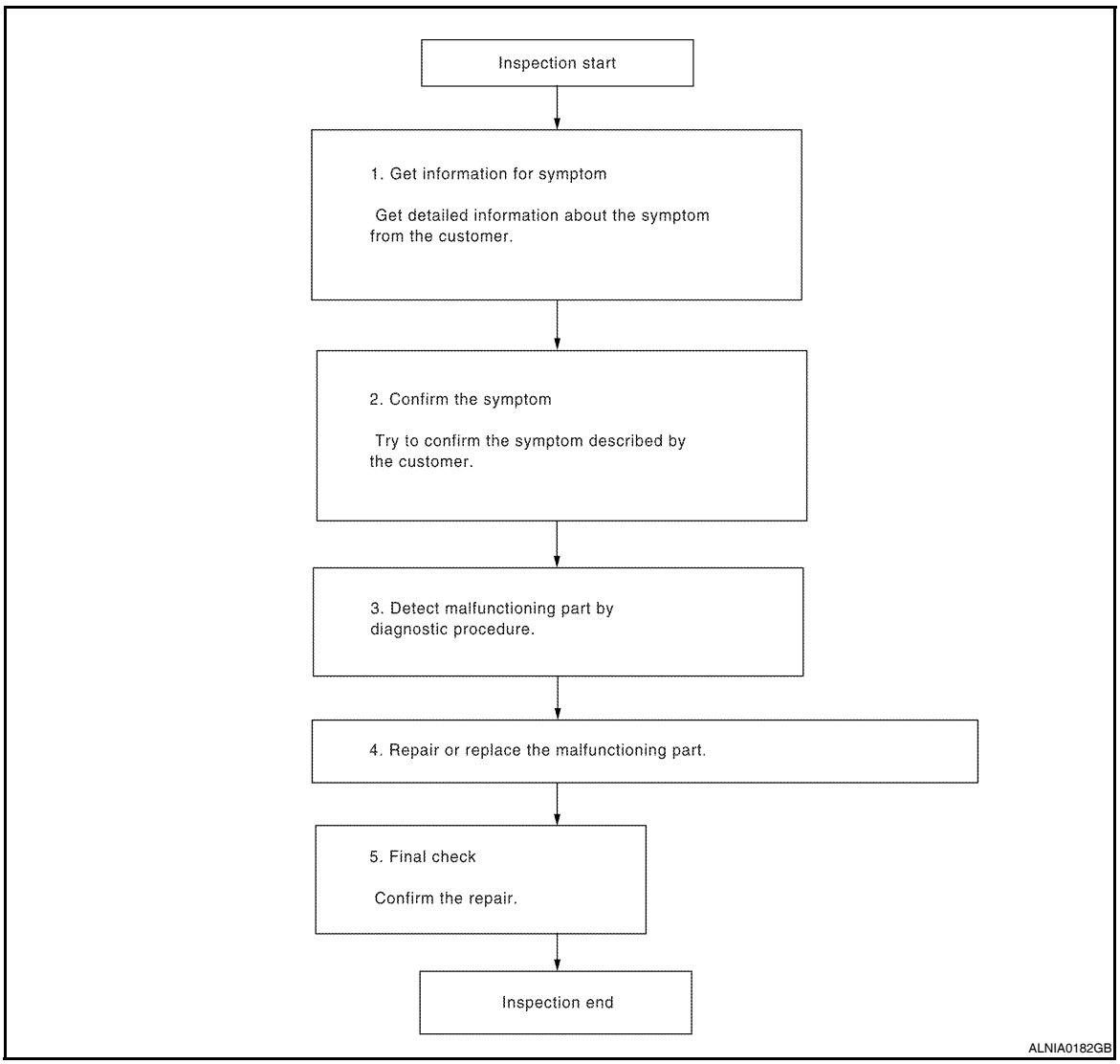
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000003789823

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?

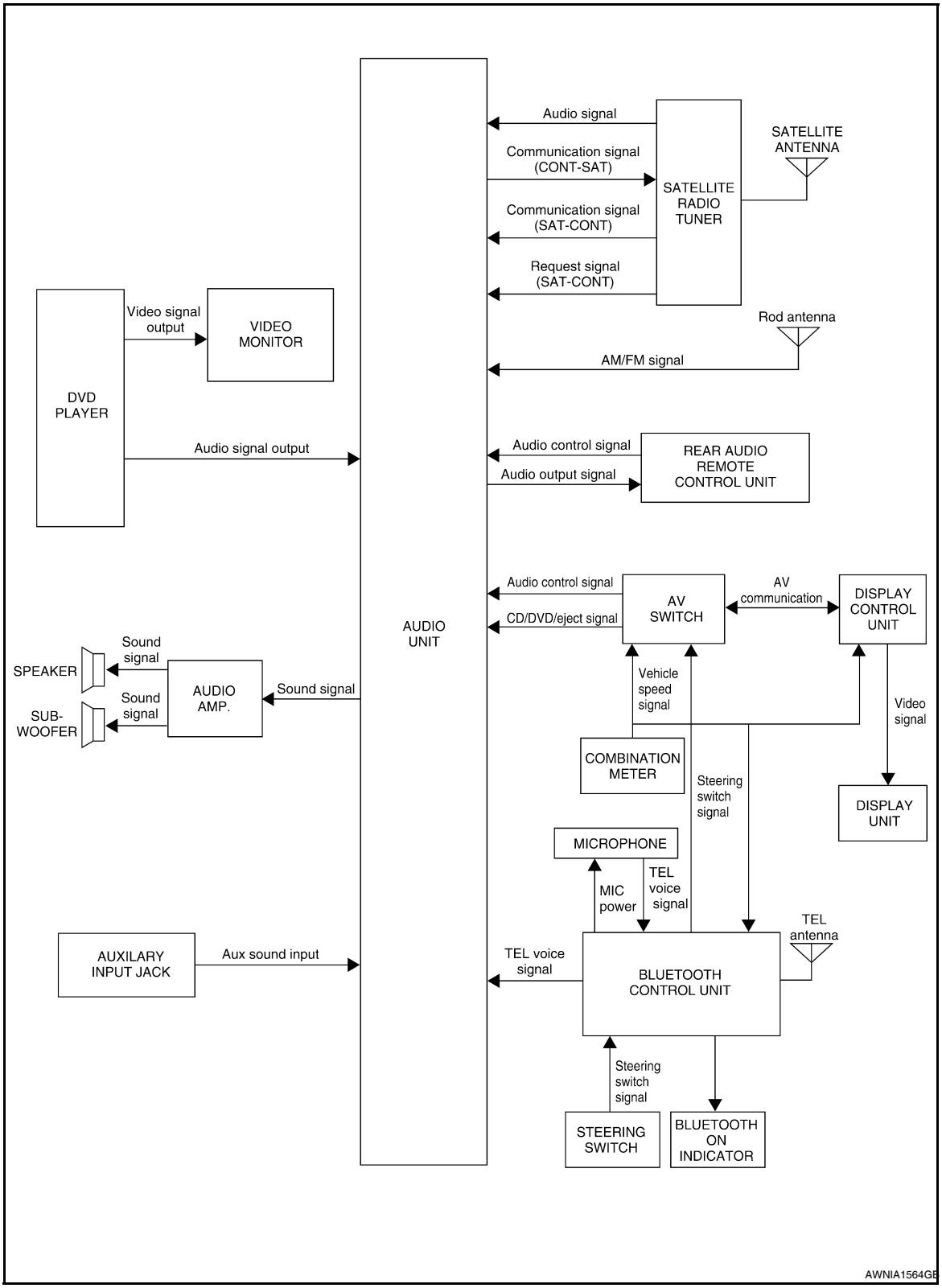
YES >> Inspection End.
NO >> GO TO 2.

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram

INFOID:0000000003789824



System Description

INFOID:0000000003789825

AUDIO SYSTEM

The audio system consists of the following components
- Audio unit
- Display unit
- Display control unit
- Audio amp.
- Rod antenna
- Steering wheel audio control switches
- AV switch
- Rear audio remote control unit
- Front door speakers
- Front tweeters
- Center speaker
- Rear door speakers
- Rear door tweeters (crew cab)
- Subwoofer

When the audio system is on, radio signals are received by the rod antenna. The audio unit then sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the front door speakers, front tweeters, center speaker, rear door speakers, rear door tweeters (crew cab) and the sub-woofer.
Refer to Owner's Manual for audio system operating instructions.

SATELLITE RADIO SYSTEM

The satellite radio system consists of the following components
- Satellite antenna
- Satellite radio tuner

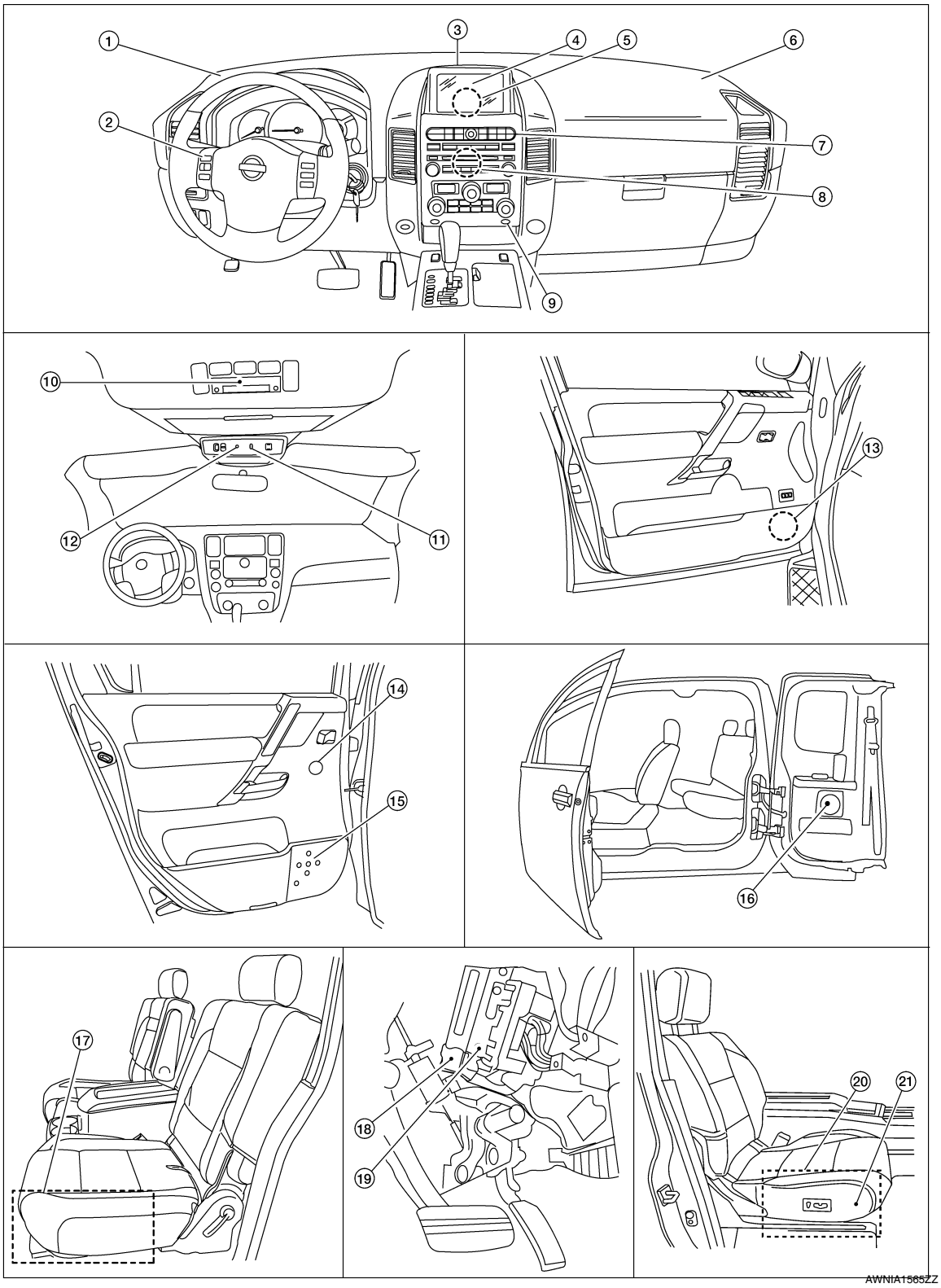
When the satellite radio system is on, radio signals are supplied to the satellite radio tuner from the satellite antenna. The satellite radio tuner then sends audio signals to the audio unit.
Refer to Owner's Manual for satellite radio system operating instructions.

SPEED SENSITIVE VOLUME SYSTEM

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

Component Parts Location

INFOID:0000000003789826



⇦ :FRONT

1. Front tweeter LH M109
2. Steering wheel audio control switches
3. Center speaker M110
4. Display unit M93
5. Display control unit M94, M95
6. Front tweeter RH M111
7. AV switch M98
8. Audio unit M42, M43, M44, M45, M46
9. Aux jack M104

10. Rear audio remote control unit R204
11. Bluetooth ON indicator R105
12. Microphone R109
13. Front door speaker
    LH D12
    RH D112
14. Rear door tweeter (crew cab)
    LH D208
    RH D308
15. Rear door speaker (crew cab)
    LH D207
    RH D307
16. Rear door speaker (king cab)
    LH B76
    RH B159
17. Subwoofer B72 (under driver's seat)
18. Audio amp. M112, M113 (view behind instrument panel above accelerator pedal)
19. Satellite radio tuner M41, M129
20. NAVI control unit B151, B152, B160 (located under passenger front seat)
21. Bluetooth control unit B142, B143 (with Bluetooth)

Component Description

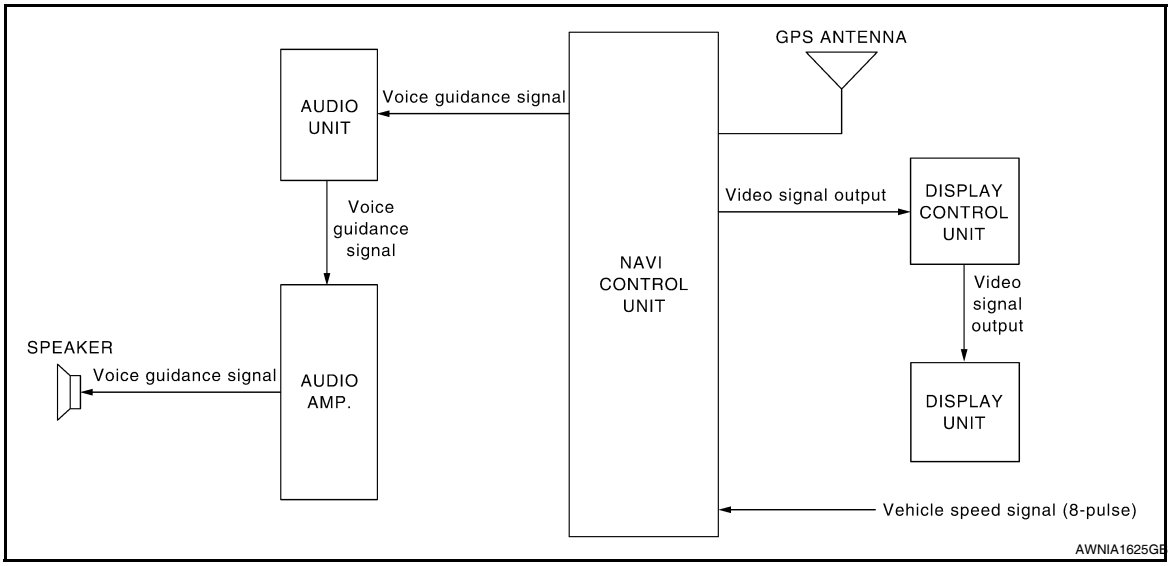
INFOID:0000000003789827

Part name	Description
Audio unit	Controls audio system and satellite radio system functions
Display unit	Displays all audio and navigation related information received from the display control unit
Display control unit	Receives audio and navigation related information and outputs that information to the display unit
Audio amp.	Receives power (amp ON) and audio signals from audio unit and outputs audio signals to each speaker.
Steering switches	• Audio operation can be operated • Steering switch signal is output to audio unit
Front door speakers	• Outputs audio signal from audio amp. • Outputs high, mid and low range sounds
Front tweeters	• Outputs audio signal from audio amp. • Outputs high range sounds
Center speaker	• Outputs audio signal from audio amp. • Outputs high range sounds
Rear door speakers	• Outputs audio signal from audio amp. • Outputs high, mid and low range sounds
Rear door tweeters (crew cab)	• Outputs audio signal from audio amp. • Outputs high range sounds
Subwoofer	• Outputs audio signal from audio amp. • Outputs low range sounds
Satellite radio tuner	• Receives radio signals from satellite antenna • Sends audio signals to audio unit
Satellite antenna	Audio signal (satellite radio) is received and output to audio unit.

NAVIGATION SYSTEM

System Diagram

INFOID:0000000003789828



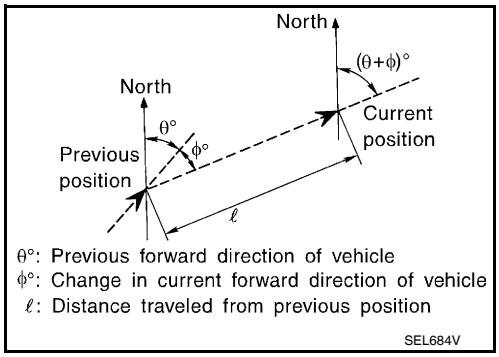
System Description

INFOID:0000000003789829

NOTE:
Refer to NAVI System Owner's Manual for system operation.

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), and the 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 DVD-ROM, which is stored in the DVD-ROM drive (map-matching), and indicated on the screen with a current-location mark.

By comparing the vehicle position detection results found by the GPS and by map-matching, more accurate vehicle position data can be used.
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 input signal. Therefore, the calculation may become incorrect as the tires wear down. To prevent this, an automatic distance fine adjustment function has been adopted.

TRAVEL DIRECTION

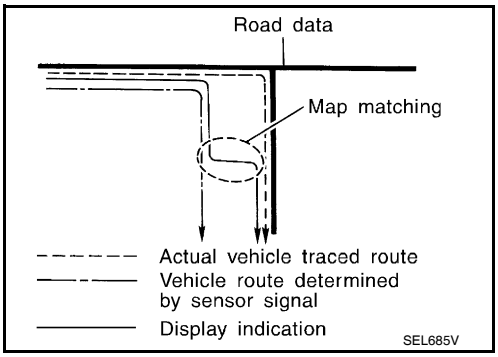
Change in the travel direction of the vehicle is calculated by a gyroscope (angular velocity sensor) and a GPS antenna (GPS information). As the gyroscope and GPS antenna have both merit and demerit, input signals from them are prioritized in each situation. However, this order of priority may change in accordance with more detailed travel conditions so that the travel direction is detected more accurately.

Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	• Can detect the vehicle's turning angle quite accurately.	• Direction errors may accumulate when the 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 the vehicle speed is low.

MAP–MATCHING

Map–matching is a function that repositions the vehicle on the road map when a new location is judged to be the most accurate. This is done by comparing the current vehicle position, calculated by the method described in the position detection principle, with the road map data around the vehicle, read from the map DVD-ROM stored on the DVD-ROM drive.

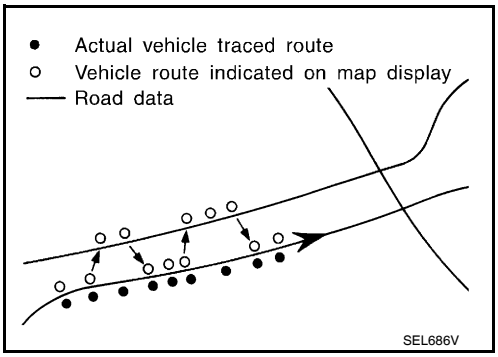
Therefore, the vehicle position may not be corrected after the vehicle is driven over a certain distance or time in which GPS information is hard to receive. In this case, the current-location mark on the display must be corrected manually.



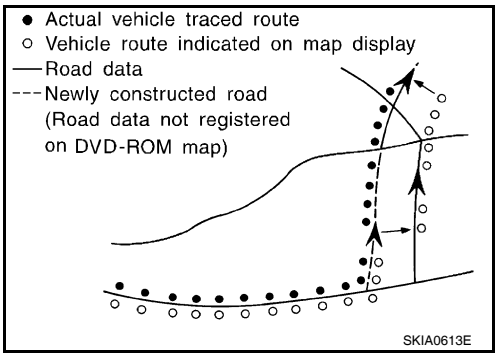
CAUTION:

The road map data is based on data stored on the HDD.

- 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 current-location mark has been repositioned.
  If there is an error in distance and/or direction, the alternative routes will be shown in different order of priority, and the wrong road can be avoided.
  If two roads are running in parallel, they are of the same priority. Therefore, the current-location mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.



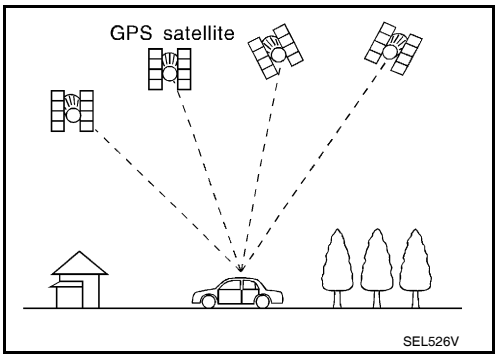
- Map-matching does not function correctly when the road on which the vehicle is driving is new and not recorded in the DVD-ROM, or when the road pattern stored in the map data and the actual road pattern are different due to repair.
  When driving on a road not present in the map, the map-matching function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



GPS (GLOBAL POSITIONING SYSTEM)

GPS (Global Positioning System) has been developed and controlled by the US Department of Defense. The system utilizes GPS satellite (NAVSTAR), sending out radio waves while flying on an orbit around the earth at the height of approx. 21,000 km (13,000 miles).

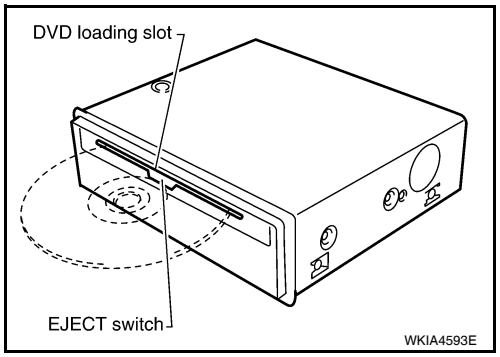
The GPS receiver calculates the vehicle's position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves received from four or more GPS satellites (three-dimensional positioning). If radio waves were received only from three GPS satellites, the GPS receiver calculates the vehicle's position in two dimensions (latitude/longitude), utilizing the altitude data calculated previously by using radio waves from four or more GPS satellites (two-dimensional positioning).



Accuracy of the GPS will deteriorate under the following conditions.
- In two-dimensional positioning, the GPS accuracy will deteriorate when the altitude of the vehicle position changes.
- There may be an error of approximately 10 m (30 ft.) in position detected by three-dimensional positioning, which is more accurate than two-dimensional positioning. The accuracy can be even lower depending on the arrangement of the GPS satellites utilized for the positioning.
- Position detection is not possible when the vehicle is in an area where radio waves from the GPS satellite do not reach, such as in a tunnel, parking lot in a building, and under an elevated highway. Radio waves from the GPS satellites may not be received when some object is located over the GPS antenna.
- Position correction by GPS is not available while the vehicle is stopped.

COMPONENT DESCRIPTION

NAVI Control Unit
- The gyro (angular speed sensor) and the DVD-ROM drive are built-in units that control the navigation functions.
- Signals are received from the gyro, the vehicle speed sensor, and the GPS antenna. Vehicle location is determined by combining this data with the data contained in the DVD-ROM map. Location information is shown on liquid crystal display (display unit).
- Maps, traffic control regulations, and other pertinent information can be easily read from the DVD-ROM disc.
- The oscillator gyro sensor is used to detect changes in vehicle steering angle.



Map DVD-ROM
- The map DVD-ROM has maps, traffic control regulations, and other pertinent information.
- To improve DVD-ROM map matching and route determination functions, the DVD-ROM uses an exclusive Nissan format. Therefore, the use of a DVD-ROM provided by other manufacturers cannot be used.

Display Control Unit
The display control unit coordinates audio and video signals between the NAVI control unit and the display unit.

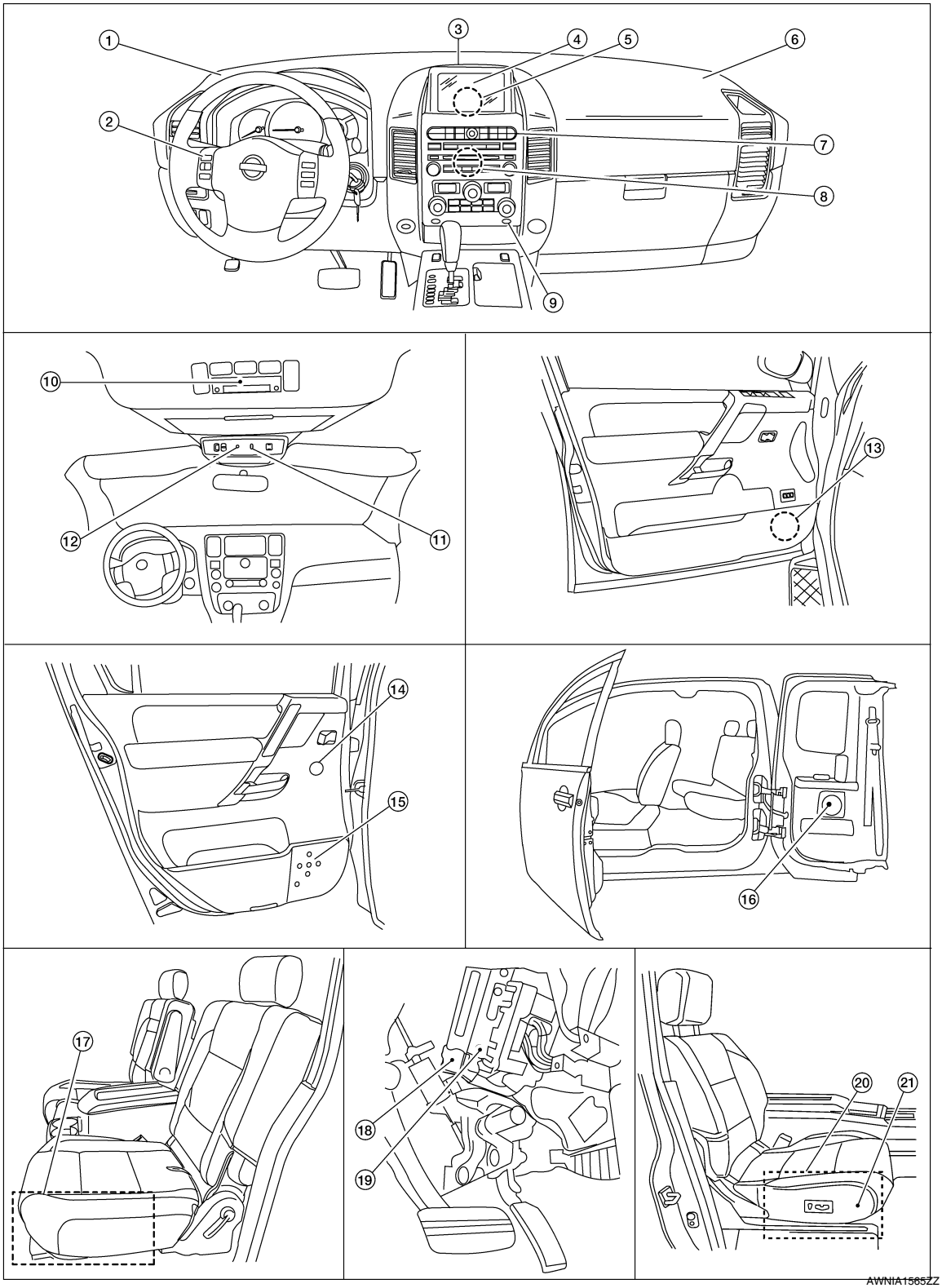
Display Unit
Displays NAVI system information.

AV Switch
AV switch allows user to input NAVI display settings. Self diagnostics are initiated using AV switch.

GPS Antenna
GPS antenna sends signals to NAVI control unit.

Component Parts Location

INFOID:0000000004162019



⇦ :FRONT

1. Front tweeter LH M109
2. Steering wheel audio control switches
3. Center speaker M110
4. Display unit M93
5. Display control unit M94, M95
6. Front tweeter RH M111
7. AV switch M98
8. Audio unit M42, M43, M44, M45, M46
9. Aux jack M104

10. Rear audio remote control unit R204
11. Bluetooth ON indicator R105
12. Microphone R109
13. Front door speaker
    LH D12
    RH D112
14. Rear door tweeter (crew cab)
    LH D208
    RH D308
15. Rear door speaker (crew cab)
    LH D207
    RH D307
16. Rear door speaker (king cab)
    LH B76
    RH B159
17. Subwoofer B72 (under driver's seat)
18. Audio amp. M112, M113 (view behind instrument panel above accelerator pedal)
19. Satellite radio tuner M41, M129
20. NAVI control unit B151, B152, B160 (located under passenger front seat)
21. Bluetooth control unit B142, B143 (with Bluetooth)

Component Description

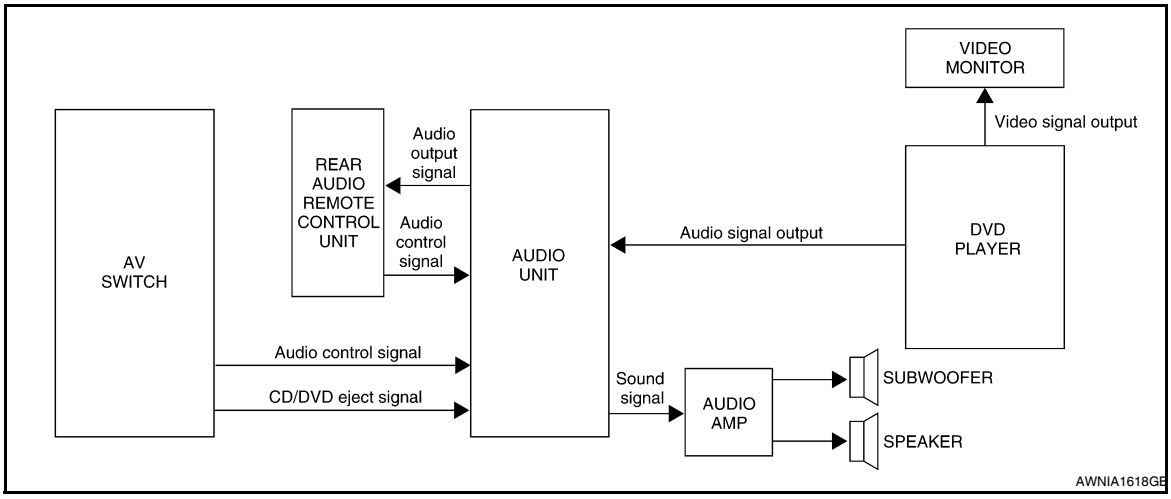
INFOID:0000000003789831

Part name	Description
Audio unit	• Controls each operation of the navigation system • Voice guidance signal is output to audio amp.
BOSE speaker amp.	Voice guidance signal is input from audio unit, and it is output to speakers.
Tweeter	Voice guidance signal from audio amp. is output.
Steering switches	• Each operation of navigation system can be performed • Switch operating signal is output to audio unit
Microphone	Sends voice signals to audio unit
GPS antenna	GPS signal is received and is output to audio unit.

DVD PLAYER

System Diagram

INFOID:0000000003789832



System Description

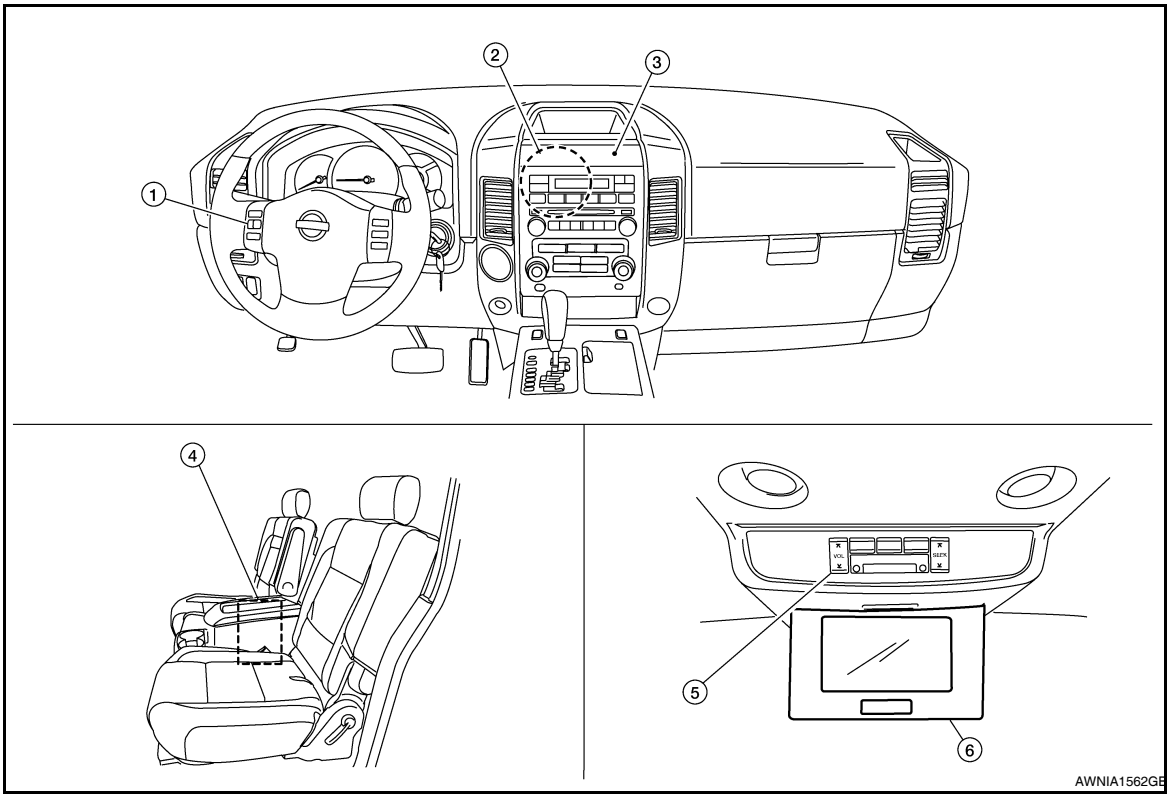
INFOID:0000000003789833

The DVD entertainment system consists of the following components
- Audio unit
- DVD player
- Video monitor
- AV switch
- Steering wheel audio control switches
- Rear audio remote control unit
- Audio amp.
- Front tweeters
- Front door speakers
- Center speaker
- Rear door tweeters (crew cab)
- Rear door speakers
- Subwoofer

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 Audio unit. 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.

Component Parts Location

INFOID:0000000003789834



1. Steering wheel audio control switches
2. Audio unit M42, M43, M44, M45, M46
3. AV switch M98
4. DVD player M205, M206 (located in center console)
5. Rear audio remote control unit R204
6. Video monitor R202

Component Description

INFOID:0000000003789835

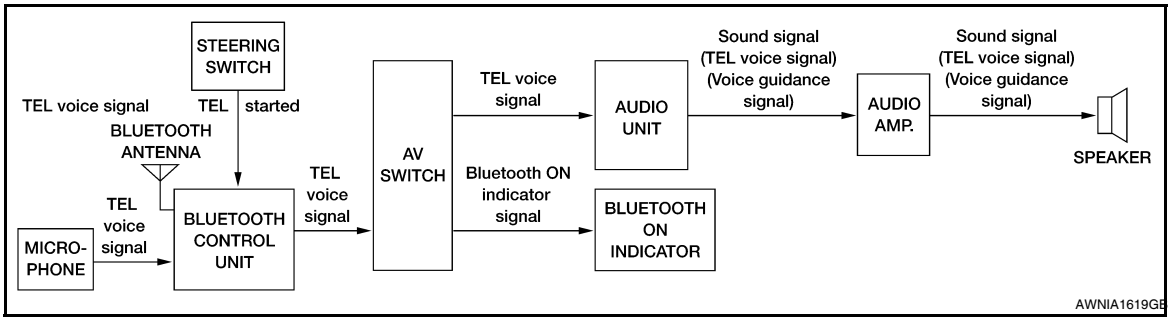
Part name	Description
DVD player	• Outputs DVD video to video monitor • Outputs DVD audio to the audio unit
Video monitor	• Receives and displays the DVD video signal
Audio unit	• Controls audio system and DVD entertainment system functions
Audio amp.	• Recieves audio signals from the audio unit • Outputs amplified audio signals to the speakers
AV switch	• All audio operations can be operated • Switch signal is output to the audio unit
Rear audio remote control unit	• Audio and DVD functions can be operated • Switch signal is output to the audio unit • Receives audio signal from audio unit for headphones
Steering wheel audio control switches	• Audio operation can be operated • Steering switch signal (operation signal) is output to audio unit
Front door speakers	• Outputs audio signal from audio amp. • Outputs high, mid and low range sounds
Front tweeters	• Outputs audio signal from audio amp. • Outputs high range sounds
Center speaker	• Outputs audio signal from audio amp. • Outputs high, mid and low range sounds

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

HANDS-FREE PHONE SYSTEM

System Diagram

INFOID:0000000003789836



System Description

INFOID:0000000003789837

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

NOTE:

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

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

BLUETOOTH CONTROL UNIT

When the ignition switch is turned to ACC or ON, the Bluetooth control unit will power up. During power up, the Bluetooth control unit is initialized and performs various self checks. Initialization may take up to 10 seconds. If a phone is present in the vehicle and paired with the Bluetooth control unit, Nissan Voice Recognition will then become active. Bluetooth telephone functions can be turned off using the Nissan Voice Recognition system.

STEERING WHEEL AUDIO CONTROL SWITCHES

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

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

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

MICROPHONE

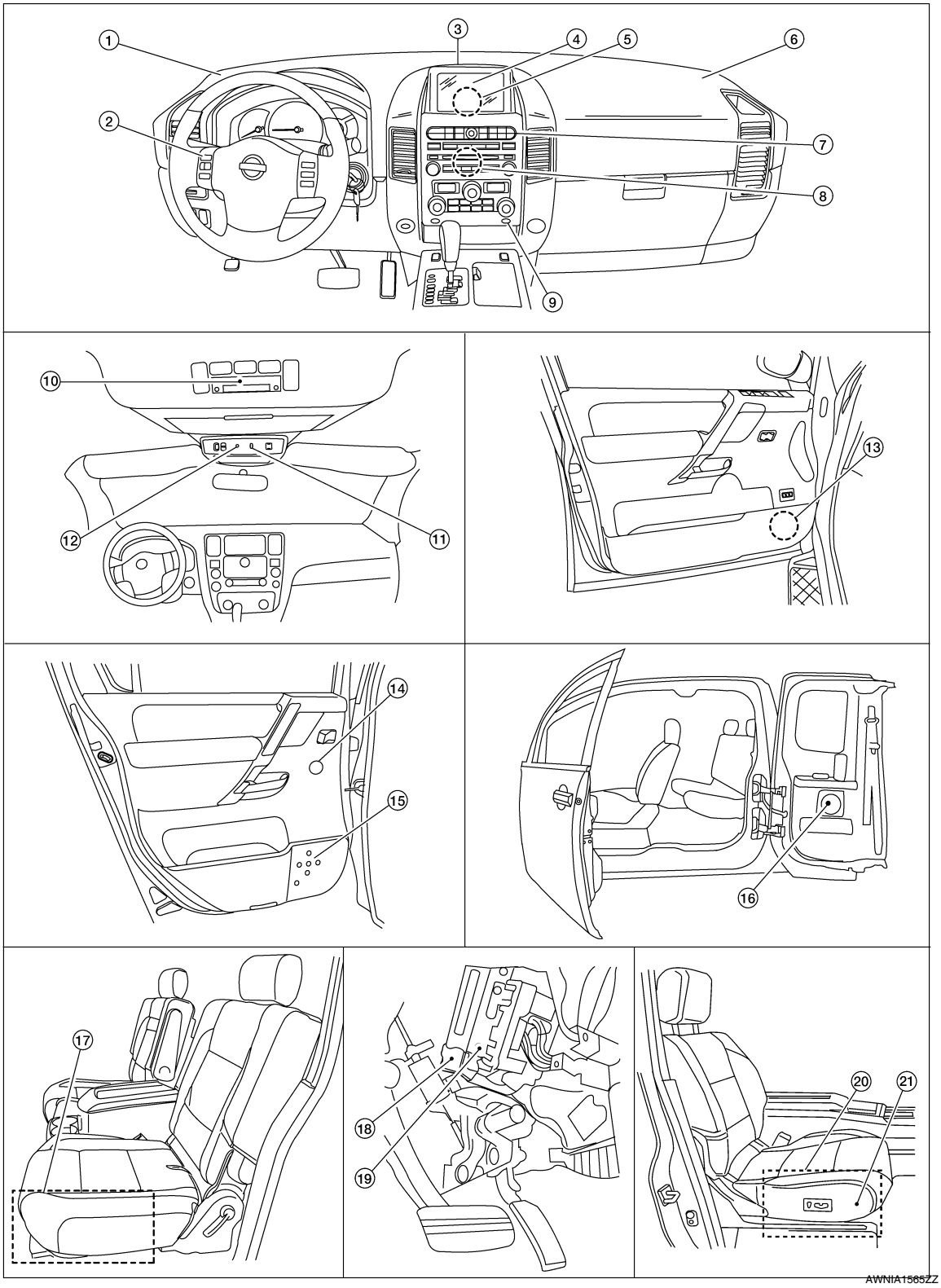
The microphone is located in the roof console assembly. The microphone sends a signal to the Bluetooth control unit. The microphone can be actively tested during self-diagnosis.

AV CONTROL UNIT

The AV control unit receives signals from the Bluetooth control unit and sends audio signals to the audio amp. then on to the speakers.

Component Parts Location

INFOID:0000000004162020



⇦ :FRONT

1. Front tweeter LH M109
2. Steering wheel audio control switches
3. Center speaker M110
4. Display unit M93
5. Display control unit M94, M95
6. Front tweeter RH M111
7. AV switch M98
8. Audio unit M42, M43, M44, M45, M46
9. Aux jack M104

10. Rear audio remote control unit R204
11. Bluetooth ON indicator R105
12. Microphone R109
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    RH D307
16. Rear door speaker (king cab)
    LH B76
    RH B159
17. Subwoofer B72 (under driver's seat)
18. Audio amp. M112, M113 (view behind instrument panel above accelerator pedal)
19. Satellite radio tuner M41, M129
20. NAVI control unit B151, B152, B160 (located under passenger front seat)
21. Bluetooth control unit B142, B143 (with Bluetooth)

Component Description

INFOID:0000000003789839

Part name	Description
Audio unit	• Receives telephone voice signal from Bluetooth control unit • Sends telephone voice and voice guidance signals to the speakers
Audio amp.	• Recieves audio signals from the audio unit • Outputs amplified audio signals to the speakers.
Front door speaker	Receives telephone voice and voice guidance signals from the audio amp.
Front tweeter	
Center speaker	
Steering wheel audio control switches	• Start a voice recognition session • Answer and end telephone calls • Adjust the volume level
Microphone	Sends voice signals to Bluetooth control unit
Bluetooth control unit	Controls hands-free phone functions
Bluetooth antenna	Sends telephone voice signal to Bluetooth control unit
Bluetooth ON indicator	Controlled by the Bluetooth control unit

DIAGNOSIS SYSTEM (AUDIO UNIT)

AUDIO UNIT

AUDIO UNIT : Diagnosis Description

INFOID:0000000003789840

For self-diagnosis function information, refer to AV-199, "Diagnosis Description".

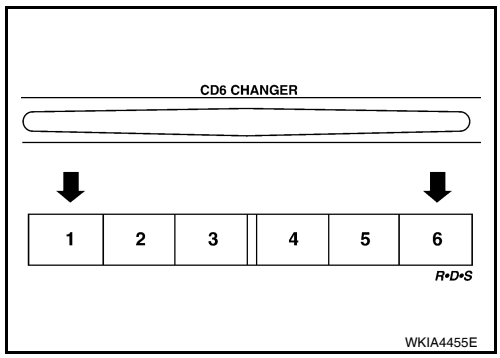
AV SWITCH

AV SWITCH : Component Function Check

INFOID:0000000003789841

STARTING THE SELF-DIAGNOSIS MODE

1. Turn ignition switch from OFF to ACC.
2. Within 10 seconds press and hold the switches “MEMORY 1” and “MEMORY 6” simultaneously for 3 seconds.
   Then the self-diagnosis operates. A single beep indicates self-diagnosis mode is active.
3. Press each switch and listen for beep.
   NOTE:
   CD player LOAD and EJECT buttons are not included in this test and will not beep when pressed.



DIAGNOSIS FUNCTION

- It can check for continuity of the switches by sounding the beep when each AV switch and steering switch is pressed.
- It can check for continuity of harness between AV switch and steering switch.

EXITING THE SELF-DIAGNOSIS MODE

Turn ignition switch OFF. Then the self-diagnosis ends.

DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

Diagnosis Description

INFOID:0000000003789842

DESCRIPTION

- Diagnosis function consists of the self-diagnosis mode performed automatically and the CONFIRMATION/ ADJUSTMENT mode operated manually.
- Self-diagnosis mode checks for connections between the units constituting this system, analyzes each individual unit at the same time, and displays the results on the LCD screen.
- CONFIRMATION/ADJUSTMENT mode is used to perform trouble diagnosis that require operation and judgment by an operator (trouble that cannot be automatically judged by the system), to check/change the set value, and to display the Error History of the navigation system.

Work Flow

INFOID:0000000003789843

ON BOARD SELF-DIAGNOSIS FUNCTION

Diagnosis Item

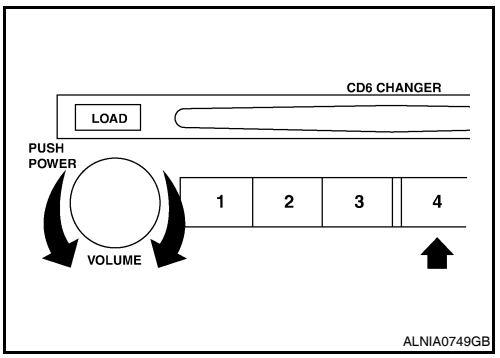
Mode				Description
Self-diagnosis (DCU)				Display control unit diagnosis.
Self-diagnosis (NAVI)				• NAVI Control unit diagnosis (DVD-ROM drive) will not be diagnosed when no map DVD-ROM is in it. • Analyzes connection between the NAVI control unit and the GPS antenna and operation of each unit.
CONFIRMATION/ ADJUSTMENT	Display diagnosis			On display control unit mode, color tone and shading of the screen can be checked by the display of a color bar and a gray scale.
	Vehicle signals			On display control unit mode, analyzes the following vehicle signals: Vehicle speed signal, light signal[NOTE] , ignition switch signal, and reverse signal.
	Auto Climate Control (if equipped)			A/C self-diagnosis of A/C system.
	Navigation	Display diagnosis		On NAVI C/U mode, color tone and shading of the screen can be checked by the display of a color bar and a gray scale.
		Vehicle signals		On NAVI C/U mode, analyzes the following vehicle signals: Vehicle speed signal, light signal, ignition switch signal, and reverse signal.
		Error History		Diagnosis results previously stored in the memory (before turning ignition switch ON) are displayed in this mode. Time and location when/where the errors occurred are also displayed.
		Navigation	Speed Calibration	Under ordinary conditions, the navigation system distance measuring function will automatically compensate for minute decreases in wheel and tire diameter caused by tire wear or low-pressure. Speed calibration immediately restores system accuracy in cases such as when distance calibration is needed because of the use of tire chains in inclement weather.
			Steering Angle Adjustment	Corrects difference between actual turning angle of a vehicle and turning angle of the car mark on the display.
CAN DIAG SUPPORT MONITOR				Display status of CAN communication.

NOTE:
Make the status that is set by D/N function be shown.

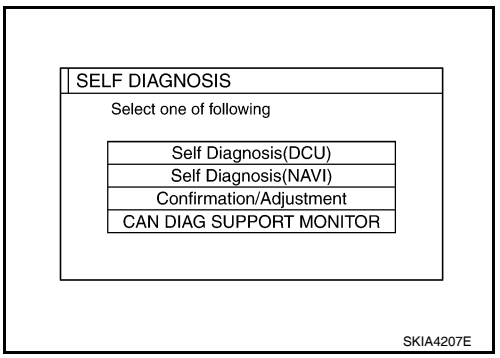
SELF-DIAGNOSIS MODE (DCU)

1. Start the engine.
2. Turn the audio system off.

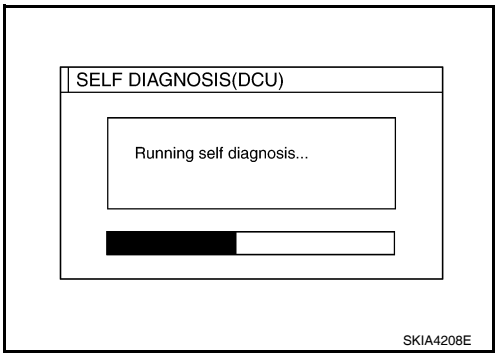
3. While pressing the “MEMORY 4” button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
   • Shifting from current screen to previous screen is performed by pressing “BACK” button.



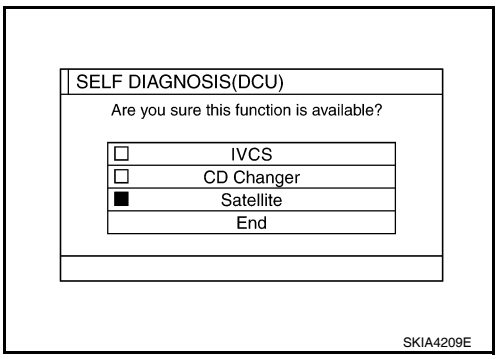
4. The initial self-diagnosis screen will be shown, and items “Self-Diagnosis (DCU)”, “Self-Diagnosis (NAVI)”, “Confirmation/ Adjustment” and “CAN DIAG SUPPORT MONITOR” will become selective.



5. Perform self-diagnosis by selecting the “Self-Diagnosis”.
   • Self-diagnosis subdivision screen will be shown and the operation enters the self-diagnosis mode.
   • A bar graph shown below the self-diagnosis subdivision screen indicates progress of the diagnosis.



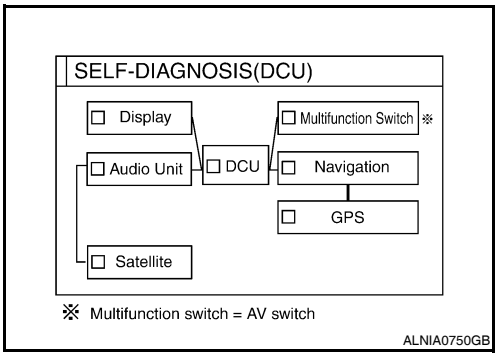
6. When the self-diagnosis completes, optional part confirmation screen will be shown.
   • When connection of an optional part is judged error, a screen to check if the optional part is actually fitted on the vehicle or not will be shown. When fitted, select the switch of the part on the screen and press “End”. Then the “SELF DIAGNOSIS” screen will be shown.
   • When the optional part is connected normally, the switch for the part will not appear on the screen.



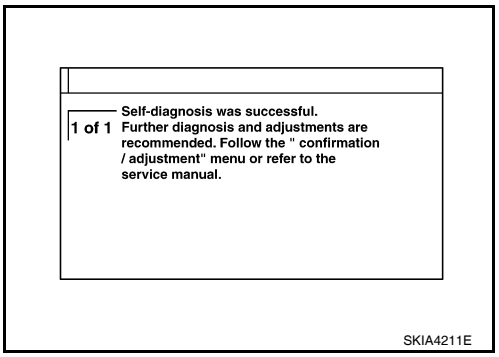
7. On the “SELF DIAGNOSIS” screen, each unit name will be colored according to the diagnosis result, as follows.

   Green : Not malfunctioning.
   Yellow : Cannot be judged by self-diagnosis results.
   Red : Unit is malfunctioning.
   Gray : Diagnosis has not been done.

   • If several malfunctions are present in a unit, color of its switch on the screen will be either red, yellow, or gray, determined by the malfunction of the highest priority.



8. Select a switch on the “SELF DIAGNOSIS” screen and comments for the diagnosis results will be shown.
   - When the switch is green, the following comment will be shown. “Self-diagnosis was successful. Further diagnosis and adjustments are recommended. Follow the “confirmation/ adjustment” menu or refer to the service manual.”
   - When the switch is yellow, the following comment will be shown. “Connection to the following unit is abnormal. See the service manual for further details”.
   - When the switch is red, the following comment will be shown. “DCU is abnormal”.



SELF–DIAGNOSIS RESULT

Quick reference table

1. Select a malfunctioning diagnosis No. in the diagnosis result quick reference table.
2. Find estimated malfunctioning system in the diagnosis No. table and perform check.
3. Turn the ignition switch OFF and perform self-diagnosis again.

Screen switch						Diagnosis No.
Switch color	DCU*	DISPLAY	Audio unit	Navigation	GPS antenna	
Red	×					1
Gray	×	x				2
	x		x			3
	×			×	×	4

*: DCU = Display control unit

CAUTION:

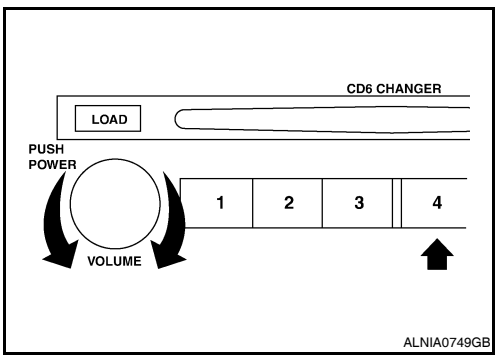
- **When AV switch has a malfunction, you cannot start. Refer to AV-198, "AV SWITCH : Component Function Check" .**
- **When display unit has a malfunction, you cannot start. Refer to AV-214, "DISPLAY CONTROL UNIT : Diagnosis Procedure" .**

Self-Diagnosis Codes

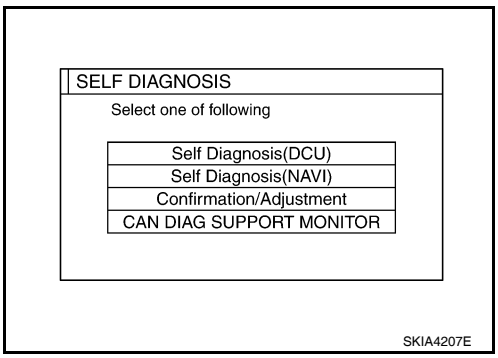
Diagnosis No.	Possible cause	Reference page
1	Display control unit malfunction	Refer to AV-214 .
2	Display communication line between display control unit and display unit	Refer to AV-292 .
3	Audio unit power supply and ground circuit Audio communication line between display control unit and audio unit	Refer to AV-212 .
4	NAVI control unit power supply and ground circuit AV communication line between display control unit and NAVI control unit	Refer to AV-212 .

SELF-DIAGNOSIS MODE (NAVI)

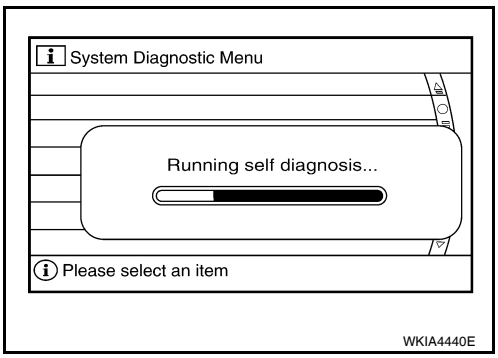
1. Start the engine.
2. Turn the audio system off.
3. While pressing the “MEMORY 4” button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
   - Shifting from current screen to previous screen is performed by pressing “BACK” button.



4. The initial self-diagnosis screen will be shown, and items “Self-Diagnosis (DCU)”, “Self-Diagnosis (NAVI)”, “Confirmation/ Adjustment” and “CAN DIAG SUPPORT MONITOR” will become selective.



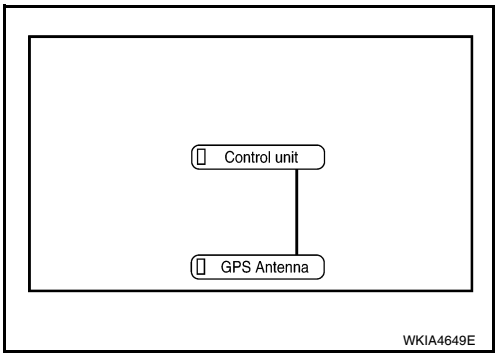
5. Perform self-diagnosis by selecting the “Self-diagnosis (NAVI)”.
   - Self-diagnosis subdivision screen will be shown and the operation enters the self-diagnosis mode.
   - A bar graph will be shown on the screen to indicate progress of the diagnosis.



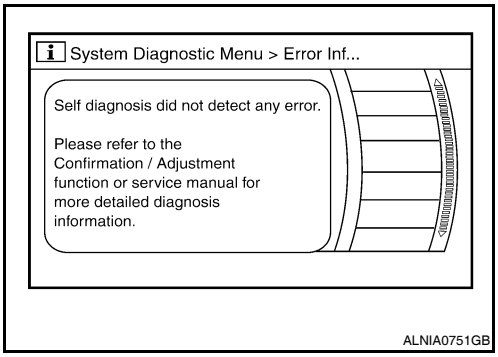
6. On the “SELF DIAGNOSIS” screen, each unit name will be colored according to the diagnosis result, as follows.

   Green : Not malfunctioning.
   Yellow : Cannot be judged by self-diagnosis results.
   Red : Unit is malfunctioning.
   Gray : Diagnosis has not been done.

   - If several malfunctions are present in a unit, color of its switch on the screen will be either red, yellow, or gray, determined by the malfunction of the highest priority.



7. Select a switch on the “SELF DIAGNOSIS” screen and comments for the diagnosis results will be shown.
   - When the switch is green, the following comment will be shown. “Self diagnosis did not detect any error. Please refer to the Confirmation / Adjustment function or service manual for more detailed diagnosis information."
   - When the switch is yellow, the following comment will be shown. “Connection to the following unit is abnormal. See the service manual for further details”.
   - When the switch is red, the following comment will be shown. “Center Control Unit is abnormal”.
   - When the switch is gray, the following comment will be shown. “Detected connection error(s) are the following. Please refer to the confirmation/adjustment function or service manual for more detailed diagnosis information.”



SELF–DIAGNOSIS RESULT

Quick reference table

1. Select an malfunctioning diagnosis No. in the diagnosis result quick reference table.
2. Find estimated malfunctioning system in the diagnosis No. table and perform check.
3. Turn the ignition switch OFF and perform self-diagnosis again.

Screen switch			Diagnosis No.
Switch color	Control unit*	GPS antenna	
Red	×		1
Gray	×		2
Yellow	×		3
	×		4
	×	×	5

*: Control unit = NAVI control unit

CAUTION:

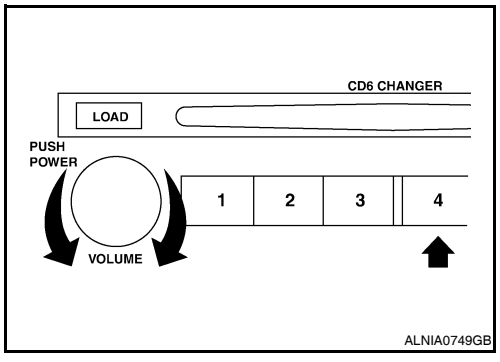
- **When AV switch has a malfunction, you cannot start. Refer to AV-198, "AV SWITCH : Component Function Check" .**
- **When display unit has a malfunction, you cannot start. Refer to AV-213, "DISPLAY UNIT : Diagnosis Procedure" .**

Self-diagnosis codes

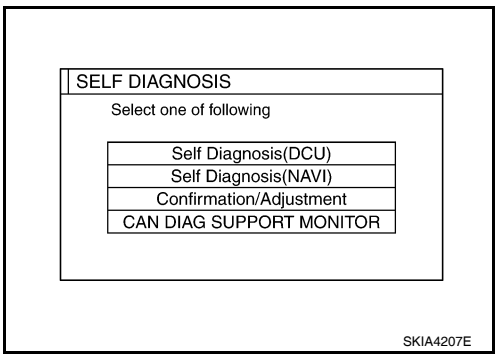
Diagnosis No.	Possible cause	Reference page
1	NAVI control unit malfunction.	Refer to AV-212
2	No map DVD-ROM is inserted in the NAVI control unit.	Refer to AV-187
3	When “DVD-ROM error. Please check disc.” is shown. 1. Eject map DVD-ROM and check if it is compatible with the system. 2. Check ejected DVD-ROM for dirt, damage, and warpage. 3. If no error is found, insert a known good map DVD-ROM of the same type and perform self-diagnosis again. If same result is shown, the NAVI control unit is malfunctioning. If result is normal, the map DVD-ROM is malfunctioning.	Refer to AV-187
4	If “Error found in DVD-ROM or DVD-ROM driver in control unit. Please perform diagnosis in accordance with service manual” is shown, carry out same inspection as diagnosis No. 3.	Refer to AV-187
5	GPS antenna system. 1. Visually check for a broken wire in the GPS antenna coaxial cable. 2. Disconnect GPS antenna connector, and make sure approximately 5V is supplied from the NAVI control unit. If not, the NAVI control unit is malfunctioning. If 5V is supplied, replace the GPS antenna. If the connection is still malfunction after the replacement of the GPS antenna, the NAVI control unit is malfunctioning.	Refer to AV-331

CONFIRMATION/ADJUSTMENT MODE

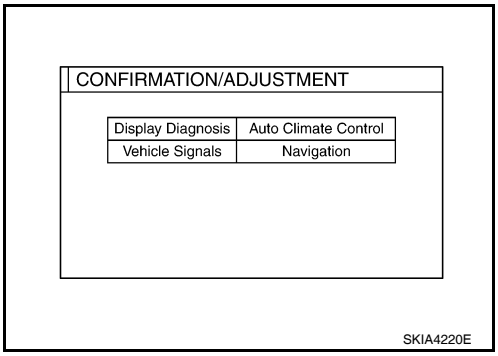
1. Start the engine.
2. Turn the audio system off.
3. While pressing the “MEMORY 4” button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
   - Shifting from current screen to previous screen is performed by pressing “BACK” button.



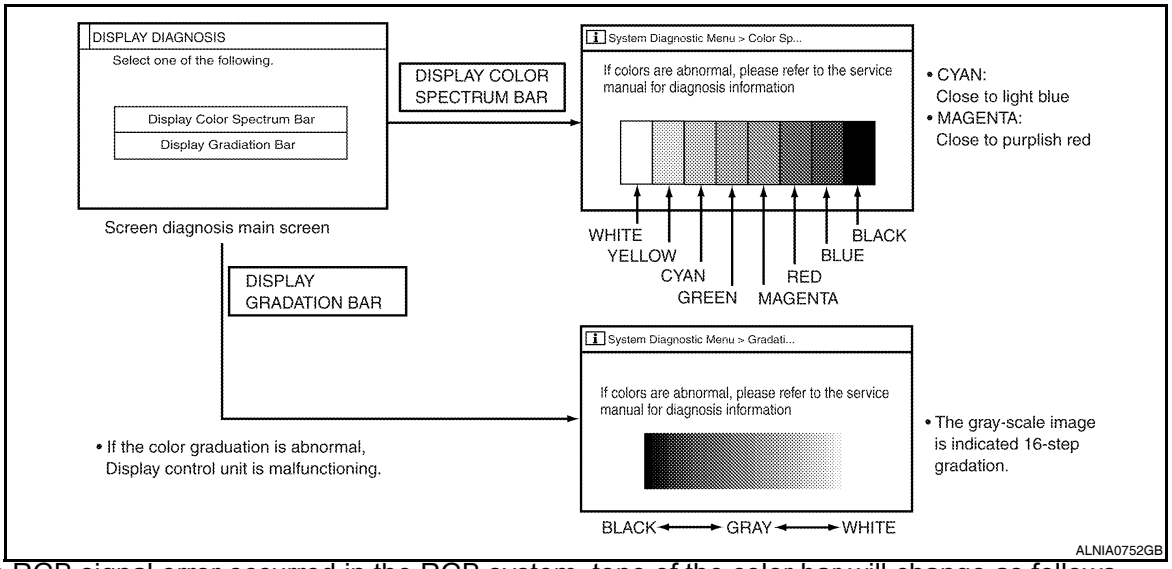
4. The initial self-diagnosis screen will be shown, and items “Self-Diagnosis (DCU)”, “Self-Diagnosis (NAVI)”, “Confirmation/ Adjustment” and “CAN DIAG SUPPORT MONITOR” will become selective.



5. When “Confirmation/Adjustment” is selected on the initial self-diagnosis screen, the operation will enter the CONFIRMATION/ ADJUSTMENT mode. In this mode, check and adjustment of each item will become possible.
6. The initial trouble diagnosis screen will be shown, and items “Display Diagnosis”, “Vehicle Signals”, “Auto Climate Control” and “Navigation” will become selective.
7. Select each switch on “CONFIRMATION/ADJUSTMENT” screen to display the relevant diagnosis screen.



DISPLAY DIAGNOSIS



- When RGB signal error occurred in the RGB system, tone of the color bar will change as follows.

R (red) signal error : Screen looks bluish
G (green) signal error : Screen looks reddish
B (blue) signal error : Screen looks yellowish

- When the color of the screen looks unusual, refer to AV-222, "Description" , AV-223, "Description" and AV-224, "Description" .

VEHICLE SIGNALS

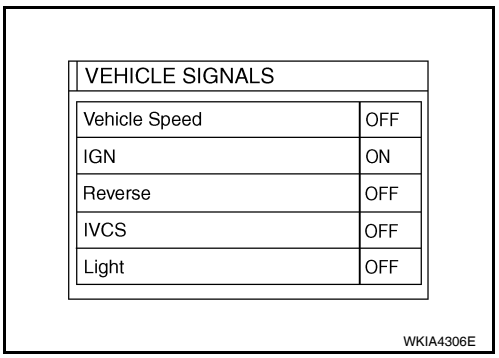
- A comparison check can be made of each actual vehicle signal and the signals recognized by the system.

CAUTION:

In case of confirming light signal, set D/N mode to ON/OFF of lighting switch (normal setting).

- **OFF: D (Day mode)**
- **ON: N (Night mode)**

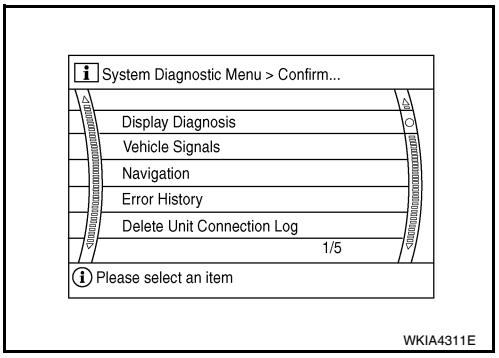
Unless above setting, light signal (ON/OFF) may not be accurately displayed.



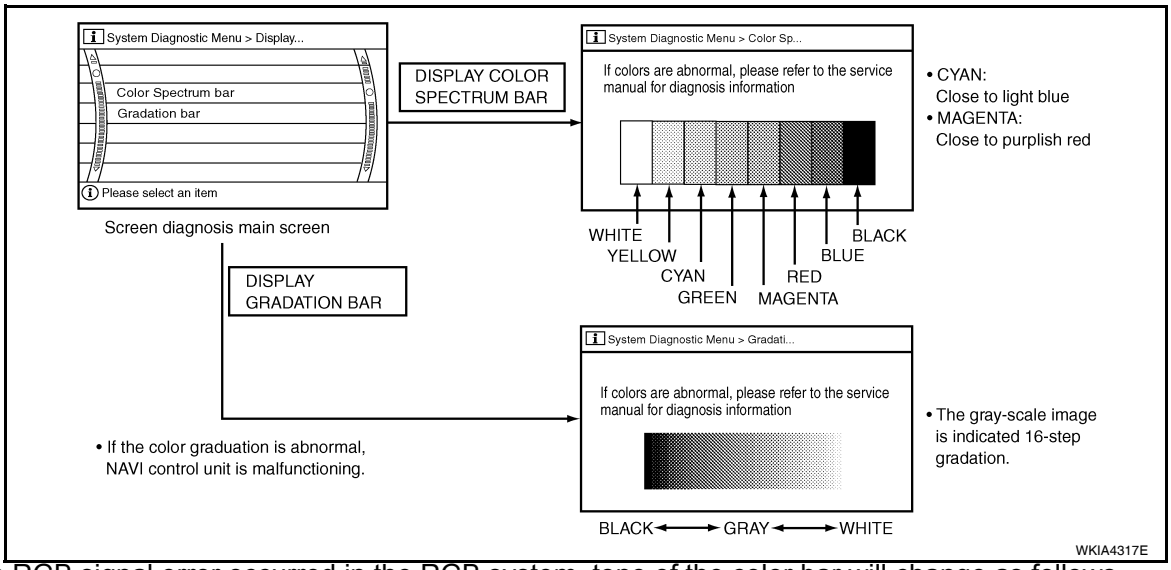
Diagnosis item	Display	Condition	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
	–	Ignition switch in ACC position	
Light	ON	Lighting switch ON	–
	OFF	Lighting switch OFF	
IGN	ON	Ignition switch ON	–
	OFF	Ignition switch ACC	
Reverse	ON	Selector lever in R position	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Selector lever in other than R position	
	–	Ignition switch in ACC position	

NAVIGATION

1. The initial confirmation/adjustment screen will be shown, and items “Display Diagnosis”, “Vehicle Signals”, “Navigation”, "Error History“ and "Delete Unit Connection Log” will become selective.
2. Select each switch on “CONFIRMATION/ADJUSTMENT” screen to display the relevant diagnosis screen.



DISPLAY DIAGNOSIS



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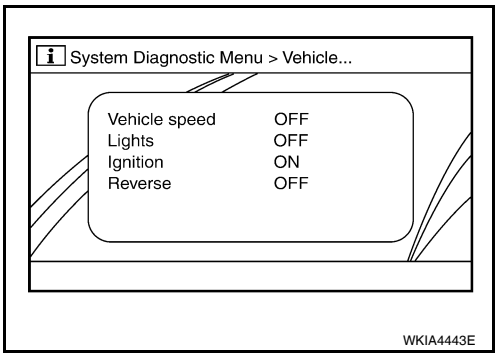
- When the color of the screen looks unusual, refer to AV-222, "Description" , AV-223, "Description" and AV-224, "Description" .

VEHICLE SIGNALS

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

CAUTION:
In case of confirming light signal, set D/N mode to ON/OFF of light switch (normal setting).
- **OFF: D (Day mode)**
- **ON: N (Night mode)**

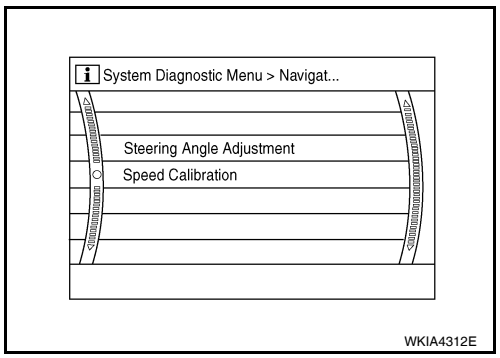
Unless mode is in above setting, light signal (ON/OFF) may not be accurately displayed.



Diagnosis item	Display	Condition	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
	–	Ignition switch in ACC position	
Lights	ON	Lighting switch ON	–
	OFF	Lighting switch OFF	
Ignition	ON	Ignition switch ON	–
	OFF	Ignition switch ACC	
Reverse	ON	Selector lever in R position	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Selector lever in other than R position	
	–	Ignition switch in ACC position	

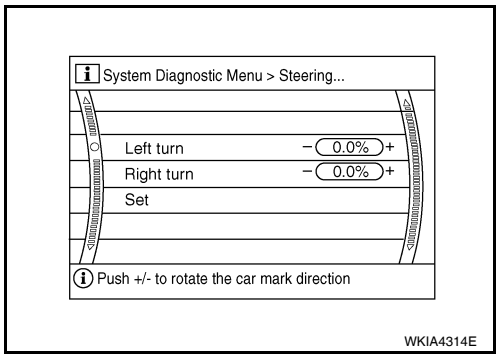
NAVIGATION

1. The navigation screen will be shown, and items “Speed Calibration” and “Steering Angle Adjustment” will become selective.
2. Select each switch on “NAVIGATION” screen to display the relevant diagnosis screen.



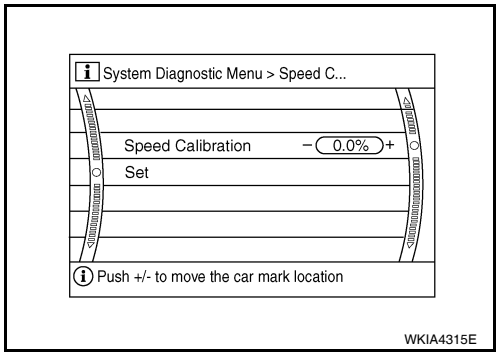
Steering Angle Adjustment

- Adjusts turning angle output detected by the gyroscope.

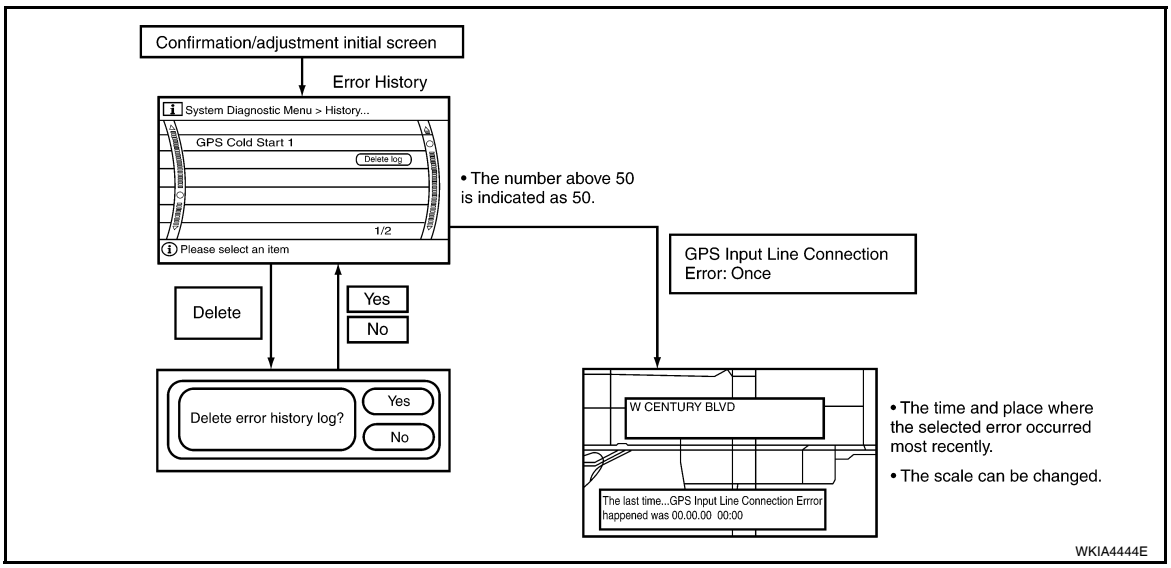


Speed Calibration

- During normal driving, distance error caused by tire wear and tire pressure change is automatically adjusted for by the automatic distance correction function. This function, on the other hand, is for immediate adjustment, in cases such as driving with tire chain fitted on tires.



ERROR HISTORY



DIAGNOSIS BY ERROR HISTORY

The “Self-diagnosis” results indicate whether an error occurred during the period from when the ignition switch is turned to ON until “Self-diagnosis” is completed.

If an error occurred before the ignition switch was turned to ON and does not occur again until the “Self-diagnosis” is completed, the diagnosis result will be judged normal. Therefore, those errors in the past which cannot be found by the “Self-diagnosis” must be found by diagnosing the “Error History”.
The Error History displays the time and place of the most recent occurrence of that error. However, take note of the following points.

- Correct time of the error occurrence may not be displayed when the GPS antenna substrate within the NAVI control unit has malfunctioned.
- Place of the error occurrence is represented by the position of the current-location mark at the time when the error occurred. If the current-location mark has deviated from the correct position, then the place of the error occurrence may be located correctly.
- The maximum number of occurrences which can be stored is 50. For the 51st and later occurrences, the displayed number remains 50.

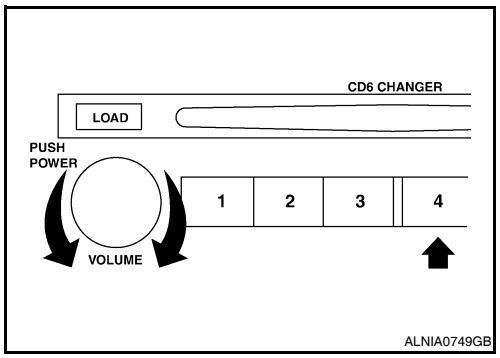
When a reproducible malfunction occurred but its cause cannot be identified because several errors are present, record the item, number and place (longitude/latitude) of error occurrence (or delete the Error History), then turn the ignition switch from OFF to ON to reproduce the malfunction. Check the Error History to find the items which show an increased number of occurrences, and diagnose the item.

Error item	Possible causes Action/symptom	Example of symptom
Gyro sensor disconnected	Communications malfunction between NAVI control unit and internal gyro. • Perform self-diagnosis. • When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference.	• Navigation location detection performance has deteriorated. (Angular velocity cannot be detected.)
GPS disconnected	Communication error between NAVI control unit and internal GPS substrate. • Perform self-diagnosis. • When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference.	• Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) • GPS receiving status remains gray.
GPS transmission cable malfunction	Malfunctioning transmission wires to NAVI control unit and internal GPS substrate. • Perform self-diagnosis. • When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference.	• During self-diagnosis, GPS diagnosis is not performed.
GPS input line connection error	Malfunctioning receiving wires to NAVI control unit and internal GPS substrate. • Perform self-diagnosis. • When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference.	• Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) • GPS receiving status remains gray.
GPS TCX0 over GPS TCX0 under	Oscillating frequency of the GPS substrate frequency synchronizing oscillation circuit exceeded (or below) the specification • Perform self-diagnosis. • When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference, or the control unit may have been subjected to excessively high or low temperatures.	• Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) • GPS receiving status remains gray.
GPS ROM malfunction GPS RAM malfunction	Contents of ROM (or RAM) in GPS substrate are malfunctioning. • Perform self-diagnosis. • When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference.	• Location detection accuracy of the navigation system will deteriorate, depending on the error area in the memory, because GPS cannot make correct positioning. (Location correction using GPS is not performed.)

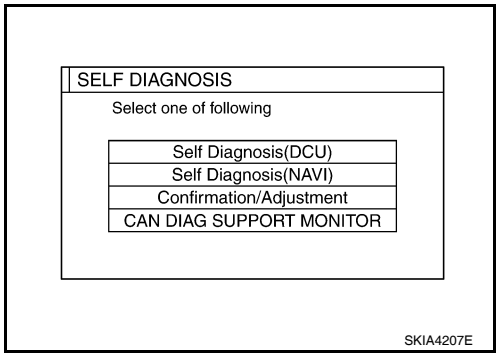
Error item	Possible causes Action/symptom	Example of symptom
GPS RTC malfunction	Clock IC in GPS substrate is malfunctioning. • Perform self-diagnosis. • When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference.	• Correct time may not be displayed. • After the power is turned on, the system always takes some time until GPS positioning becomes possible. (The GPS receiver starts positioning without re-collecting the whole satellite information when it judged the data stored in the receiver is correct.) • Correct time of error occurrence may not be stored in the ″Error History″.
GPS antenna disconnected	Malfunctioning connection between GPS substrate in NAVI control unit and GPS antenna. • Perform self-diagnosis. • When connection between NAVI control unit and GPS antenna is judged normal by self-diagnosis, the symptom may be intermittent, caused by impact or vibration.	• Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) • GPS receiving status remains gray.
Low voltage of GPS	The power voltage supplied to the GPS circuit board has decreased. • Perform self-diagnosis. • When connection between NAVI control unit and GPS antenna is judged normal by self-diagnosis, the symptom may be intermittent, caused by impact or vibration.	• Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) • GPS receiving status remains gray.
DVD-ROM Malfunction DVD-ROM Read error DVD-ROM Response Error	Malfunctioning NAVI control unit.	-
	Dedicated map DVD-ROM is in the system, but the data cannot be read. • Is map DVD-ROM damaged, warped, or dirty? - If damaged or warped, the map DVD-ROM is malfunctioning. - If dirty, wipe the DVD-ROM clean with a soft cloth. • Perform self-diagnosis. • When NAVI control unit is judged normal by self-diagnosis, the symptom is judged intermittent, caused by vibration.	• The map of a particular location cannot be displayed. • Specific guidance information cannot be displayed. • Map display is slow. • Guidance information display is slow. • System has been affected by vibration.

CAN DIAG SUPPORT MONITOR

1. Start the engine.
2. Turn the audio system off.
3. While pressing the “MEMORY 4” button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
   • Shifting from current screen to previous screen is performed by pressing “BACK” button.

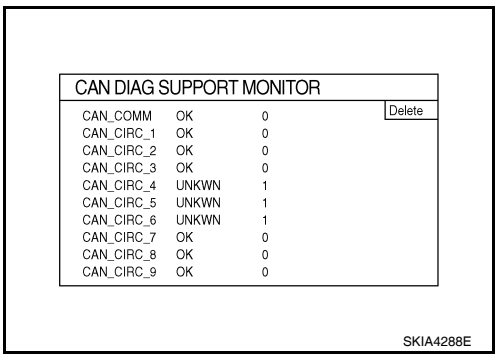


4. The initial self-diagnosis screen will be shown, and items “Self-Diagnosis (DCU)”, “Self-Diagnosis (NAVI)”, “Confirmation/ Adjustment” and “CAN DIAG SUPPORT MONITOR” will become selective.
5. Select “CAN DIAG SUPPORT MONITOR”.



6. Display status of CAN communication.

Item	Content	Error counter
CAN_COMM	OK/NG	0-50
CAN_CIRC_1	OK/UNKWN	0-50
CAN_CIRC_2	OK/UNKWN	0-50
CAN_CIRC_3	OK/UNKWN	0-50
CAN_CIRC_4	OK/UNKWN	0-50
CAN_CIRC_5	OK/UNKWN	0-50
CAN_CIRC_6	OK/UNKWN	0-50
CAN_CIRC_7	OK/UNKWN	0-50
CAN_CIRC_8	OK/UNKWN	0-50
CAN_CIRC_9	OK/UNKWN	0-50



- If the ignition is turned on and UNKWN is shown on the screen, the value of the counter will be up. (MAX50)
- The value of the counter does not change if the ignition changes to OFF. (MAX50)
- If the counter shows the value of 50 and UNKWN is shown, the value of 50 will not be changed.

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description

INFOID:0000000003789844

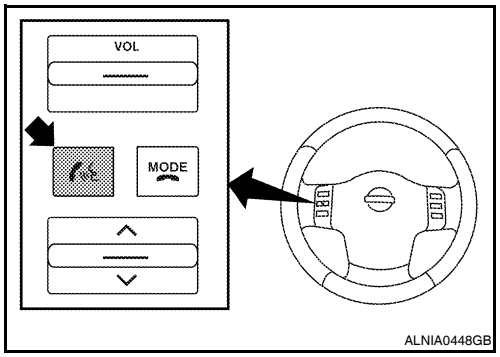
The Bluetooth control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

BLUETOOTH CONTROL UNIT INITIALIZATION CHECKS

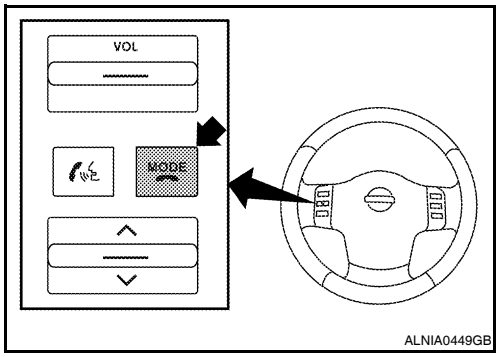
- Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switches [SEND( )/END(MODE)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth inquiry check

OPERATION PROCEDURE

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



4. While the prompt is playing, press and hold the steering wheel audio control switch MODE button until you hear the “Diagnostics mode” prompt. The Bluetooth system will sound a 5 second beep.
5. While the beep is sounding, press and hold the steering wheel audio control switch MODE button again until you hear prompts.
6. The Bluetooth system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician. Refer to AV-199, "Work Flow".
7. After the failure records are reported, an interactive microphone test will be performed. Follow the voice prompt. If the microphone test fails refer to AV-199, "Work Flow".
8. Self-diagnosis mode is complete when the voice prompt says “All diagnostic functions completed”.



Work Flow

INFOID:0000000003789845

Failure Message	Action
“Internal failure”	Replace Bluetooth control unit. Refer to AV-180, "Removal and Installation".
“Bluetooth antenna open”	1. Inspect harness connection. 2. Replace Bluetooth antenna. Refer to AV-179, "Removal and Installation".
“Bluetooth antenna shorted”	
“Phone/Send for Hands Free System is stuck”	Check steering wheel audio control switches. Refer to AV-115, "Description".
“Phone/End for the Hands Free System is stuck”	
“Microphone test” (failed interactive test)	1. Inspect harness between Bluetooth control unit and microphone. 2. Replace microphone. Refer to AV-178, "Removal and Installation".

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000003789846

1.CHECK FUSES

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

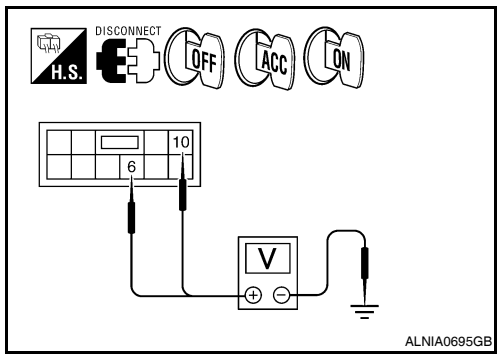
Unit	Terminals	Signal name	Fuse No.
Audio unit	6	Battery power	31
	10	Ignition switch ACC or ON	4

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



(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M43	6	Ground	0V	Battery voltage	Battery voltage
	10	Ground	Battery voltage	Battery voltage	Battery voltage

Are the voltage results as specified?

YES >> GO TO 3.
NO >> • Check connector housing 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.

NAVI CONTROL UNIT

NAVI CONTROL UNIT : Diagnosis Procedure

INFOID:0000000003789847

1.CHECK FUSE

Make sure the following fuses of the NAVI control unit are not blown.

Connector	Terminal	Signal name	Fuse No.
B151	2	Battery	31
	5	ACC/ON	4
B152	55	ON/START	12

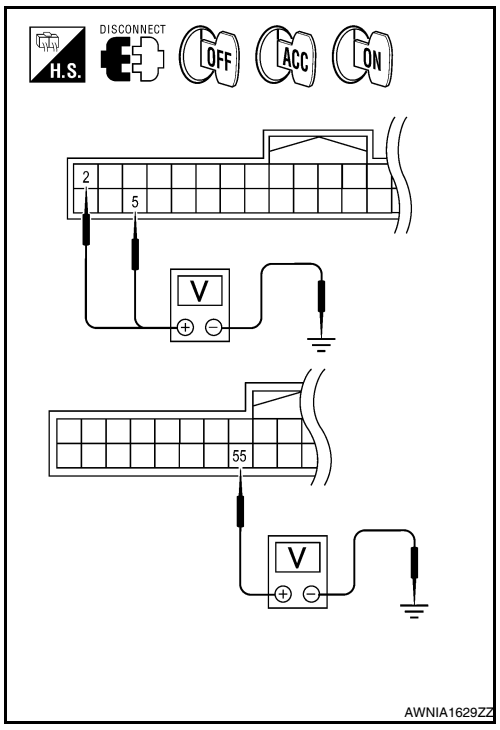
Are the fuses OK?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Disconnect NAVI control unit connectors B151 and B152.
2. Check voltage between connectors and ground.

(+)		(–)	OFF	ACC	ON
Connector	Terminal				
B151	2	Ground	Battery voltage	Battery voltage	Battery voltage
	5		0V	Battery voltage	Battery voltage
B152	55		0V	0V	Battery voltage



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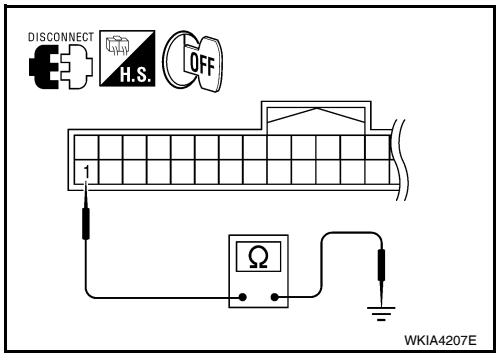
Are the voltage readings as specified?

YES >> GO TO 3.
NO >> Check harness for open between NAVI control unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between the following NAVI control unit connector B151 and ground.

Connector	Terminal	—	Continuity
B151	1	Ground	Yes



WKIA4207E

Is continuity present?

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

DISPLAY UNIT

DISPLAY UNIT : Diagnosis Procedure

INFOID:0000000003789848

1. CHECK POWER SUPPLY AND GROUND CIRCUIT FOR DISPLAY CONTROL UNIT

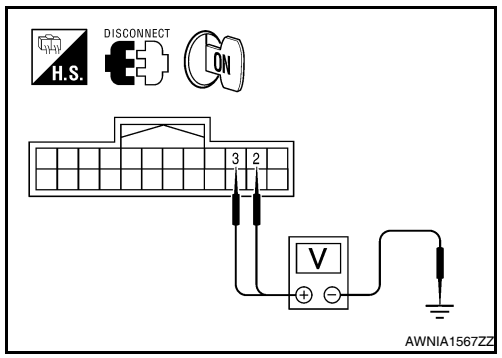
Check power supply and ground circuit for display control unit. Refer to AV-214, "DISPLAY CONTROL UNIT : Diagnosis Procedure".

Did the power/ground supply check good?

YES >> GO TO 2.
NO >> Repair malfunctioning part.

2. CHECK POWER SUPPLY CIRCUIT FOR DISPLAY UNIT

1. Disconnect display unit connector M93.
2. Turn ignition switch ON.
3. Check voltage between display unit harness connector M93 terminals 2, 3 and ground.



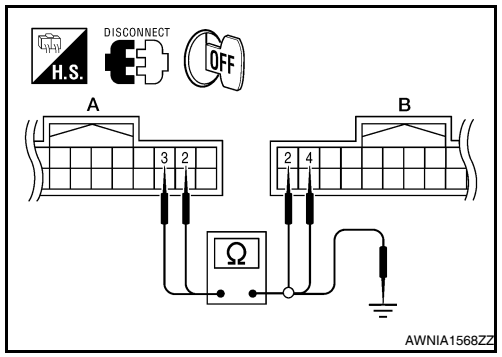
(+)		(-)	Value (Approx.)
Connector	Terminal		
M93	2	Ground	9V
	3		

Are voltage readings as specified?

YES >> GO TO 4.
NO >> GO TO 3.

3.CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit connector M94.
3. Check continuity between display unit harness connector M93 (A) terminals 2, 3 and display control unit harness connector M94 (B) terminals 2, 4 .



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	2	M94	2	Yes
	3		4	

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

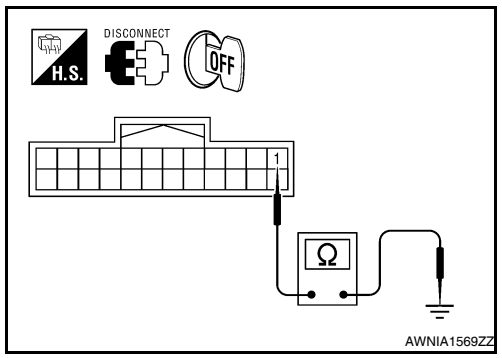
A		—	Continuity
Connector	Terminal		
M93	2	Ground	No
	3		

Are continuity test results as specified?

YES >> Replace display control unit. Refer to AV-316, "Removal and Installation" .
NO >> Repair harness.

4.CHECK GROUND CIRCUIT

Check continuity between display unit and ground as follows.



Connector	Terminal	—	Continuity
M93	1	Ground	Yes

Is continuity present?

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

DISPLAY CONTROL UNIT

DISPLAY CONTROL UNIT : Diagnosis Procedure

INFOID:0000000003789849

1.CHECK FUSE

Make sure the following fuses of the display control unit are not blown.

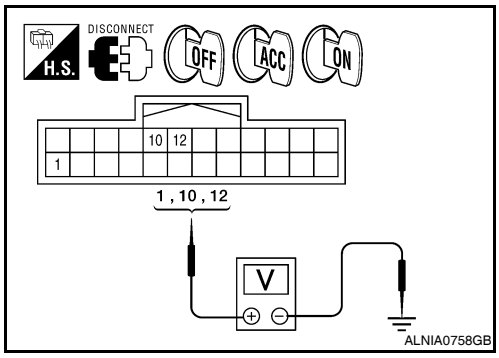
Connector	Terminal	Signal name	Fuse No.
M94	1	Battery	31
	10	ACC/ON	4
	12	ON/START	4

Are fuses OK?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Disconnect display control unit connector M94.
2. Check voltage between connector terminals and ground as follows.



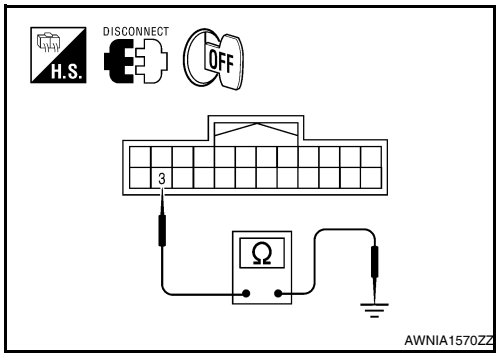
(+)		(–)	OFF	ACC	ON
Connector	Terminal				
M94	1	Ground	Battery voltage	Battery voltage	Battery voltage
	10		0V	Battery voltage	Battery voltage
	12		0V	0V	Battery voltage

Are voltage readings as specified?

YES >> GO TO 3.
NO >> Check harness for open between display control unit and fuse.

3.CHECK GROUND CIRCUIT

Check continuity between the following display control unit connector terminals and ground.



Connector	Terminal	—	Continuity
M94	3	Ground	Yes

Is continuity present?

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

AV SWITCH

AV SWITCH : Diagnosis Procedure

INFOID:0000000003789850

1.CHECK FUSE

Check that the fuses for the AV switch are not blown.

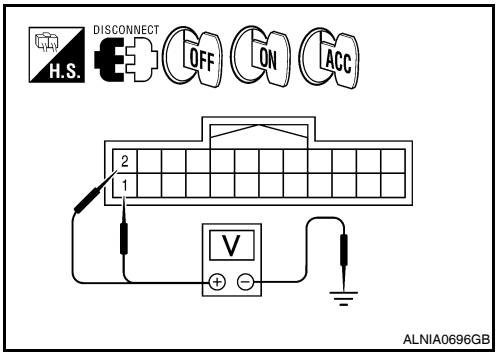
Unit	Terminal	Signal name	Fuse No.
AV switch	1	Battery	31
	2	Ignition switch ACC or ON	4

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 AV switch connector M98.
2. Check voltage between the AV switch connector M98 and ground.



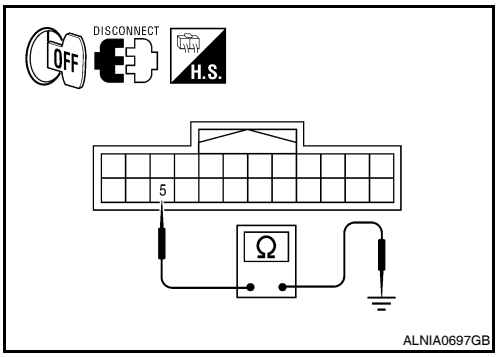
(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M98	1	Ground	Battery voltage	Battery voltage	Battery voltage
	2	Ground	0V	Battery voltage	Battery voltage

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. Check continuity between AV switch harness connector M98 and ground.



Connector	Terminal	—	Continuity
M98	5	Ground	Yes

Are the continuity results as specified?

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

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000003789851

1.CHECK FUSES

Check that the following fuses of the satellite radio tuner (factory installed) are not blown.

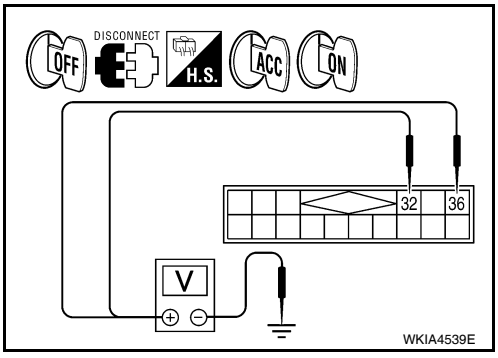
Unit	Terminals	Signal name	Fuse No.
Satellite radio tuner (factory installed)	32	Battery power	31
	36	Ignition switch ACC or ON	4

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. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41.
3. Check voltage between the satellite radio tuner (factory installed) and ground.



(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M41	32	Ground	Battery voltage	Battery voltage	Battery voltage
	36		0V	Battery voltage	Battery voltage

Are the voltage readings as specified?

YES >> GO TO 3.

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

3.GROUND CIRCUIT CHECK

Inspect satellite radio tuner (factory installed) case ground.

Does case ground pass inspection?

YES >> Inspection End.
NO >> Repair satellite radio tuner (factory installed) case ground.

DVD PLAYER

DVD PLAYER : Diagnosis Procedure

INFOID:0000000003789852

1.CHECK FUSE

Check that the following fuses for the DVD player are not blown.

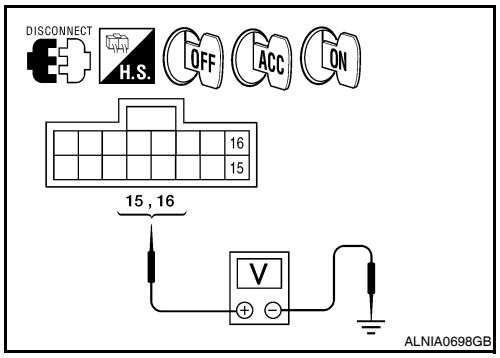
Unit	Terminal	Signal name	Fuse No.
DVD player	16	Battery power	31
	15	Ignition switch ACC or ON	4

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.



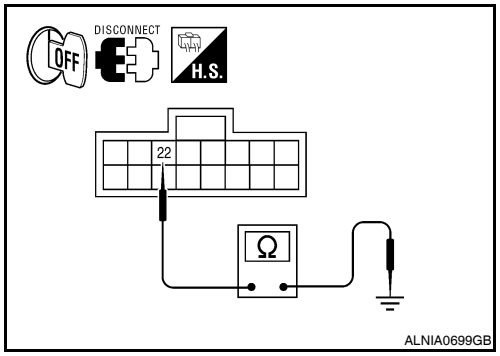
(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M205	16	Ground	Battery voltage	Battery voltage	Battery voltage
	15		0V	Battery voltage	Battery voltage

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. 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 DVD player ground.

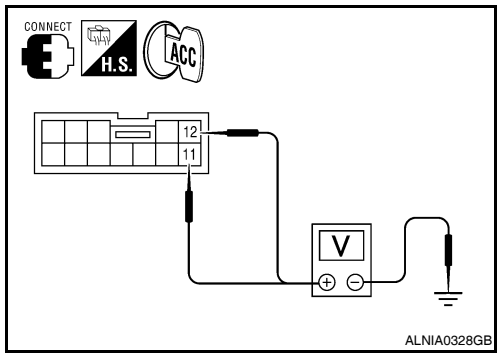
VIDEO MONITOR

VIDEO MONITOR : Diagnosis Procedure

INFOID:0000000003789853

1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch to ACC.
2. Check voltage between video monitor harness connector R202 and ground.



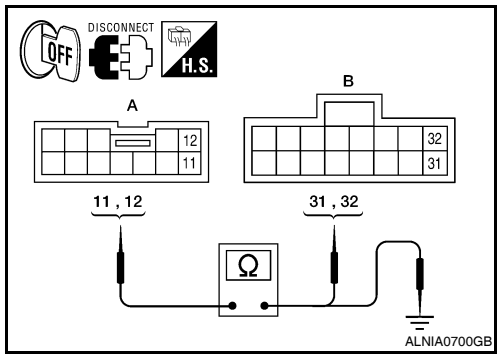
(+)		(-)	Value (Approx.)
Connector	Terminal		
R202	11	Ground	12V
	12		

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.

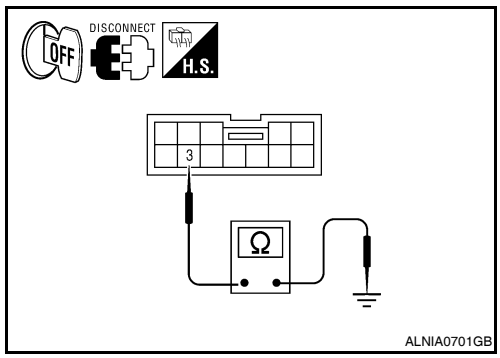
A		—	Continuity
Connector	Terminal		
R202	11	Ground	No
	12		

Are continuity test results as specified?

YES >> Check DVD player power and ground supply. Refer to AV-217, "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.

AUDIO AMP

AUDIO AMP : Diagnosis Procedure

INFOID:0000000003789854

1.CHECK FUSE

Check that the audio amp. fuses are not blown.

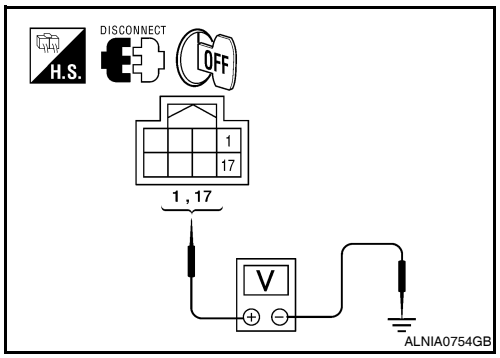
Unit	Terminal	Signal name	Fuse No.
Audio amp.	1	Battery power	31
	17		17

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.



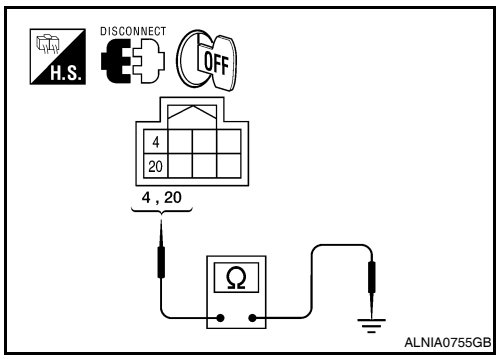
(+)		(-)	Voltage (approx.)
Connector	Terminal		
M112	1	Ground	Battery voltage
	17		

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.



(+)		(-)	Continuity
Connector	Terminal		
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:0000000003789855

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

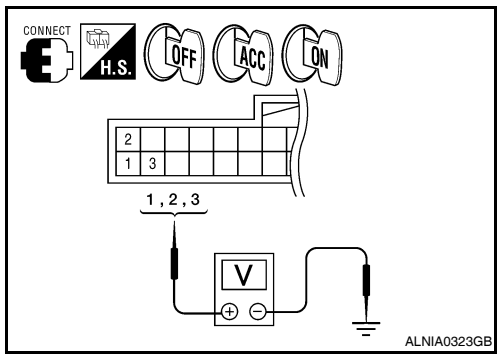
Is inspection result OK?

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	



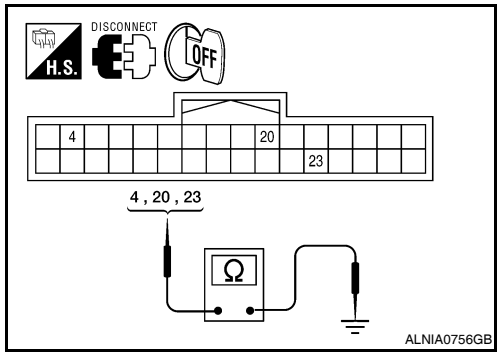
Is battery voltage present as specified?

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
	20		
	23		



Are continuity results as specified?

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

MICROPHONE

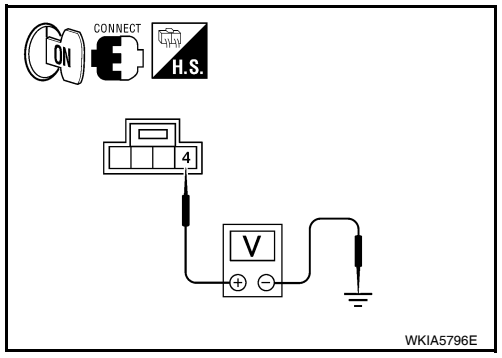
MICROPHONE : Diagnosis Procedure

INFOID:0000000003789856

1.CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

1. Turn ignition switch ON.
2. Check voltage between microphone harness connector R109 terminal 4 and ground.

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



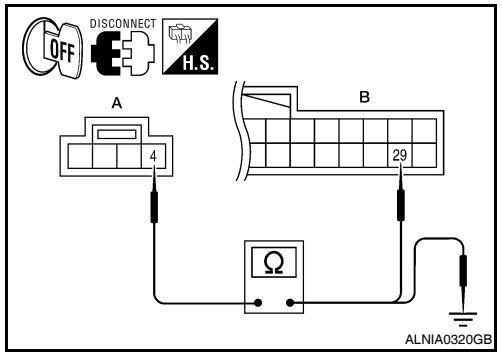
Is approximately 5V present?

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 (A) terminal 4 and Bluetooth control unit harness connector B142 (B) terminal 29.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
R109	4	B142	29	Yes



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

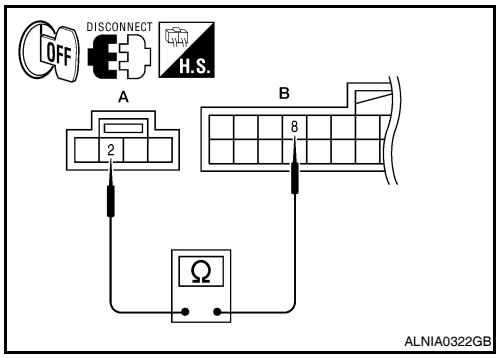
A		—	Continuity
Connector	Terminal		
R109	4	Ground	No

Are the continuity test results as specified?

YES >> Replace the Bluetooth control unit. Refer to AV-180, "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 (A) terminal 2 and Bluetooth control unit harness connector B142 (B) terminal 8.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
R109	2	B142	8	Yes

Does continuity exist?

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

RGB (R: RED) SIGNAL CIRCUIT

Description

INFOID:0000000003789857

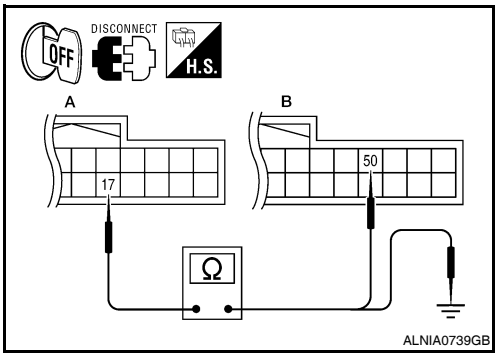
Transmit the image displayed with display control unit with RGB signal to the display unit.

Diagnosis Procedure

INFOID:0000000003789858

1.CHECK CONTINUITY RGB (R: RED) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and display control unit connector M95.
3. Check continuity between display unit harness connector M93 (A) terminal 17 and display control unit harness connector M95 (B) terminal 50.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	17	M95	50	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 17 and ground.

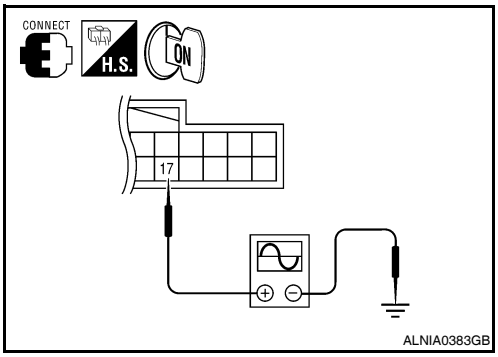
A		—	Continuity
Connector	Terminal		
M93	17	Ground	No

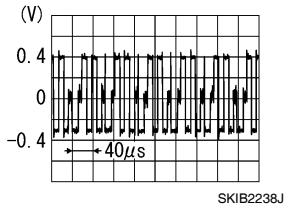
Are the continuity results as specified?

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

2.CHECK RGB (R: RED) SIGNAL

1. Connect display unit connector M93 and display control unit connector M95.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 17 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	17	Ground	Receive audio signal	

Are the voltage readings as specified?

YES >> Replace display unit. Refer to AV-316, "Removal and Installation".
NO >> Replace display control unit. Refer to AV-316, "Removal and Installation".

RGB (G: GREEN) SIGNAL CIRCUIT

Description

INFOID:0000000003789859

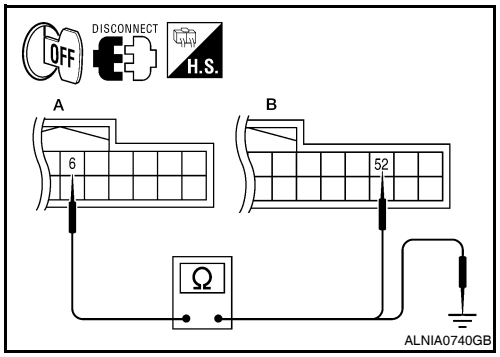
Transmit the image displayed with display control unit with RGB signal to the display unit.

Diagnosis Procedure

INFOID:0000000003789860

1.CHECK CONTINUITY RGB (G: GREEN) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and display control unit connector M95.
3. Check continuity between display unit harness connector M93 (A) terminal 6 and display control unit harness connector M95 (B) terminal 52.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	6	M95	52	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 6 and ground.

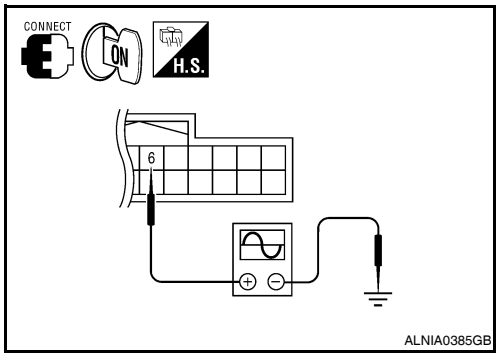
A		—	Continuity
Connector	Terminal		
M93	6	Ground	No

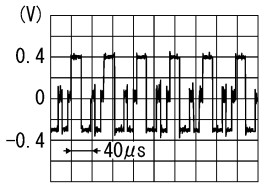
Are the continuity results as specified?

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

2.CHECK RGB (G: GREEN) SIGNAL

1. Connect display unit connector M93 and display control unit connector M95.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 6 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	6	Ground	Receive audio signal	

SKIB2236J

Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-316, "Removal and Installation".
NO >> Replace display control unit. Refer to AV-316, "Removal and Installation".

RGB (B: BLUE) SIGNAL CIRCUIT

Description

INFOID:0000000003789861

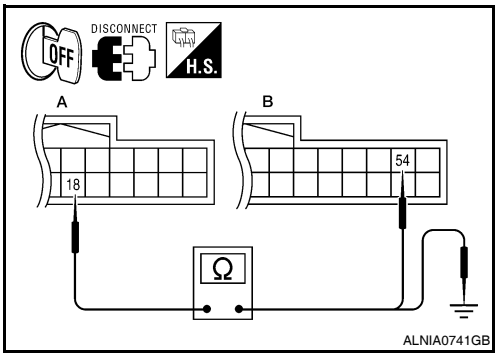
Transmit the image displayed with display control unit with RGB signal to the display unit.

Diagnosis Procedure

INFOID:0000000003789862

1.CHECK CONTINUITY RGB (B: BLUE) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and display control unit connector M95.
3. Check continuity between display unit harness connector M93 (A) terminal 18 and display control unit harness connector M95 (B) terminal 54.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	18	M95	54	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 18 and ground.

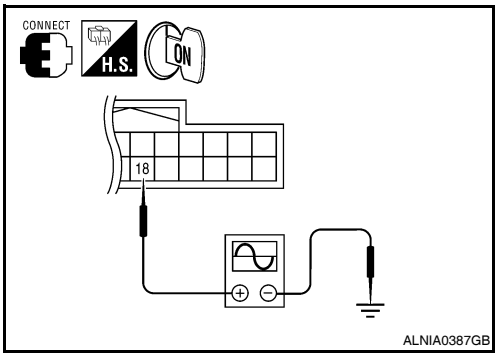
A		—	Continuity
Connector	Terminal		
M93	18	Ground	No

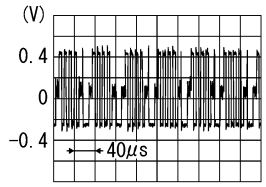
Are continuity results as specified?

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

2.CHECK RGB (B: BLUE) SIGNAL

1. Connect display unit connector M93 and display control unit connector M95.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 18 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	18	Ground	Receive audio signal	

SKIB2237J

Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-316, "Removal and Installation".
NO >> Replace display control unit. Refer to AV-316, "Removal and Installation".

RGB SYNCHRONIZING SIGNAL CIRCUIT

Description

INFOID:0000000003789863

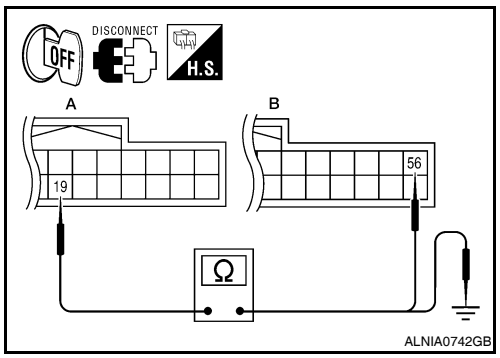
Transmit the RGB synchronizing signal to the display unit so as to synchronize the RGB image displayed with display control unit.

Diagnosis Procedure

INFOID:0000000003789864

1.CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and display control unit connector M95.
3. Check continuity between display unit harness connector M93 (A) terminal 19 and display control unit harness connector M95 (B) terminal 56.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	19	M95	56	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 19 and ground.

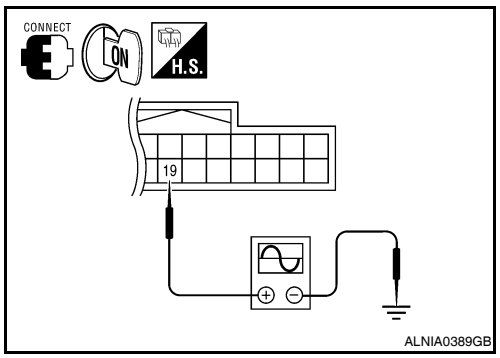
A		—	Continuity
Connector	Terminal		
M93	19	Ground	No

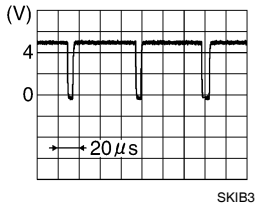
Are continuity results as specified?

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

2.CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector M93 and display control unit connector M95.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 19 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	19	Ground	Receive audio signal	

SKIB3603E

Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-316, "Removal and Installation".
NO >> Replace display control unit. Refer to AV-316, "Removal and Installation".

RGB AREA (YS) SIGNAL CIRCUIT

Description

INFOID:0000000003789865

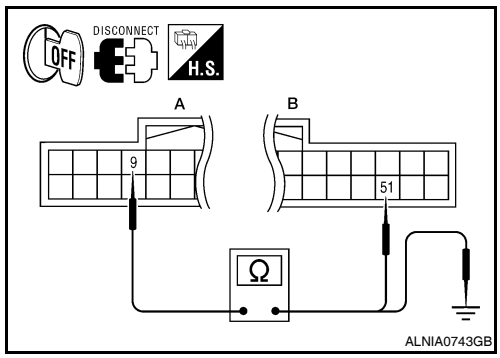
Transmits the display area of RGB image displayed by display control unit with RGB area (YS) signal to display unit.

Diagnosis Procedure

INFOID:0000000003789866

1.CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and display control unit connector M95.
3. Check continuity between display unit harness connector M93 (A) terminal 9 and display control unit harness connector M95 (B) terminal 51.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	9	M95	51	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 9 and ground.

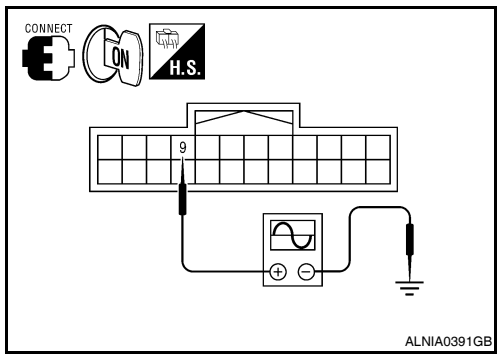
A		—	Continuity
Connector	Terminal		
M93	9	Ground	No

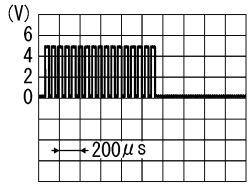
Are continuity results as specified?

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

2.CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector M93 and display control unit connector M95.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 9 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	9	Ground	Receive audio signal	

PKIB4948J

Are voltage readings as specified?

YES >> Replace display unit. Refer to AV-316, "Removal and Installation".
NO >> Replace display control unit. Refer to AV-316, "Removal and Installation".

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description

INFOID:0000000003789867

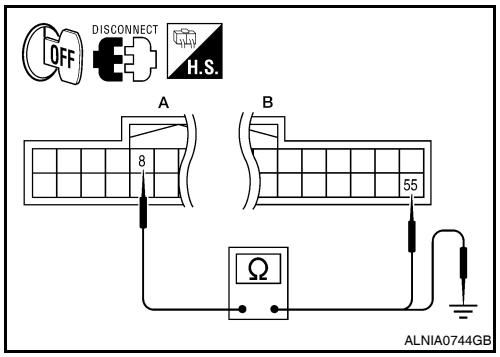
In composite image (AUX image, camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to display control unit so as to synchronize the RGB images displayed with display control unit such as the image quality adjusting menu, etc.

Diagnosis Procedure

INFOID:0000000003789868

1.CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and display control unit connector M95.
3. Check continuity between display unit harness connector M93 (A) terminal 8 and display control unit harness connector M95 (B) terminal 55.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	8	M95	55	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 8 and ground.

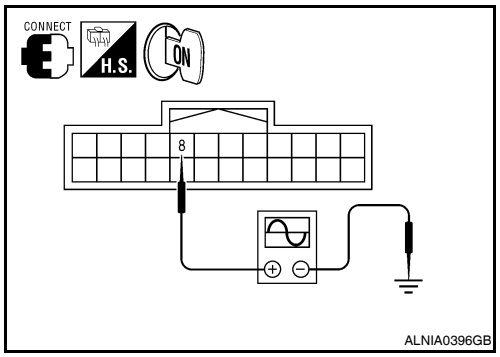
A		—	Continuity
Connector	Terminal		
M93	8	Ground	No

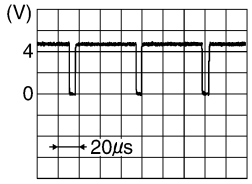
Are continuity results as specified?

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

2.CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

1. Connect display unit connector M93 and display control unit connector M95.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 8 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	8	Ground	Receive audio signal	

SKIB3601E

Are voltage readings as specified?

YES >> Replace display control unit. Refer to AV-316, "Removal and Installation".
NO >> Replace display unit. Refer to AV-316, "Removal and Installation".

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description

INFOID:0000000003789869

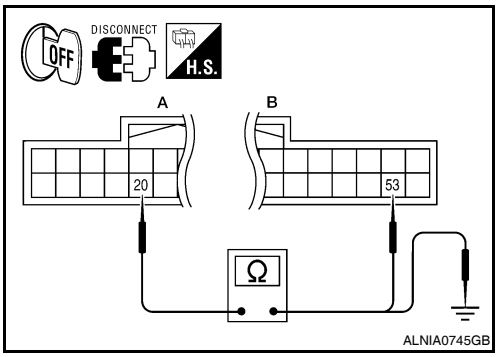
In composite image (AUX image, camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to display control unit so as to synchronize the RGB images displayed with display control unit such as the image quality adjusting menu, etc.

Diagnosis Procedure

INFOID:0000000003789870

1.CHECK CONTINUITY VERTICAL SINCHRONIZING (VP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and display control unit connector M95.
3. Check continuity between display unit harness connector M93 (A) terminal 20 and display control unit harness connector M95 (B) terminal 53.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	20	M95	53	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 20 and ground.

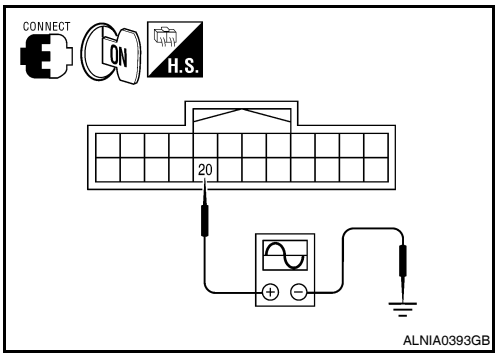
A		—	Continuity
Connector	Terminal		
M93	20	Ground	No

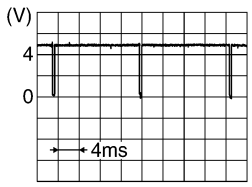
Are continuity results as specified?

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

2.CHECK VERTICAL SINCHRONIZING (VP) SIGNAL

1. Connect display unit connector M93 and display control unit connector M95.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 20 and ground.



(+)		(-)	Condition	Reference signal
Connector	Terminal			
M93	20	Ground	Receive audio signal	

SKIB3598E

Are voltage readings as specified?

YES >> Replace display control unit. Refer to AV-316, "Removal and Installation".
NO >> Replace display unit. Refer to AV-316, "Removal and Installation".

FRONT DOOR SPEAKER

Description

INFOID:0000000003789871

The audio unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the front door speakers using the audio signal circuits.

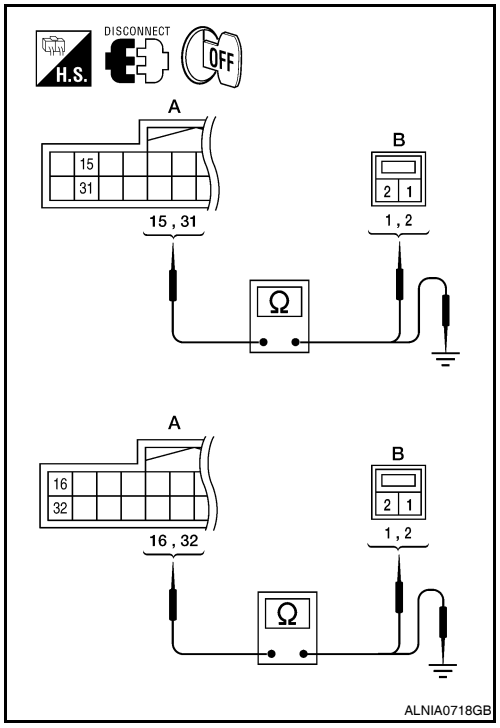
Diagnosis Procedure

INFOID:0000000003789872

1.SPEAKER HARNESS CHECK

1. Disconnect audio amp. connector M113 and suspect speaker connector.
2. Check continuity between audio amp. harness connector M113 (A) and suspect 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.

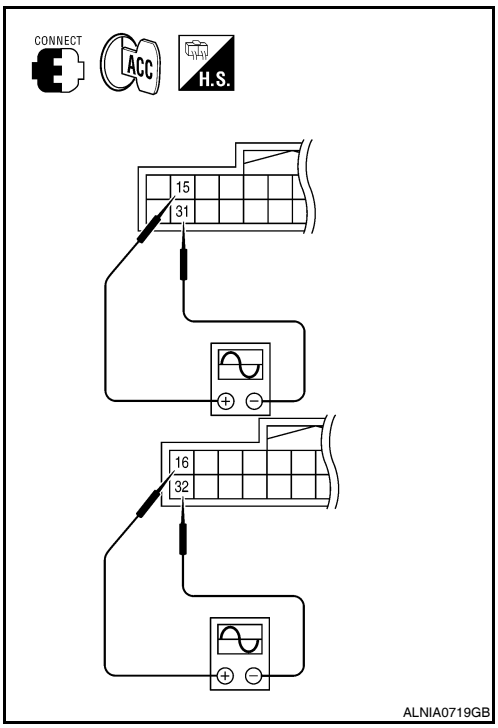
A		—	Continuity
Connector	Terminal		
M113	15	Ground	No
	31		
	16		
	32		

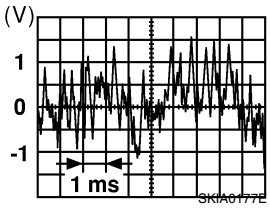
Are continuity test results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.FRONT DOOR SPEAKER SIGNAL CHECK

1. Connect audio amp. connector M113 and suspect 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-III or oscilloscope.



Connector	Terminal (+)	Terminal (-)	Condition	Reference signal
M113	15	31	Receive audio signal	
	16	32		

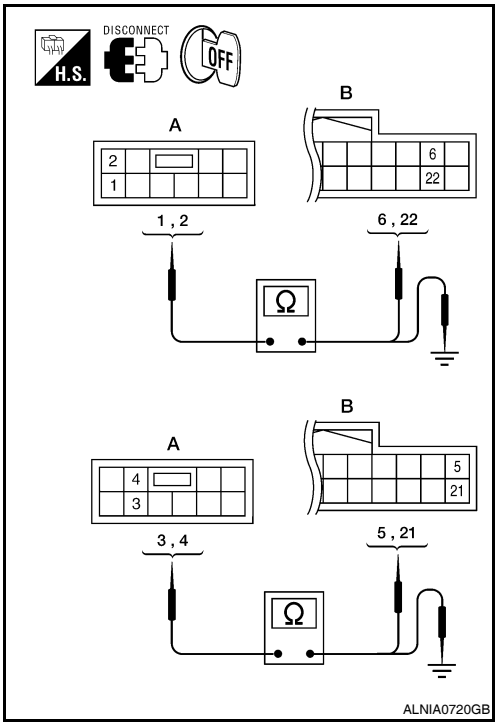
Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to AV-319, "Removal and Installation".

NO >> GO TO 3.

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M43 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M43 (A) and audio amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M113	6	Yes
	2		22	
	3		5	
	4		21	

3. Check continuity between audio unit harness connector M43 (A) and ground.

A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

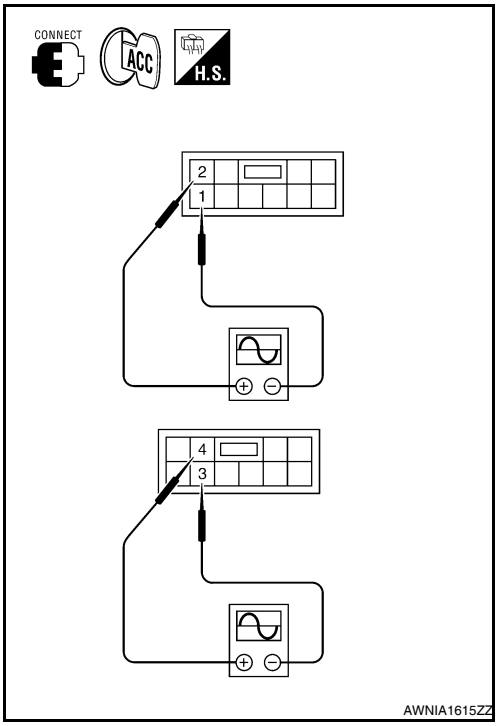
Are continuity test results as specified?

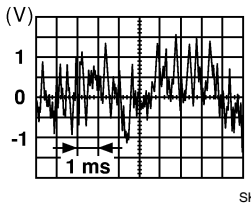
YES >> GO TO 4.

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

4. 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 M43 terminals with CONSULT-III or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M43	2	1	Receive audio signal	
	4	3		

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to AV-324, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-315, "Removal and Installation".

FRONT TWEETER

Description

INFOID:0000000003789873

The audio unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the tweeters using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000003789874

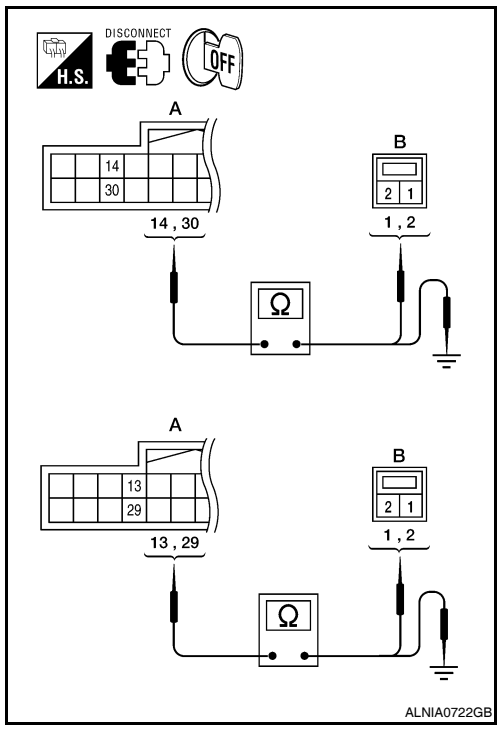
1.HARNESS CHECK

1. Disconnect audio amp. connector M113 and suspect tweeter connector.
2. Check continuity between audio amp. harness connector M113 (A) and suspect 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		

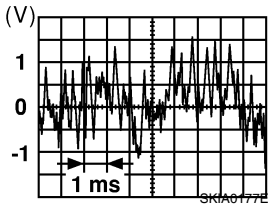


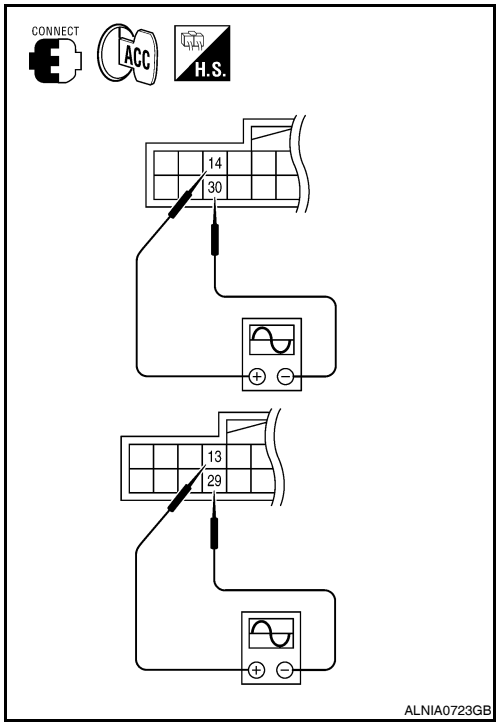
Are continuity test results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.FRONT TWEETER SIGNAL CHECK

1. Connect audio amp. connector M113 and suspect 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-III 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 tweeter. Refer to AV-317, "Removal and Installation".
NO >> GO TO 3.

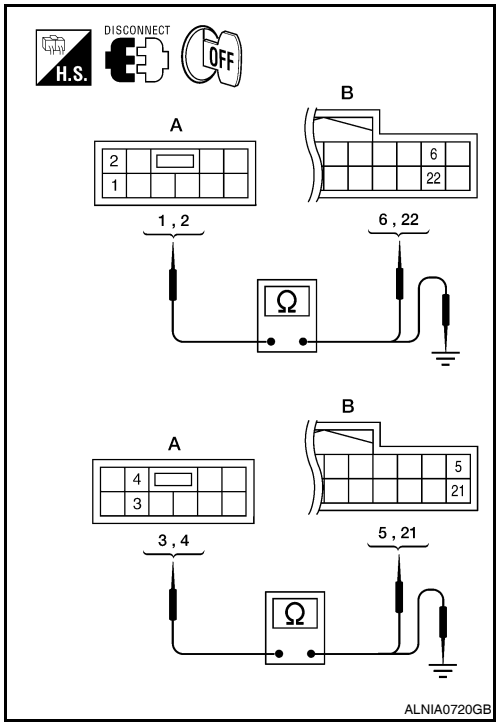
3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M43 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M43 (A) and audio amp. harness connector M113 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M113	6	Yes
	2		22	
	3		5	
	4		21	

3. Check continuity between audio unit harness connector M43 (A) and ground.

A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

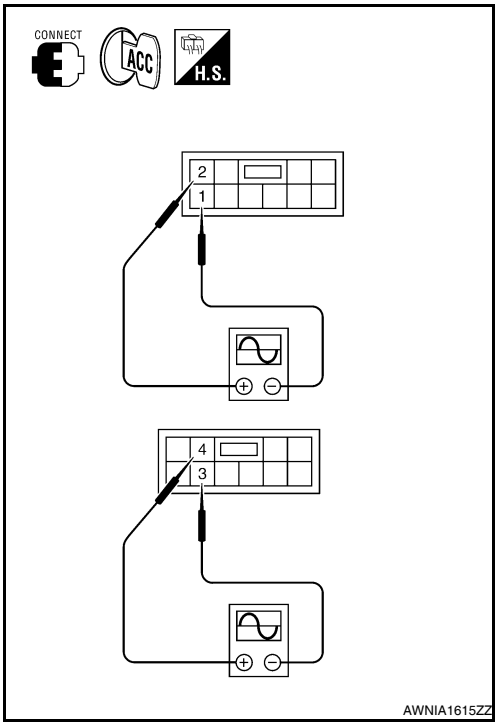


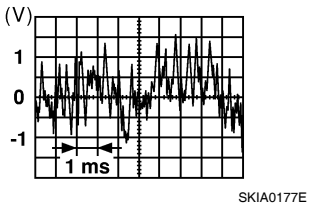
Are continuity test results as specified?

YES >> GO TO 4.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

4. 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 M43 terminals with CONSULT-III or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	2	1	Receive audio signal	
	4	3		

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to AV-324, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-315, "Removal and Installation".

CENTER SPEAKER

Description

INFOID:0000000003789875

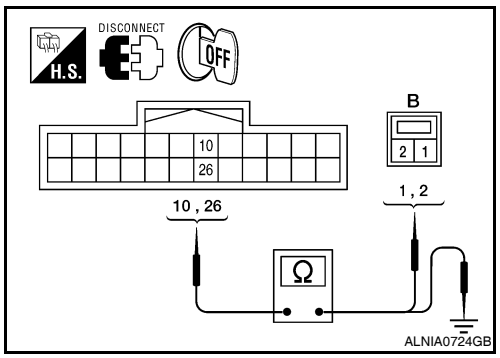
The audio unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the center speaker using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000003789876

1.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.

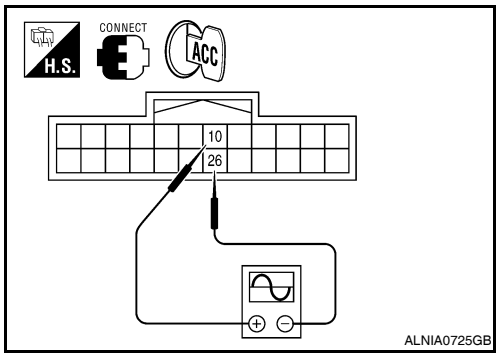
A		—	Continuity
Connector	Terminal		
M113	10	Ground	No
	26		

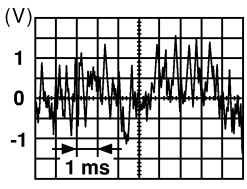
Are continuity test results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.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-III or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	10	26	Receive audio signal	

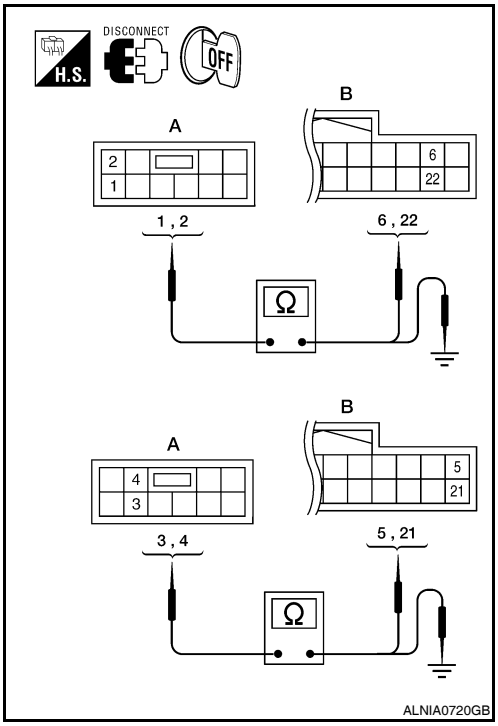
SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace center speaker. Refer to AV-318, "Removal and Installation".
NO >> GO TO 3.

3.PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M43 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M43 (A) and audio amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M113	6	Yes
	2		22	
	3		5	
	4		21	

3. Check continuity between audio unit harness connector M43 (A) and ground.

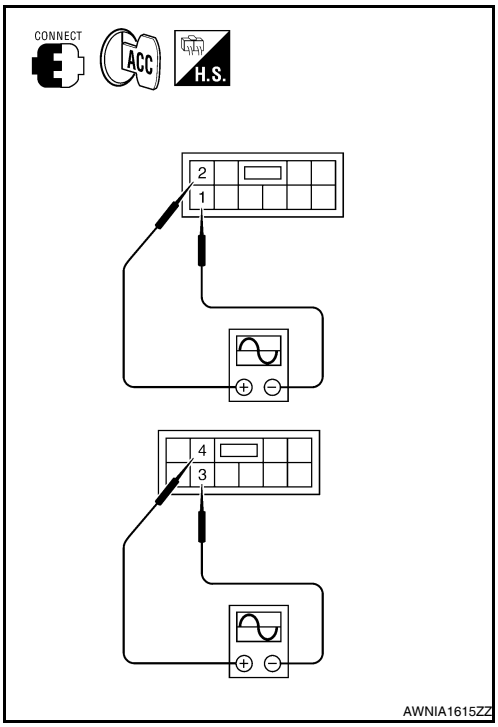
A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

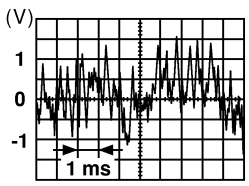
Are continuity test results as specified?

YES >> GO TO 4.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

4. 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 M43 terminals with CONSULT-III or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	2	1	Receive audio signal	
	4	3		

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to AV-324, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-315, "Removal and Installation".

REAR DOOR SPEAKER

Description

INFOID:0000000003789877

The audio unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the rear door speakers using the audio signal circuits.

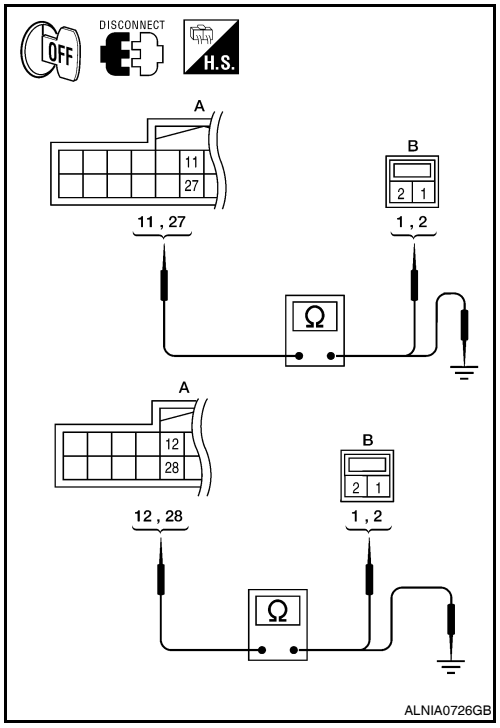
Diagnosis Procedure

INFOID:0000000003789878

1.SPEAKER HARNESS CHECK

1. Disconnect audio amp. connector M113 and suspect speaker connector.
2. Check continuity between audio amp. harness connector M113 (A) and suspect 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 connector M113 (A) and ground.

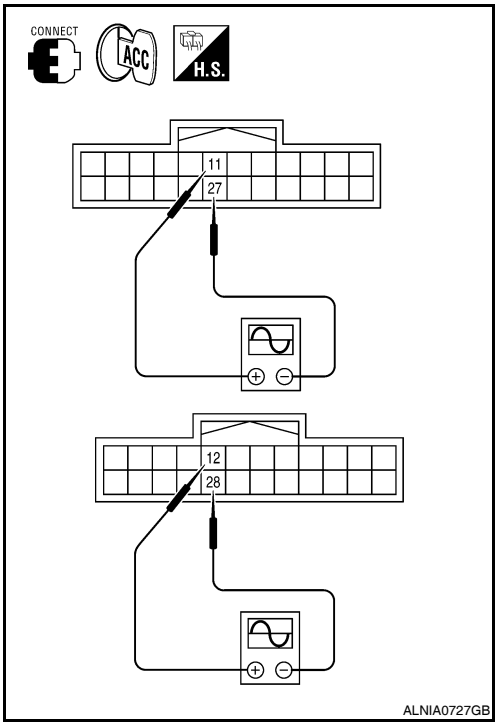
A		-	Continuity
Connector	Terminal		
M113	11	Ground	No
	27		
	12		
	28		

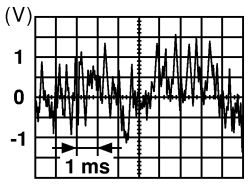
Are the continuity test results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.SPEAKER SIGNAL CHECK

1. Connect audio amp. connector and suspect 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-III or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M113	11	27	Receive audio signal	
	12	28		

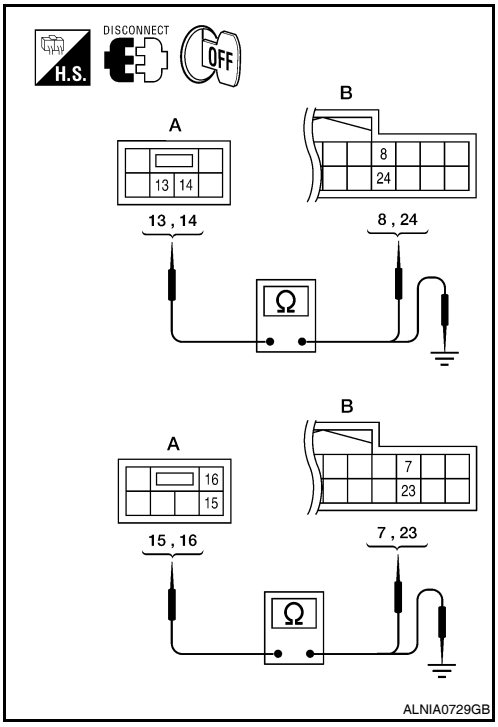
SKIA0177E

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to AV-320, "Removal and Installation".
NO >> GO TO 3.

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M44 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	M113	8	Yes
	14		24	
	15		7	
	16		23	

3. Check continuity between audio unit harness connector M44 (A) and ground.

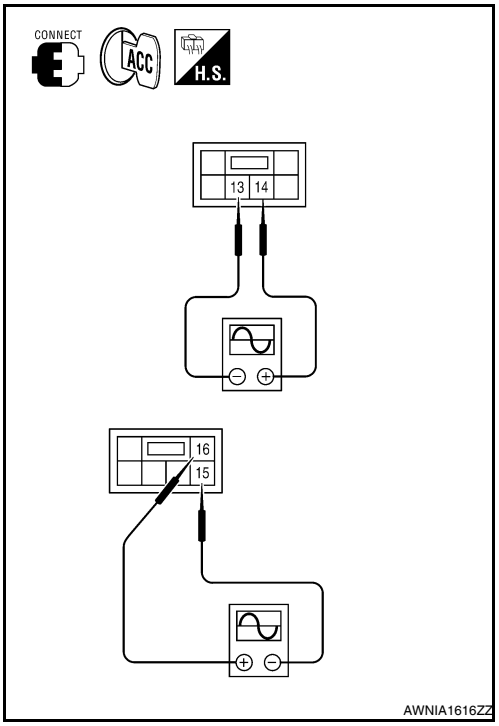
A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		

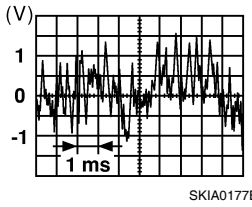
Are the continuity test results as specified?

YES >> GO TO 4.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

4. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector M44 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M44 terminals with CONSULT-III or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M44	14	13	Receive audio signal	
	16	15		

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-324, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-315, "Removal and Installation".

REAR DOOR TWEETER

Description

INFOID:0000000003789879

The audio unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the rear door tweeters using the audio signal circuits.

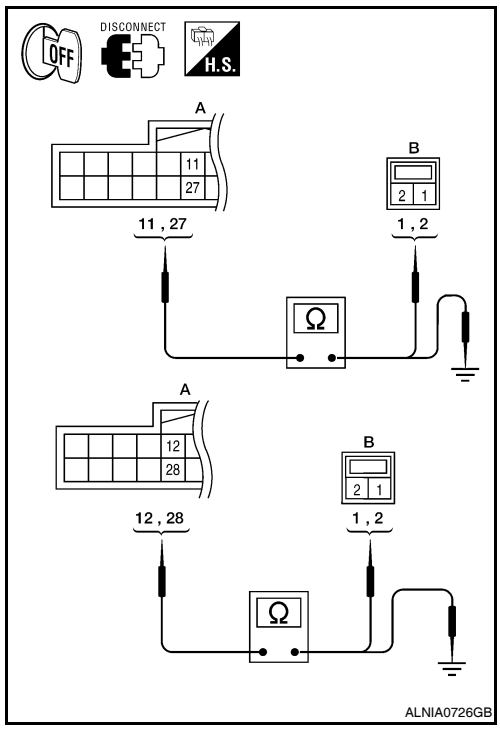
Diagnosis Procedure

INFOID:0000000003789880

1.TWEETER HARNESS CHECK

1. Disconnect audio amp. connector M113 and suspect tweeter connector.
2. Check continuity between audio amp. harness connector M113 (A) and suspect 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 connector M113 (A) and ground.

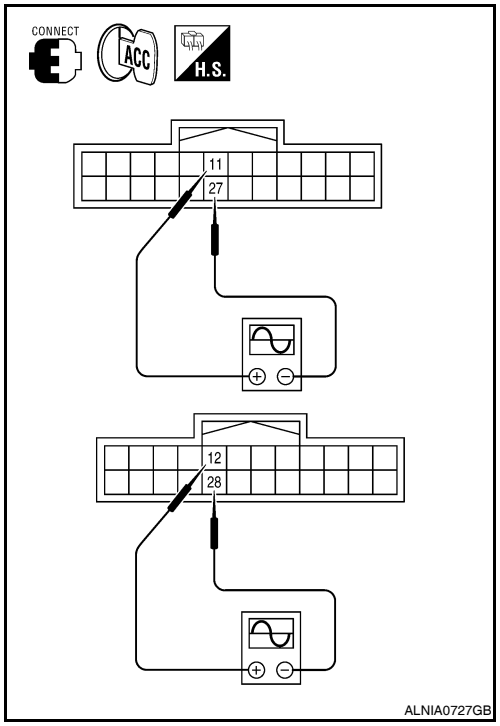
A		-	Continuity
Connector	Terminal		
M113	11	Ground	No
	27		
	12		
	28		

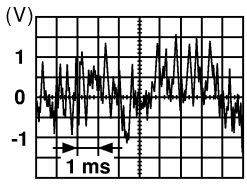
Are the continuity test results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.TWEETER SIGNAL CHECK

1. Connect audio amp. connectors and suspect 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-III or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	11	27	Receive audio signal	
	12	28		

SKIA0177E

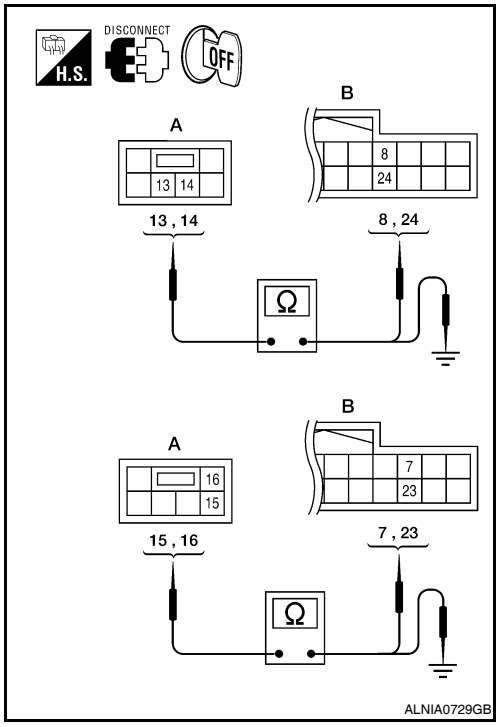
Are audio signal voltage readings as specified?

YES >> Replace suspect tweeter. Refer to AV-320, "Removal and Installation".

NO >> GO TO 3.

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M44 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	M113	8	Yes
	14		24	
	15		7	
	16		23	

3. Check continuity between audio unit harness connector M44 (A) and ground.

A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		

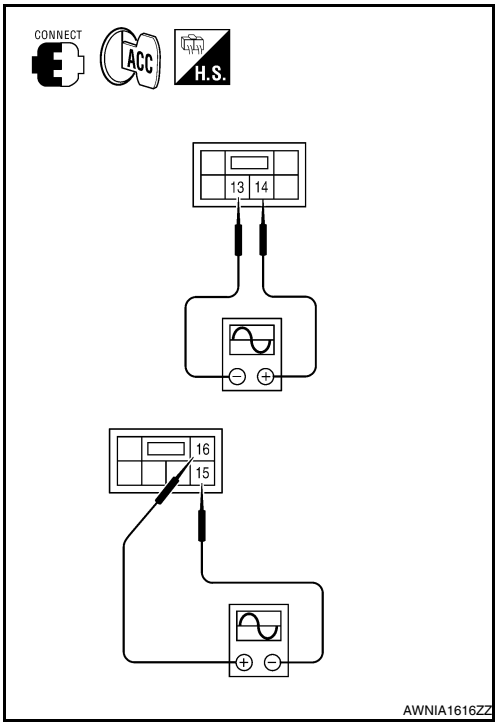
Are the continuity test results as specified?

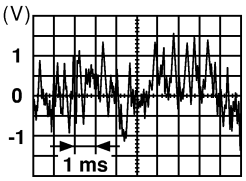
YES >> GO TO 4.

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

4. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector M44 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M44 terminals with CONSULT-III or oscilloscope.



Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M44	14	13	Receive audio signal	
	16	15		

SKIA0177E

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-324, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-315, "Removal and Installation".

SUBWOOFER

Description

INFOID:0000000003789881

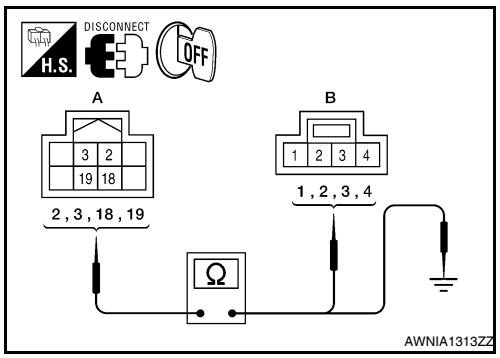
The audio unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the subwoofer using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000003789882

1.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.

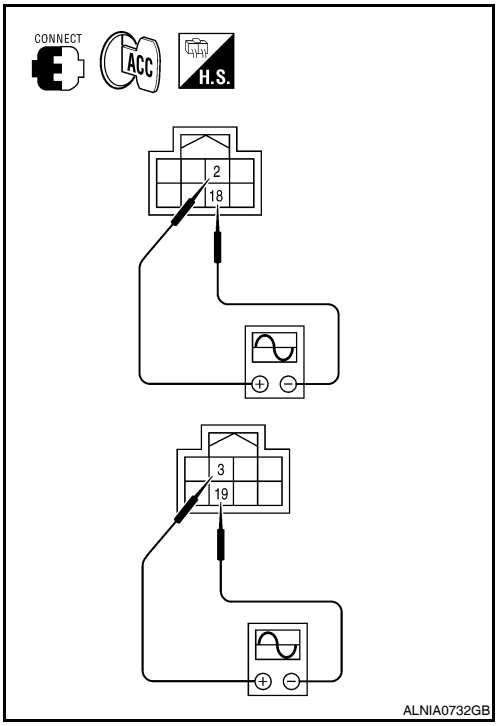
A		—	Continuity
Connector	Terminal		
M112	2	Ground	No
	3		
	18		
	19		

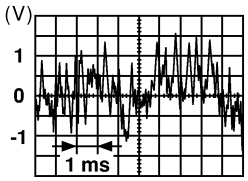
Are the continuity test results as specified?

YES >> GO TO 2.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

2.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-III or oscilloscope.



Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M112	2	18	Receive audio signal	
	3	19		

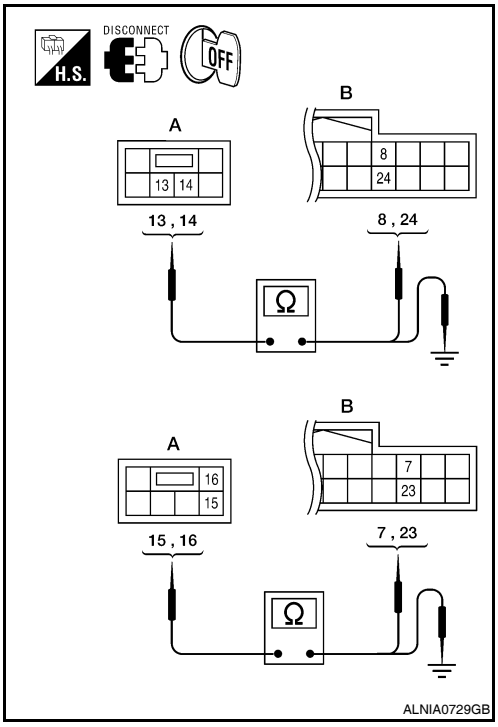
SKIA0177E

Is the audio signal voltage as specified?

YES >> Replace subwoofer. Refer to AV-321, "Removal and Installation".
NO >> GO TO 3.

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M44 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector M113 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	M113	8	Yes
	14		24	
	15		7	
	16		23	

3. Check continuity between audio unit harness connector M44 (A) and ground.

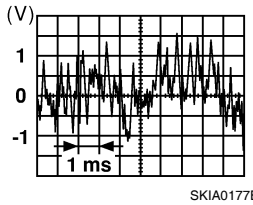
A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		

Are the continuity test results as specified?

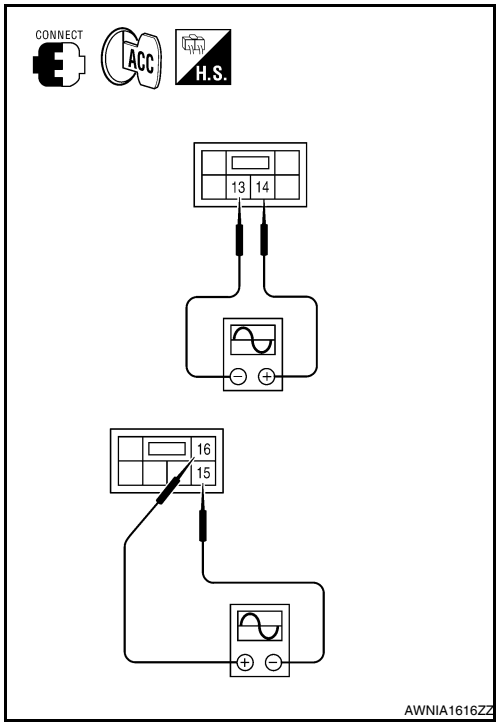
YES >> GO TO 4.
NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

4. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector M44 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push “POWER” switch.
4. Check the signal between audio unit harness connector M44 terminals with CONSULT-III or oscilloscope.

Connector	Terminals (+)	Terminals (-)	Condition	Reference signal
M44	14	13	Receive audio signal	
	16	15		

SKIA0177E



AWNIA1616ZZ

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to AV-324, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-315, "Removal and Installation".

AMP ON SIGNAL CIRCUIT

Description

INFOID:0000000003789883

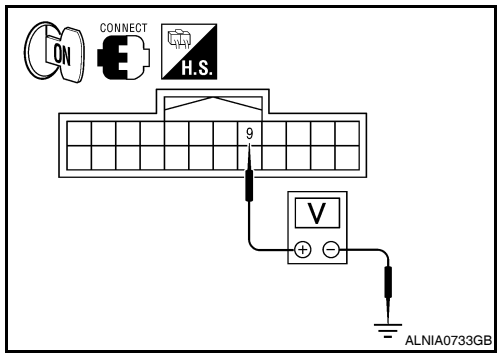
When the audio system is turned on, a voltage signal is supplied from the audio unit to the audio amp. When this signal is received, the audio amp. will turn on.

Diagnosis Procedure

INFOID:0000000003789884

1.CHECK AMP ON SIGNAL

1. Turn audio system ON.
2. Check voltage between audio amp. harness connector M113 terminal 9 and ground.



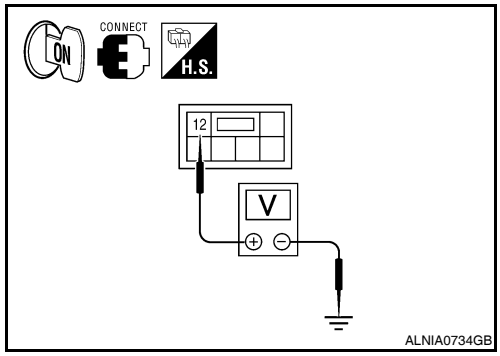
(+)		(-)	Voltage (approx.)
Connector	Terminal		
M113	9	Ground	More than 6.5V

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 M44 terminal 12 and ground.



(+)		(-)	Voltage (approx.)
Connector	Terminal		
M44	12	Ground	More than 6.5V

Is inspection result normal?

YES >> Repair harness or connector.
NO >> Replace audio unit. Refer to AV-315, "Removal and Installation".

STEERING SWITCH

Description

INFOID:0000000003789885

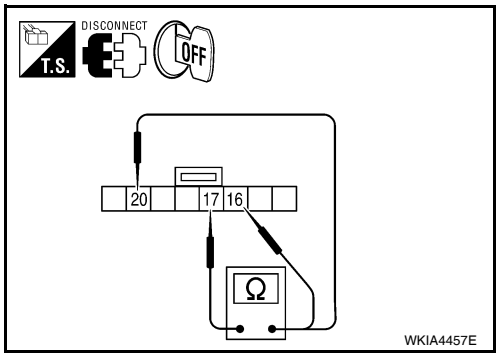
When one of the steering wheel audio control switches is pushed, the resistance in the steering wheel audio control switch circuit changes depending on which button is pushed.

Diagnosis Procedure

INFOID:0000000003789886

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect steering wheel audio control switch connector M102.
3. Check resistance between steering switch connector terminals.



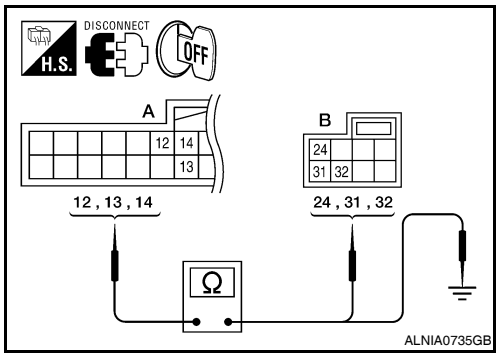
Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
16	17	Seek (down)	Depress ▽ switch.	165
		Volume (down)	Depress VOL down switch.	487
		Phone/Send	Depress MODE switch.	0
20	17	Seek (up)	Depress △ switch.	165
		Volume (up)	Depress VOL up switch.	487
		Mode/End (with Bluetooth)	Depress switch.	0

Do the steering wheel audio control switches check OK?

YES >> GO TO 2.
NO >> Replace steering wheel audio control switch. Refer to AV-322, "Removal and Installation".

2. CHECK HARNESS

1. Disconnect Bluetooth control unit connector B142 and spiral cable connector M30.
2. Check continuity between Bluetooth control unit harness connector B142 (A) and spiral cable harness connector M30 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
B142	12	M30	24	Yes
	13		32	
	14		31	

3. Check continuity between Bluetooth control unit connector B142 (A) and ground.

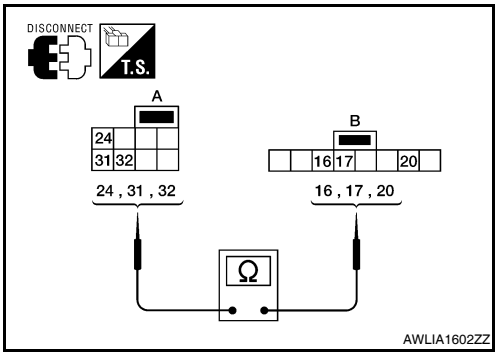
A		—	Continuity
Connector	Terminal		
B142	12	Ground	No
	13		
	14		

Are the continuity results as specified?

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

3. SPIRAL CABLE CHECK

Check continuity between spiral cable harness connector M30 (A) and M102 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M102	20	Yes
	31		17	
	32		16	

Does the spiral cable check OK?

YES >> Inspection End.
NO >> Replace spiral cable. Refer to SR-6, "Removal and Installation".

COMMUNICATION SIGNAL CIRCUIT
SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:0000000003789887

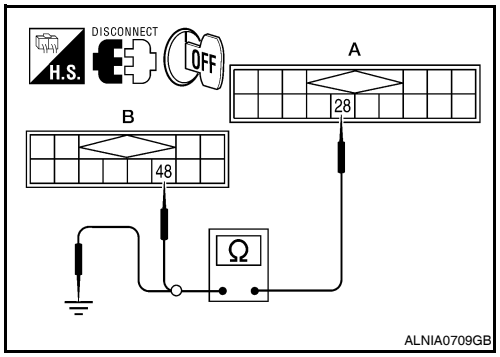
Communication signals are exchanged between the audio unit and satellite radio tuner using the communication circuits.

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000003789888

1.CHECK HARNESS - REQ1

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and audio unit harness connector M42 (B) terminal 48.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	28	M42	48	Yes

4. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and ground.

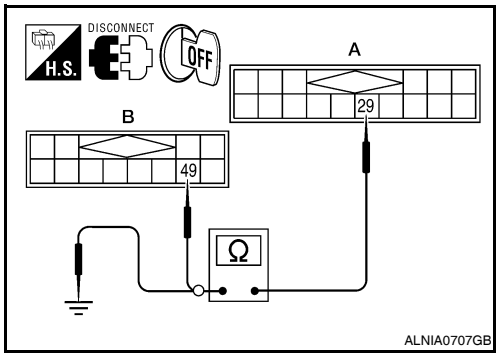
A		—	Continuity
Connector	Terminal		
M41	28	Ground	No

Are continuity results as specified?

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

2.CHECK HARNESS - TXD

1. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 29 and audio unit harness connector M42 (B) terminal 49.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	29	M42	49	Yes

2. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 29 and ground.

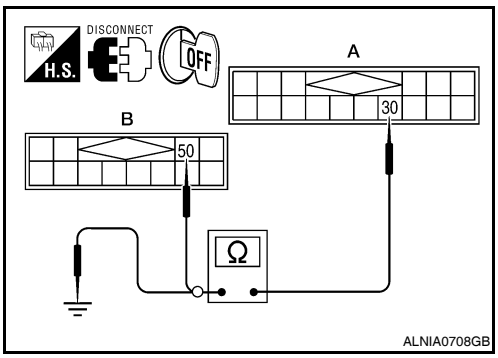
A		—	Continuity
Connector	Terminal		
M41	29	Ground	No

Are continuity results as specified?

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

3.CHECK HARNESS - RXD

1. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and audio unit harness connector M42 (B) terminal 50.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	30	M42	50	Yes

2. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and ground.

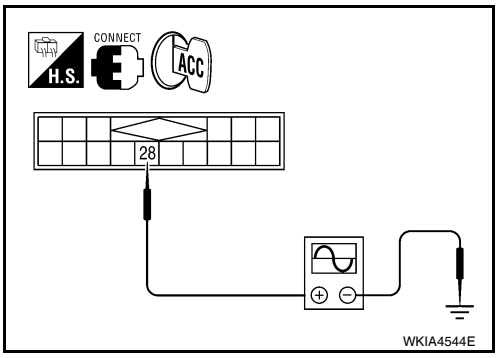
A		—	Continuity
Connector	Terminal		
M41	30	Ground	No

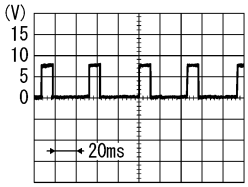
Are continuity results as specified?

YES >> GO TO 4.
NO >> Repair harness or connector.

4. CHECK REQ1 SIGNAL

1. Connect satellite radio tuner (factory installed) connector and audio unit connector.
2. Turn ignition switch to ACC
3. Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 28 and ground with CONSULT-III or oscilloscope.



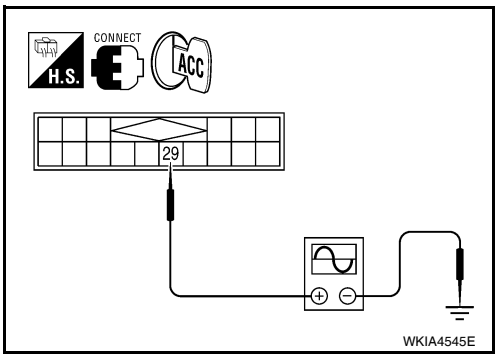
(+)		(-)	Reference signal
Connector	Terminal		
M41	28	Ground	

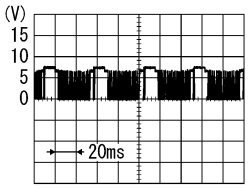
Are voltage readings as specified?

YES >> GO TO 5.
NO >> Replace audio unit. Refer to AV-315, "Removal and Installation".

5. CHECK TXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 29 and ground with CONSULT-III or oscilloscope.



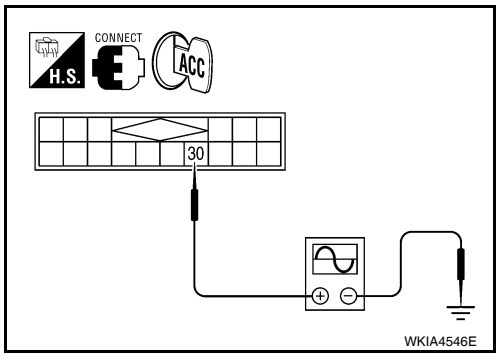
(+)		(-)	Reference signal
Connector	Terminal		
M41	29	Ground	

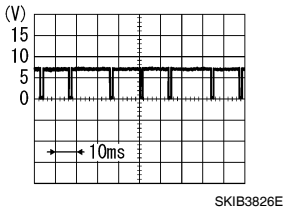
Are the voltage readings as specified?

YES >> GO TO 6.
NO >> Replace satellite radio tuner. Refer to AV-327, "Removal and Installation".

6. CHECK RXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 30 and ground with CONSULT-III or oscilloscope.



(+)		(-)	Reference signal
Connector	Terminal		
M41	30	Ground	

Are the voltage readings as specified?

YES >> Replace satellite radio tuner. Refer to AV-327, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-315, "Removal and Installation".

SOUND SIGNAL CIRCUIT
SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:0000000003789889

Left and right channel audio signals are supplied from the satellite radio tuner to the audio unit through the sound signal circuits.

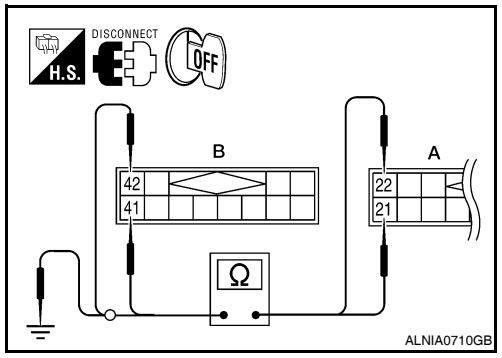
SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000003789890

LEFT CHANNEL

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and audio unit connector M42 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	21	M42	41	Yes
	22		42	

4. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and ground.

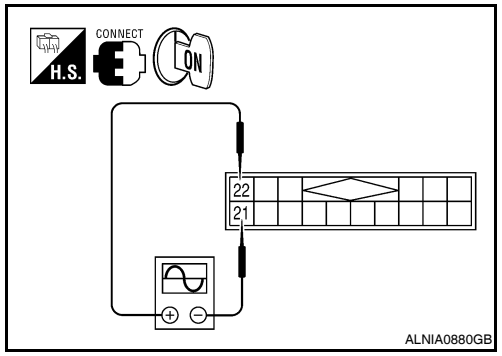
A		—	Continuity
Connector	Terminal		
M41	21	Ground	No
	22		

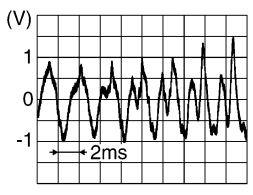
Are continuity results as specified?

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

2. CHECK LEFT CHANNEL AUDIO SIGNAL

1. Connect satellite radio tuner (factory installed) and audio unit.
2. Turn ignition switch ON.
3. Check signal between satellite radio tuner (factory installed) connector M41 terminals 21 and 22 with CONSULT-III or oscilloscope.



Connector	(+)	(-)	Reference signal
	Terminal	Terminal	
M41	22	21	

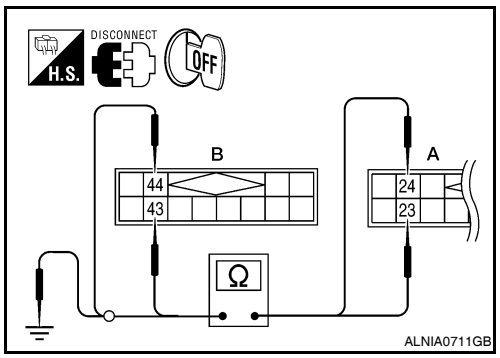
Are voltage readings as specified?

YES >> Replace audio unit. Refer to AV-315, "Removal and Installation".
NO >> Replace satellite radio tuner. Refer to AV-327, "Removal and Installation".

RIGHT CHANNEL

1.CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) M41 (A) and audio unit M42 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	23	M42	43	Yes
	24		44	

4. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and ground.

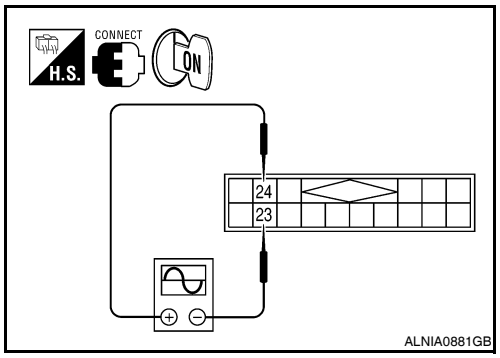
A		—	Continuity
Connector	Terminal		
M41	23	Ground	No
	24		

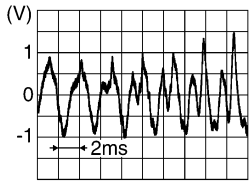
Are continuity results as specified?

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

2.CHECK RIGHT CHANNEL AUDIO SIGNAL

1. Connect satellite radio tuner (factory installed) and audio unit.
2. Turn ignition switch ON.
3. Check signal between satellite radio tuner (factory installed) connector M41 terminals 23 and 24 with CONSULT-III or oscilloscope.



Connector	(+)	(-)	Reference signal
	Terminal	Terminal	
M41	24	23	

Are voltage readings as specified?

YES >> Replace audio unit. Refer to AV-315, "Removal and Installation".
NO >> Replace satellite radio tuner. Refer to AV-327, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000003789891

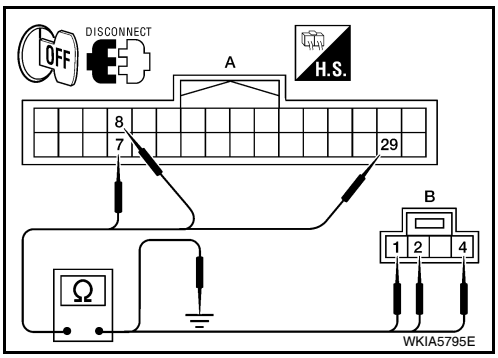
Voice signals are transmitted from the microphone to the Bluetooth control unit using the microphone signal circuits.

Diagnosis Procedure

INFOID:0000000003789892

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.

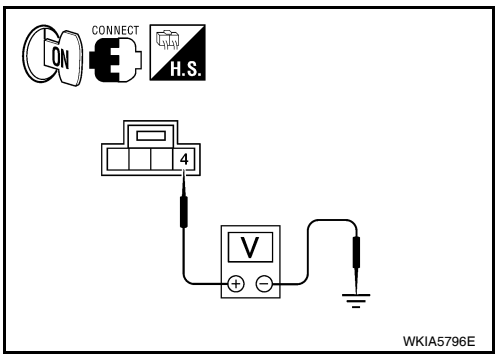
A		—	Continuity
Connector	Terminal		
B142	7	Ground	No
	8		
	29		

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.



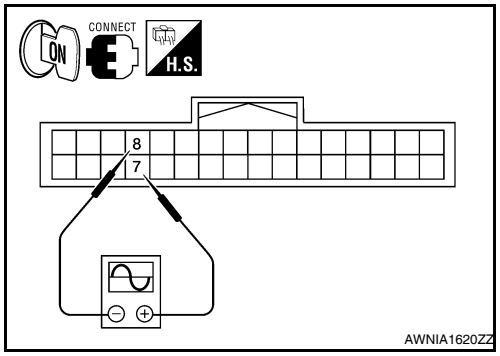
(+)		(-)	Voltage (approx.)
Connector	Terminal		
R109	4	Ground	5V

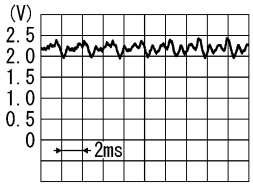
Is voltage reading approx. 5 volts?

YES >> GO TO 3.
NO >> Replace Bluetooth control unit. Refer to AV-180, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

Check signal between Bluetooth control unit harness connector B142 terminals 7 and 8 with CONSULT-III or and oscilliscope.



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-180, "Removal and Installation".
NO >> Replace microphone. Refer to AV-178, "Removal and Installation".

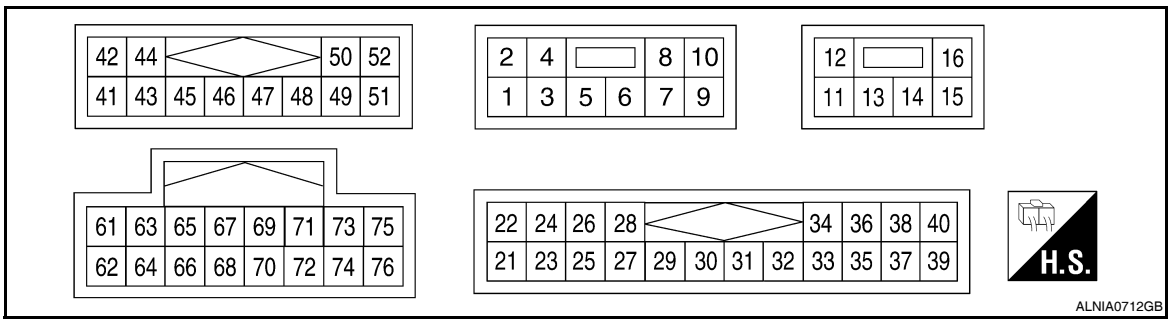
ECU DIAGNOSIS

AUDIO UNIT

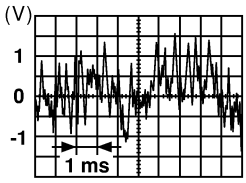
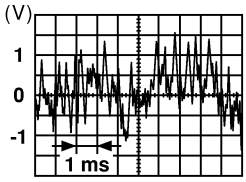
Reference Value

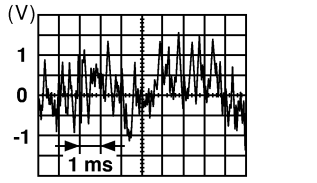
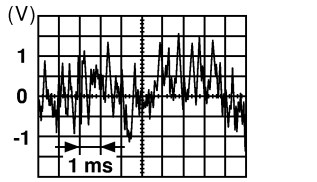
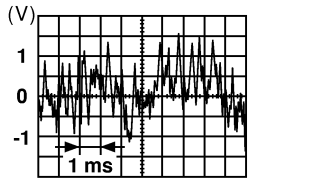
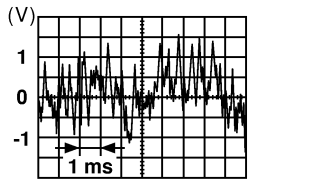
INFOID:0000000003789893

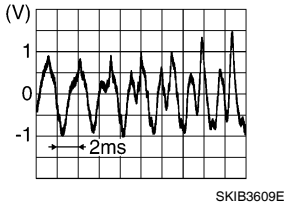
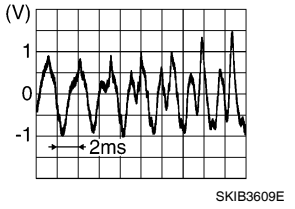
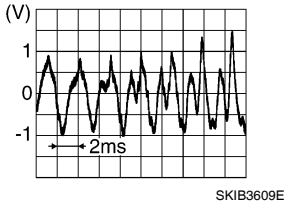
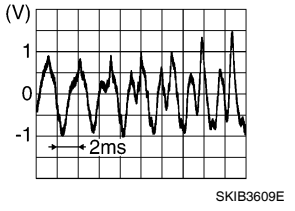
TERMINAL LAYOUT

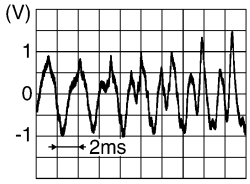
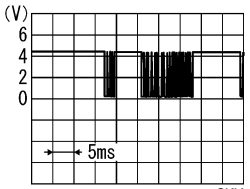
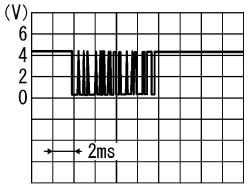
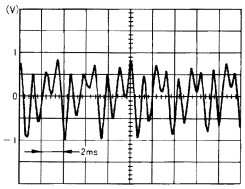


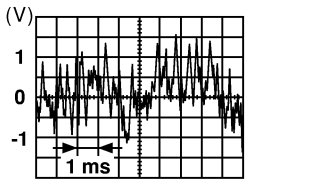
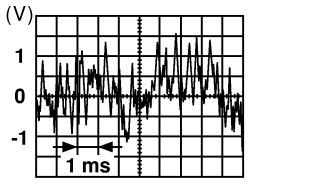
PHYSICAL VALUES

Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
2 (W)	1 (B)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
4 (Y)	3 (BR)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
6 (Y)	Ground	Battery power	Input	–	–	Battery voltage
7 (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
8 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch is in 1st position.	Battery voltage
					Lighting switch is OFF.	0V
9	–	Shield	–	–	–	0V
10 (V)	Ground	ACC signal	Input	Ignition switch ON	–	Battery voltage
12 (G/W)	Ground	Amp ON	Input	Ignition switch ON	Audio unit ON	More than 6.5V

Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
14 (BR)	13 (B/R)	Audio sound signal rear LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
16 (L)	15 (B/W)	Audio sound signal rear RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
21 (V)	Ground	Remote control A	Output	Ignition switch ON	Audio unit ON	5V
22 (P)	Ground	Remote control B	Output	Ignition switch ON	Audio unit ON	5V
23 (BR/Y)	Ground	Remote control C	Output	Ignition switch ON	Audio unit ON	5V
24 (L)	Ground	Remote control D	Output	Ignition switch ON	Audio unit ON	5V
25 (LG)	Ground	Remote control ground	–	–	–	0V
27 (O/L)	26 (O)	Audio sound signal LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
29 (W)	28 (W/L)	Audio sound signal RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
30	–	Shield	–	–	–	0V
31 (O)	Ground	Remote control enable signal	Output	Ignition switch ON	Audio unit ON	5V
32 (V)	Ground	Remote control switch power supply	Output	Ignition switch ON	Audio unit ON	12V

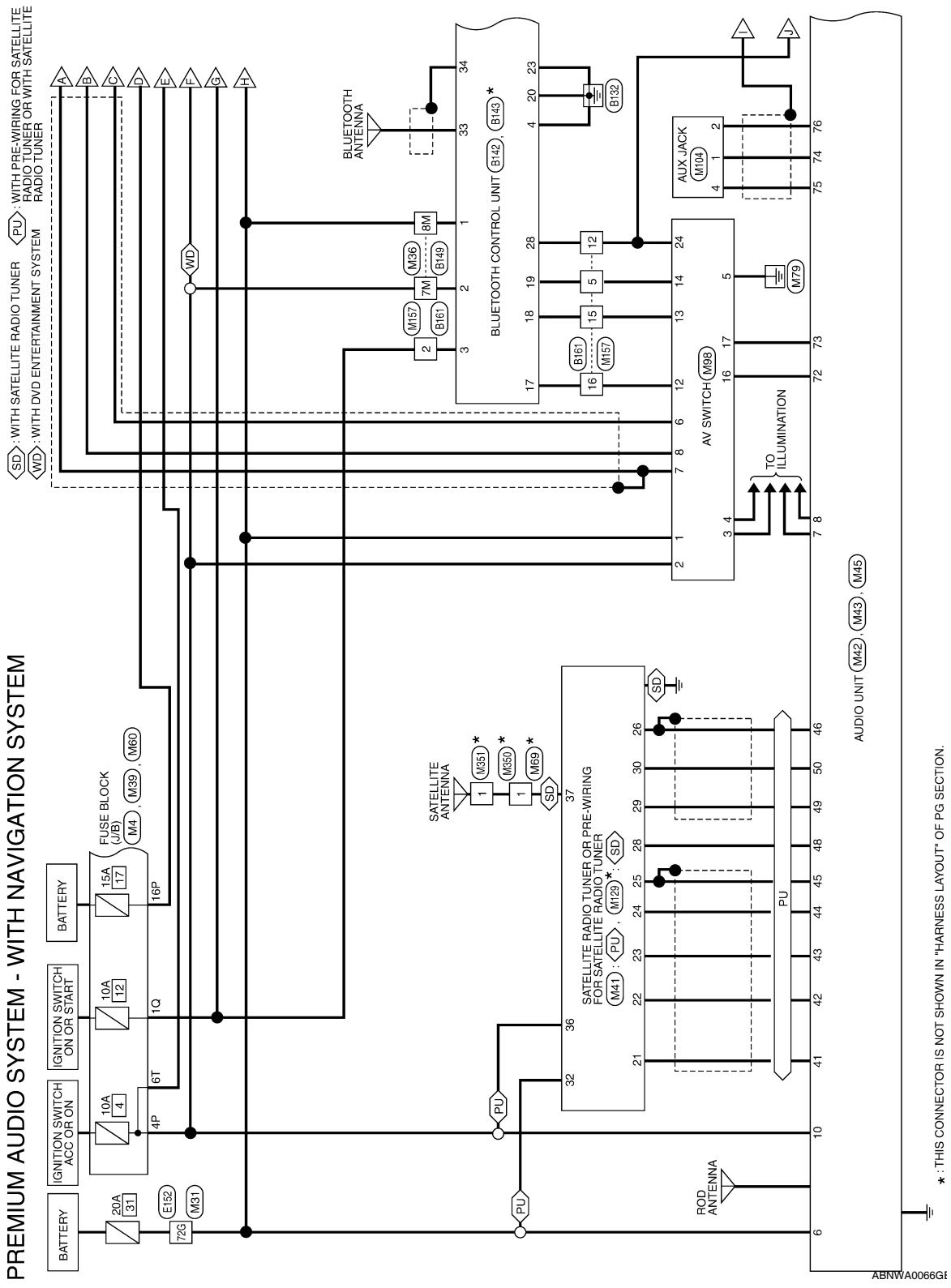
Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
35 (B)	34 (W)	Family entertainment system left channel audio input	Input	Ignition switch ON	DVD operating	 SKIB3609E
37 (R)	36 (G)	Family entertainment system right channel audio input	Input	Ignition switch ON	DVD operating	 SKIB3609E
39 (Y/L)	Ground	Family entertainment system enable	Output	Ignition switch ON	DVD operating	12V
40 (L/W)	Ground	Audio ON	Input	Ignition switch ON	DVD operating	12V
42 (R)	41 (G)	Satellite radio audio signal LH	Input	Ignition switch ON	Satellite radio tuner operating	 SKIB3609E
44 (W)	43 (B)	Satellite radio audio signal RH	Input	Ignition switch ON	Satellite radio tuner operating	 SKIB3609E
45	–	Ground	–	–	–	0V
46	–	Data ground	–	–	–	0V
48 (L)	–	REQ (SAT→Audio unit)	Input	Ignition switch ON	–	—
49 (O/L)	–	RX (SAT→Audio unit)	Input	Ignition switch ON	–	—
50 (W/L)	–	TX (Audio unit→-SAT)	Input	Ignition switch ON	–	—

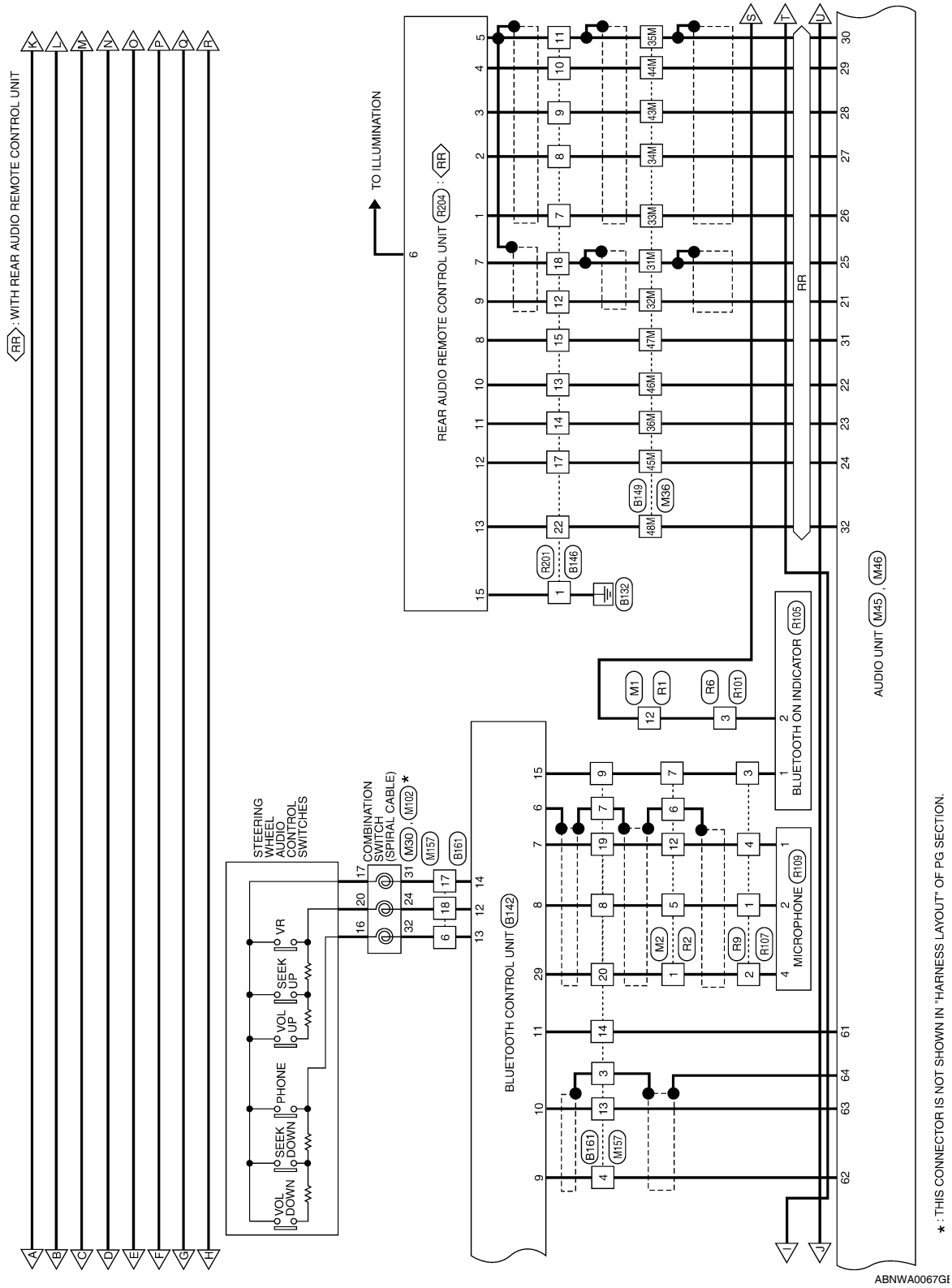
Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition		Reference value (Approx.)
62 (G)	61 (Y)	Tel audio sig	Input	Ignition switch ON	Bluetooth control unit sends audio signal	 SKIB3609E
63 (R)	–	Mute control	–	–	–	–
64	–	Shield	–	Ignition switch ON	–	0V
65 (O/L)	Ground	Audio RX	Input	Ignition switch ON	Operate audio volume	 SKIA4403E
66 (W/L)	Ground	Audio TX	Output	Ignition switch ON	Operate audio volume	 SKIA4402E
67	–	Shield	–	Ignition switch ON	–	0V
70	–	Shield	–	Ignition switch ON	–	0V
71 (B)	69 (W)	NAVI voice	Input	Ignition switch ON	NAVI system operating	 SKIA0171J
72 (W/B)	Ground	CD eject signal	Input	Ignition switch ON	Operate EJECT button	0V → 5V
73 (Y/B)	Ground	CD load signal	Input	Ignition switch ON	Operate LOAD button	0V → 5V

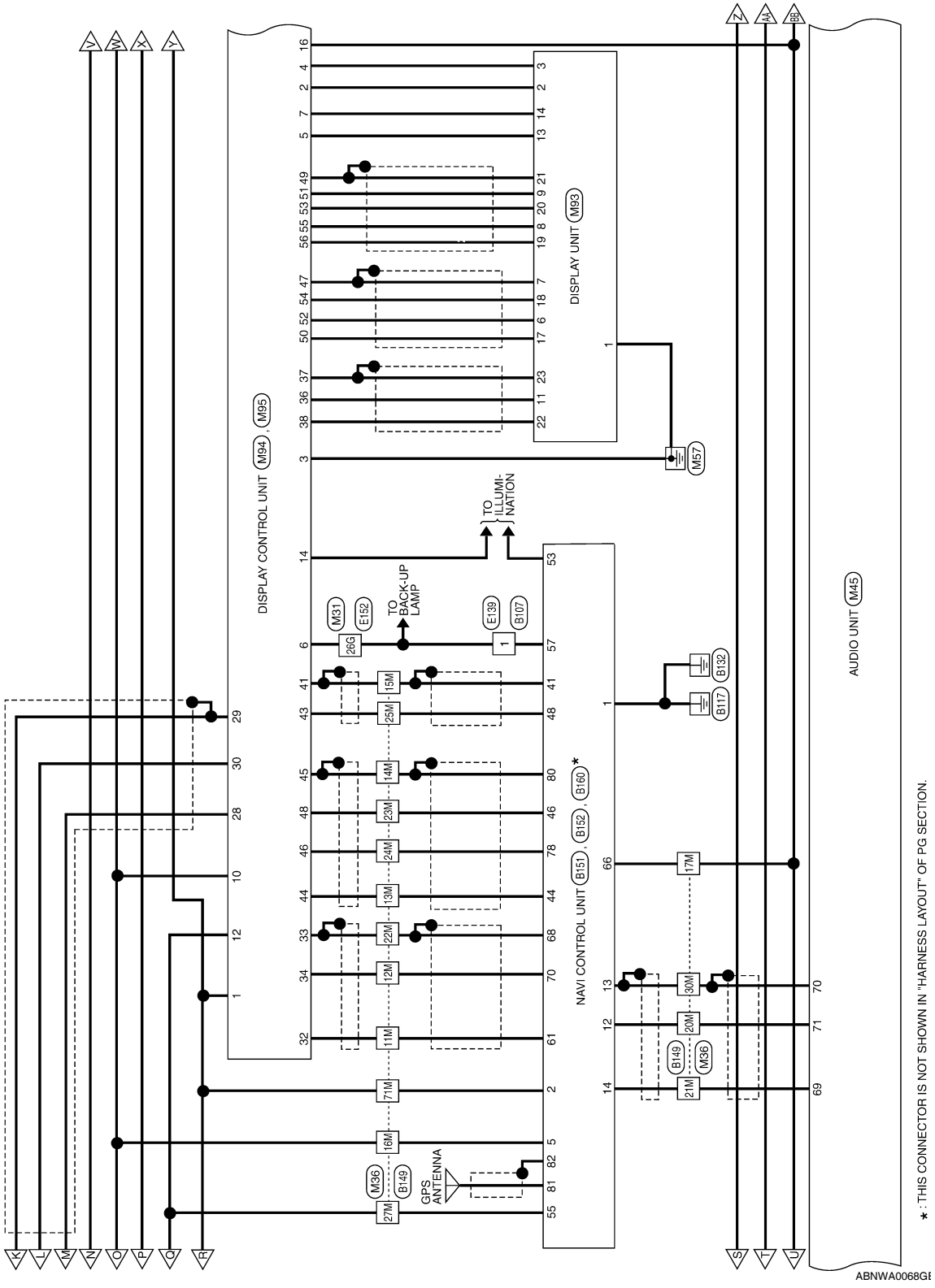
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	–					
74 (W)	Ground	Auxiliary audio input RH (+)	Input	Ignition switch ON	Receive audio signal (AUX input)	 SKIA0177E
75 (R)	Ground	Auxiliary audio input LH (+)	Input	Ignition switch ON	Receive audio signal (AUX input)	 SKIA0177E
76 (B)	–	Shield	–	–	–	0V

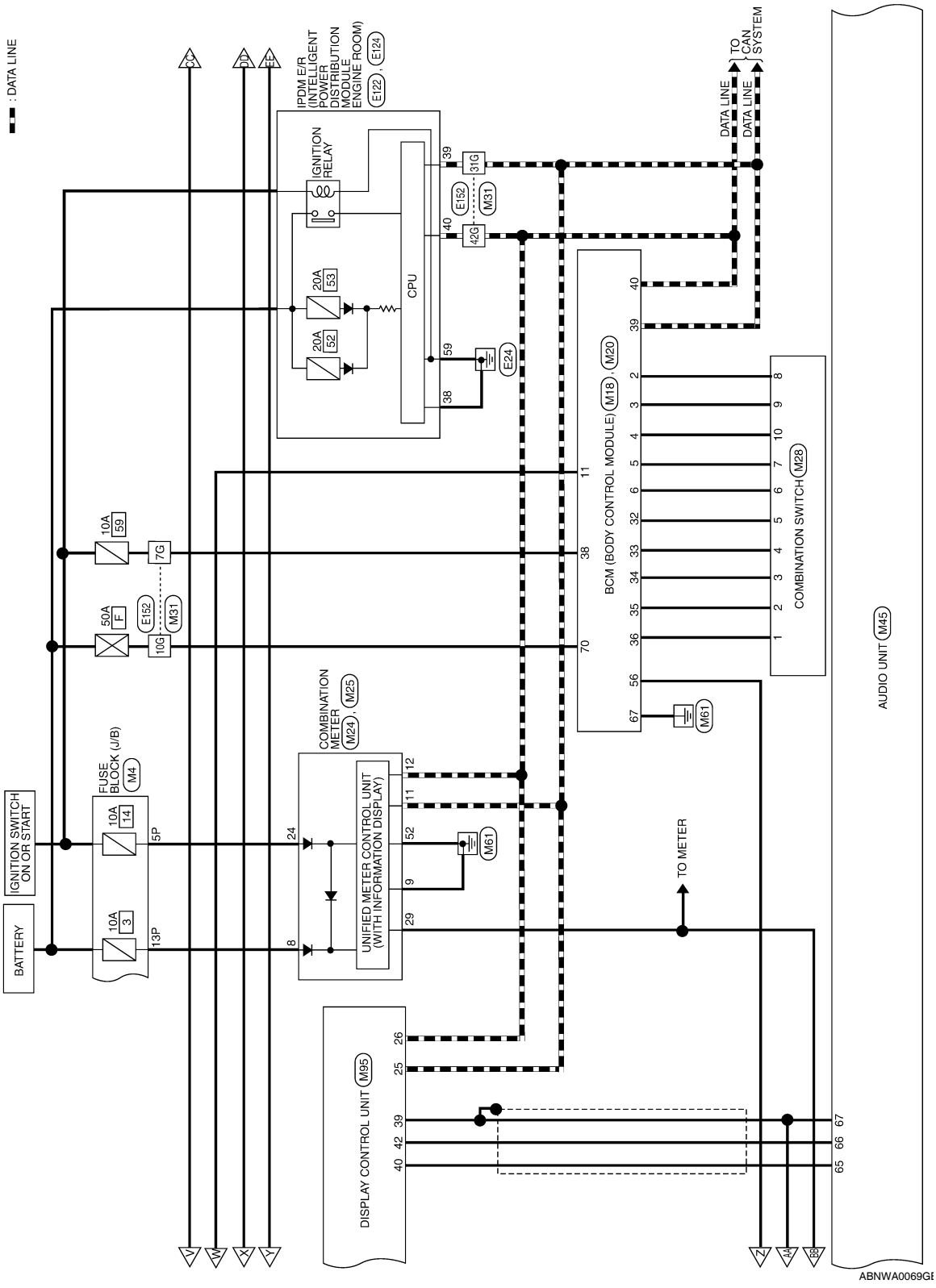
Wiring Diagram

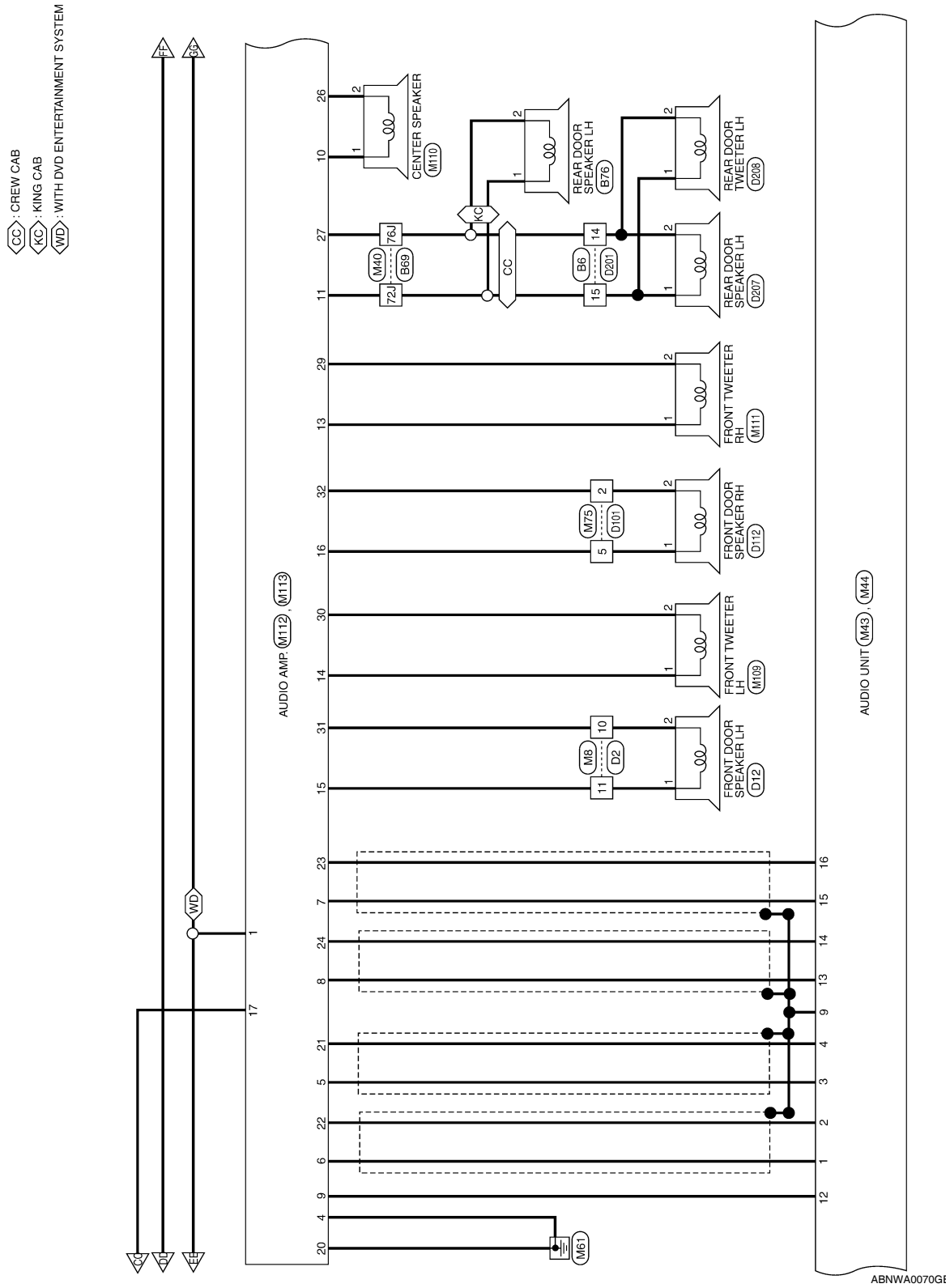
INFOID:0000000003789894

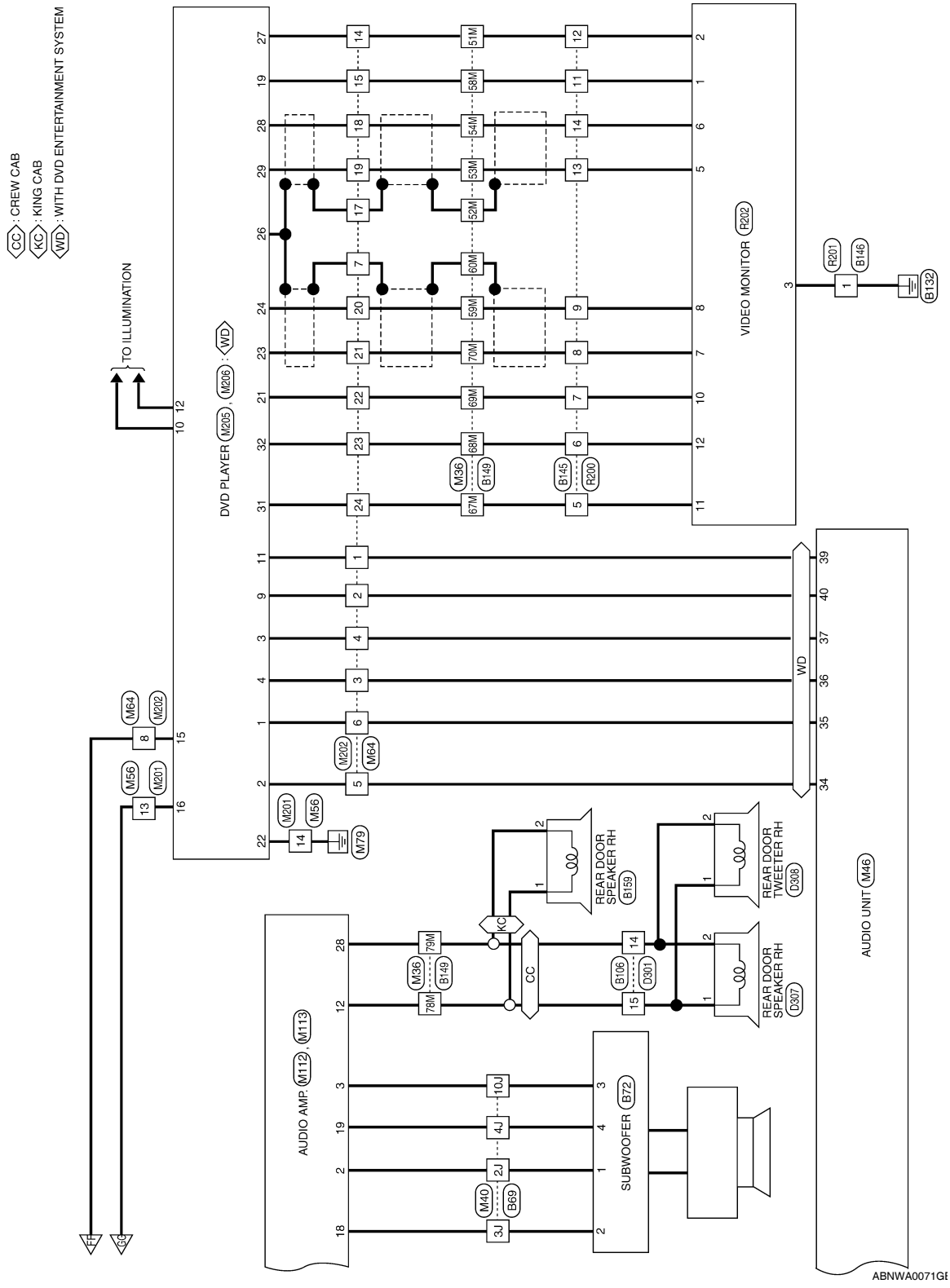



RR : WITH REAR AUDIO REMOTE CONTROL UNIT
TO ILLUMINATION
REAR AUDIO REMOTE CONTROL UNIT R204 : RR
STEERING WHEEL AUDIO CONTROL SWITCHES
VOL DOWN
SEEK DOWN
PHONE
VOL UP
SEEK UP
VR
COMBINATION SWITCH (SPIRAL CABLE) M102 *
BLUETOOTH CONTROL UNIT B142
BLUETOOTH ON INDICATOR R105
MICROPHONE R109
AUDIO UNIT M45, M46
RR
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.
ABNWA0067GB


DISPLAY CONTROL UNIT M94, M95
DISPLAY UNIT M93
M57
TO ILLUMI-NATION
TO BACK-UP LAMP
M31
E152
26G
E139
B107
1
15M
25M
14M
23M
24M
13M
22M
12M
11M
71M
16M
M36
B149
27M
GPS ANTENNA
NAVI CONTROL UNIT B151, B152, B160*
B132
B117
17M
30M
20M
21M
AUDIO UNIT M45
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.
ABNWA0068GB


: DATA LINE
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E122, E124
IGNITION RELAY
CPU
20A 53
20A 52
39
40
59
38
31G
42G
E152
M31
E24
TO CAN SYSTEM
DATA LINE
DATA LINE
BCM (BODY CONTROL MODULE) M18, M20
COMBINATION SWITCH M28
AUDIO UNIT M45
10A 59
7G
50A F
10G
E152
M31
FUSE BLOCK (J/B) M4
10A 14
5P
10A 3
13P
IGNITION SWITCH ON OR START
BATTERY
COMBINATION METER M24, M25
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
TO METER
M61
DISPLAY CONTROL UNIT M95
ABNWA0069GB


CC : CREW CAB
KC : KING CAB
WD : WITH DVD ENTERTAINMENT SYSTEM
FF
GG
AUDIO AMP (M112), (M113)
AUDIO UNIT (M43), (M44)
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)
M40 76J
72J B69
B6 14
15 D201
M75 2
5 D101
M8 10
11 D2
M61
CC
DD
EE
ABNWA0070GB


CC : CREW CAB
KC : KING CAB
WD : WITH DVD ENTERTAINMENT SYSTEM
TO ILLUMINATION
DVD PLAYER M205, M206 : WD
VIDEO MONITOR R202
AUDIO AMP. M112, M113
SUBWOOFER B72
REAR DOOR SPEAKER RH B159
REAR DOOR TWEETER RH D308
REAR DOOR SPEAKER RH D307
AUDIO UNIT M46
WD
KC
CC
ABNWA0071GB

PREMIUM AUDIO SYSTEM CONNECTORS - WITH NAVIGATION SYSTEM

Connector No.	M1
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
12	R/G	–

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	–
5	R/L	–
6	SHIELD	–
7	GR	–
12	B	–

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	–
5P	O/L	–
13P	P	–
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.	M18
Connector Name	BCM (BODY CONTROL MODULE)
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	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
2	SB	INPUT 5
3	G/Y	INPUT 4
4	Y	INPUT 3
5	G/B	INPUT 2
6	V	INPUT 1

Terminal No.	Color of Wire	Signal Name
11	O	ACC SW
32	R/G	OUTPUT 5
33	R/Y	OUTPUT 4
34	L	OUTPUT 3
35	O/B	OUTPUT 2
36	R/W	OUTPUT 1
38	W/L	IGN SW
39	L	CAN-H
40	P	CAN-L

ABNIA0190GB

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

H.S.

56	57	58	59	60	61	62	63	64
65	66	67	68	69	70			

Terminal No.	Color of Wire	Signal Name
56	R/G	BATTERY SAVER OUTPUT
67	B	GND (POWER)
70	W/B	BATT (F/L)

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
8	Y/R	BATTERY (TYPE A★)
8	P	BATTERY (TYPE B★)
9	B	GND (POWER)
11	L	CAN-H
12	P	CAN-L
24	O/L	RUN/START
29	W/R	SPEED OUT

Connector No.	M25
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

46	45	44	43	42	41
52	51	50	49	48	47

Terminal No.	Color of Wire	Signal Name
52	B	ILL GND

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	R/W	INPUT1
2	O/B	INPUT2
3	L	INPUT3
4	R/Y	INPUT4
5	R/G	INPUT5
6	V	INPUT1
7	G/B	OUTPUT2
8	SB	OUTPUT5
9	G/Y	OUTPUT4
10	Y	OUTPUT3

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

H.S.

24	25	26	27
31	32	33	34

Terminal No.	Color of Wire	Signal Name
24	R/G	STRG SW A (UP)
31	Y/R	STRG SW C (GND)
32	G/W	STRG SW B (DOWN)

★: REFER TO HARNESS LAYOUT OF PG SECTION FOR DEFINITION OF TYPE A AND TYPE B.

ABNIA0191GB

Terminal No.	Color of Wire	Signal Name
24M	R/W	–
25M	W	–
27M	G/R	–
30M	SHIELD	–
31M	LG	–
32M	V	–
33M	O	–
34M	O/L	–
35M	SHIELD	–
36M	BR/Y	–
43M	W/L	–
44M	W	–
45M	L	–
46M	P	–
47M	O	–
48M	V	–
51M	B/Y	–
52M	SHIELD	–
53M	BR	–
54M	Y	–
58M	B/W	–
59M	L	–
60M	SHIELD	–
67M	SB	–
68M	BR	–
69M	G/Y	–
70M	B/W	–
71M	Y	–
78M	O/L	–
79M	R/L	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
7M	V	–
8M	Y	–
11M	L	–
12M	P	–
13M	R/L	–
14M	SHIELD	–
15M	SHIELD	–
16M	O	–
17M	W/R	–
20M	B	–
21M	W	–
22M	SHIELD	–
23M	B	–

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

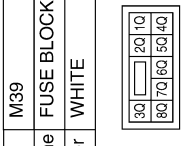
H.S.

Terminal No.	Color of Wire	Signal Name
7G	W/L	–
10G	W/B	–
26G	GR	–
31G	L	–
42G	P	–
72G	Y	–

ABNIA0192GB

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

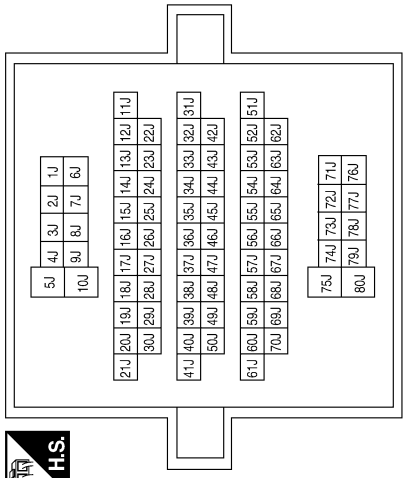
H.S.



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

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

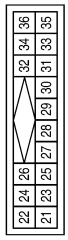
H.S.



Terminal No.	Color of Wire	Signal Name
2J	W	–
3J	B	–
4J	BR	–
10J	BR/W	–
72J	SB	–
76J	B/Y	–

Connector No.	M41
Connector Name	SATELLITE RADIO TUNER OR PRE-WIRING FOR SATELLITE RADIO TUNER
Connector Color	WHITE

H.S.

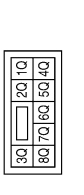


Terminal No.	Color of Wire	Signal Name
21	G	SAT LCH(-)
22	R	SAT LCH(+)
23	B	SAT RCH(-)
24	W	SAT RCH(+)
25	SHIELD	EARTH SIG
26	SHIELD	DATA EARTH
27	–	–
28	L	REQ1 (SAT-COMBI)
29	O/L	TXD (SAT-COMBI)
30	W/L	RXD (COMBI-SAT)
31	–	–
32	Y	BACKUP
33	–	–
34	–	–
35	–	–
36	V	ACC

Terminal No.	Color of Wire	Signal Name
47	–	–
48	L	REQ (CD-COMBI)
49	O/L	RX (CD-COMBI)
50	W/L	TX (COMBI-CD)
51	–	–
52	–	–

Connector No.	M42
Connector Name	AUDIO UNIT (WITH PREMIUM AUDIO SYSTEM)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
41	G	L(-)
42	R	L(+)
43	B	R(-)
44	W	R(+)
45	SHIELD	EARTH
46	SHIELD	DATA EARTH

ABNIA0193GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	FR SP LH-
2	W	FR SP LH+
3	BR	FR SP RH-
4	Y	FR SP RH+
5	–	–
6	Y	BACK UP
7	BR	ILL CONT
8	R/L	LIGHT SW
9	SHIELD	CASE GND
10	V	ACC

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

H.S.

Terminal No.	Color of Wire	Signal Name
11	–	–
12	G/W	AMP ON
13	B/R	RR SP LH-
14	BR	RR SP LH+
15	B/W	RR SP RH-
16	L	RR SP RH+

Connector No.	M45
Connector Name	AUDIO UNIT (WITH PREMIUM AUDIO SYSTEM-WITH NAVI)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
61	Y	TEL SIG INPUT (-)
62	G	TEL SIG INPUT (+)
63	R	TEL SIG ON TRIG
64	SHIELD	TEL SIG GND
65	O/L	RX (DCU-H/U)
66	W/L	TX (H/U-DCU)
67	SHIELD	SHIELD
68	–	–
69	W	NAVI VOICE-
70	SHIELD	NAVI VOICE GND
71	B	NAVI VOICE+
72	W/B	EJECT
73	Y/B	LOAD
74	W	AUX R+
75	R	AUX L+
76	B	AUX EARTH

ABNIA0194GB

Connector No.	M46
Connector Name	AUDIO UNIT (WITH PREMIUM AUDIO SYSTEM)
Connector Color	WHITE

H.S.

22	24	26	28		34	36	38	40
21	23	25	27	29	30	31	32	33	35	37	39

Terminal No.	Color of Wire	Signal Name
21	V	REMOTE A
22	P	REMOTE B
23	BR/Y	REMOTE C
24	L	REMOTE D
25	LG	REMOTE GND
26	O	L CH OUTPUT (-)
27	O/L	L CH OUTPUT (+)
28	W/L	R CH OUTPUT (-)
29	W	R CH OUTPUT (+)

Terminal No.	Color of Wire	Signal Name
30	SHIELD	SHIELD
31	O	ENABLE
32	V	SWITCH B(+)
33	–	–
34	W	FES L CH IP (-)
35	B	FES L CH IP (+)
36	G	FES R CH IP (-)
37	R	FES R CH IP (+)
38	–	–
39	Y/L	FES ENABLE
40	L/W	AUDIO ON

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
13	Y	–
14	B	–

Terminal No.	Color of Wire	Signal Name
7	SHIELD	–
8	V	–
14	B/Y	–
15	B/W	–
17	SHIELD	–
18	Y	–
19	BR	–
20	L	–
21	B/W	–
22	G/Y	–
23	BR	–
24	SB	–

Connector No.	M64
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	Y/L	–
2	L/W	–
3	G	–
4	R	–
5	W	–
6	B	–

Connector No.	M60
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

		2T		1T
6T	5T	4T	3T

Terminal No.	Color of Wire	Signal Name
6T	O	–

AANIA0022GB

Connector No.	M93
Connector Name	DISPLAY UNIT
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	B	GND
2	L/W	INV VCC
3	L/R	SIGN VCC
4	–	–
5	–	–
6	R/W	G
7	SHIELD	RGB GND
8	R	HP
9	B	YS
10	–	–
11	B/W	DCU-DSP
12	–	–
13	P	INV GND
14	P/L	SIGN GND
15	–	–
16	–	–
17	R/L	R
18	B	B
19	G	RGB SYNC
20	W	VP
21	SHIELD	SYNC GND
22	L	DSP-DCU
23	SHIELD	BUS GND
24	–	–

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.	M69
Connector Name	WIRE TO WIRE
Connector Color	VIOLET

H.S.

1

Terminal No.	Color of Wire	Signal Name
1	B	–

ABNIA0195GB

Connector No.	M94
Connector Name	DISPLAY CONTROL UNIT
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	Y	B
2	L/W	INV VCC
3	B	GND
4	L/R	SIGN VCC
5	P	INV GND
6	GR	RV
7	P/L	SIGN GND
8	–	–
9	–	–
10	O	ACC
11	–	–
12	G/R	IGN

Terminal No.	Color of Wire	Signal Name
13	–	–
14	R/L	ILL
15	–	–
16	W/R	SPEED-8P
17	–	–
18	–	–
19	–	–
20	–	–
21	–	–
22	–	–
23	–	–
24	–	–

Connector No.	M95
Connector Name	DISPLAY CONTROL UNIT
Connector Color	WHITE

H.S.

26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56									
25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55									

Terminal No.	Color of Wire	Signal Name
25	L	CAN-H
26	P	CAN-L
27	–	–
28	V	BUS+
29	SHIELD	SHIELD
30	LG	BUS-
31	–	–
32	L	BUS+
33	SHIELD	SHIELD
34	P	P
35	–	–
36	B/W	DCU DSP
37	SHIELD	BUS GND
38	L	DSP-DCU
39	SHIELD	SHIELD
40	O/L	DCU-AUDIO

Terminal No.	Color of Wire	Signal Name
41	SHIELD	SHIELD
42	W/L	AUDIO-DCU
43	W	RGB SYNC
44	R/L	R
45	SHIELD	SHIELD
46	R/W	G
47	SHIELD	SHIELD
48	B	B
49	SHIELD	SHIELD
50	R/L	R
51	B	YS
52	R/W	G
53	W	VP
54	B	B
55	R	HP
56	G	RGB SYNC

AANIA0023GB

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

Terminal No.	Color of Wire	Signal Name
16	R	–
17	BR	–
20	W	–

Connector No.	M110
Connector Name	CENTER SPEAKER
Connector Color	BROWN

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

Terminal No.	Color of Wire	Signal Name
5	B	GND
6	V	M-CAN1 L BUS (+)
7	SHIELD	SHIELD-1
8	LG	BUS (-)
9	–	–
11	–	–
12	R	REMOTE CONT A
13	G	REMOTE CONT B
14	L	REMOTE CONT C
15	–	–
16	W/B	EJECT
17	Y/B	LOAD
18	–	–
23	–	–
24	W/R	8 PULSE

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

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

Connector No.	M98
Connector Name	AV SWITCH
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1	Y	+B
2	V	ACC
3	R/L	ILL+
4	BR	ILL CONTROL

Connector No.	M104
Connector Name	AUX JACK
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1	W	AUX AUDIO RH +
2	B	AUX GND
3	–	–
4	R	AUX AUDIO LH +

ABNIA0196GB

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.	M112
Connector Name	AUDIO AMP.
Connector Color	WHITE

H.S.

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

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

H.S.

Terminal No.	Color of Wire	Signal Name
5	BR	FR RH IN-
6	B	FR LH IN-
7	BW	FR RH IN-
8	B/R	RR LH IN-
9	G/W	AMP ON
10	L/W	CTR OUT+
11	SB	RR LH OUT+
12	O/L	RR RH OUT+
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	Y	FR RH IN+
22	W	FR LH IN+
23	L	RR RH IN+
24	BR	RR LH IN+
25	–	–
26	L/B	CTR 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-

ABNIA0197GB

Terminal No.	Color of Wire	Signal Name
13	R	–
14	Y	–
15	G/O	–
16	V	–
17	Y/R	–
18	R/G	–
19	B	–
20	R/W	–

Terminal No.	Color of Wire	Signal Name
8	V	–
14	B/Y	–
15	B/W	–
17	SHIELD	–
18	Y	–
19	BR	–
20	L	–
21	B/W	–
22	G/Y	–
23	BR	–
24	SB	–

Connector No.	M157
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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	G/R	–
3	SHIELD	–
4	G	–
5	R/B	–
6	G/W	–
7	SHIELD	–
8	R/L	–
9	GR	–
12	W/R	–

Connector No.	M202
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
1	Y/L	–
2	L/W	–
3	G	–
4	R	–
5	W	–
6	B	–
7	SHIELD	–

Connector No.	M129
Connector Name	SATELLITE RADIO TUNER
Connector Color	VIOLET

H.S.

Terminal No.	Color of Wire	Signal Name
37	B	–

Connector No.	M201
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
13	Y	–
14	B	–

AANIA0024GB

Connector No.	M205
Connector Name	DVD PLAYER
Connector Color	GRAY

H.S.

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

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	–	–
6	–	–
7	–	–
8	–	–
9	L/W	AUDIO ON
10	BR	ILL-
11	Y/L	FES ENABLE
12	R/L	LIGHTING SW
13	–	–
14	–	–
15	V	ACC
16	Y	B+

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	–	–
18	–	–
19	B/W	GND
20	–	–
21	G/Y	SW POWER +5V
22	B	GND
23	B/W	VTR+
24	L	VTR-
25	–	–
26	SHIELD	SHIELD
27	B/Y	GND
28	Y	DATA RX
29	BR	DATA TX
30	–	–
31	SB	+B
32	BR	+B

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

H.S.

1

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

42	41	40	39	38	37
48	47	46	45	44	43

Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L

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

H.S.

1

Terminal No.	Color of Wire	Signal Name
1	B	–

ABNIA0198GB

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

59	58	57
62	61	60

Terminal No.	Color of Wire	Signal Name
59	B	GND (POWER)

Connector No.	E139
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

3		2	1
8	7	6	5	4

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

Connector No.	E152
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

Terminal No.	Color of Wire	Signal Name
7G	L/W	–
10G	W/B	–
26G	GR	–
31G	L	–
42G	P	–
72G	Y	–

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	–

ABNIA0199GB

Connector No.	B72
Connector Name	SUBWOOFER
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	WOOFER+1
2	B	WOOFER-1
3	BR/W	WOOFER+2
4	BR	WOOFER-2

Connector No.	B107
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2J	W	–
3J	B	–
4J	BR	–
10J	BR/W	–
72J	L	–
76J	Y	–

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

H.S.

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 (WITH KING CAB)
Connector Color	WHITE

H.S.

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

ABNIA0200GB

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+

Terminal No.	Color of Wire	Signal Name
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	GR	LED IND 1
16	–	–
17	V	LADDER OUT 1
18	G/O	LADDER OUT 2
19	R/B	LADDER OUT GND
20	B	CONT1

Terminal No.	Color of Wire	Signal Name
21	–	–
22	–	–
23	B	CONT4
24	–	–
25	–	–
26	–	–
27	–	–
28	W/R	SPEED SIGNAL
29	R/W	MIC POWER
30	–	–
31	–	–
32	–	–

Connector No.	B145
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	SB	–
6	BR	–
7	G/Y	–
8	W	–
9	L	–
11	B/W	–
12	B/Y	–
13	G	–
14	L	–

Connector No.	B143
Connector Name	BLUETOOTH ANTENNA
Connector Color	BLACK

H.S.

33
34

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

ABNIA0201GB

Terminal No.	Color of Wire	Signal Name
23M	B	–
24M	R/W	–
25M	BR	–
27M	G/R	–
30M	SHIELD	–
31M	LG	–
32M	V	–
33M	B	–
34M	G	–
35M	SHIELD	–
36M	BR/Y	–
43M	R	–
44M	W	–
45M	L	–
46M	P	–
47M	O	–
48M	V	–
51M	B/Y	–
52M	SHIELD	–
53M	G	–
54M	L	–
58M	B/W	–
59M	L	–
60M	SHIELD	–
67M	SB	–
68M	BR	–
69M	G/Y	–
70M	W	–
71M	Y	–
78M	L	–
79M	R/L	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
7M	V	–
8M	Y	–
11M	L	–
12M	P	–
13M	R	–
14M	SHIELD	–
15M	SHIELD	–
16M	O	–
17M	W/R	–
20M	B	–
21M	W	–
22M	SHIELD	–

Connector No.	B146
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
7	B	–
8	G	–
9	R	–
10	W	–
11	SHIELD	–
12	V	–
13	P	–
14	BR/Y	–
15	O	–
17	L	–
18	LG	–
22	V	–

ABNIA0202GB

Connector No.	B151
Connector Name	NAVI CONTROL UNIT
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	B	GND
2	Y	BATT
3	–	–
4	–	–
5	O	ACC
6	–	–
7	–	–
8	–	–
9	–	–
10	–	–
11	–	–
12	B	GUIDE VOICE+
13	SHIELD	SHIELD
14	W	GUIDE VOICE-
15	–	–
16	–	–
17	–	–
18	–	–
19	–	–
20	–	–
21	–	–
22	–	–
23	–	–
24	–	–
25	–	–
26	–	–
27	–	–
28	–	–
29	–	–
30	–	–
31	–	–
32	–	–
33	–	–
34	–	–
35	–	–
36	–	–
37	–	–
38	–	–
39	–	–
40	–	–

AANIA0025GB

Connector No.	B159
Connector Name	REAR DOOR SPEAKER RH (WITH KING CAB)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
50	–	–
51	–	–
52	–	–
53	R/L	ILL
54	–	–
55	G/R	IGN
56	–	–
57	G/W	RV
58	–	–
59	–	–
60	–	–
61	L	BUS+
62	–	–
63	–	–
64	–	–
65	–	–
66	W/R	SPEED 8P
67	–	–
68	SHIELD	SHIELD
69	–	–
70	P	BUS-
71	–	–
72	–	–
73	–	–
74	–	–
75	–	–
76	–	–
77	–	–
78	R/W	G
79	–	–
80	SHIELD	RGB GND

Connector No.	B152
Connector Name	NAVI CONTROL UNIT
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
41	SHIELD	SYNC GND
42	–	–
43	–	–
44	R	R
45	–	–
46	B	B
47	–	–
48	BR	RGB SYNC
49	–	–

ABNIA0203GB

Connector No.	B160
Connector Name	NAVI CONTROL UNIT
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
81	B	–
82	SHIELD	–

Connector No.	B161
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
6	G/W	–
7	SHIELD	–
8	R/L	–
9	GR	–
12	W/R	–
13	R	–
14	Y	–
15	G/O	–
16	V	–
17	Y/R	–
18	R/G	–
19	B	–
20	R/W	–

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

H.S.

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

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	R/W	–
5	R/L	–
6	SHIELD	–
7	GR	–
12	B	–

Connector No.	R6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

ABNIA0204GB

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

H.S.

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

Connector No.	R101
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Connector No.	R105
Connector Name	BLUETOOTH ON INDICATOR
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	GR	LED 1 (AMBER)
2	R/G	LED POWER
3	R/L	DAY/NIGHT ILL SIG
4	–	–

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	–
3	GR	–
4	B	–

Connector No.	R109
Connector Name	MICROPHONE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	MIC OUT (+)
2	R/L	MIC OUT (-)
3	–	–
4	R/W	MIC POWER

Connector No.	R200
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
5	SB	–
6	BR	–
7	G/Y	–
8	W	–
9	L	–
11	B/W	–
12	B/Y	–
13	G	–
14	L	–

ABNIA0205GB

Connector No.	R204
Connector Name	REAR AUDIO REMOTE CONTROL UNIT
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	B	L CH INPUT-
2	G	L CH INPUT+
3	R	R CH INPUT-
4	W	R CH INPUT+
5	SHIELD	SHIELD
6	R/L	ILL
7	LG	REMOTE GND
8	O	ENABLE
9	V	REMOTE A
10	P	REMOTE B
11	BR/Y	REMOTEB C
12	L	REMOTE D
13	V	SWITCH +B
14	–	–
15	B	GND
16	–	–

Connector No.	R202
Connector Name	VIDEO MONITOR
Connector Color	WHITE

H.S.

2	4	6	10	12
1	3	5	7	8	9	11
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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
11	SB	FILTERED BAT
12	BR	FILTERED BAT

Connector No.	R201
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

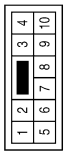
11	10	9	8	7	6		5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13	12
---	---	---	---	---	---	---	---	---	---	---	---	---

Terminal No.	Color of Wire	Signal Name
1	B	–
7	B	–
8	G	–
9	R	–
10	W	–
11	SHIELD	–
12	V	–
13	P	–
14	BR/Y	–
15	O	–
17	L	–
18	LG	–
22	V	–

ABNIA0206GB

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	–

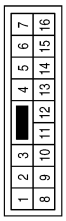
Connector No.	D12
Connector Name	FRONT DOOR SPEAKER LH
Connector Color	WHITE

H.S.

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

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

H.S.



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

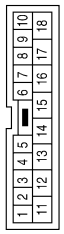
Connector No.	D207
Connector Name	REAR DOOR SPEAKER LH (WITH CREW CAB)
Connector Color	WHITE

H.S.

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

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

H.S.



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

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	–

ABNIA0207GB

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	–

Connector No.	D307
Connector Name	REAR DOOR SPEAKER RH (WITH CREW CAB)
Connector Color	WHITE

H.S.

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

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

H.S.

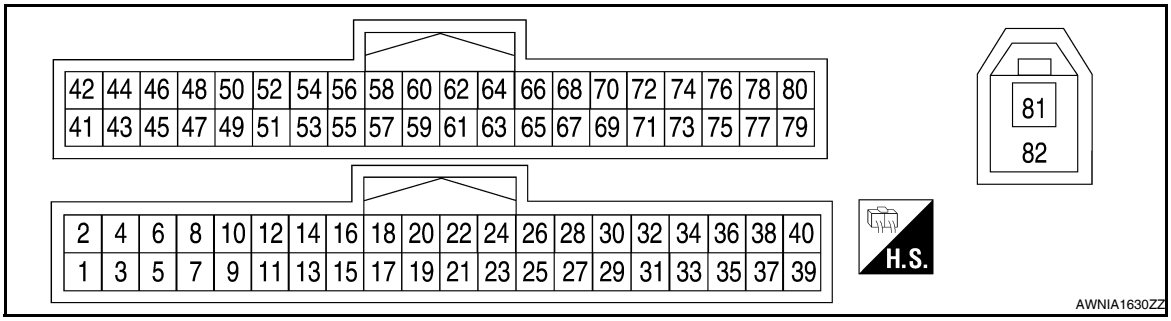
Terminal No.	Color of Wire	Signal Name
1	O/L	–
2	R/L	–

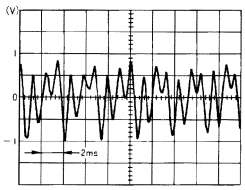
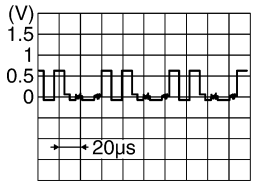
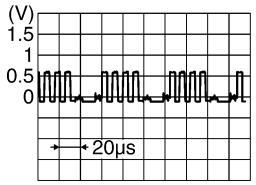
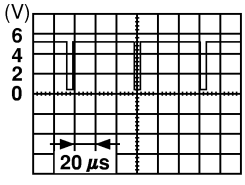
ABNIA0208GB

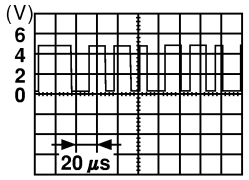
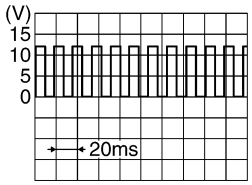
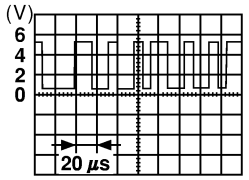
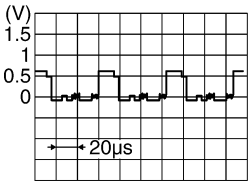
NAVI CONTROL UNIT

Reference Value

INFOID:0000000003789895



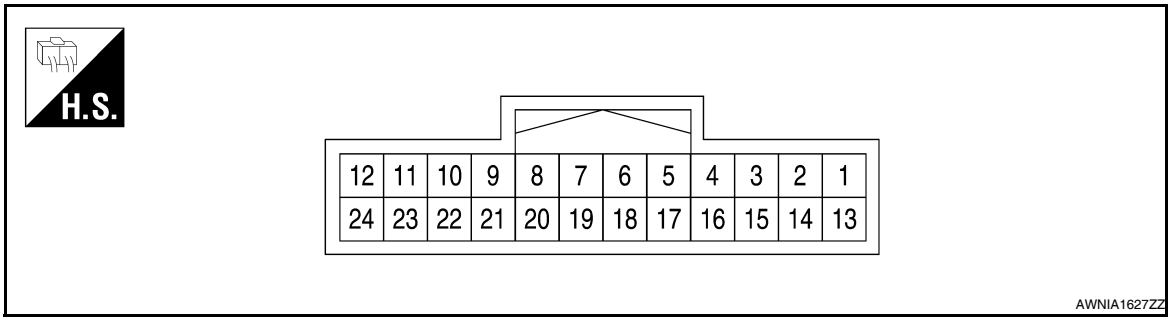
Terminal No. (Wire color)		Item	Signal input/ output	Condition		Voltage (Approx.)
+	–			Ignition switch	Operation	
1 (B)	Ground	Ground	–	ON	–	0V
2 (Y)	Ground	Battery power	Input	OFF	–	Battery voltage
5 (O)	Ground	ACC signal	Input	ACC	–	Battery voltage
12 (B)	14 (W)	Voice guide signal	Output	ON	Press the “GUIDE/ VOICE” button.	 SKIA0171J
13	–	Shield ground	–	–	–	–
41	–	Shield ground	–	–	–	–
44 (R)	Ground	RGB signal (R: red)	Output	ON	Select “Display Diagnosis (NAVI)” of CONFIRMATION/ ADJUSTMENT function.	 SKIA4977E
46 (B)	Ground	RGB signal (B: blue)	Output	ON	Select “Display Diagnosis (NAVI)” of CONFIRMATION/ ADJUSTMENT function.	 SKIA4979E
48 (BR)	Ground	RGB synchronizing signal	Output	ON	Press the “MAP” button.	 SKIA0164E

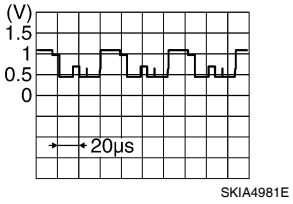
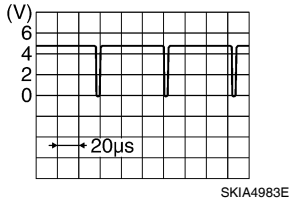
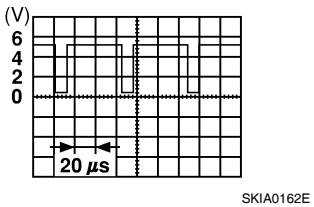
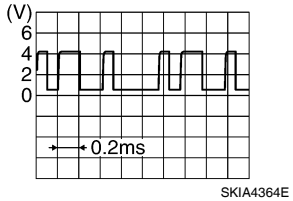
Terminal No. (Wire color)		Item	Signal input/ output	Condition		Voltage (Approx.)
+	–			Ignition switch	Operation	
53 (R/L)	Ground	Illumination signal	Input	ON	Lighting switch in 1st position	Battery voltage
					Lighting switch is OFF	3V or less
55 (G/R)	Ground	Ignition signal	Input	ON	–	Battery voltage
57 (G/W)	Ground	Reverse signal	Input	ON	A/T selector lever in R position	Battery voltage
					–	 SKIA0175E
					A/T selector lever not in R position	0V
66 (W/R)	Ground	Vehicle speed signal (8-pulse)	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 PKIA1935E
68	–	Shield ground	–	–	–	–
70 (P)	Ground	Communication signal (–)	Input/ output	ON	–	 SKIA0176E
78 (R/W)	Ground	RGB signal (G: green)	Output	ON	Select “Display Diagnosis (NAVI)” of CONFIRMATION/ ADJUSTMENT function.	 SKIA4978E
80	–	Shield ground	–	–	–	–
81 (B)	82	GPS signal	Input	ON	Connector is not connected.	5V

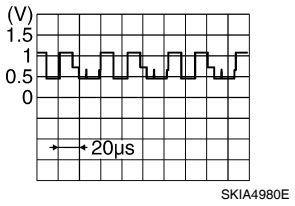
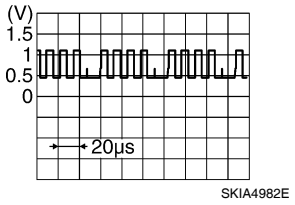
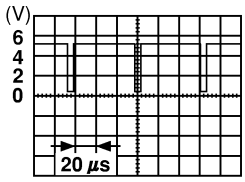
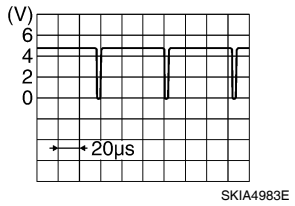
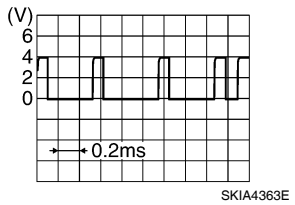
DISPLAY UNIT

Reference Value

INFOID:0000000003789896



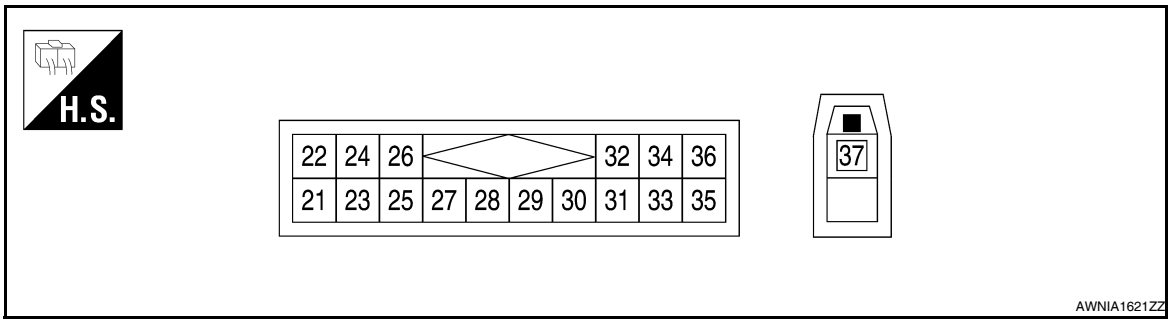
Terminal No. (Wire color)		Item	Signal input/ output	Condition		Voltage (Approx.)
+	–			Ignition switch	Operation	
1 (B)	Ground	Ground	–	ON	–	0V
2 (L/W)	Ground	Power supply (Inverter)	Input	ON	–	9V
3 (L/R)	Ground	Power supply (Signal)	Input	ON	–	9V
6 (R/W)	Ground	RGB signal (G: green)	Input	ON	Select “Display Diagnosis (DCU)” of CONFIRMATION/ ADJUSTMENT function.	 SKIA4981E
7	–	Shield ground	–	–	–	–
8 (R)	Ground	Horizontal synchronizing (HP) signal	Output	ON	–	 SKIA4983E
9 (B)	Ground	RGB area (YS) signal	Input	ON	Press the “TRIP” button.	 SKIA0162E
11 (B/W)	Ground	Display communication signal (DCU-DSP)	Input	ON	–	 SKIA4364E

Terminal No. (Wire color)		Item	Signal input/ output	Condition		Voltage (Approx.)
+	–			Ignition switch	Operation	
13 (P)	Ground	(Inverter) Ground	–	ON	–	0V
14 (P/L)	Ground	(Signal) Ground	–	ON	–	0V
17 (R/L)	Ground	RGB signal (R: red)	Input	ON	Select “Display Diagnosis (DCU)” of CONFIRMATION/ ADJUSTMENT function.	 SKIA4980E
18 (B)	Ground	RGB signal (B: blue)	Input	ON	Select “Display Diagnosis (DCU)” of CONFIRMATION/ ADJUSTMENT function.	 SKIA4982E
19 (G)	Ground	RGB synchronizing signal	Input	ON	Press the “TRIP” button.	 SKIA0164E
20 (W)	Ground	Vertical synchronizing (VP) signal	Output	ON	–	 SKIA4983E
21	–	Shield ground	–	–	–	–
22 (L)	Ground	Display communication signal (DSP-DCU)	Output	ON	–	 SKIA4363E
23	–	Shield ground	–	–	–	–

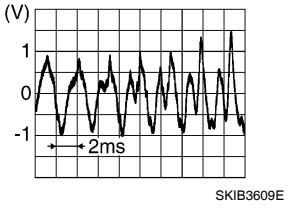
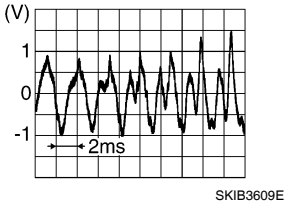
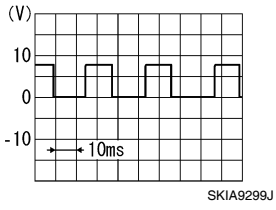
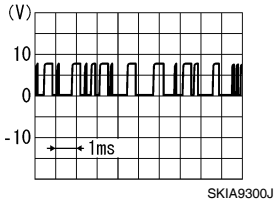
SATELLITE RADIO TUNER

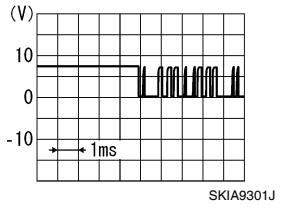
Reference Value

INFOID:0000000003789897



PHYSICAL VALUES

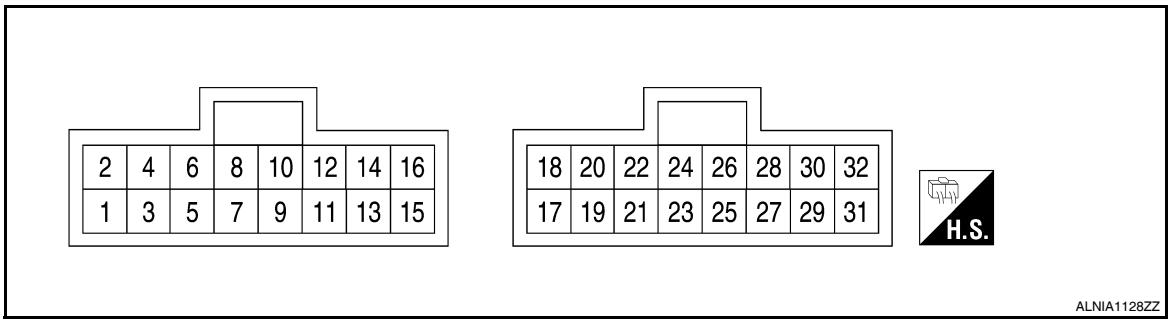
Terminal		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
22 (R)	21 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected	 SKIB3609E
24 (W)	23 (B)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	 SKIB3609E
25	—	Shield	—	—	—	—
26	—	Shield	—	—	—	—
28 (L)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9299J
29 (O/L)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9300J

Terminal		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
30 (W/L)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	 SKIA9301J
32 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
36 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
37 (B)	—	Satellite antenna	Input	—	—	—

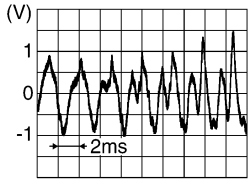
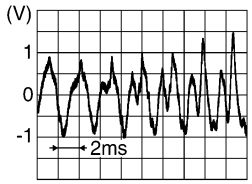
DVD PLAYER

Reference Value

INFOID:0000000003789898



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	 SKIB3609E
3 (R)	4 (G)	DVD audio signal RH	Output	Ignition switch ON	With DVD player operation	 SKIB3609E
9 (L/W)	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 (Y/L)	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

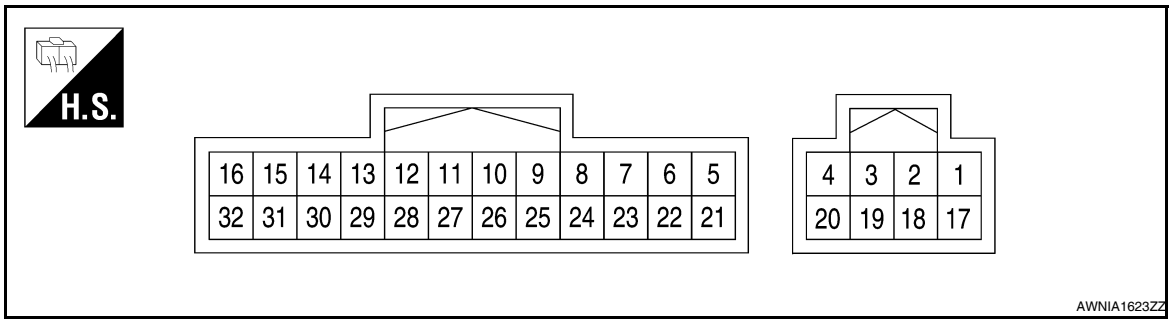
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
19 (B/W)	Ground	Ground	—	Ignition switch ON	—	0V
21 (G/Y)	Ground	Switch power	Output	Ignition switch ON	With DVD player operation	5V
22 (B)	Ground	Ground	—	Ignition switch ON	—	0V
23 (B/W)	Ground	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

AUDIO AMP

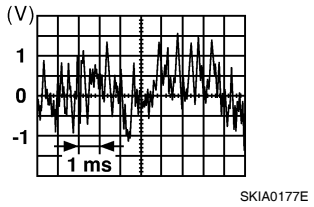
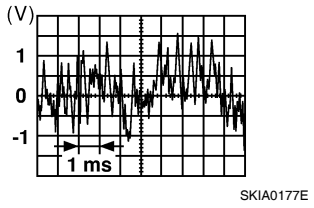
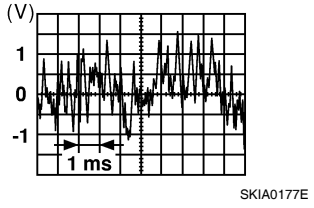
Reference Value

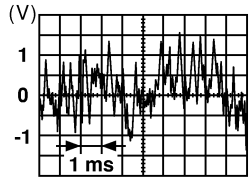
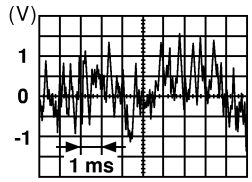
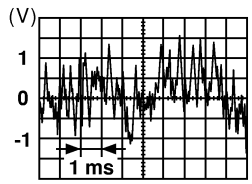
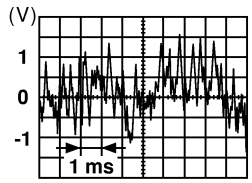
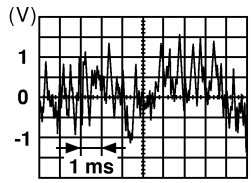
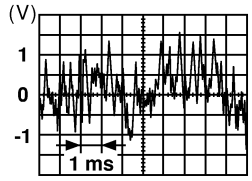
INFOID:0000000003789899

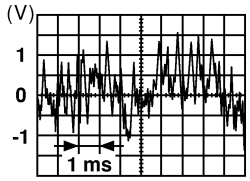
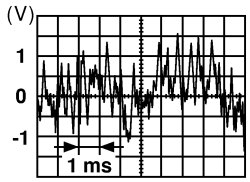
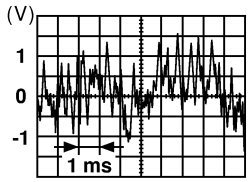
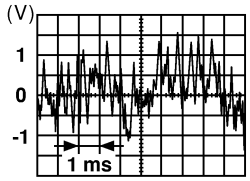
TERMINAL LAYOUT



PHYSICAL VALUES

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	
3 (BR/W)	19 (BR)	Subwoofer	Output	Ignition switch ON	Receive audio signal	
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	

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	–	–

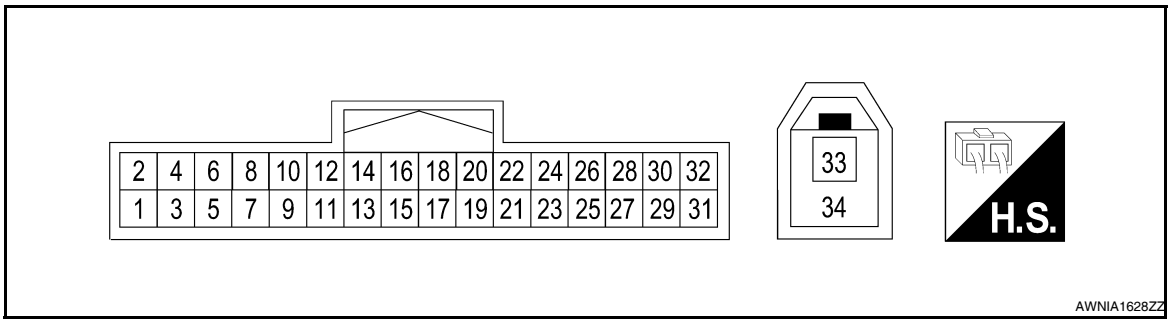
Terminal (wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	–					
21 (Y)	5 (BR)	Audio sound signal front RH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E
22 (W)	6 (B)	Audio sound signal front LH	Input	Ignition switch ON	Receive audio signal	 SKIA0177E
23 (L)	7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

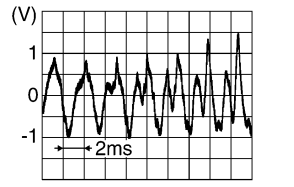
Reference Value

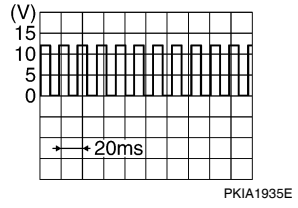
INFOID:0000000003789900

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	–	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	–	–	–	–
12 (R/G)	14 (Y/R)	Steering switch signal A	Input	Ignition switch ON	Pressing switch	0V
					Pressing △ switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ output			
13 (G/W)	14 (Y/R)	Steering switch signal B	Input	Ignition switch ON	Pressing MODE switch	0V
					Pressing ▽ switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5 V
15 (GR)	Ground	LED power	Output	Ignition switch ON	–	Battery voltage
17 (V)	19 (R/B)	Steering switch signal A	Output	Ignition switch ON	Pressing switch	0V
					Pressing △ switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V
18 (G/O)	19 (R/B)	Steering switch signal B	Output	Ignition switch ON	Pressing MODE switch	0V
					Pressing ▽ switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5V
20 (B)	Ground	Ground	–	–	–	0V
23 (B)	Ground	Ground	–	–	–	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

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000003789901

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	• Audio unit power and ground circuit • Audio unit	• AV-212
Steering switch does not operate	• Steering switch • Audio unit	• AV-247 • AV-212
All speakers do not sound	• Audio unit power and ground circuit • Audio amp. ON signal • Audio amp. power and ground circuit	• AV-212 • AV-246 • AV-218
One or several speakers do not sound	• Front door speaker • Front tweeter • Center speaker • Rear door tweeter (crew cab) • Rear door speaker • Subwoofer	• AV-229 • AV-232 • AV-235 • AV-240 • AV-237 • AV-243

NAVIGATION SYSTEM

Symptom	Possible cause	Reference page
Inoperative	• Audio unit power and ground circuit • Audio unit	• AV-212 • AV-212
Steering switch does not operate	• Steering switch • Audio unit	• AV-247 • AV-256
Voice activated control does not operate	• Microphone • Steering switch • Audio unit	• AV-220 • AV-247 • AV-212

HANDS-FREE PHONE SYSTEM

Symptom	Possible cause	Reference page
Inoperative	• Audio unit power and ground circuit • Audio unit	• AV-212 • AV-256
Steering switch does not operate	• Steering switch • Audio unit	• AV-247 • AV-256
Voice activated control does not operate	• Microphone • Steering switch • Audio unit	• AV-254 • AV-247 • AV-256

DVD PLAYER

Symptom	Possible cause	Reference page
DVD player inoperative	• Power supply and ground circuits • DVD player	• AV-217 • AV-296
No sound when playing a DVD	• Audio signal circuits • Audio unit • DVD player	• AV-256 • AV-256 • AV-296
Video monitor is inoperative/does not display properly	• Power supply and ground circuits • Video out circuit • DVD player • Display monitor	• AV-217 • AV-296 • AV-296 • AV-296

Symptom	Possible cause	Reference page
DVD remote control is inoperative/does not operate properly	• DVD player • Rear audio remote control unit	• AV-296 • AV-296
Headphones inoperative	• Headphone batteries • Headphone audio signal circuits from Audio unit • Audio unit • Rear audio remote control unit	• AV-296 • AV-256 • AV-296

NORMAL OPERATING CONDITION

Description

INFOID:0000000003789902

AUDIO SYSTEM

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

Noise

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

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

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

NAVIGATION SYSTEM

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.
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.

Symptom	Cause	Remedy
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 research the route.
	Voice guide is turned OFF.	Turn voice guide ON.
	Route guide is turned OFF.	Turn route guide ON.
Voice guide does not match the actual road pattern.	Voice guide may vary with the direction to which the vehicle is turn and the connection of the road to other roads.	Drive in conformity to the actual traffic rules.

Route Search

Symptom	Cause	Remedy
No route is shown.	No road to be searched is found around the destination.	Find wider road (orange road or wider) 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.

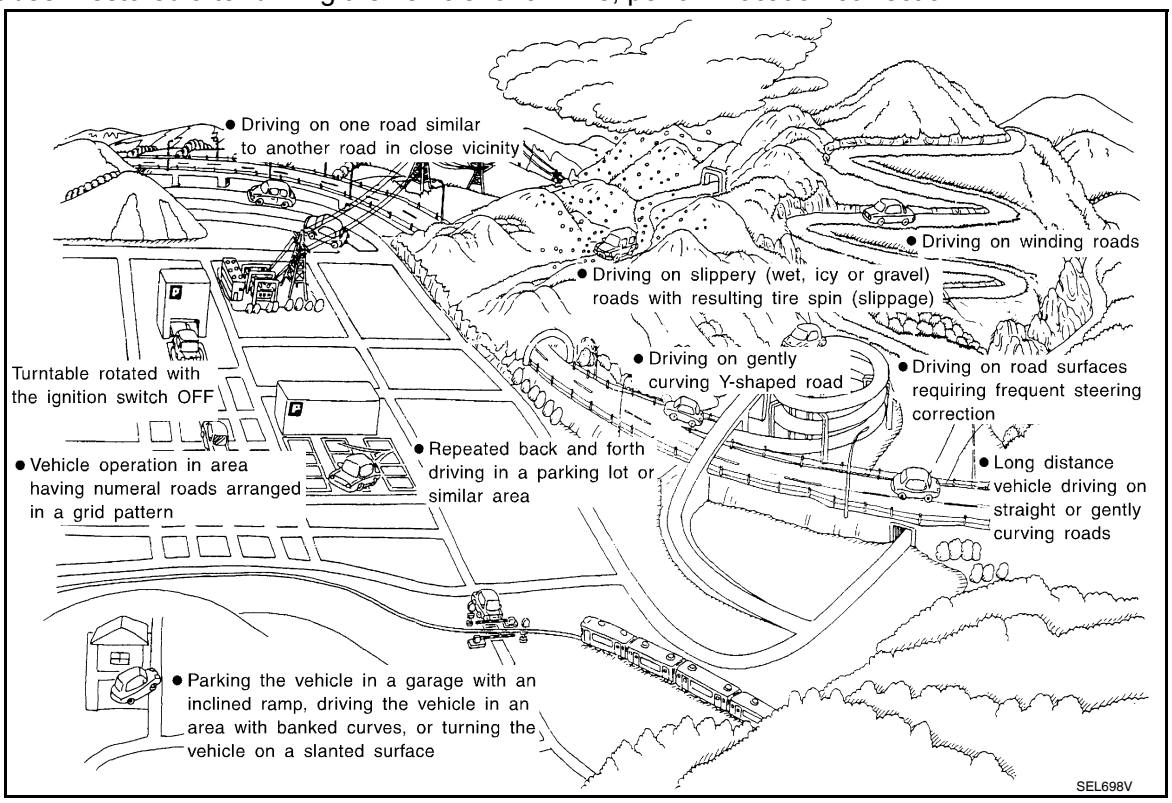
Symptom	Cause	Remedy
Detouring route is recommended.	In some areas, highways (gray routes) are not used for the search. (Note). Therefore, detour route may be recommended.	Set the route closer to the basic route (gray route).
	A detour route may be shown when some traffic regulation (one-way traffic, 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.

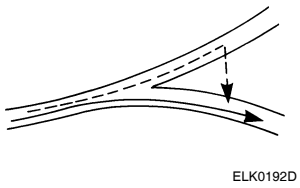
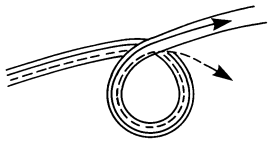
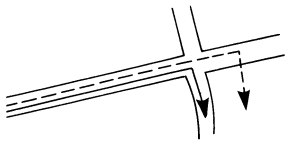
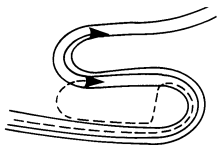
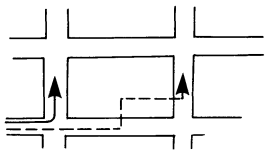
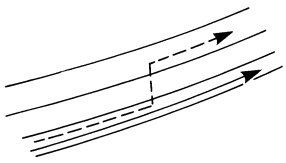
NOTE:

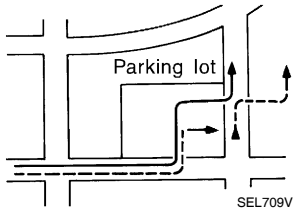
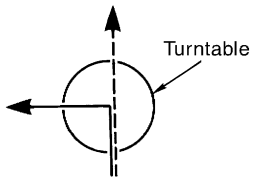
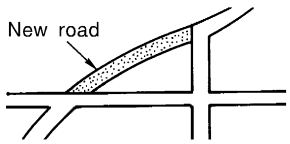
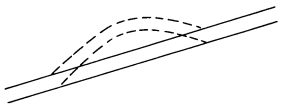
Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

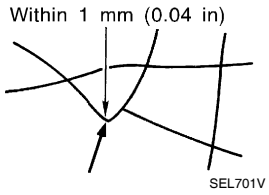
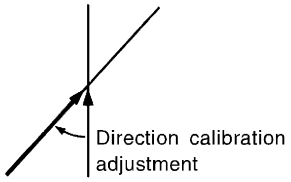
Examples of Current-Location Mark Displacement

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 	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 	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 	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) 	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.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000003789903

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.**

Precaution for Trouble Diagnosis

INFOID:0000000003789904

AV COMMUNICATION SYSTEM

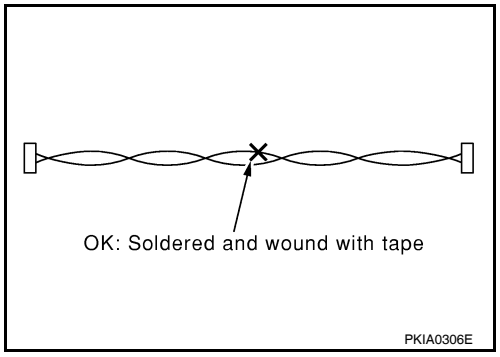
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

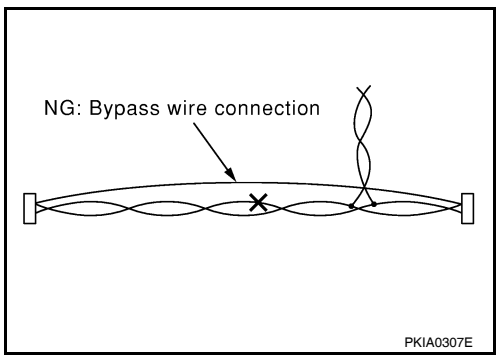
INFOID:0000000003789905

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.)

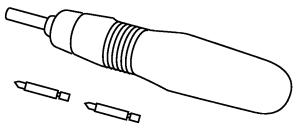


PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000003789906

Tool name	Description
Power tool  PBIC0191E	Loosening bolts and nuts

ON-VEHICLE REPAIR

AUDIO UNIT

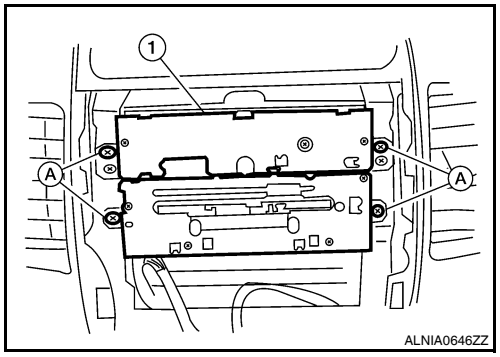
Removal and Installation

INFOID:0000000003789907

AUDIO UNIT

Removal

1. Disconnect the battery negative terminal.
2. Remove the cluster lid C. Refer to IP-14, "Removal and Installation".
3. Remove the audio unit screws (A), using power tool.
4. Pull out the audio unit (1) and disconnect the audio unit connectors.



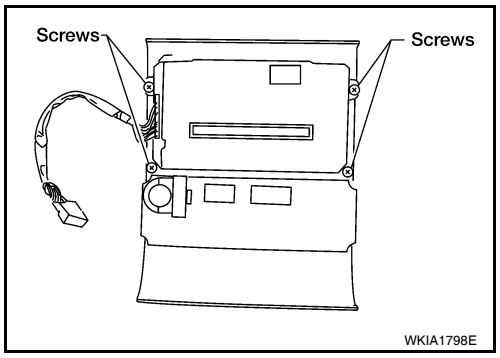
Installation

Installation is in the reverse order of removal.

AV SWITCH

Removal

1. Disconnect battery negative terminal.
2. Remove the cluster lid C. Refer to IP-14, "Removal and Installation".
3. Remove the AV switch screws.
4. Carefully remove the AV switch.



Installation

Installation is in the reverse order of removal.

DISPLAY UNIT

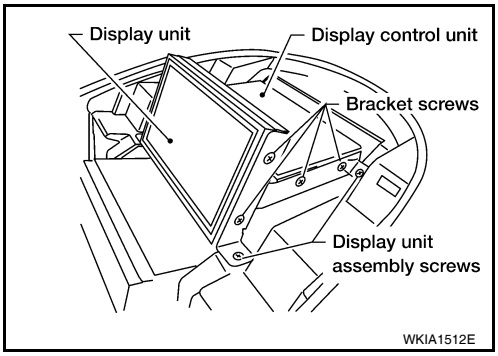
Removal and Installation

INFOID:0000000003789908

DISPLAY UNIT

Removal

1. Remove the center console. Refer to IP-18, "Removal and Installation".
2. Remove the cluster lid D. Refer to IP-13, "Removal and Installation".
3. Remove the display control unit.
4. Disconnect the display unit connectors.



5. Remove the display unit.
6. Remove the display unit brackets.

Installation

Installation is in reverse order of removal.

FRONT TWEETER

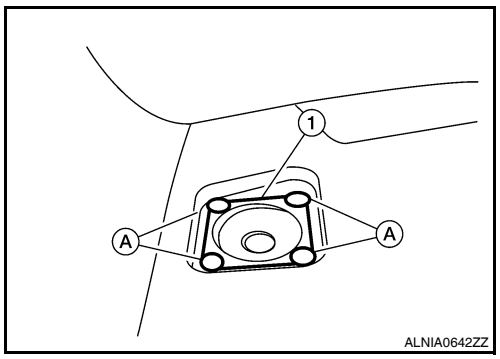
Removal and Installation

INFOID:0000000003789909

FRONT TWEETER

Removal

1. Remove the front tweeter grille. Refer to IP-11, "Removal and Installation".
2. Remove the front tweeter clips (C103) (A).
3. Disconnect the front tweeter connector and remove the front tweeter (1).



Installation

Installation is in the reverse order of removal.

CENTER SPEAKER

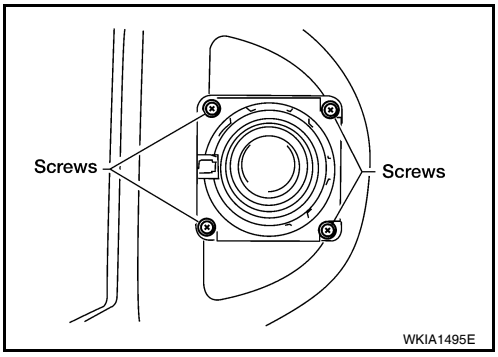
Removal and Installation

INFOID:0000000003789910

CENTER SPEAKER

Removal

1. Remove the center console. Refer to IP-18, "Removal and Installation".
2. Remove the cluster lid D. Refer to IP-13, "Removal and Installation".
3. Remove the center speaker screws and remove the center speaker.



Installation

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

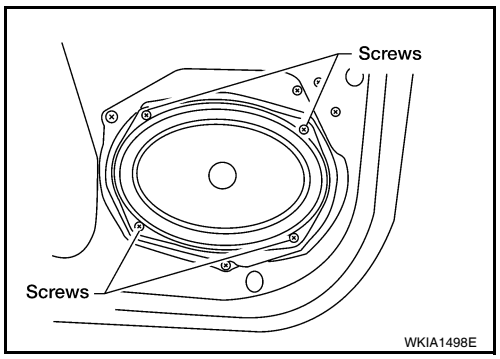
Removal and Installation

INFOID:0000000003789911

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 connector and remove the front door speaker.



Installation

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

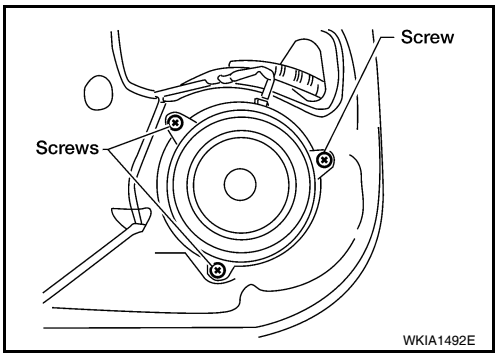
Removal and Installation

INFOID:0000000003789912

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 and remove the rear door speaker.

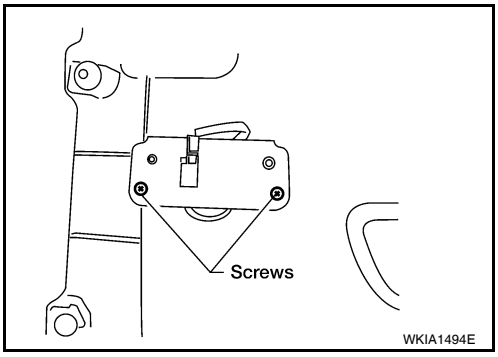


Installation
Installation is in the reverse order of removal.

REAR DOOR TWEETER

Removal

1. Remove the rear door finisher. Refer to INT-10, "Removal and Installation" - Crew Cab.
2. Remove the rear door tweeter screws and remove the rear door tweeter.
3. Disconnect the rear door tweeter connector.



Installation
Installation is in the reverse order of removal.

WOOFER

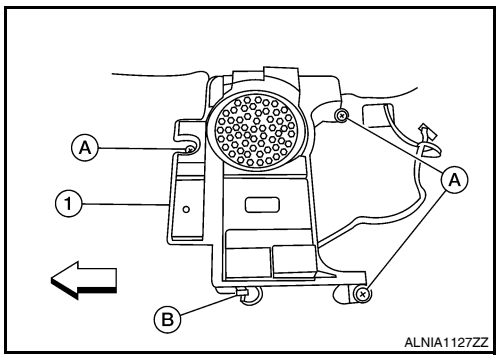
Removal and Installation

INFOID:0000000004064156

SUBWOOFER

Removal

1. Remove the front seat LH. Refer to SE-31, "Removal and Installation".
2. Disconnect the subwoofer 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

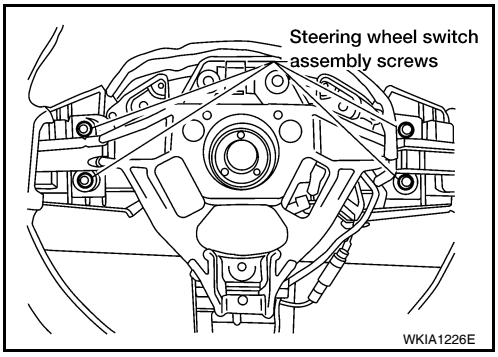
Removal and Installation

INFOID:0000000003789914

STEERING WHEEL AUDIO CONTROL SWITCHES

Removal

1. Remove the steering wheel. Refer to ST-11, "Removal and Installation".
2. Remove the steering wheel rear cover screws and remove the steering wheel rear cover.
3. Remove the steering wheel switch assembly screws and remove the steering wheel switches.



Installation

Installation is in the reverse order of removal.

REAR AUDIO REMOTE CONTROL UNIT

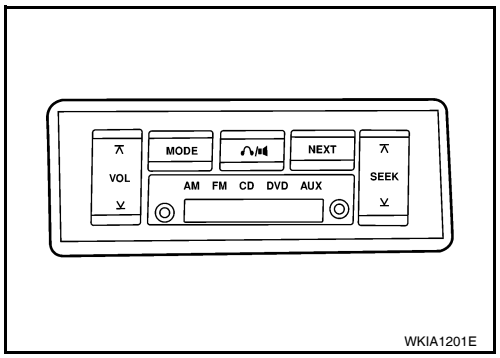
Removal and Installation

INFOID:0000000003789915

REAR AUDIO REMOTE CONTROL UNIT

Removal

1. Carefully remove the rear audio remote control unit from the rear roof console assembly.
   CAUTION:
   Wrap removal tool with clean shop cloth to prevent damage to the headliner.
2. Disconnect the connector and remove the rear audio remote control unit.



WKIA1201E

Installation

Installation is in the reverse order of removal.

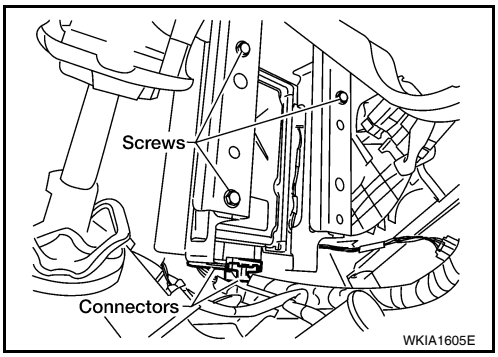
AUDIO AMP.

Removal and Installation

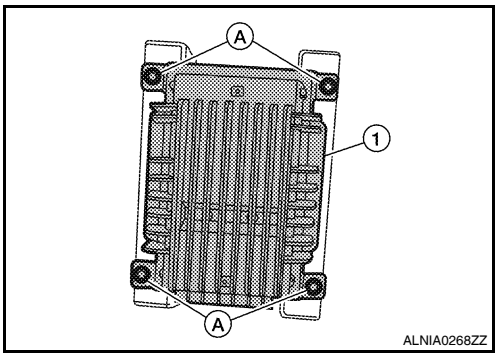
INFOID:0000000003789916

REMOVAL

1. Remove the BCM. Refer to BCS-53, "Removal and Installation".
2. Remove the accelerator pedal. Refer to ACC-3, "Removal and Installation".
3. Disconnect the audio amp. speaker amp. connectors.
4. Remove the audio amp. speaker amp. and bracket assembly screws and slide the audio amp. speaker amp. bracket assembly down.



5. Remove the audio amp. speaker amp.screws (A). then remove the audio amp. speaker amp. (1).



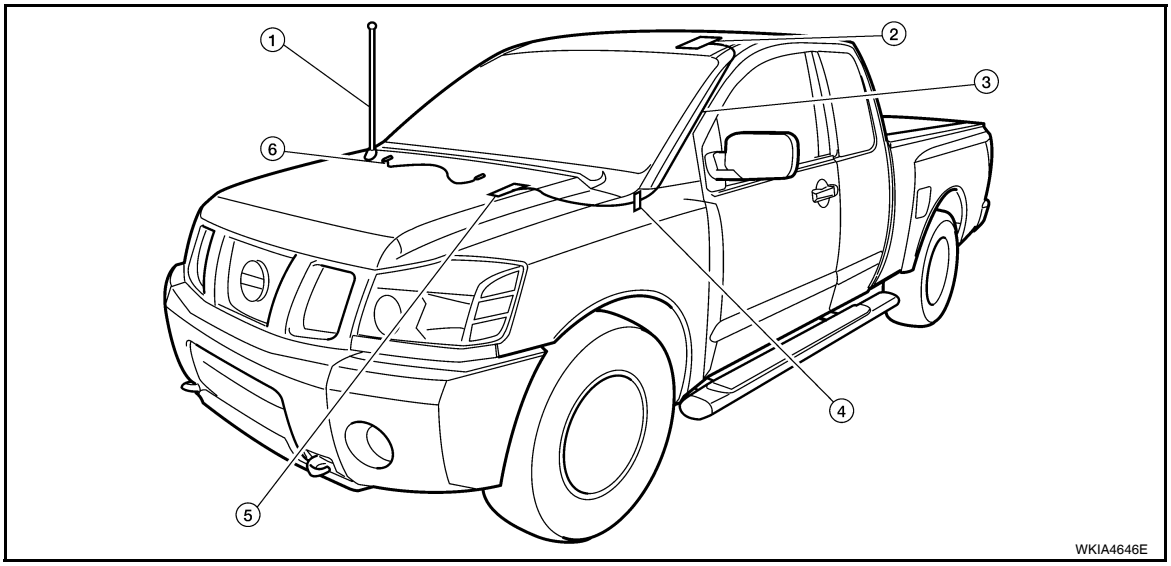
INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:0000000003789917



1. Antenna
2. Satellite antenna (if equipped, factory installed) M351
3. Satellite antenna feeder
4. M69, M350
5. Satellite radio tuner M129
6. Main feeder cable

SATELLITE RADIO ANTENNA

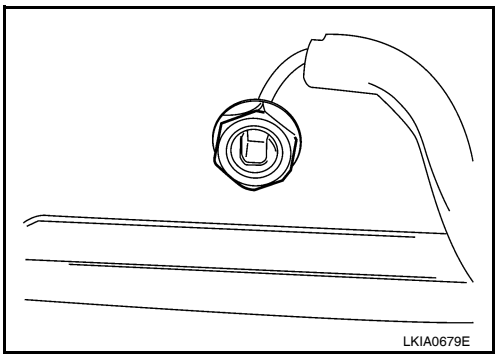
Removal and Installation

INFOID:0000000003789918

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.

SATELLITE RADIO TUNER

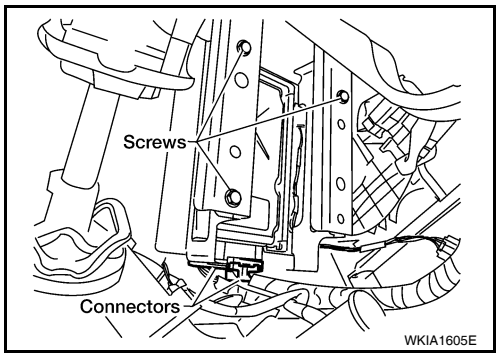
Removal and Installation

INFOID:0000000003789919

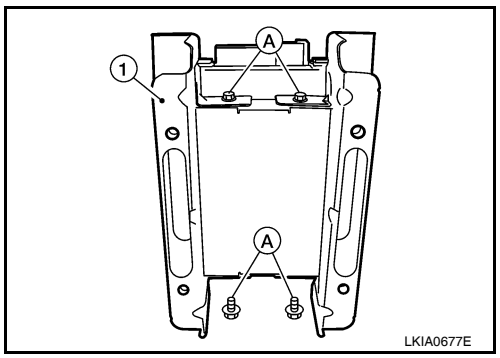
SATELLITE RADIO TUNER

Removal

1. Remove the accelerator pedal assembly. Refer to ACC-3, "Removal and Installation".
2. Remove the BCM. Refer to BCS-53, "Removal and Installation".
3. Disconnect the audio amp. and the satellite radio tuner connectors.
4. Remove the audio amp./satellite radio tuner bracket screws and slide the audio amp./satellite radio tuner bracket down.



5. Remove the satellite radio tuner screws (A) and remove the satellite radio tuner from the audio amp./satellite radio tuner bracket (1).



Installation

Installation is in the reverse order of removal.

DVD ENTERTAINMENT SYSTEM

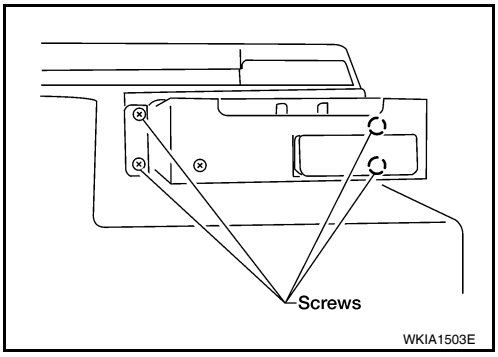
Removal and Installation

INFOID:0000000003789920

DVD PLAYER

Removal

1. Disconnect the battery negative terminal.
2. Remove the center console bin. Refer to IP-18, "Removal and Installation".
3. Remove the DVD player screws.



4. Remove the DVD player.

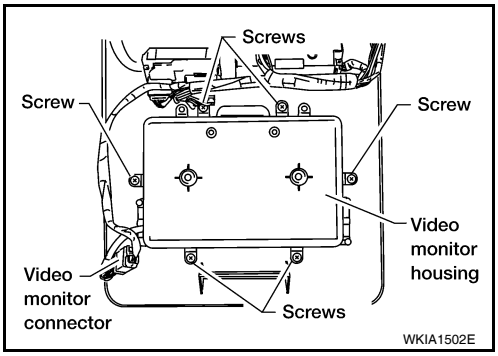
Installation

Installation is in reverse order of removal.

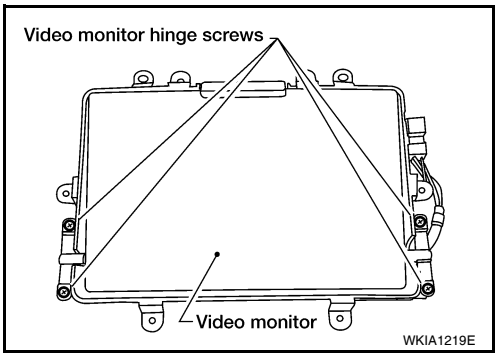
VIDEO MONITOR

Removal

1. Remove the rear roof console assembly. Refer to INT-21, "Removal and Installation".
2. Disconnect the video monitor connector.
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.

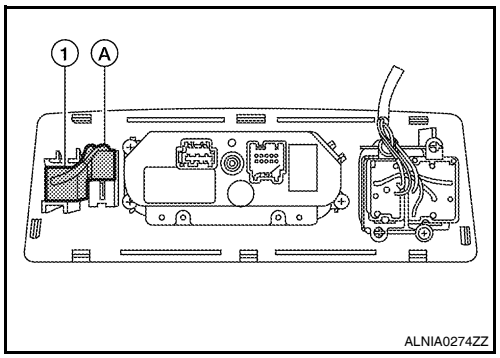
MICROPHONE

Removal and Installation

INFOID:0000000003789921

REMOVAL

1. Remove the front roof console finisher. Refer to XXXX.
2. Disconnect the Bluetooth microphone connector (A).
3. Detach the Bluetooth microphone (1) from the front roof console finisher and remove the Bluetooth microphone (1).



INSTALLATION

Installation is in the reverse order of removal.

GPS ANTENNA

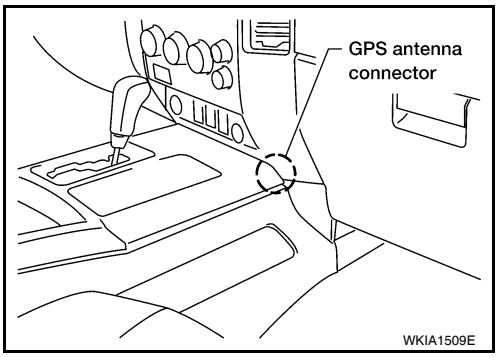
Removal and Installation

INFOID:0000000003789922

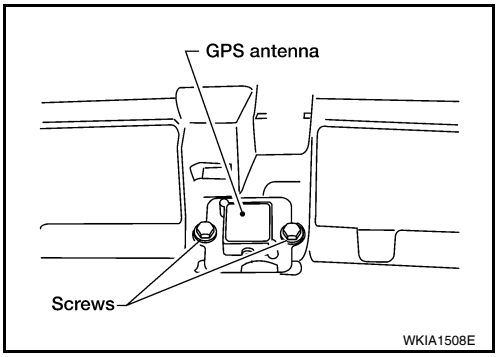
GPS ANTENNA

Removal

1. Remove the center console. Refer to IP-18, "Removal and Installation".
2. Remove the cluster lid D. Refer to IP-13, "Removal and Installation".
3. Remove the defroster grille. Refer to IP-11, "Removal and Installation".
4. Disconnect the GPS antenna connector.



5. Remove the GPS antenna.



Installation

Installation is in the reverse order of removal.

NAVI CONTROL UNIT

Removal and Installation

INFOID:0000000003789923

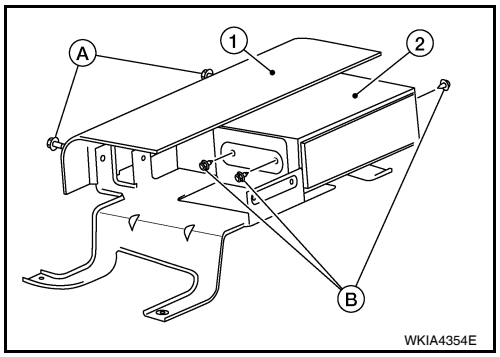
NAVI CONTROL UNIT

Removal

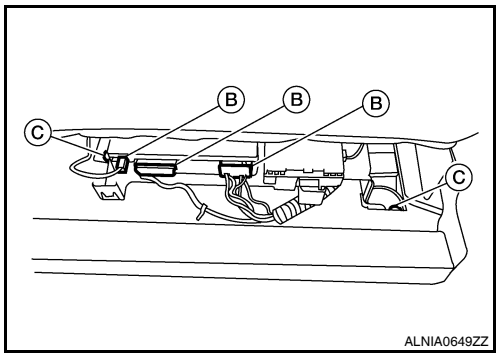
CAUTION:

To avoid damage, eject map DVD-ROM before removing the NAVI control unit.

1. Disconnect the negative battery terminal.
2. Remove the Bluetooth control unit. Refer to AV-180, "Removal and Installation".
3. Remove the front passenger seat. Refer to SE-31, "Removal and Installation".
4. Remove the NAVI control unit kick shield screws (A).
   - NAVI control unit (2)
   - NAVI control unit screws (B)
5. Remove the NAVI control unit kick shield (1).



6. Disconnect the NAVI control unit connectors (B).
   - Bluetooth bracket rear bolts (C)
7. Remove the NAVI control unit screws.



8. Remove the NAVI control unit.

Installation

Installation is in the reverse order of removal.